March 30, 2021

***VIA ELECTRONIC MAIL***

Honorable Aida Camacho-Welch, Secretary
New Jersey Board of Public Utilities
44 South Clinton Avenue, 9th Floor
P.O. Box 350
Trenton, NJ 08625-0350

RE: *In the Matter of the Petition of New Jersey Natural Gas Company For Approval of an Increase in Gas Base Rates and for Changes in its Tariff for Gas Service, Pursuant to N.J.S.A. 48:2-21 and N.J.S.A. 48:2-21.1; and for Changes to Depreciation Rates for Gas Property Pursuant to N.J.S.A. 48:2-18*
BPU Docket No. _____

Dear Secretary Camacho-Welch:

Enclosed for filing, please find the electronic files containing the petition of *New Jersey Natural Gas Company for Approval of an Increase in Its Gas Base Rates, for Changes to Depreciation Rates for Gas Property, and for Changes in the Tariff for Gas Service*.

In accordance with the Order issued by the Board in connection with I/M/O the New Jersey Board of Public Utilities' Response to the COVID-19 Pandemic for a Temporary Waiver of Requirements for Certain Non-Essential Obligations, BPU Docket No. EO20030254, Order dated March 19, 2020, this document is being electronically filed. No paper copies will follow.

Copies of the petition, including the supporting schedules and testimonies, are also being served electronically upon the New Jersey Division of Rate Counsel and the Division of Law.

Respectfully submitted,

Andrew K. Dembia
Regulatory Affairs Counsel

AKD:sf
Enclosures
C: Service List

March 30, 2021

***VIA ELECTRONIC MAIL***

Honorable Aida Camacho-Welch, Secretary
New Jersey Board of Public Utilities
44 South Clinton Avenue, 9th Floor
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BPU Docket No. _____

Dear Secretary Camacho-Welch:

Enclosed for filing, please find the electronic files containing the petition, testimonies and supporting schedules of *New Jersey Natural Gas Company for Approval of an Increase in Its Gas Base Rates, for Changes to Depreciation Rates for Gas Property, and for Changes in the Tariff for Gas Service.*

In accordance with the Order issued by the Board in connection with I/M/O the New Jersey Board of Public Utilities' Response to the COVID-19 Pandemic for a Temporary Waiver of Requirements for Certain Non-Essential Obligations, BPU Docket No. EO20030254, Order dated March 19, 2020, this document is being electronically filed. No paper copies will follow.

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Andrew K. Dembia
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In the Matter of the Petition of New Jersey Natural Gas Company For Approval of an Increase in Gas Base Rates and for Changes in its Tariff for Gas Service Pursuant to N.J.S.A. 48:2-21 and N.J.S.A. 48:2-21.1; and for Changes to Depreciation Rates for Gas Property Pursuant to N.J.S.A. 48:2-18
BPU Docket No. _____

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In the Matter of the Petition of New Jersey Natural Gas Company For Approval of an Increase in Gas Base Rates and for Changes in its Tariff for Gas Service Pursuant to N.J.S.A. 48:2-21 and N.J.S.A. 48:2-21.1; and for Changes to Depreciation Rates for Gas Property Pursuant to N.J.S.A. 48:2-18
BPU Docket No. _____

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In the Matter of the Petition of New Jersey Natural Gas Company For Approval of an Increase in Gas Base Rates and for Changes in its Tariff for Gas Service Pursuant to N.J.S.A. 48:2-21 and N.J.S.A. 48:2-21.1; and for Changes to Depreciation Rates for Gas Property Pursuant to N.J.S.A. 48:2-18
BPU Docket No. _____

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**EXHIBIT P-1**

**STATE OF NEW JERSEY**
**BOARD OF PUBLIC UTILITIES**

| | |
|---|---|
| **IN THE MATTER OF THE PETITION OF NEW JERSEY NATURAL GAS COMPANY FOR APPROVAL OF AN INCREASE IN GAS BASE RATES AND FOR CHANGES IN ITS TARIFF FOR GAS SERVICE PURSUANT TO N.J.S.A. 48:2-21 AND N.J.S.A. 48:2-21.1; AND FOR CHANGES TO DEPRECIATION RATES FOR GAS PROPERTY PURSUANT TO N.J.S.A. 48:2-18** | **CERTIFIED PETITION[1]**<br><br>**BPU DOCKET NO. GR2103___** |

TO: THE HONORABLE COMMISSIONERS OF THE BOARD OF PUBLIC UTILITIES:

New Jersey Natural Gas Company ("NJNG," the "Company," or the "Petitioner"), a corporation of the State of New Jersey, having its principal offices at 1415 Wyckoff Road, Wall, New Jersey, respectfully petitions the New Jersey Board of Public Utilities ("BPU" or "Board") for authority pursuant to N.J.S.A. 48:2-21, 48:2-21.1, 48:2-18, N.J.A.C. 14:1-5.12, and N.J.A.C. 14:1-5.7 to: (i) increase its base rates and charges for natural gas service; (ii) implement certain other rate and tariff revisions; and (iii) change its existing depreciation rates. In support thereof, Petitioner states as follows:

1. Petitioner is a local natural gas distribution company providing regulated retail natural gas service to approximately 560,000 customers located in Monmouth and Ocean counties, as well as portions of Burlington, Middlesex and Morris counties.

2. Petitioner is subject to regulation by the Board for the purposes of setting its retail rates pursuant to N.J.S.A. 48:2-21, 48:2-21.1, and for the provision of safe, adequate and proper natural gas service pursuant to N.J.S.A. 48:2-23.

[1] In light of the exigencies created by the COVID-19 pandemic and the Executive Orders issued pursuant thereto, this Petition is being submitted under Certification in lieu of an Affidavit of Verification.

3. This Petition (Exh. P-1) is accompanied and supported by the following pre-filed Direct Testimonies and Exhibits that are attached hereto and made part of this Petition:

**TESTIMONY**

Exh. P-2 Direct Testimony of John B. Wyckoff, NJNG Vice President – Engineering – Overview, Energy Delivery – Operations

Exh. P-3 Direct Testimony of James M. Corcoran, NJNG Director – Revenue Requirements – Proposed Revenue Increase, Rate Base and Pro Forma Income from Current Rates

Exh. P-4 Direct Testimony of Angela M. Cahill, Controller – Regulated Services – Financial Statements

Exh. P-5 Direct Testimony of Harold Walker, III, Manager - Financial Studies, Gannett Fleming Valuation and Rate Consultants, LLC – Cash Working Capital – Net Asset/Net Liabilities Analysis

Exh. P-6 Direct Testimony of Paul R. Moul, Managing Consultant P. Moul & Associates – Rate of Return and Capital Structure

Exh. P-7 Direct Testimony of Dr. Ronald E. White, President, Foster Associates Consultants, LLC – Depreciation

Exh. P-8 Direct Testimony of Daniel P. Yardley, Yardley Associates – Cost of Service and Rate Design

Exh. P-9 Direct Testimony of Tina M. Trebino, NJNG Director – Rates & Tariff – Rate and Tariff Modifications

4. Information to support this Petition, pursuant to N.J.A.C. 14:1-5.12, 14:1-5.7, 14:1-4.1, and 14:1-5.1, is being filed herewith, either as schedules to witnesses' direct testimony or attached to this Petition, as follows:

## TABLE OF SCHEDULES AND ATTACHMENTS

| | |
|---|---|
| Operating Expenses | Exhibit P-4<br>Schedule AMC-14 |
| Adjustments – Present Rates | Exhibit P-4<br>Schedule AMC-14 |
| Pro Forma Operating Income – Proposed Rates | Exhibit P-4<br>Schedule AMC-14 |
| Operating Income, Year-End Rate Base and Rate of Return – Present and Proposed Rates | Exhibit P-4<br>Schedule AMC-14 |
| Net Investment Rate Base at Test Year End | Exhibit P-4<br>Schedule AMC-14 |
| Operating Income, Average Rate Base During the Test Year, and Rate of Return – Present and Proposed Rates | Exhibit P-4<br>Schedule AMC-14 |
| Average Net Investment Rate Base | Exhibit P-4<br>Schedule AMC-14 |
| Proposed Tariff for Gas Service, New Jersey Natural Gas Company, B.P.U. No. 11. | Exhibit P-9<br>Schedule TMT-1 |
| Proposed Tariff for Gas Service, New Jersey Natural Gas Company, BPU No. 11 (redlined) | Exhibit P-9<br>Schedule TMT-2 |
| Summary of Proposed Tariff Changes | Exhibit P-9<br>Schedule TMT-3 |
| Proposed Changes to the Balancing Charge | Exhibit P-9<br>Schedule TMT-4 |
| Impact of Proposed Rates on Customers | Exhibit P-9<br>Schedule TMT-5 |

## NEED FOR RATE RELIEF

5. The $165.67 million rate relief requested herein is required to ensure the Company's continued ability to construct, operate and maintain its natural gas system for the purpose of providing safe, adequate, and proper utility service pursuant to N.J.S.A. 48:2-23. This additional revenue of $165.67 million is needed to provide NJNG the opportunity to recover operating revenues through base rates sufficient to meet operating expenses, taxes, and fixed charges, and to provide a reasonable rate of return on its Rate Base investments providing service to customers. *See* Exh. P-3, Schedule JMC-1. A typical residential heating customer using 100 therms monthly will see an increase of approximately $28.07 per month or 24.8%.

6. The Company's last base rate case was filed in March 2019. Since that time, NJNG has continued to manage its business responsibly and effectively, and to provide a high level of service at reasonable rates to its customers. As explained in the testimony of Mr. Wyckoff, the Company's commitment to providing a high level of service quality has been recognized by third-party entities and customers alike. For example, in September 2020, the Company was pleased to learn it had received top honors for customer satisfaction in the J.D. Power Gas Utility Residential Customer Satisfaction Study among large utilities in the eastern region for the sixth consecutive year. Moreover, customer satisfaction with NJNG has actually increased over the course of the COVID-19 pandemic—moving from an already impressive 89.7% in Fiscal Year 2019 to 90.7% through the first quarter of Fiscal Year 2021.

7. In order to effectuate this high level of service, the Company is continuously engaged in the construction, operation and maintenance of its natural gas distribution and transmission system throughout its service territory to better serve its approximately 560,000 customers. To that end, NJNG has made significant investments in facilities to serve customers. Since the Company's last base rate case, its capital investments have resulted in an approximate $540 million increase in utility plant in service. Additionally, NJNG will complete the largest capital project in the Company's history in early fall 2021—the $310 million Southern Reliability Link ("SRL") intrastate natural gas transmission pipeline. These investments, along with other cost increases, are the primary drivers of the Company's request in this proceeding.

8. The Company's present base rates and charges for natural gas service are not sufficient at their current level and, if left unchanged, will impair NJNG's ability to meet operating and maintenance expenses, taxes, and fixed charges, and its ability to earn a reasonable rate of return on the fair value of the Company's property devoted to the provision of service to its customers. Without appropriate rate relief in this proceeding, allowing a reasonable return of and

return on the Company's investments, the Company's ability to attract capital at reasonable rates in the future will be impaired.

9. The Company's calculated rate of return on rate base for the test year, the twelve months ending August 31, 2021, is approximately 2.39 percent (*see* Exh. P-4, Schedule AMC-14, p. 7 of 10) and is inadequate as demonstrated by the Company's testimony included with this Petition. The testimony of Paul R. Moul (Exh. P-6) provides a comprehensive analysis supporting a recommended weighted average cost of capital ("WACC") range of 7.53 to 7.95 percent, including a rate of return on common equity range of 10.50 to 11.25 percent. As discussed in James M. Corcoran's direct testimony (Exh. P-3), NJNG's request for rate relief in this proceeding reflects the low end of Mr. Moul's recommended WACC, or rate of return on rate base, of 7.53 percent and a return on common equity of 10.50 percent.

10. The increase in base rates requested in this Petition is supported by the following testimonies: the direct testimony of John B. Wyckoff, NJNG Vice President – Engineering (Exh. P-2), discusses delivery operations, capital infrastructure investments, and customer service metrics; James M. Corcoran, NJNG Director – Revenue Requirements (Exh. P-3), provides testimony on revenue requirements, including pro forma adjustments; Angela M. Cahill, Controller – Regulated Services for NJR Service Company (Exh. P-4), provides testimony regarding the Company's financial schedules that are being filed with this Petition; Harold Walker, III, Manager, Financial Studies, Gannett-Fleming Valuation and Rate Consultants, LLC (Exh. P-5), an outside expert on working capital requirements, provides testimony in support of the Company's Cash Working Capital Requirements and Net Assets/Net Liabilities Analysis; Paul R. Moul, Managing Consultant, P. Moul Associates (Exh. P-6), an outside expert regarding finance and the cost of utility capital, provides testimony supporting the Company's request for a reasonable rate of return on common equity and the appropriate amount of debt and equity in the Company's capital

structure supporting the WACC; Dr. Ronald E. White, President, Foster Associates Consulting (Exh. P-7), an outside expert in capital recovery through depreciation rates, provides testimony and a study supporting the Company's request for new depreciation rates for natural gas property; Daniel P. Yardley, Yardley Associates (Exh. P-8), an outside expert in cost of service and rate design, provides testimony and an allocated cost of service study ("COSS") supporting the implementation of new base rates; and Tina M. Trebino, NJNG Director – Rates & Tariff (Exh. P-9) provides testimony in support of the Company's proposed changes to its Gas Tariff.

**Need For Infrastructure Investment**

11. The need to invest in utility infrastructure has continued since NJNG last filed a base rate case petition with the Board in March 2019. The Company has made significant investments in its system so that it can continue to meet its responsibility to provide safe, adequate and reliable utility service. As noted above, the Company will complete the SRL pipeline in early fall 2021 so that those facilities will be in service and available for the upcoming winter heating season. The SRL is comprised of a 30-mile intrastate natural gas transmission pipeline and related facilities capable of transporting approximately 310,000 dth/day of natural gas when operated at maximum pressure. The SRL is designed to provide an additional pipeline feed into the southern end of NJNG's Monmouth and Ocean operating areas from the Transcontinental Gas Pipe Line Company, LLC system of interstate natural gas transmission pipelines. As explained in detail in Mr. Wyckoff's testimony (Exh. P-2), this additional system feed will significantly enhance the reliability and resiliency of the Company's distribution and transmission systems, thereby enhancing the service provided to customers. Prior to the November 2018 commencement of construction of the

SRL, the project was reviewed by the Board and the Company was authorized to proceed with the project in two Board Orders.[2]

12. Given the anticipated in service date of the SRL, the Company is seeking recovery of the cost of the project in this proceeding. As discussed in Mr. Corcoran's testimony, SRL will have a significant financial impact on the Company. Indeed, Mr. Corcoran estimates that the revenue requirement associated with the SRL is an increase of approximately $39.53 million annually. While SRL represents a sizable investment by NJNG, it also provides significant operational, reliability and resiliency benefits to customers, and the Company should be permitted to recognize the costs of the SRL in the rates set in this proceeding.

13. In addition to the SRL, NJNG has continued to make other investments in infrastructure to serve customers, and improve system safety and reliability, including new initiatives such as the Safety Town Project and the Howell Power-to-Gas Injection Project. These programs, along with their associated customer benefits, are described in Mr. Wyckoff's testimony.

14. The Company is proposing a test year comprised of the twelve months of September 1, 2020 through August 31, 2021, as adjusted for known and measurable investment and operating costs. In addition to the SRL, NJNG is also seeking to include in rates certain post-test year plant additions that are major in nature and consequence, known and measurable, and which are expected to be in service within the six-month post-test year period ending February 28, 2022.

15. The test year utilized in this filing is based on five months of actual data and seven months of estimated data. The Company requests that the tariff reflecting new rates be effective April 29, 2021, but in no event later than December 30, 2021 (the end of the statutory suspension period(s)). During the processing of this case, assuming the Petition is suspended by the statutory periods, the Company will update its testimonies and exhibits, as appropriate, to reflect actual

[2] *See* Board Orders in BPU Docket Nos. GE15040402 and GO15040403.

results. It is anticipated that by the conclusion of this case, assuming utilization of the full statutory suspension periods, the entire test year ending August 31, 2021 will reflect actual results with the exception of certain post-test year adjustments.

16. In accordance with N.J.A.C. 14:1-5.12(a)(4), the amount of operating revenue derived from intrastate service during the twelve months ended December 31, 2020, was $700,890,178.

17. Pursuant to the Board's Order dated October 22, 2014,[3] as well as N.J.A.C. 14:1-5.12(a)(4), affected utilities are to provide a calculation of a Consolidated Tax Adjustment ("CTA") as part of base rate case filings. The Company has included a CTA calculation using the Board-approved methodology as part of this filing. *See* Direct Testimony of James M. Corcoran, Schedule JMC-2. However, certain pieces of the data underlying this CTA calculation are confidential. Therefore, the Company will furnish such information upon execution of a Non-Disclosure Agreement. A proposed draft Non-Disclosure Agreement is attached to this Petition as Attachment 3 and has been separately provided to counsel for the Staff of the Board and the Division of Rate Counsel ("Rate Counsel").

## CHANGES TO DEPRECIATION RATES

18. The Company also hereby petitions the Board for authority to revise its depreciation rates for its utility property, pursuant to N.J.S.A. 48:2-18. The Company's current depreciation rates were approved as the result of the Board's Decision and Order in the Company's 2019 base rate case, in which the Board issued a Final Order dated November 13, 2019, in Docket No. GR19030420.

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[3] *See I/M/O the Board's Review of the Applicability and Calculation of a Consolidated Tax Adjustment*, BPU Docket No. EO12121072.

19. Company witness Dr. White has completed a depreciation study to determine the appropriate depreciation rates for the recovery of the Company's investment property, a copy of which is attached to Dr. White's Testimony (Exh. REW-1).

20. A comparison of the Company's current versus proposed depreciation rates for its utility property is set forth in Table 2 of Dr. White's depreciation study. The Company's existing and proposed methods of determining depreciation rates are set forth in Exhibit P-7.

21. The effect of the proposed changes in depreciation rates on operating expenses and income is incorporated in Mr. Corcoran's testimony and exhibits (Exh. P-3).

22. The Company respectfully requests that the Board approve the proposed depreciation rates for its property as recommended in Dr. White's testimony and that those depreciation rates become effective with the Board's approval of the proposed base rates set forth herein.

**COST OF SERVICE, RATE DESIGN, TARIFF CHANGES AND BALANCING CHARGE**

23. Petitioner also files herewith its Proposed Tariff for Gas Service, New Jersey Natural Gas Company, B.P.U. No. 11 (Exh. P-9, Schedule TMT-1). The proposed rates and charges for service included in the Proposed Tariff are supported by the Direct Testimony of Mr. Yardley (Exh. P-8). The Company will be submitting in workpapers an alternative Cost of Service Study ("COSS") using the peak and average methodology as required by the Stipulation and Order in the Company's 2019 base rate case. *See* Board Order dated November 13, 2019, in Docket No. GR19030420. Other proposed Tariff modifications are supported by Ms. Trebino's testimony (Exh. P-9).

24. With respect to its Balancing Charge rate, the Company does not propose a change to the current Balancing Charge rate; however, the Company does propose changes to the underlying information included in the calculation of the Balancing Charge rate. The Company's

Balancing Charge has two components: (1) carrying charges on inventory costs, and (2) pipeline demand charges. In accordance with the Board's Order in BPU Docket No. GR07110889, the Balancing Charge related to inventory is to be updated in a base rate case, and the pipeline demand charges component is to be updated in the Company's annual Basic Gas Supply Service ("BGSS") filings. Pursuant to the Board's Order in the Company's 2019 base rate case (BPU Docket No. GR19030420), the Balancing Charge related to inventory will remain fixed until new rates become effective in the Company's next base rate case, which is this proceeding. Schedule TMT-4 updates the Company's pre-tax Balancing Charge related to inventory for test year inventory balances and the Company's proposed pre-tax rate of return of 9.86 percent included in Exhibit P-3, Schedule JMC-3. As explained in Ms. Trebino's testimony, the inventory component will be further updated for 12 months of actual balances, and both the inventory and demand charge components will be updated to include the volumes from the Company's 2022 BGSS filing to be submitted by June 1, 2021 ("2022 BGSS filing"). The demand charge component of the Balancing Charge will also include updated demand charges from the 2022 BGSS filing. *See* Exhibit P-9, Schedule TMT-4.

25. Petitioner respectfully requests that the Tariff proposed in this filing be approved to go into effect April 29, 2021, but in no event later than December 30, 2021 (the end of the statutory suspension period(s)).

**PUBLIC NOTICE**

26. Pursuant to N.J.A.C. 14:1-5.12, NJNG will provide notice of the filing of this Petition to all of its customers through the publication of a notice in newspapers of general circulation in the Company's service territory. A copy of the proposed draft public notice is provided as Attachment 1 to this Petition.

27. The municipalities and counties served by Petitioner's operations will be notified of the filing of this Petition by letter, sent electronically due to the COVID-19 pandemic, upon

publication of the public notice, pursuant to N.J.A.C. 14:1-5.12. A copy of the proposed draft letter is provided as Attachment 2 to this Petition.

28. Notice of this filing along with all testimony, schedules, exhibits, and attachments shall be sent to the Deputy Attorneys General at the Department of Law and Public Safety, and to the Director of the Division of Rate Counsel by electronic mail only. Electronic copies of the Petition, along with all testimony, schedules, exhibits, and attachments shall be sent to the persons identified in the Service List attached hereto. This is consistent with the Order issued by the Board in connection with *In the Matter of the New Jersey Board of Public Utilities' Response to the COVID-19 Pandemic for a Temporary Waiver of Requirements for Certain Non-Essential Obligations*, BPU Docket No. EO20030254 (March 19, 2020). Moreover, the Company's filing will be available on the Company's website at: www.njng.com.

29. Due to the on-going nature of the COVID-19 global pandemic, NJNG respectfully requests that the public comment hearings be conducted virtually, via teleconference, to permit the public to participate in the hearings while also observing social distancing protocols. Virtual public comment hearings have been conducted in other matters before the Board, and the Company believes it would be in the public interest to do so in this instance as well.

## MISCELLANEOUS ISSUES

30. During the course of this proceeding, NJNG will submit any confidential, proprietary or competitively sensitive information not covered by privilege once a mutually agreed-upon Non-Disclosure Agreement has been executed by and among the Company, Board Staff, Rate Counsel and its and/or their consultants, and any permitted intervenors. A proposed draft Non-Disclosure Agreement has been included as part of this filing as Attachment 3 and has been separately provided to counsel for the Staff of the Board and Rate Counsel.

31. It is understood that any final rate relief found by the Board to be just and reasonable may be allocated by the Board for consistency with the provisions of N.J.S.A. 48:2-21, and for other good and legally sufficient reasons, to any class or classes of customers of the Company. Therefore, based upon the Board's decision, final rates for individual customers may increase or decrease from those proposed herein.

32. Communications and correspondence related to the Petition should be sent as follows:

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Colleen A. Foley, Esq.
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Newark, NJ 07102
Phone: (973) 286-6711
Fax: (973) 286-6800
Colleen.Foley@saul.com

33. The Company respectfully requests that this matter be retained by the Board and that a Commissioner be designated as Presiding Officer to set a procedural schedule, rule on Motions, and conduct any evidentiary hearings, if necessary, as expeditiously as possible.

34. The Company also respectfully requests that a pre-hearing order be issued and a procedural schedule be established that will enable a ruling by the Board on this matter in the shortest practical time frame, within the law.

**WHEREFORE,** Petitioner respectfully requests that the Board determine, pursuant to N.J.S.A. 48:2-21, 48:2-21.1 and 48:2-18, that:

a. The base rates and charges for service set forth in the Present Tariff for Gas Service, New Jersey Natural Gas Company, B.P.U. No. 10 are unjust, unreasonable, and insufficient to permit the Company to maintain its financial integrity and provide safe, adequate and proper service to its customers, pursuant to N.J.S.A. 48:2-23;

b. The proposed $165.67 million of rate relief is just and reasonable and will provide operating revenues sufficient to meet operating and maintenance expenses, taxes, and fixed charges, and provide a reasonable rate of return on the fair value of the Company's property;

c. Petitioner's requested rate of return, represented by a Weighted Average Cost of Capital of 7.53%, on its rate base of $2.29 billion, is just and reasonable;

d. The proposed base rates and charges for service set forth in Exhibit P-9, Schedule TMT-1 should be approved as just and reasonable on or before April 29, 2021, but in no event later than December 30, 2021 (the end of the statutory suspension period(s));

e. The proposed Tariff modifications set forth herein are just and reasonable, in the public interest, and should be approved in their entirety;

f. The proposed depreciation rates for property set forth in Exhibit P-7 should be approved as just and reasonable;

g. The regulatory assets recorded on the Company's balance sheet and detailed in Exhibit P-4 and its accompanying schedules, as authorized by the Board, and the amortization of these assets, as set forth herein, should be approved as just and reasonable;

h. The Board should retain this matter and a Commissioner should be designated as Presiding Officer to set a procedural schedule, rule on Motions, and conduct any evidentiary hearings, if necessary, as expeditiously as possible; and

i. The Board should grant such other and further relief as may be required.

Saul Ewing Arnstein & Lehr LLP
Attorneys for Petitioner
**New Jersey Natural Gas Company**

Dated: March 30, 2021

By: Colleen A. Foley
Colleen A. Foley, Esq.

| | | |
|---|---|---|
| **IN THE MATTER OF THE PETITION OF NEW JERSEY NATURAL GAS COMPANY FOR APPROVAL OF AN INCREASE IN GAS BASE RATES AND FOR CHANGES IN ITS TARIFF FOR GAS SERVICE PURSUANT TO N.J.S.A. 48:2-21 AND N.J.S.A. 48:2-21.1; AND FOR CHANGES TO DEPRECIATION RATES FOR GAS PROPERTY PURSUANT TO N.J.S.A. 48:2-18** | ) | **CERTIFIED PETITION**<br><br>**BPU DOCKET NO. GR2103___** |

## CERTIFICATION IN SUPPORT OF PETITION

**MARK G. KAHRER**, of full age, certifies as follows:

1. I am Senior Vice President, Regulatory Affairs for New Jersey Natural Gas Company ("NJNG"), the Petitioner in the foregoing Petition. I am duly authorized to make this Certification on behalf of NJNG.

2. I hereby certify that I have read the annexed Petition, and the matters and things contained therein are true to the best of my knowledge, information, and belief. I am aware that, if any of the foregoing statements made by me are willfully false, I am subject to punishment.


Dated: March 30, 2021

# NOTICE OF FILING AND PUBLIC HEARINGS FOR APPROVAL OF AN INCREASE IN NATURAL GAS RATES, DEPRECIATION RATES AND FOR CHANGES IN THE TARIFF FOR GAS SERVICE TO NEW JERSEY NATURAL GAS CUSTOMERS

## IN THE MATTER OF THE PETITION OF NEW JERSEY NATURAL GAS COMPANY'S REQUEST FOR APPROVAL OF AN INCREASE IN GAS BASE RATES, FOR CHANGES IN ITS TARIFF FOR GAS SERVICE PURSUANT TO N.J.S.A. 48:2-21 AND N.J.S.A. 48:2-21.1, AND FOR CHANGES TO DEPRECIATION RATES FOR GAS PROPERTY PURSUANT TO N.J.S.A. 48:2-18

## BPU Docket No. GR21_____

**TO OUR CUSTOMERS:**

**PLEASE TAKE NOTICE** that on March 30, 2021, New Jersey Natural Gas Company ("NJNG" or "Company") filed a petition with the Board of Public Utilities ("Board" or "BPU") requesting an increase in the Company's base rate charges for natural gas service ("Base Rate Petition"). NJNG's Base Rate Petition provides that the requested rate increase is necessary to support the Company's ability to continue to operate and maintain its natural gas distribution system in a safe, adequate and proper manner. NJNG last requested such an increase in a filing dated March 29, 2019. In the Base Rate Petition the Company requested a natural gas revenue increase of $165.67 million, including a change in the Company's overall rate of return to 7.53 percent. The impact of this request on the average residential heating customer using 100 therms per month is a $28.07 increase in the customer's monthly bill, from $113.10 to $141.17, or approximately 24.8 percent. Monthly bill impacts for residential and other customers are shown in the table below.

Included in the Base Rate Petition is a request pursuant to N.J.S.A. 48:2-18 to increase depreciation rates based upon a current Depreciation Study. The Company proposed that the requested changes in its depreciation rates be approved for implementation simultaneously with the effective date of the proposed new natural gas rates.

The proposed increases that follow are based upon current NJNG delivery rates and the applicable Basic Gas Supply Service charges, and assume that customers receive commodity service from NJNG. The effect of the proposed price change on typical residential, general service small and general service large, natural gas bill is estimated to be as follows:

| | | Total Bill | | | |
|---|---|---|---|---|---|
| Customer Type | Therm Level (Usage) | Monthly Bill as of March 1, 2021 | Monthly Bill with Proposed Base Rate Increase | Net Dollar Increase | Percent Increase |
| **Residential Heat Sales** | 100 | $113.10 | $141.17 | $28.07 | 24.8% |
| **Residential Non-Heat Sales** | 25 | $34.29 | $42.77 | $8.48 | 24.7% |
| **General Service Small** | 100 | $133.04 | $168.97 | $35.93 | 27.0% |
| **General Service Large** | 1200 | $1,431.39 | $1,594.17 | $162.78 | 11.4% |

The Company proposes other changes to its tariff including, but not limited to, language to clarify the payment requirements for installation of Automated Meter Reading devices, modifications to its pricing for incremental gas service, modifications to service classification Third Party Supplier Requirements and changes to reflect current operating requirements.

Any rate increase found by the Board to be just and reasonable may be allocated by the Board and applied to any class or classes of customers or any rate schedule or rate schedules as the Board may determine. Accordingly, the final rates approved by the Board in this proceeding for any rate class or classes may be higher or lower than those set forth herein.

**PLEASE TAKE ADDITIONAL NOTICE** that due to the COVID-19 pandemic, telephonic public hearings will be conducted on the following dates and times:

Date(s): _____, 2021
Public Hearing 1: 4:30pm
Public Hearing 2: 5:30pm
Dial-In: 1-XXX-XXX-XXXX
Access Code: XXXXXX

If you elect to attend or participate in the telephonic public hearing, please dial the "Dial In" number above. When prompted, enter the "Access Code" listed above.

Copies of NJNG's March 30, 2021 filing can be reviewed on the Company's website, www.njng.com/regulatory in the "Filings & Updates" subsection of the "Regulatory Info" section listed.

Representatives of the Board's Staff and Rate Counsel will participate in the telephonic public hearings. Members of the public are invited to participate by utilizing the Dial-In and Access Code information set forth above, and may express their views on this filing. Such comments will be made part of the final record of the proceeding to be considered by the Board. The Board will also accept email/written comments. Members of the public may file comments with the Secretary of the Board in pdf or Word format via email to board.secretary@bpu.nj.gov; or through the Board's External Access Portal after obtaining a MyNewJersey Portal ID. Once an account is established you will need an authorization code which can be obtained upon request by emailing the Board's IT Helpdesk at ITHELPDESK@bpu.nj.gov. Detailed instructions for e-Filing can be found on the Board's homepage at https://www.nj.gov/bpu/agenda/efiling. Written comments may be submitted to the Board Secretary, Aida Camacho, at the Board of Public Utilities, 44 South Clinton Avenue, 9th Floor, P.O. Box 350, Trenton, NJ 08625-0350. All comments should include the name of the petition and the docket number. While all comments are given equal consideration and will be made part of the final record of the proceeding, the recommended methods for the submission of comments are via email or the portal to ensure timely receipt while the Board continues to work remotely due to the COVID-19 pandemic.

Hearings will continue, if necessary, on such additional dates and at such locations as the Board may designate, to ensure that all interested persons are heard.

Andrew K. Dembia, Esq.
New Jersey Natural Gas

New Jersey Natural Gas

March XX, 2021

***Via Electronic mail***

To: The Office of the County Clerk, Municipal Clerk and County Administrator

Re: *In the Matter of the Petition of New Jersey Natural Gas Company for Approval of an Increase in Gas Base Rates and for Changes in its Tariff for Gas Service, Pursuant to N.J.S.A. 48:2-21 and N.J.S.A. 48:2-21.1; and for Changes to Depreciation Rates for Gas Property Pursuant to N.J.S.A. 48:2-18*
BPU Docket No.

Pursuant to N.J.S.A. 48:2-32.6 and N.J.A.C. 1-5.12(c), New Jersey Natural Gas Company (the "Company" or "NJNG") hereby advises you that on March 30, 2021 the Company filed a request with the New Jersey Board of Public Utilities (the "Board") for an increase in rates for natural gas service. A complete copy of the Company's filing is available for review on NJNG's website at www.njng.com. Please be further advised that the Company hereby serves upon you the attached Notice of Public Hearings in the above referenced matter. The subject telephonic hearings are scheduled for ----------, 2021, at X:XX P.M. and X:XX P.M. with the following Dial-In instructions.

Dial In: 1-XXX-XXX-XXXX Access Code: XXXXXX

Very truly yours,

Andrew K. Dembia, Esq.
Regulatory Affairs Counsel

AKD: sf

Attachments

# NOTICE OF FILING AND PUBLIC HEARINGS FOR APPROVAL OF AN INCREASE IN NATURAL GAS RATES, DEPRECIATION RATES AND FOR CHANGES IN THE TARIFF FOR GAS SERVICE TO NEW JERSEY NATURAL GAS CUSTOMERS

## IN THE MATTER OF THE PETITION OF NEW JERSEY NATURAL GAS COMPANY'S REQUEST FOR APPROVAL OF AN INCREASE IN GAS BASE RATES, FOR CHANGES IN ITS TARIFF FOR GAS SERVICE PURSUANT TO N.J.S.A. 48:2-21 AND N.J.S.A. 48:2-21.1, AND FOR CHANGES TO DEPRECIATION RATES FOR GAS PROPERTY PURSUANT TO N.J.S.A. 48:2-18

## BPU Docket No. GR21_____

**TO OUR CUSTOMERS:**

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Included in the Base Rate Petition is a request pursuant to N.J.S.A. 48:2-18 to increase depreciation rates based upon a current Depreciation Study. The Company proposed that the requested changes in its depreciation rates be approved for implementation simultaneously with the effective date of the proposed new natural gas rates.

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| | | Total Bill | | | |
|---|---|---|---|---|---|
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The Company proposes other changes to its tariff including, but not limited to, language to clarify the payment requirements for installation of Automated Meter Reading devices, modifications to its pricing for incremental gas service, modifications to service classification Third Party Supplier Requirements and changes to reflect current operating requirements.

Any rate increase found by the Board to be just and reasonable may be allocated by the Board and applied to any class or classes of customers or any rate schedule or rate schedules as the Board may determine. Accordingly, the final rates approved by the Board in this proceeding for any rate class or classes may be higher or lower than those set forth herein.

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Date(s): _____, 2021
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Representatives of the Board's Staff and Rate Counsel will participate in the telephonic public hearings. Members of the public are invited to participate by utilizing the Dial-In and Access Code information set forth above, and may express their views on this filing. Such comments will be made part of the final record of the proceeding to be considered by the Board. The Board will also accept email/written comments. Members of the public may file comments with the Secretary of the Board in pdf or Word format via email to board.secretary@bpu.nj.gov; or through the Board's External Access Portal after obtaining a MyNewJersey Portal ID. Once an account is established you will need an authorization code which can be obtained upon request by emailing the Board's IT Helpdesk at ITHELPDESK@bpu.nj.gov. Detailed instructions for e-Filing can be found on the Board's homepage at https://www.nj.gov/bpu/agenda/efiling. Written comments may be submitted to the Board Secretary, Aida Camacho, at the Board of Public Utilities, 44 South Clinton Avenue, 9th Floor, P.O. Box 350, Trenton, NJ 08625-0350. All comments should include the name of the petition and the docket number. While all comments are given equal consideration and will be made part of the final record of the proceeding, the recommended methods for the submission of comments are via email or the portal to ensure timely receipt while the Board continues to work remotely due to the COVID-19 pandemic.

Hearings will continue, if necessary, on such additional dates and at such locations as the Board may designate, to ensure that all interested persons are heard.

Andrew K. Dembia, Esq.
New Jersey Natural Gas

**STATE OF NEW JERSEY**
**BOARD OF PUBLIC UTILITIES**

| | |
|---|---|
| **IN THE MATTER OF THE PETITION OF NEW JERSEY NATURAL GAS COMPANY FOR APPROVAL OF AN INCREASE IN GAS BASE RATES AND FOR CHANGES IN ITS TARIFF FOR GAS SERVICE PURSUANT TO N.J.S.A. 48:2-21, N.J.S.A. 48:2-21.1; AND FOR CHANGES TO DEPRECIATION RATES FOR GAS PROPERTY PURSUANT TO N.J.S.A. 48:2-18** | **AGREEMENT OF NON-DISCLOSURE OF INFORMATION CLAIMED TO BE CONFIDENTIAL**<br><br>**BPU DKT. NO. GR2103____** |

It is hereby AGREED, as of the ___ day of March, 2021, by and among New Jersey Natural Gas Company ("Petitioner"), the Staff of the New Jersey Board of Public Utilities ("Board Staff") and the Division of Rate Counsel ("Rate Counsel") (collectively, the "Parties"), who have agreed to execute this Agreement of Non-Disclosure of Information Claimed to be Confidential ("Agreement"), and to be bound thereby that:

WHEREAS, in connection with the above-captioned proceeding before the Board of Public Utilities (the "Board"), Petitioner and/or another party ("Producing Party") may be requested or required to provide petitions, pre-filed testimony, other documents, analyses and/or other data or information regarding the subject matter of this proceeding that the Producing Party may claim constitutes or contains confidential, proprietary or trade secret information, or which otherwise may be claimed by the Producing Party to be of a market-sensitive, competitive, confidential or proprietary nature (hereinafter sometimes referred to as "Confidential Information" or "Information Claimed to be Confidential"); and

WHEREAS, the Parties wish to enter into this Agreement to facilitate the exchange of information while recognizing that under Board regulations at N.J.A.C. 14:1-12 et seq., a request for confidential treatment shall be submitted to the Custodian who is to rule on requests

made pursuant to the Open Public Records Act ("OPRA"), N.J.S.A. 47:1A-1 et seq., unless such information is to be kept confidential pursuant to court or administrative order (including, but not limited to, an Order by an Administrative Law Judge sealing the record or a portion thereof pursuant to N.J.A.C. 1:1-14.1, and the parties acknowledge that an Order by an Administrative Law Judge to seal the record is subject to modification by the Board), and also recognizing that a request may be made to designate any such purportedly confidential information as public through the course of this administrative proceeding; and

WHEREAS, the Parties acknowledge that unfiled discovery materials are not subject to public access under OPRA; and

WHEREAS, the Parties acknowledge that, despite each Party's best efforts to conduct a thorough pre-production review of all documents and electronically stored information ("ESI"), some work product material and/or privileged material ("protected material") may be inadvertently disclosed to another Party during the course of this proceeding; and

WHEREAS, the undersigned Parties desire to establish a mechanism to avoid waiver of privilege or any other applicable protective evidentiary doctrine as a result of the inadvertent disclosure of protected material;

NOW, THEREFORE, the Parties hereto, intending to be legally bound thereby, DO HEREBY AGREE as follows:

1. The inadvertent disclosure of any document or ESI which is subject to a legitimate claim that the document or ESI should have been withheld from disclosure as protected material shall not waive any privilege or other applicable protective doctrine for that document or ESI or for the subject matter of the inadvertently disclosed document or ESI if the Producing Party,

upon becoming aware of the disclosure, promptly requests its return and takes reasonable precautions to avoid such inadvertent disclosure.

2. Except in the event that the receiving party or parties disputes the claim, any documents or ESI which the Producing Party deems to contain inadvertently disclosed protected material shall be, upon written request, promptly returned to the Producing Party or destroyed at the Producing option. This includes all copies, electronic or otherwise Party's, of any such documents or ESI. In the event that the Producing Party requests destruction, the receiving party shall provide written confirmation of compliance within thirty (30) days of such written request. In the event that the receiving party disputes the Producing Party's claim as to the protected nature of the inadvertently disclosed material, a single set of copies may be sequestered and retained by and under the control of the receiving party until such time as the Producing Party has received final determination of the issue by the Board of Public Utilities or an Administrative Law Judge, provided that the Board has not modified or rejected an order by the Administrative Law Judge.

3. Any such protected material inadvertently disclosed by the Producing Party to the receiving party pursuant to this Agreement shall be and remain the property of the Producing Party.

4. Any Information Claimed to be Confidential that the Producing Party produces to any of the other Parties in connection with the above-captioned proceeding and pursuant to the terms of this Agreement shall be specifically identified and marked by the Producing Party as Confidential Information when provided hereunder. If only portions of a document are claimed to be confidential, the producing party shall specifically identify which portions of that document are claimed to be confidential. Additionally, any such Information

Claimed to be Confidential shall be provided in the form and manner prescribed by the Board's regulations at N.J.A.C. 14:1-12 et seq., unless such information is to be kept confidential pursuant to court or administrative order. However, nothing in this Agreement shall require the Producing Party to file a request with the Board's Custodian of Records for a confidentiality determination under N.J.A.C. 14:1-12 et seq. with respect to any Information Claimed to be Confidential that is provided in discovery and not filed with the Board.

5. With respect to documents identified and marked as Confidential Information, if the Producing Party's intention is that not all of the information contained therein should be given protected status, the Producing Party shall indicate which portions of such documents contain the Confidential Information in accordance with the Board's regulations at N.J.A.C. 14:1-12.2 and 12.3. Additionally, the Producing Party shall provide to all signatories of this Agreement full and complete copies of both the proposed public version and the proposed confidential version of any information for which confidential status is sought.

6. With respect to all Information Claimed to be Confidential, it is further agreed that:

(a) Access to the documents designated as Confidential Information, and to the information contained therein, shall be limited to the Party signatories to this Agreement and their identified attorneys, employees, and consultants whose examination of the Information Claimed to be Confidential is required for the conduct of this particular proceeding.

(b) Recipients of Confidential Information shall not disclose the contents of the documents produced pursuant to this Agreement to any person(s) other than their identified employees and any identified experts and consultants whom they may retain in connection with this proceeding, irrespective of whether any such expert is retained specially and

is not expected to testify, or is called to testify in this proceeding. All consultants or experts of any Party to this Agreement who are to receive copies of documents produced pursuant to this Agreement shall have previously executed a copy of the Acknowledgement of Agreement attached hereto as "Attachment 1", which executed Acknowledgement of Agreement shall be forthwith provided to counsel for the Producing Party, with copies to counsel for Board Staff and the Rate Counsel.

(c) No other disclosure of Information Claimed to be Confidential shall be made to any person or entity except with the express written consent of the Producing Party or their counsel, or upon further determination by the Custodian, or order of the Board, the Government Records Council or of any court of competent jurisdiction that may review these matters.

7. The undersigned Parties have executed this Agreement for the exchange of Information Claimed to be Confidential only to the extent that it does not contradict or in any way restrict any applicable Agency Custodian, the Government Records Council, an Administrative Law Judge of the State of New Jersey, the Board, or any court of competent jurisdiction from conducting appropriate analysis and making a determination as to the confidential nature of said information, where a request is made pursuant to OPRA, N.J.S.A. 47:1A-1 et seq. Absent a determination by any applicable Custodian, Government Records Council, an Administrative Law Judge, the Board, or any court of competent jurisdiction that a document(s) is to be made public, the treatment of the documents exchanged during the course of this proceeding and any subsequent appeals is to be governed by the terms of this Agreement.

8. In the absence of a decision by the Custodian, Government Records Council, an Administrative Law Judge, or any court of competent jurisdiction, the acceptance by the

undersigned Parties of information which the Producing Party has identified and marked as Confidential Information shall not serve to create a presumption that the material is in fact entitled to any special status in these or any other proceedings. Likewise, the affidavit(s) submitted pursuant to N.J.A.C. 14:1-12.8 shall not alone be presumed to constitute adequate proof that the Producing Party is entitled to a protective order for any of the information provided hereunder.

9. In the event that any Party seeks to use the Information Claimed to be Confidential in the course of any hearings or as part of the record of this proceeding, the Parties shall seek a determination by the trier of fact as to whether the portion of the record containing the Information Claimed to be Confidential should be placed under seal. Furthermore, if any Party wishes to challenge the Producing Party's designation of the material as Confidential Information, such Party shall provide reasonable notice to all other Parties of such challenge and the Producing Party may make a motion seeking a protective order. In the event of such challenge to the designation of material as Confidential Information, the Producing Party, as the provider of the Information Claimed to be Confidential, shall have the burden of proving that the material is entitled to protected status. However, all Parties shall continue to treat the material as Confidential Information in accordance with the terms of this Agreement, pending resolution of the dispute as to its status by the trier of fact.

10. Confidential Information that is placed on the record of this proceeding under seal pursuant to a protective order issued by the Board, an Administrative Law Judge, provided that the Board has not modified or rejected an order by the Administrative Law Judge, or any court of competent jurisdiction shall remain with the Board under seal after the conclusion of this proceeding. If such Confidential Information is provided to appellate courts for the

purposes of an appeal(s) from this proceeding, such information shall be provided, and shall continue to remain, under seal.

11. This Agreement shall not:

(a) Operate as an admission for any purpose that any documents or information produced pursuant to this Agreement are admissible or inadmissible in any proceeding;

(b) Prejudice in any way the right of the Parties, at any time, on notice given in accordance with the rules of the Board, to seek appropriate relief in the exercise of discretion by the Board for violations of any provision of this Agreement.

12. Within forty five (45) days of the final Board Order resolving the above-referenced proceeding, all documents, materials and other information designated as "Confidential Information," regardless of format, shall be destroyed or returned to counsel for the Producing Party. In the event that such Board Order is appealed, the documents and materials designated as "Confidential Information" shall be returned to counsel for the Producing Party or destroyed within forty-five (45) days of the conclusion of the appeal.

Notwithstanding the above return requirement, Board Staff and Rate Counsel may maintain in their files copies of all pleadings, briefs, transcripts, discovery and other documents, materials and information designated as "Confidential Information," regardless of format, exchanged or otherwise produced during these proceedings, provided that all such information and/or materials that contain Information Claimed to be Confidential shall remain subject to the terms of this Agreement. The Producing Party may request consultants who received Confidential Information who have not returned such material to counsel for the Producing Party as required

above to certify in writing to counsel for the Producing Party that the terms of this Agreement have been met upon resolution of the proceeding.

13. The execution of this Agreement shall not prejudice the rights of any Party to seek relief from discovery under any applicable law providing relief from discovery.

14. The Parties agree that one original of this Agreement shall be created for each of the signatory parties for the convenience of all. The signature pages of each original shall be executed by the recipient and transmitted to counsel of record for Petitioner, who shall send a copy of the fully executed document to all counsel of record. The multiple signature pages shall be regarded as, and given the same effect as, a single page executed by all Parties.

IN WITNESS THEREOF, the undersigned Parties do HEREBY AGREE to the form and execution of this Agreement.

**NEW JERSEY NATURAL GAS COMPANY**

By:_____
Colleen A. Foley, Esq.
Saul Ewing Arnstein & Lehr LLP
For the Petitioner

**GURBIR S. GREWAL**
**ATTORNEY GENERAL OF**
**NEW JERSEY**
**Attorney for the Staff of the Board of Public Utilities**

By:_____
Deputy Attorney General

**STEFANIE A. BRAND, ESQ.**
**DIRECTOR**
**DIVISION OF RATE COUNSEL**

By:_____
Assistant Deputy Rate Counsel

DATE: March __, 2021

**ATTACHMENT 1**

**STATE OF NEW JERSEY**
**BOARD OF PUBLIC UTILITIES**

| | |
|---|---|
| **IN THE MATTER OF THE PETITION OF NEW JERSEY NATURAL GAS COMPANY FOR APPROVAL OF AN INCREASE IN GAS BASE RATES AND FOR CHANGES IN ITS TARIFF FOR GAS SERVICE PURSUANT TO N.J.S.A. 48:2-21, 48:2-21.1; AND FOR CHANGES TO DEPRECIATION RATES FOR GAS PROPERTY PURSUANT TO N.J.S.A. 48:2-18 (3/21)** | **AGREEMENT OF NON-DISCLOSURE OF INFORMATION CLAIMED TO BE CONFIDENTIAL**<br><br>**BPU DKT. NO. GR2103_____** |

**ACKNOWLEDGMENT OF AGREEMENT**

The undersigned is an attorney, employee, consultant and/or expert witness for the Division of Rate Counsel or an intervenor who has received, or is expected to receive, Confidential Information provided by New Jersey Natural Gas Company or by another party (Producing Party) which has been identified and marked by the Producing Party as "Confidential Information." The undersigned acknowledges receipt of the Agreement of Non-Disclosure of Information Claimed to be Confidential and agrees to be bound by the terms of the Agreement.

Dated: By:_____

(Name, Title and Affiliation)

**EXHIBIT P-2**

# NEW JERSEY NATURAL GAS COMPANY

## DIRECT TESTIMONY OF JOHN B. WYCKOFF VICE PRESIDENT – ENGINEERING

## I. INTRODUCTION

**Q. PLEASE STATE YOUR NAME, AFFILIATION AND BUSINESS ADDRESS.**

A. My name is John B. Wyckoff and I am a Vice President – Engineering for New Jersey Natural Gas Company (the "Company" or "NJNG"). My business address is 1415 Wyckoff Road, Wall, New Jersey 07719.

**Q. PLEASE DESCRIBE YOUR RESPONSIBILITIES AS VICE PRESIDENT – ENGINEERING FOR NEW JERSEY NATURAL GAS COMPANY.**

A. As Vice President – Engineering, I lead NJNG's engineering team responsible for the technical design and construction of the Company's natural gas infrastructure, including distribution, transmission and regulator facilities, as well as project management, construction quality control and system planning, analysis and mapping.

**Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS PROCEEDING?**

A. My testimony supports NJNG's petition for an increase in base rates by addressing three topics directly related to NJNG's Energy Delivery operations. Specifically, my testimony will describe the Company's existing infrastructure and operations, including efforts to maintain safe and reliable service to its customers. Second, I provide information related to a number of important capital projects that address critical infrastructure needs of the Company and its customers. These include ongoing integrity management projects, the Safety Acceleration and Facility Enhancement Extension ("SAFE II") Program,[1] NJ

[1] *See In The Matter of The Petition of New Jersey Natural Gas Company For Approval of the Safety Acceleration And Facility Enhancement Program Pursuant To N.J.S.A. 48:2-23, And For Approval of The Associated Recovery Mechanism Pursuant To N.J.S.A. 48:2-21 and 2-21.1*, BPU Docket No. GO12030255 (October 23, 2012); *see I/M/O the Petition of New Jersey Natural Gas Company for Approval of an Increase in Gas Base Rates and for Changes in its Tariff for Gas Service; Approval of SAFE Program Extension; and Approval of SAFE Extension and NJ RISE Rate Recovery Mechanisms Pursuant to N.J.S.A. 48:2-21, 48:2-21.1 and for Changes to Depreciation Rates for Gas Property Pursuant to N.J.S.A. 48:2-18,* BPU Docket No. GR15111304, OAL Docket No. PUC 00738-16 (Order dated September 23, 2016, at p. 7).

Reinvestment in System Enhancement ("NJ RISE") Program[2] projects, the Southern Reliability Link ("SRL"), the Safety Town Training Facility ("Safety Town") and the Howell Power-to-Gas Injection Project. Third, I discuss the Company's Pipeline Integrity Management ("PIM") activities and associated operating expenses.

**Q. ARE YOU SPONSORING ANY SCHEDULES THAT ACCOMPANY YOUR PREPARED DIRECT TESTIMONY?**

A. Yes. I am sponsoring the following three schedules, which will be explained later in my testimony:

| | |
|---|---|
| Schedule JBW-1: | Actual Capital Investment of NJNG by Category – Fiscal Year 2019 and Fiscal Year 2020; |
| Schedule JBW-2: | Test Year and Post-Test Year Capital Investment by Category; and |
| Schedule JBW-3: | Customer Service Performance Reports – Fiscal Year 2019, Fiscal Year 2020 and October through December 31st of Fiscal Year 2021. |

## II. OVERVIEW OF NJNG INFRASTRUCTURE AND OPERATIONS

**Q. PLEASE PROVIDE A BRIEF DESCRIPTION OF NJNG'S DISTRIBUTION AND TRANSMISSION SYSTEMS.**

A. NJNG serves approximately 560,000 retail customers in Monmouth, Ocean, and portions of Morris, Middlesex, and Burlington counties. The Company operates a network of 221 miles of large diameter transmission lines, approximately 7,420 miles of distribution mains, and approximately 530,000 service lines that exceed an aggregate length of approximately 8,300 miles. NJNG's distribution mains range in diameter from 1 1/2 to 16 inches. The distribution system also includes various other forms of infrastructure, including line valves, pressure regulators, and meter stations. The natural gas network operates in various pressure configurations depending on a variety of factors, including material type and vintage. Specifically, portions of the NJNG system operate at a maximum

[2] *See*, *In The Matter of The Petition of New Jersey Natural Gas Company For Approval of the NJ RISE Program And Associated Rate Recovery Mechanism,* BPU Docket No.GR13090828 (July 23, 2014).

allowable operating pressure ("MAOP") of 722 pounds per square inch gauge ("psig") (transmission), while others operate at an MAOP of only 15 psig (distribution). Finally, the distribution system consists of two Liquefied Natural Gas ("LNG") peak shaving facilities located in Howell Township and in Stafford Township. The LNG facilities provide important pressure support to the system in addition to serving as storage for LNG supplies, making them critical to meeting customer requirements during peak winter periods and providing support during required system integrity work.

**Q. HOW ARE THE COMPANY'S OPERATIONS SEPARATED GEOGRAPHICALLY?**

A. The Company's operations are separated geographically into two distinct operating areas: the smaller Northern Division serves customers primarily located in Morris County and the larger Central Division serves customers primarily located in Monmouth County and Ocean County. Each operating Division is interconnected with interstate pipelines necessary to reliably serve customers. In the Northern Division, the Company is served by the Algonquin Gas Transmission, LLC ("Algonquin"), Columbia Gas Transmission, LLC ("Columbia"), Tennessee Gas Pipeline, LLC ("Tennessee") and Texas Eastern Transmission, LP ("Texas Eastern") interstate pipeline systems. In the Central Division, the Company is served by the Texas Eastern and Transcontinental Gas Pipe Line Company, LLC ("Transco") interstate pipeline systems.

**Q. PLEASE DESCRIBE NJNG'S OPERATIONAL GOALS AND OBJECTIVES.**

A. NJNG's operational objectives are threefold: safety, reliability and efficiency. The safe operation of NJNG's natural gas distribution and transmission systems is the Company's primary operational goal. Safety is essential to the health and well-being of the customers, residents, and businesses in the communities the Company serves, and the employees who are responsible for operating the system. NJNG also focuses on providing service on a reliable basis to customers who depend on natural gas service for heating and other essential needs. Reliability and integrity of the natural gas systems requires planning to meet the needs of customers during extreme cold weather when demand escalates and peaks, as well as during major storm events. In addition, the Company seeks to achieve the safe and reliable operation of its system in a cost-effective and efficient manner.

There are a variety of operational requirements associated with achieving these goals. For instance, one requirement is the ongoing monitoring, repair and maintenance of existing facilities. A second requirement is the engineering, planning, and construction of new facilities to provide for growth and increased operating flexibility, including appropriate operating redundancies. A third requirement is the need to rehabilitate or replace existing facilities to address aging infrastructure concerns or to meet enhanced safety goals. In all aspects of NJNG's operations, the Company works to continuously improve and adopt best practices of the gas distribution industry.

**Q. PLEASE PROVIDE AN OVERVIEW OF EACH OF THE PRIMARY FUNCTIONS ASSOCIATED WITH OPERATING NJNG'S SYSTEM.**

A. NJNG engages in four general types of activities that comprise its operations in very broad terms: (1) system operation; (2) system maintenance and repair; (3) system replacement and modernization; and (4) system expansion. System operation encompasses many activities including gas control operations, system monitoring, leak detection, responding to leak calls, and periodic facility inspections. System maintenance and repair includes both emergency and non-emergency efforts to maintain all aspects of NJNG's distribution and transmission facilities including routine maintenance to regulators, meters and valves, as well as repairs to pipe facilities. System replacement and modernization includes various projects that address challenges associated with aging elements of NJNG's facilities that are more cost effective to proactively replace than continually maintain and repair. Replacement facilities incorporate the latest technologies to enhance safety, integrity and reliability. Lastly, system expansion entails the construction of new facilities to connect new natural gas customers and loads to the system. The majority of these operational activities, excluding system expansion, focus on managing the ongoing operational integrity of the Company's natural gas system.

**Q. HOW DOES NJNG IMPROVE ON THE ACHIEVEMENT OF ITS OPERATIONAL GOALS?**

A. NJNG is committed to continuous improvement in its operations and uses a combination of internal and external tools to assess and improve upon its performance across many areas of its operations. The Company employs a structured scorecard to measure its own

performance for activities such as on-time service calls, leak response time, leaks per mile, and safety incidents. Objective monitoring of performance against appropriate targets enables the Company to identify and address potential issues that may degrade performance or to target areas for process improvement.

NJNG also participates in the American Gas Association ("AGA") Best Practices Benchmarking Project, an industry-wide initiative that focuses on key operating processes to identify innovative and cost-efficient practices among national natural gas distribution companies. NJNG and participating companies discuss and document current work management processes in specific areas and share these practices with participating sponsors. The information and data obtained from these roundtables is incorporated in the Company's ongoing process improvement efforts when appropriate. NJNG also participates in the AGA Peer Review Program. The Peer Review Program is a voluntary peer-to-peer safety and operational practices review program that allows local utilities throughout the United States to observe their peers, share leading practices and identify opportunities to better serve customers and communities.

**Q. ARE THERE FEDERAL AND STATE REGULATORY REQUIREMENTS RELATED TO NJNG'S OPERATIONS?**

A. Yes. The safety of natural gas transmission and distribution pipelines is regulated by a combination of federal and state laws, regulations, and agencies. In New Jersey, the New Jersey Board of Public Utilities ("BPU") is responsible for setting and administering pipeline safety regulations with oversight carried out by the Pipeline Safety Bureau in the Division of Reliability and Security. The U.S. Department of Transportation Pipeline and Hazardous Materials Safety Administration ("PHMSA") is responsible for federal pipeline safety oversight and the administration of federal pipeline safety laws. Both the BPU and PHMSA inspect pipeline facilities, oversee required reporting, and investigate potential concerns associated with the safety of the natural gas distribution/transmission systems. PHMSA may delegate some of its inspection responsibilities to state agencies, such as the BPU.

Over the last two decades, several laws have been enacted that have materially expanded operator requirements and PHMSA responsibilities. These include the Pipeline Safety Improvement Act of 2002, the Pipeline Integrity, Protection, Enforcement, and

Safety Act of 2006 ("2006 PIPES Act"), and the Pipeline Safety, Regulatory Certainty, and Job Creation Act of 2011. These three Acts apply to interstate and intrastate pipelines, Local Distribution Companies ("LDCs"), and other gas distributors considered system operators. Most importantly, the 2006 PIPES Act required PHMSA to lead a stakeholder process to develop new Distribution Integrity Management Plan ("DIMP") requirements applicable to gas distributors, such as NJNG.

In October 2019, PHMSA adopted new regulations which address integrity management requirements and other requirements by focusing on actions a natural gas pipeline operator must take to reconfirm the MAOP of previously untested natural gas transmission pipelines and pipelines lacking certain material or operational records. PHMSA also required periodic assessment of pipelines in populated areas not designated as "high consequence areas," reporting of exceedances of MAOPs on any pipeline, consideration of seismicity as a risk factor in integrity management, safety features on pigging launchers and receivers, and related recordkeeping provisions.

**Q. TO WHAT DOES THE TERM "INTEGRITY MANAGEMENT" REFER?**

A. "Integrity management" generally refers to the process of identifying, evaluating, and addressing potential or direct threats to system integrity. PHMSA categorizes potential hazards according to the following eight sources: (1) corrosion; (2) natural forces; (3) excavation; (4) other outside force damage; (5) material or welds; (6) equipment; (7) operations; and (8) other. Integrity management applies to all eight of these potential threats and requires management and industry focus in order to maintain safety.

**Q. PLEASE EXPLAIN THE ESSENTIAL REQUIREMENTS OF DIMP.**

A. The DIMP regulations mandated that a risk-based approach to distribution main and service integrity management plans be prepared by each operator. While the regulations prescribe a specific framework for documenting operating practices and procedures into a plan, the regulations provide significant operator flexibility to satisfy the requirements. At a minimum, each distribution pipeline operator's DIMP must address seven major elements. NJNG's DIMP reflects important documentation of the Company's risk-based approach to integrity management according to the required elements as follows:

(1) **Knowledge:** Knowledge entails the documentation of information pertaining to system design, materials, operating characteristics, and environmental factors. NJNG's DIMP references data contained in the Company's geographic information system, leak management system, and corrosion control system. The combination of these tools allows NJNG to maintain, store, report, and analyze critical data related to its infrastructure.

(2) **Identify threats:** Threat identification determines broad issues that may affect the safe operation of the distribution system. Potential threats follow the categories of potential operational hazards established by PHMSA. NJNG relies on both internal and external data sources to identify threats. Internal data sources include various design and operating records contained in the systems noted previously. External data sources include industry-wide data and data related to soil conditions or prepared by independent researchers.

(3) **Evaluate and rank risks:** The process of evaluating and ranking risks determines the relative importance of all identified risks. Importance takes into consideration both likelihood of occurrence and the consequences of occurrence. NJNG relies primarily on appropriate analysis to evaluate its overall risks.

(4) **Identify and implement measures to address risks:** This element of NJNG's DIMP documents measures to reduce risk of failure. Multiple integrity management processes fall under the rubric of measures that address risks. Programs at NJNG that address risks include the leak management, damage prevention, corrosion control, public awareness, and operator qualification programs. Specific actions include prevention, detection, mitigation, and/or replacement and upgrade, depending on the risk-based probability of occurrence and consequences of the specific integrity threat.

(5) **Measure performance, monitor results, and evaluate effectiveness:** Monitoring and measurement activities allow NJNG to evaluate the effectiveness of actions implemented in order to address risks. NJNG

measures performance from a variety of sources of information including the collection of data on leak causes and leaks repaired or eliminated. This data is reported and communicated within NJNG for evaluating trends and to provide input for future planning.

(6) **Periodic evaluation and improvement:** Periodic evaluation establishes a definitive feedback loop for the overall integrity management process. The entire DIMP is evaluated at least every five years. Additionally, as knowledge concerning the distribution system or potential threats is gained, elements of the DIMP or required actions may be revised to take into account the impact of the enhanced understanding upon the effectiveness of NJNG's integrity management activities.

(7) **Report results:** Reporting on integrity management actions and results provides information to NJNG's internal management and satisfies federal and state mandated reporting. Annually, NJNG reports data concerning the facilities in service by vintage and material as well as leaks and associated causes.

**Q. PLEASE DESCRIBE IN MORE DETAIL NJNG'S PLANNING ASSOCIATED WITH SYSTEM ENHANCEMENT AND MAINTENANCE ACTIVITIES.**

A. Planning to successfully address the safety risks associated with operating a natural gas distribution system is multi-faceted. A natural distinction exists between planning for emergency response activities and planning to address non-emergency risks. Planning for emergency response must ensure that adequate levels of construction and maintenance crews, heavy equipment, tools, and materials and supplies stand ready to repair any emergency leaks or other hazards that require immediate attention. Emergency planning must take into account the peak emergency demands that coincide with impacts from major storm events, extreme cold weather, and the location of infrastructure in the Company's service territory that spans more than 1,400 square miles. Non-emergency planning entails medium and long-range planning to optimize NJNG's system improvement and leak management efforts. This type of planning is proactive and relies extensively on NJNG's analysis processes. Non-emergency planning also considers the most effective means of

potentially reducing the impact of a major supply curtailment or storm event while coordinating that work with affected municipalities.

**Q. WHAT LEVEL OF ENERGY DELIVERY STAFFING AND OTHER RESOURCES ARE NECESSARY TO PRUDENTLY MANAGE NJNG'S SYSTEM TO MEET THESE OPERATIONAL REQUIREMENTS?**

A. NJNG dedicates considerable capital and staffing resources to managing the safety and integrity of its system, reflecting both the importance of and challenges associated with its commitment to safety. The Company's Energy Delivery business unit is the largest within NJNG, both in terms of capital and Operations and Maintenance ("O&M") budgets and staffing levels. NJNG consistently invests in maintaining and enhancing the safety of its system as reflected in its short and long-term capital budgets. In terms of staffing, the Energy Delivery business unit includes approximately 630 NJNG employees and oversees outside construction firms performing the majority of NJNG's planned construction activities. Energy Delivery employees are supported by field offices located throughout the service area, as well as the Company's investment in vehicles and equipment necessary to address all needs and operating circumstances. Additionally, a portion of the Energy Delivery staff provides important management, engineering, and construction oversight for the business unit.

Energy Delivery also oversees outside contractors that perform construction associated with planned and emergency main and service replacements, as well as the installation and upgrading of regulator stations. Additionally, outside contractors perform construction work for new business, including the installation of new business mains and services.

**Q. PLEASE DESCRIBE NJNG'S CAPITAL PLANNING PROCESS.**

A. NJNG's capital budgeting process integrates a number of operation and design considerations, including the results of constant monitoring of the performance and integrity of existing facilities as well as plans for beneficial system improvements. These factors contribute to longer-term plans for specific system upgrade, rehabilitation, and replacement projects to maintain safe and reliable operations and service to customers.

On an annual basis prior to the beginning of the fiscal year, NJNG prepares a three-year capital plan that includes Energy Delivery and other business units. Energy Delivery develops a capital budget based upon system needs, sequencing some of the upgrade, rehabilitation, and replacement projects in one of the three years of the capital budget. In addition to the specific larger-scale projects, the Company also budgets for high-volume, smaller scale capital improvements on a blanket basis. The cost estimates for the large-scale projects and blanket needs are based upon preliminary analysis of the project needs and historical cost data for similar projects. The capital budget is reviewed and approved by NJNG's management and then is submitted to New Jersey Resources ("NJR"), NJNG's parent, for approval by the NJR Board of Directors.

After the budget has been approved, the Company's capital budgeting process incorporates appropriate controls to ensure all capital costs are appropriate and are prudently incurred. Additionally, the process incorporates sufficient analysis and flexibility to prioritize system needs on an ongoing basis so that safety and reliability are maintained cost-effectively. The application of this process to meet NJNG's extensive capital needs ensures that the anticipated benefits of various types of capital investment are achieved at reasonable cost.

**Q. WHAT LEVEL OF CAPITAL INVESTMENT IN FACILITIES HAS NJNG MADE SINCE ITS LAST BASE RATE CASE CONCLUDED IN 2019?**

A. For Fiscal Years 2020 and 2021, NJNG will invest approximately $660 million to serve customers across a wide variety of projects to improve and expand its natural gas distribution and transmission system. Schedule JBW-1 provides a summary of capital investment for the last two fiscal years, Fiscal Year 2019 and Fiscal Year 2020. This work includes specific line item projects, expenditures for customer growth, and system reinforcements, replacements, and retirements.

Capital investment is critical to ongoing success in achieving NJNG's primary operational goal of ensuring safety. Later in my testimony, I will provide details regarding ongoing and future capital investment projects.

**Q. HAS NJNG'S EXCELLENT OPERATIONAL PERFORMANCE BEEN RECOGNIZED?**

A. Yes. The Company's outstanding performance has been recognized by both industry peers and the Company's customers. NJNG recently received important recognition related to safety and customer service, as well as recognition for its best practices in the gas distribution industry. The Company was one of two LDCs awarded the Annual Excellence in Safety Award by the Northeast Gas Association. This award recognized NJNG's overall safety record and exemplifies the Company's commitment to the safe operation of its system to benefit customers, employees and the communities NJNG serves.

The Company also received top honors from 2015 to 2020 in the J.D. Power Gas Utility Residential Customer Satisfaction Study for the eastern region among large utilities. The Company's overall high customer satisfaction ratings indicate successfully listening to and responding to the needs of its customers. In addition, NJNG has received the Cogent Reports awards from 2015 to 2019 for Most Trusted Utility Brand in the Northeast. Lastly, NJNG was rated a top quartile performer for overall responsiveness in Cogent's auxiliary study: Utility Response to the COVID-19 Pandemic.

**Q. DOES THE COMPANY TRACK DATA REGARDING THE PERFORMANCE OF ITS CUSTOMER SERVICE OPERATIONS?**

A. Yes. The Company tracks data regarding its Customer Service performance. Specifically, the Company collects data for the following categories: 1) Call Center; 2) Meter Reading and Billing; 3) Safety and Reliability; and 4) Overall Customer Service and Satisfaction. Attached hereto as Schedule JBW-3 are the Customer Service Performance Reports for Fiscal Year 2019, Fiscal Year 2020 and October through December 31st of Fiscal Year 2021. The overarching measure, overall satisfaction indicates strong performance year-over-year with results improving throughout the COVID pandemic using Fiscal Year 2019 as a baseline at 89.7 percent, that grew to 90.5 percent in Fiscal Year 2020 and is at 90.7 percent through first quarter of Fiscal Year 2021.

**Q. DOES THE COMPANY PROVIDE THIS DATA TO THE BPU AND THE DIVISION OF RATE COUNSEL ("RATE COUNSEL")?**

A. Yes. Pursuant to its Stipulation of Settlement in the prior base rate case, the Company submits to BPU Staff and Rate Counsel quarterly or annual reports on the following metrics:

1. Call Center

(A) Percentage of Calls Answered within 30 seconds

Measure: Service Level

Benchmark: 82% of calls answered within 30 seconds

Definition: Measured in seconds from the time the call is placed in the call queue. Includes calls handled through the Interactive Voice Response ("IVR") automated system. Measured monthly, reported quarterly.

(B) Abandoned Call Percentage ("ACP")

Measure: ACP

Benchmark: 5% or less of calls abandoned

Definition: The number of calls to the IVR system that are terminated by the caller before reaching the selected destination. Measured monthly, reported quarterly.

(C) Average Speed of Answer ("ASA")

Measure: ASA

Benchmark: 30 seconds or less.

Definition: Measured in seconds from the time when a customer indicates the desire to speak to a representative to when the representative picks up the phone. Measured monthly, reported quarterly.

2. Meter Reading and Billing

(A) Meter Reading

Measure: Percentage of all meters read

Benchmark: 95% of meters read

Definition: The percentage of all meters read on cycle within the company's territory. Measured monthly, reported quarterly.

(B) Meter Reading by Town

Measure: Percentage of all meters read listed by each town within the company's territory

Benchmark: Track and monitor only

Definition: The percentage of meters read on cycle within each town of the company's territory. Measured and reported annually.

(C) Billing Accuracy

Benchmark: 20 or fewer rebills per 1,000 customers

Definition: The number of rebills per 1,000 customers measured as all bills mailed to customers that are later adjusted, cancelled or re-issued. Measured monthly, reported quarterly.

3. Safety and Reliability

(A) Safety

Measure: Leak Response Time

Benchmark: 95% of calls responded to within 60 minutes

Definition: Leak, odor and emergency call response measured from the initial customer call to the time qualified personnel arrive at the location to either assess or implement a "make safe" condition. Measured monthly, reported quarterly.

Exception reporting: Provide a quarterly report to the BPU for all leak, odor and emergency calls that are not responded to within 60 minutes, giving the reasons for the delay.

(B) Reliability

Measure: Percentage of service appointments met

Benchmark: 99.9% or greater of service appointments met

Definition: The percentage of appointments completed on the day scheduled. Includes appointments for meter installations, disconnects and reconnects, billing investigations, initial and final meter reads. Excludes regularly scheduled meter reads, gas leaks/emergencies/outages, and appointments missed by the customer. Measured monthly, reported quarterly.

4. Overall Customer Service and Satisfaction

(A) BPU Complaints

Measure: Customer complaints/contact to the BPU

Benchmark: Less than 1 complaint/contact per 1,000 customers annually

Definition: The number of verbal or written complaints/contacts made to the BPU, not including complaints to the Company, which are measured as an annual average number of complaints per 1,000 customers. The Company also shall report BPU complaints by root cause category, such as billing, collection, etc. Measured monthly, reported quarterly.

(B) Customer Satisfaction

Measure: Customer satisfaction based on Company's Transaction Survey

Benchmark: 89.0% The Customer Satisfaction goal of 94.5% was a carryover from the Company's prior rate case in Docket No. GR15111304 which was based on the Company's internal goal at that time and was measured based on results derived from phone surveys.

In 2018, NJNG switched from phone surveys to electronic surveys based on input from our customer base. The scale was also expanded from a ten-point scale to an eleven-point scale. Generally, survey experience has indicated that survey responders grade harsher on electronic surveys than phone surveys. Additionally, the larger scale can also have a negative impact. Therefore, Customer Satisfaction results for the electronic surveys of at least 89% meet NJNG's goal.

Definition: The weighted percentage of responses on an eleven point scale, to the question "overall satisfaction with NJNG" on the transaction. Measured monthly, reported quarterly.

## III. NJNG CAPITAL PROJECTS

**Q. PLEASE HIGHLIGHT THE ONGOING AND ANTICIPATED NEW CAPITAL PROJECTS BEING CONSTRUCTED BY NJNG.**

A. As stated previously, capital investments ensure that NJNG continues to meet and enhance the safety and overall integrity of its operations, as well as enable the Company to meet the growing needs of its customers for reliable gas service. In this section of my testimony, I will describe several important capital projects and the benefits associated with each. I will also provide an update concerning the ongoing capital projects associated with NJNG's SAFE II program, its NJ RISE program, and its recently-approved Infrastructure Investment Program ("IIP"). Last, I will describe investments needed to meet system growth and improvement needs.

### *A. SRL Project*

**Q. PLEASE PROVIDE AN OVERVIEW OF THE SRL PROJECT.**

A. The SRL Project is a critical infrastructure project to enhance the integrity, reliability and resiliency of the natural gas distribution service that NJNG provides to firm customers (Residential and Commercial). NJNG's SRL is a new transmission feed directly to the southern end of NJNG's system. The SRL Project consists of approximately 30 miles of 30-inch steel transmission pipeline and related facilities capable of transporting approximately 310,000 dth/day when operated at maximum pressure. The SRL will interconnect with the Transco system in Chesterfield Township, Burlington County and run southeasterly to an interconnect with NJNG's existing transmission backbone facilities

in Manchester Township, Ocean County. The SRL Project interconnects with NJNG's facilities in close proximity to the largest proportion of the Company's existing demands in Monmouth and Ocean Counties and provides for bidirectional flows along NJNG's existing transmission system. As a result, the SRL provides a redundant feed to a large percentage of NJNG customer loads. The project also helps Northern Division from a Gas Supply perspective, by providing the ability for more Tetco supply to be allocated to that area if the dependence is reduced for Tetco in the Central Division.

**Q. HOW WILL THE SRL PROJECT IMPROVE SYSTEM OPERATIONS?**

A. The footprint of NJNG's service area is separated into two distinct areas. The Northern Division, located primarily in Morris County, is served off of the Tennessee, Columbia, Algonquin and Texas Eastern interstate pipeline systems. The larger portion of NJNG's system, comprising its Monmouth and Ocean operating areas, serves customers in Monmouth, Ocean, Middlesex and Burlington Counties along a North-South corridor. This system is served almost entirely off of the Texas Eastern interstate system by means of interstate pipeline interconnections located north of, and outside of, NJNG's service territory. Eighty-five percent of the design requirements of the Monmouth and Ocean operating areas are currently served through a single Texas Eastern gate station. NJNG operates its own network of transmission pipeline to deliver, in a southerly direction, the supplies to various points in Monmouth and Ocean Counties.

The SRL provides a second pipeline feed from Transco's interstate system into the southern end of the Monmouth and Ocean operating areas, significantly enhancing the reliability and resiliency of the service provided to customers. Reliability is improved by reducing the Company's dependence on a single pipeline interconnect for firm requirements, and by adding an important means of managing pressures across a significantly-sized network of distribution facilities. The addition of the SRL will also improve the resiliency of NJNG's operations by allowing it to reduce the impact of potential disruptions to service. Without the SRL, NJNG is vulnerable to significant outages in the event of a disruption of the Texas Eastern system that could affect the availability of gas supply to customers in the Central Division.

**Q. HAS TEXAS EASTERN EXPERIENCED ANY ISSUES THAT AFFECTED THE ABILITY FOR NJNG TO UTILIZE ITS CAPACITY?**

A. Yes, Texas Eastern has experienced several *force majeure* events in recent years. The most significant of these include the following:

- On January 7, 2014, Texas Eastern experienced a *force majeure* event that resulted in the curtailment of city gate deliveries. On that date, NJNG experienced a new record send out of 690,000 dths when the temperature averaged 10 degrees Fahrenheit. NJNG utilized LNG inventory supply to make up for the loss in pressure and loss in supply from Texas Eastern. LNG provided 161,000 dths of daily supply, which equated to 95% of planned LNG design day quantities. If the *force majeure* had been more significant or if the weather had been colder and reflective of design day conditions, NJNG's distribution system would have experienced a loss of firm customer loads.
- On April 29, 2016, Texas Eastern experienced a *force majeure* event at Delmont, PA. NJNG experienced a reduction in Texas Eastern supply in excess of 80% for the first two days of the curtailment period. Over the next nine days, NJNG experienced an average of 54% reduction of Texas Eastern volumes. If the Texas Eastern interruption occurred in the winter when weather had been colder or for design day conditions, NJNG's distribution system would have experienced a loss of firm customer loads.
- During the winter of 2019-2020 Texas Eastern elected to reduce pressures to conduct investigations on their system as part of an initiative by Texas Eastern's parent, Enbridge Inc., to reevaluate its pipeline integrity program. The reevaluation took place during winter months as a result of incidents that had occurred over the prior year on Enbridge-owned pipelines. The incidents were all related to different issues, which caused Enbridge to reevaluate its pipeline integrity program. The capacity reductions were approximately 15% through various compressor stations on the Penn-Jersey system. During a two-day cold weather event from December 18, 2019 to December 19, 2019, Texas Eastern restricted a portion of firm capacity through the Penn-Jersey system. NJNG was able to meet city gate requirements, since this occurred during non-design day temperatures. If this had occurred during

design day conditions, reliable service to NJNG's customers would have been at risk.

- On June 23, 2020, Texas Eastern declared *force majeure* on its entire 30-inch system from Kosciusko to Uniontown, PA and including the Bedford, PA compressor station due to an incident in Kentucky. NJNG saw reductions to firm transportation while inspection work was being completed and pressure reductions were in place. The reductions were during low load periods in the summer and did not cause interruptions to customers. The *force majeure* remained in effect for a six-month period.

**Q. WHAT ARE SOME ADDITIONAL BENEFITS OF THE SRL PROJECT?**

A. The SRL project contributes to important additional benefits for our customers as well. Adding a redundant feed interconnected with a different pipeline will diversify the Company's supplier base with access to growing production areas connected to the Transco system. Enhanced supplier diversity provides important optionality that contributes to potential supply cost savings. In addition, the Office of Homeland Security has charged utilities to harden the security of their systems. One of the most important ways to make a system more secure is creating and improving redundancy in terms of both the physical system and the sources of natural gas supply, and the SRL project is critical to the Company's improved operational redundancy in both respects.

**Q. WHEN DOES NJNG EXPECT TO PLACE THE SRL INTO SERVICE?**

A. Construction of approximately 28 miles of the project has been installed. Once construction is complete, the project will undergo hydrostatic pressure testing to verify the integrity and operational pressure of the pipe. NJNG anticipates placing SRL into service during early Fall 2021 in advance of the winter heating season.

**Q. WHAT IS THE ESTIMATED COST OF THE SRL PROJECT?**

A. NJNG expects the SRL Project to cost approximately $310 million. The Company received BPU approval for the project on March 18, 2016. Several factors contributed to a longer-than-expected timeline to complete construction of the SRL Project. These include significantly delayed permits from local government entities and the imposition of

restrictive construction timelines and work rules, which also contributed to higher project costs.

***B. Safety Town Project***

**Q. WHAT IS THE SAFETY TOWN PROJECT?**

A. Safety Town is a state-of-the-art training facility comprised of indoor classroom and lab training facilities and a series of additional outside structures that simulate neighborhood dwellings equipped with natural gas appliances. Safety Town is being constructed on a 17-acre parcel acquired by the Company in an economic development zone located in Howell Township, Monmouth County. The facility will enable the Company to conduct all mandated operator qualification and safety-related training at a dedicated location including required training of NJNG employees and third-party contractor personnel. In addition, the Company will coordinate with local community emergency responders to provide training opportunities for responding to emergency situations.

**Q. WHAT TYPES OF ACTIVITIES WILL OCCUR AT SAFETY TOWN?**

A. Safety Town provides the opportunity to integrate classroom and simulated field training for all activities associated with operating NJNG's distribution facilities. This includes training in construction, integrity management, maintenance and emergency response associated with NJNG's distribution facilities. Essentially, everything that occurs in the field will be taught and practiced at the Safety Town site.

**Q. WHY DID NJNG UNDERTAKE DEVELOPMENT OF THE SAFETY TOWN PROJECT?**

A. Safety is a core commitment of NJNG to its customers, employees and the communities it serves. Safety Town enables NJNG to efficiently and effectively invest in its workforce and grow expertise in the activities that they engage in on a daily basis. While workforce training is always an essential element of NJNG's operations, the industry is facing challenges associated with an aging workforce. The Safety Town facility is one way that NJNG will be able to attract and develop field personnel that are critically needed to support its distribution operations.

**Q. WHAT IS THE ESTIMATED COST OF THE SAFETY TOWN PROJECT?**

A. Safety Town is expected to cost $18.4 million, including the acquisition of the required land.

***C. Howell Power-to-Gas Injection Project***

**Q. WHAT IS THE HOWELL POWER-TO-GAS INJECTION PROJECT?**

A. This Power-to-Gas facility is a project that will utilize renewable power for the production of gaseous hydrogen, a carbon emission free fuel. The gaseous hydrogen produced in the facility will be stored on-site in an above ground tank for direct injection to the outgoing natural gas pipeline to create a blended mixture that will reduce the carbon footprint of the gas delivered to customers.

The facility will include: An electrolyzer that will produce hydrogen and oxygen from well water; an above ground storage tank; a standby back-up natural gas powered 35 kW electric generator; an electrical and instrumentation enclosure for power distribution, communications, controls and safety systems; transformer; supply water well; water treatment system; discharge water well; and a photovoltaic ("PV") array provided by a third-party to produce renewable electrical energy to power the electrolyzer.

The site is presently operated by NJNG as a LNG facility which stores LNG in on-site storage tanks for local distribution to meet demand periods. The new facility will be fully automated, will operate continuously throughout the year, and will require no new employees for operation. Present NJNG operations and maintenance crews will provide maintenance and oversight to the new facility, as required. NJNG anticipates placing this facility into service in August 2021.

**Q. PLEASE DESCRIBE THE BENEFITS OF THE HOWELL POWER-TO-GAS INJECTION PROJECT?**

A. NJNG supports Governor Murphy's vision for carbon neutrality by 2050 and is actively investigating the potential opportunities to meet customers' needs and expectations in a low carbon future; this project is one of these opportunities. Developing and scaling fuels such as "green" hydrogen is important to achieving emissions reduction goals, and will ensure appropriate long-term value is ascribed to high quality and preexisting, underground

infrastructure. NJNG will reduce emissions by decarbonizing the gas stream and making the necessary technology upgrades to our infrastructure.

The Power-to-Gas system utilizes a carbon-free energy source, PV, to produce hydrogen and oxygen using water. When burned as a fuel, hydrogen's only emission is water vapor. This creates a completely decarbonized cycle where both the input and output is water but the energy is transferred from PV to a gas stream. NJNG believes that hydrogen is one type of renewable, alternative fuel required to achieve a fully decarbonized future.

This project will produce enough hydrogen to offset approximately 180 US Tons of CO2 per year. Offsetting CO2 is the most cost effective and efficient manner in which NJNG can help reduce greenhouse gas emissions. The yearly reduction in CO2 demonstrates NJNG's commitment to sustainability and to supporting the NJ Energy Master Plan.

**Q. WHAT IS THE ESTIMATED COST OF THE PROJECT?**

A. The Howell Power-to-Gas Injection Project is expected to cost approximately $6.0 million. NJNG expects to place this project in service in August 2021.

***D. NJNG SAFE Program Update***

**Q. PLEASE DESCRIBE THE COMPANY'S SAFE PROGRAM.**

A. NJNG's SAFE Program entails the replacement and refurbishment of the Company's inventory of unprotected steel and cast-iron main on an accelerated basis. The plan focuses on accelerating the replacement of facilities that would be replaced eventually and enables the replacement to occur in an expedited, coordinated, and efficient manner. NJNG also proposed a cost recovery mechanism that would provide for timely cost recovery and maximize the cost efficiencies of a multi-year program. The program is in its ninth and final year.

**Q. WHAT ARE THE PRIMARY BENEFITS OF THE SAFE PROGRAMS?**

A. From the inception of the SAFE programs, NJNG has replaced 279 miles of distribution main, affecting approximately 45,250 associated services. This includes the replacement of all of the Company's cast iron main and all utilization ("low") pressure systems. In

addition to the elimination of a significant source of leaks, thereby reducing risk and improving overall public safety, the program provides the opportunity to enhance safety through the use of state-of-the-art materials as compared to the facilities that are replaced. These include the implementation of Excess Flow Valves ("EFVs") and the safety and reliability benefits associated with operating the distribution system at improved, more efficient pressures. Also, distribution configurations based on plastic pipe enable the Company to more readily isolate and shutoff a smaller area when excavation damage occurs, minimizing the impact on customers.

From a financial perspective, the SAFE programs offer important opportunities to reduce capital requirements as compared to undertaking the replacements at a slower rate. The accelerated multi-year program allows NJNG to address larger sections of pipe within a single construction project, leading to lower costs per mile as aspects of the engineering and construction mobilization effort are amortized over a larger project. Additionally, the program reduces, over time, the emergency replacements that exhibit substantially higher costs per mile than planned replacements. The multi-year program enables the Company to enhance the efficiency of these efforts and reduce the total work and associated costs required to complete the replacements. Larger projects also require fewer tie-ins to the distribution system and reduce permitting, inspection, and restoration costs.

**Q. WHEN DOES THE COMPANY ANTICIPATE COMPLETING WORK UNDER THE SAFE PROGRAM?**

A. The Company expects to complete the replacement activities under the SAFE Program on September 30, 2021 as planned.

***E. NJ RISE Program***

**Q. PLEASE DESCRIBE THE COMPANY'S NJ RISE PROGRAM.**

A. NJ RISE represents six targeted system enhancement projects designed to improve the durability, redundancy, resiliency, integrity, and safety of NJNG's infrastructure, making it less susceptible to storm damage. The NJ RISE upgrades help to mitigate outages and improve NJNG's ability to respond to and control service disruptions as well as enhance the safety and reliability of its system.

**Q. PLEASE DESCRIBE THE COMPLETED NJ RISE PROJECTS.**

A. NJ RISE is comprised of the following:

(1) **EFV Project:** The EFV Project involved the installation of EFVs in potential storm-affected areas of NJNG's waterfront communities, reducing the potential for gas venting to the atmosphere when storm damage impacts dwellings or if other service disruptions occur. Approximately 17,100 EFV's have been installed.

(2) **Sea Bright Project:** The Sea Bright Project involved the installation of approximately 2.3 miles of distribution main as a second feed into the upper portion of the Sea Bright Peninsula from the Borough of Rumson, limiting potential storm-related service disruptions in the area and reducing restoration efforts. This project was placed into service in 2018.

(3) **North Seaside Project:** The North Seaside Project consisted of the installation of approximately 1.5 miles of distribution main as a redundant feed into the upper portion of the Seaside Peninsula in the Borough of Mantoloking from Brick Township and the relocation of an existing regulator station off of the barrier island. This project also limits potential storm-related service disruptions in the area and reduces the effort required to restore service following a storm. Relocating the regulator station improves the Company's ability to access and maintain service through this important facility during storm conditions. Phase I of this project was placed into service in 2018. Phase II is expected to be placed into service in May 2021.

(4) **South Seaside Project:** The South Seaside Project involved the installation of approximately 5 miles of distribution main as a redundant feed into the southern portion of the Seaside Peninsula barrier island, limiting potential storm-related service disruptions in the area and reducing required restoration efforts. Phase I of this project was placed into service in 2018. And Phase II was placed into service in 2019.

(5) **Long Beach Island Regulator Station Project:** The Long Beach Island Regulator Station Project entailed fortifying and reinforcing the existing

distribution regulator station in the Borough of Ship Bottom in order to reduce the impact of flooding from a future major storm or extreme weather event. This project was placed into service in 2017.

These five projects improve reliability and integrity, enhancing the safety of NJNG's distribution service for all customers who reside on the barrier islands and in those waterfront communities. The total cost of these five NJ RISE projects is approximately $102.5 million.

**Q. WHAT IS THE STATUS OF THE NJ RISE LONG BEACH ISLAND PROJECT?**

A. The Long Beach Island Project involves the installation of approximately 6 miles of distribution main as a redundant feed into the southern portion of Long Beach Island, limiting potential storm-related service disruptions in the area and reducing restoration efforts. The Company has experienced logistical challenges associated with the water crossing portion of the project, and construction is currently scheduled to commence in October 2021. As a result, this project will not be complete until after the post-test year period in this proceeding. The Company proposes to include this project in its next base rate case, thereby concluding the NJ RISE Program with the separate rate filing which will be submitted to the BPU on March 31, 2021.

***F. Customer Growth***

**Q. WHAT INVESTMENTS ARE NEEDED TO MEET ANTICIPATED CUSTOMER GROWTH?**

A. The Company's customer growth continues at a moderate pace, at approximately 1.7% annually, however, this may be impacted by the pandemic, necessitating the installation of new mains, services, meters and other necessary distribution facilities. During the two-year period from 2019 through 2020, NJNG added approximately 18,050 new customers. The Company is projecting that approximately 14,264 additional customers will be added to the system during the period of September 2020 through February 2022. The estimated cost of the growth-related facilities to serve these additional customers is approximately $83 million.

NJNG's engineering department determines the facilities required to serve new customers using appropriate modeling tools that take into consideration existing facilities

and the characteristics of both existing and incremental loads. This process also benefits from the knowledge and experience of the Company's engineers regarding the configuration and operation of NJNG's system. Any new distribution mains are designed to provide customers with reliable service under design peak hourly flow conditions. New distribution services and meters are designed to provide reliable service based upon the loads at the customer's premise. Any upgrades or reinforcement of existing facilities is also determined in order to maintain required pressures across NJNG's distribution system. All new facilities are designed to comply with all federal and state regulatory requirements.

## IV. PIPELINE INTEGRITY MANAGEMENT

**Q. WHAT UNIQUE REQUIREMENTS APPLY TO OPERATING THE COMPANY'S TRANSMISSION PIPELINE AND DISTRIBUTION FACILITIES?**

A. NJNG's 221 miles of transmission pipeline facilities and its SRL project, once completed, are subject to PHMSA safety regulations including required PIM requirements. These requirements necessitate the development of a comprehensive plan to manage the integrity of a pipeline operator's facilities. An appropriate pipeline integrity plan should incorporate appropriate system assessments, identification of threats, remediation plan for identified concerns and record-keeping. Requirements for pipeline segments that traverse high consequence areas ("HCAs") are more stringent than for those that do not traverse an HCA. An HCA represents a location where the consequences to life and property of an incident are higher, taking into account population and building density factors.

NJNG operates the largest network of transmission pipeline among all of the New Jersey LDCs and has taken a number of steps to maintain the highest safety standards for its transmission assets. The first of these steps is to meet or exceed the HCA inspection requirements for its entire transmission pipeline, regardless of whether it meets the HCA criteria. Second, NJNG's transmission facilities are all configured to utilize internal inspection tools, which is the most effective means of assessing the integrity of the facilities. This also allows the Company to take advantage of state-of-the-art advancements to the

pipeline inspection devices, or "smart pigs," relied upon to detect anomalies such as pitting, cracks, dents or corrosion, and to clean facilities.

**Q. DOES THIS CONCLUDE YOUR PREPARED DIRECT TESTIMONY?**

A. Yes, it does.

# Actual Capital Investment of NJNG by Category – Fiscal Year 2019 and Fiscal Year 2020

| TYPE | FY 2019 ACTUAL ($000) | FY 2020 ACTUAL ($000) | TOTAL |
|---|---|---|---|
| SYSTEM IMPROVEMENT | $28,831 | $26,659 | $55,490 |
| TRANSMISSION | $15,569 | $13,736 | $29,305 |
| SOUTHERN RELIABILITY LINK | $78,818 | $78,554 | $157,371 |
| SAFETY TOWN | $560 | $2,144 | $2,704 |
| METER EXCHANGE | $2,033 | $1,052 | $3,085 |
| LAND & STRUCTURES | $4,025 | $3,424 | $7,449 |
| PRODUCTION & CATHODIC PROTECTION | $1,260 | $2,532 | $3,792 |
| SYSTEM RENEWAL | $19,917 | $19,246 | $39,163 |
| SAFE BASE SPENDING | $8,500 | $8,500 | $17,000 |
| **BASELINE CAPITAL SPENDING** | $159,513 | $155,846 | **$315,360** |
| | | | |
| SAFE | $57,487 | $38,028 | $95,516 |
| NJ RISE | $13,660 | $5,140 | $18,800 |
| CUSTOMER GROWTH | $49,589 | $56,281 | $105,870 |
| COST OF REMOVAL | $55,400 | $32,175 | $87,575 |
| **ADDITIONAL CAPITAL SPENDING** | $176,137 | $131,625 | **$307,761** |
| | | | |
| **TOTAL CAPITAL SPENDING** | $335,650 | $287,471 | **$623,121** |

# Test Year and Post-Test Year Capital Investment by Category

**$(000)**

| TYPE | Test Year (Sep 2020 - Aug 2021) | | | Post Test Year (Sep 2021 - Feb 2022) | Total |
|---|---|---|---|---|---|
| | Total | Actuals | Forecast | | |
| SYSTEM IMPROVEMENT | $71,985 | $18,999 | $52,986 | $30,929 | $102,914 |
| TRANSMISSION | $22,043 | $11,642 | $10,401 | $3,760 | $25,803 |
| SOUTHERN RELIABILITY LINK | $105,725 | $52,107 | $53,618 | $8,642 | $114,367 |
| SAFETY TOWN | $18,000 | $5,045 | $12,955 | $0 | $18,000 |
| METER EXCHANGE | $0 | $0 | $0 | $1,790 | $1,790 |
| LAND & STRUCTURES | $43,685 | $2,328 | $41,357 | $27,205 | $70,890 |
| PRODUCTION & CATHODIC PROTECTION | $2,425 | $2,425 | $0 | $925 | $3,350 |
| SYSTEM RENEWAL | $22,554 | $11,066 | $11,488 | $11,903 | $34,457 |
| SAFE BASE SPENDING | $8,500 | $8,500 | $0 | $4,250 | $12,750 |
| **BASELINE CAPITAL SPENDING** | $294,917 | $112,112 | $182,805 | $89,404 | **$384,321** |
| | | | | | |
| SAFE | $27,336 | $21,766 | $5,570 | $3,486 | $30,822 |
| NJ RISE | $3,216 | $1,716 | $1,500 | $12,711 | $15,927 |
| CUSTOMER GROWTH | $53,893 | $23,950 | $29,943 | $29,026 | $82,919 |
| COST OF REMOVAL | $37,062 | $29,374 | $7,688 | $18,531 | $55,593 |
| **ADDITIONAL CAPITAL SPENDING** | $121,507 | $76,806 | $44,701 | $63,755 | $185,262 |
| | | | | | |
| **TOTAL CAPITAL SPENDING** | $416,424 | $188,918 | $227,506 | $153,159 | $569,583 |

**NEW JERSEY NATURAL GAS COMPANY**
**BPU QUARTERLY REPORTS**
**DOCKET NO. GR15111304**

| | Oct-18 | Nov-18 | Dec-18 | **FYTD** | Jan-19 | Feb-19 | Mar-19 | **FYTD** | Apr-19 | May-19 | Jun-19 | **FYTD** | Jul-19 | Aug-19 | Sep-19 | **FYTD** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1) (A) Percent of Calls Answered Within 30 Seconds | 76.52% | 89.31% | 91.53% | **85.28%** | 93.42% | 88.99% | 92.65% | **88.67%** | 88.26% | 91.39% | 95.69% | **89.73%** | 92.50% | 97.54% | 95.80% | **91.09%** |
| (B) Abandoned Call Rate | 2.53% | 0.85% | 0.66% | **1.42%** | 0.51% | 0.81% | 0.57% | **1.00%** | 0.93% | 1.01% | 0.37% | **0.37%** | 0.66% | 0.22% | 0.29% | **0.80%** |
| (C) Average Speed of Answer (in seconds) | 81 | 27 | 23 | **44** | 15 | 25 | 16 | **31** | 26 | 28 | 9 | **28** | 22 | 6 | 9 | **24** |
| 2) (A) Percent of On-Cycle Meter Reads | 99.34% | 99.30% | 99.23% | **99.29%** | 99.41% | 99.41% | 99.36% | **99.34%** | 99.36% | 99.46% | 99.31% | **99.35%** | 99.26% | 99.19% | 99.47% | **99.34%** |
| (B) Meter Read by Town[1] | SEE ATTACHED LISTING | | | | | | | | | | | | | | | |
| (C) Rebills/1,000 Customers | 4.08 | 4.07 | 2.86 | **3.68** | 2.66 | 2.44 | 2.86 | **3.16** | 4.55 | 4.63 | 5.22 | **3.71** | 4.53 | 4.73 | 4.98 | **3.97** |
| 3) (A) Leak/Odor Responded to Within 60 Minutes | 99.96% | 99.97% | 99.96% | **99.96%** | 100.00% | 100.00% | 99.96% | **99.97%** | 100.00% | 100.00% | 100.00% | **99.98%** | 99.95% | 99.95% | 100.00% | **99.98%** |
| (B) Percent of Customer Service Appointments Met | 100.00% | 100.00% | 100.00% | **100.00%** | 100.00% | 100.00% | 100.00% | **100.00%** | 100.00% | 99.99% | 99.97% | **99.99%** | 100.00% | 100.00% | 100.00% | **100.00%** |
| 4) (A) Escalated Complaints to the BPU/1,000 Customers | 0.04 | 0.03 | 0.02 | **0.09** | 0.02 | 0.05 | 0.05 | **0.19** | 0.03 | 0.03 | 0.03 | **0.27** | 0.03 | 0.03 | 0.03 | **0.35** |
| (B) Customer Satisfaction | 89.4% | 90.2% | 90.7% | **90.1%** | 90.8% | 90.1% | 89.7% | **90.2%** | 89.5% | 89.1% | 88.5% | **89.04%** | 90.3% | 89.7% | 88.8% | **89.7%** |
| Walk-In Centers (# of Payments): | | | | | | | | | | | | | | | | |
| Location: Rockaway | 132 | 117 | 134 | **383** | 154 | 153 | 169 | **859** | 197 | 172 | 145 | **1,373** | 147 | 135 | 120 | **1,775** |
| Location: Wall | 732 | 756 | 588 | **2,076** | 803 | 799 | 854 | **4,532** | 1,011 | 766 | 595 | **6,904** | 657 | 659 | 545 | **8,765** |
| Location: Asbury Park | 1,177 | 1,130 | 1,175 | **3,482** | 1,301 | 1,226 | 1,478 | **7,487** | 1,437 | 1,405 | 1,223 | **11,552** | 1,326 | 1,135 | 1,154 | **15,167** |
| Location: Lakewood | 910 | 805 | 787 | **2,502** | 966 | 845 | 1,023 | **5,336** | 1,031 | 997 | 882 | **8,246** | 886 | 878 | 787 | **10,797** |
| Payments at Non-NJNG Locations[2] | SEE FOOTNOTE BELOW | | | | | | | | | | | | | | | |

**Notes:**

1 - Provided Annually (Due 10/31/2019) Please see attached spreadsheet

2 - Provided Annually (Due 10/31/2019) NJNG went live with a new payment vendor in October. The Company will be able to provide this information in October 2020 or sooner if needed

| Town Name | Town | County | # of est for FY 2018 | September 2019 meters to be read | % not read | % Read |
|---|---|---|---|---|---|---|
| Aberdeen | ABRDN | Monmouth | 157 | 4868 | 0.27% | 99.73% |
| Adelphia | ADELP | Monmouth | 4 | 27 | 1.23% | 98.77% |
| Allenhurst | ALLEN | Monmouth | 11 | 407 | 0.23% | 99.77% |
| Asbury Park | ASBPK | Monmouth | 221 | 5609 | 0.33% | 99.67% |
| Atlantic Highlands | ATHLD | Monmouth | 35 | 1919 | 0.15% | 99.85% |
| Avon | AVON | Monmouth | 14 | 1198 | 0.10% | 99.90% |
| Barnegat | BARN | Ocean | 766 | 9134 | 0.70% | 99.30% |
| Barnegat Lagoons | BRNLG | Ocean | 60 | 505 | 0.99% | 99.01% |
| Barnegat Light | BRNLT | Ocean | 96 | 1035 | 0.77% | 99.23% |
| Bass River Township | BASS | Ocean | 12 | 97 | 1.03% | 98.97% |
| Bay Head | BAYHD | Ocean | 87 | 1056 | 0.69% | 99.31% |
| Bayville | BAYVL | Ocean | 1137 | 8281 | 1.14% | 98.86% |
| Beach Haven | BCHHV | Ocean | 173 | 1935 | 0.75% | 99.25% |
| Beach Haven Crest | BCHHC | Ocean | 29 | 554 | 0.44% | 99.56% |
| Beach Haven Gardens | BCHHG | Ocean | 21 | 400 | 0.44% | 99.56% |
| Beach Haven Park | BHP | Ocean | 57 | 908 | 0.52% | 99.48% |
| Beach Haven South | BCHHS | Ocean | | 6 | 0.00% | 100.00% |
| Beach Haven Terrace | BCHHT | Ocean | 88 | 823 | 0.89% | 99.11% |
| Beach Haven West | BCHHW | Ocean | 322 | 3718 | 0.72% | 99.28% |
| Beachwood | BCHWD | Ocean | 566 | 3512 | 1.34% | 98.66% |
| Belford | BLFD | Monmouth | 15 | 2229 | 0.06% | 99.94% |
| Belmar | BELM | Monmouth | 123 | 3328 | 0.31% | 99.69% |
| Berkeley | BERK | Ocean | 207 | 13312 | 0.13% | 99.87% |
| Boonton - Town of | BOONT | Northern | 846 | 3611 | 1.95% | 98.05% |
| Boonton Township | BNTWP | Northern | 81 | 555 | 1.22% | 98.78% |
| Bradley Beach | BRAD | Monmouth | 48 | 2644 | 0.15% | 99.85% |
| Brant Beach | BRTBH | Ocean | 73 | 1163 | 0.52% | 99.48% |
| Brick Township | BRICK | Ocean | 4601 | 28817 | 1.33% | 98.67% |
| Brielle Boro | BRIEL | Monmouth | 25 | 2196 | 0.09% | 99.91% |
| Budd Lake | BUDLK | Northern | 84 | 621 | 1.13% | 98.87% |
| Cedar Bonnet Island | CBI | Ocean | 4 | 67 | 0.50% | 99.50% |
| Cedar Run | CDRN | Ocean | 23 | 343 | 0.56% | 99.44% |
| Chadwick Beach | CHADB | Ocean | 105 | 1856 | 0.47% | 99.53% |
| Cheesequake | CHEQK | Monmouth | 17 | 1195 | 0.12% | 99.88% |
| Cliffwood | CLIFF | Monmouth | 24 | 1234 | 0.16% | 99.84% |
| Cliffwood Beach | CLBCH | Monmouth | 10 | 1126 | 0.07% | 99.93% |
| Colts Neck | COLNK | Monmouth | 66 | 3484 | 0.16% | 99.84% |
| Deal Boro | DEAL | Monmouth | 35 | 1079 | 0.27% | 99.73% |
| Denville | DENV | Northern | 1479 | 5296 | 2.33% | 97.67% |
| Dover | DOVER | Northern | 1130 | 4849 | 1.94% | 98.06% |
| Eatontown | ETNTN | Monmouth | 46 | 3859 | 0.10% | 99.90% |
| Elberon | ELBER | Monmouth | 63 | 947 | 0.55% | 99.45% |
| Englishtown | ENGTW | Monmouth | 15 | 1033 | 0.12% | 99.88% |
| Fair Haven | FRHVN | Monmouth | 30 | 2141 | 0.12% | 99.88% |
| Farmingdale | FARM | Monmouth | 9 | 753 | 0.10% | 99.90% |
| Flanders | FLAND | Northern | 495 | 3695 | 1.12% | 98.88% |
| Forked River | FORRI | Ocean | 1003 | 9156 | 0.91% | 99.09% |
| Fort Monmouth | FTMON | Monmouth | 2 | 45 | 0.37% | 99.63% |
| Freehold Boro | FREEH | Monmouth | 66 | 3917 | 0.14% | 99.86% |

| Town Name | Town | County | # of est for FY 2018 | September 2019 meters to be read | % not read | % Read |
|---|---|---|---|---|---|---|
| Freehold Township | FRTP | Monmouth | 170 | 12270 | 0.12% | 99.88% |
| Freneau | FRENU | Monmouth | 3 | 87 | 0.29% | 99.71% |
| Harvey Cedars | HVYCD | Ocean | 64 | 1013 | 0.53% | 99.47% |
| Haven Beach | HVNBH | Ocean | 27 | 356 | 0.63% | 99.37% |
| Hazlet | HZLET | Monmouth | 67 | 6181 | 0.09% | 99.91% |
| Highlands | HLDS | Monmouth | 64 | 1930 | 0.28% | 99.72% |
| Holgate | HOLGT | Ocean | 58 | 702 | 0.69% | 99.31% |
| Holmdel | HLMDL | Monmouth | 123 | 6108 | 0.17% | 99.83% |
| Howell Township | HOWL | Monmouth | 238 | 17243 | 0.12% | 99.88% |
| Interlaken | INTER | Monmouth | 4 | 392 | 0.09% | 99.91% |
| Island Heights | ISHTS | Monmouth | 91 | 860 | 0.88% | 99.12% |
| Jackson | JKSN | Ocean | 2798 | 18289 | 1.27% | 98.73% |
| Jefferson Twp | JEFF | Northern | 256 | 1454 | 1.47% | 98.53% |
| Keansburg | KEANS | Monmouth | 138 | 3506 | 0.33% | 99.67% |
| Kenvil | KENV | Northern | 130 | 505 | 2.15% | 97.85% |
| Keyport | KEYPT | Monmouth | 53 | 2800 | 0.16% | 99.84% |
| Kinnelon | KINN | Northern | 2 | 20 | 0.83% | 99.17% |
| Lake Hiawatha | LKHIA | Northern | 214 | 2618 | 0.68% | 99.32% |
| Lakehurst | LKHST | Ocean | 235 | 2432 | 0.81% | 99.19% |
| Lakewood Township | LKWD | Ocean | 1567 | 25521 | 0.51% | 99.49% |
| Landing | LAND | Northern | 293 | 460 | 5.31% | 94.69% |
| Lanoka Harbor | LNKAH | Ocean | 317 | 2866 | 0.92% | 99.08% |
| Laurence Harbor | LRHBR | Monmouth | 43 | 2283 | 0.16% | 99.84% |
| Lavallette | LAV | Ocean | 200 | 2848 | 0.59% | 99.41% |
| Ledgewood | LDGWD | Northern | 370 | 1583 | 1.95% | 98.05% |
| Leonardo | LEON | Monmouth | 35 | 1754 | 0.17% | 99.83% |
| Lincoln Park | LNPRK | Northern | 316 | 3577 | 0.74% | 99.26% |
| Lincroft | LNCRF | Monmouth | 66 | 2231 | 0.25% | 99.75% |
| Little Egg Harbor | LTEGG | Ocean | 500 | 5751 | 0.72% | 99.28% |
| Little Silver | LTSVR | Monmouth | 39 | 2463 | 0.13% | 99.87% |
| Loch Arbour | LOCH | Monmouth | 3 | 155 | 0.16% | 99.84% |
| Locust | LOCST | Monmouth | 6 | 235 | 0.21% | 99.79% |
| Long Branch | LNGBR | Monmouth | 244 | 9383 | 0.22% | 99.78% |
| Loveladies | LVLDS | Ocean | 104 | 1214 | 0.71% | 99.29% |
| Manahawkin | MANAH | Ocean | 1346 | 8668 | 1.29% | 98.71% |
| Manalapan Township | MNTP | Monmouth | 176 | 12992 | 0.11% | 99.89% |
| Manasquan Boro | MSQN | Monmouth | 108 | 3589 | 0.25% | 99.75% |
| Manchester | MANCH | Ocean | 849 | 8024 | 0.88% | 99.12% |
| Mantoloking | MANT | Ocean | 108 | 1300 | 0.69% | 99.31% |
| Marlboro Township | MRLBO | Monmouth | 167 | 12877 | 0.11% | 99.89% |
| Matawan | MATWN | Monmouth | 93 | 3320 | 0.23% | 99.77% |
| Mayetta | MYETA | Ocean | 9 | 145 | 0.52% | 99.48% |
| Middletown | MDLTN | Monmouth | 160 | 10016 | 0.13% | 99.87% |
| Mine Hill Township | MIHIT | Northern | 277 | 908 | 2.54% | 97.46% |
| Monmouth Beach | MMBCH | Monmouth | 16 | 1201 | 0.11% | 99.89% |
| Montville | MONT | Northern | 467 | 4353 | 0.89% | 99.11% |
| Morganville | MGNVL | Monmouth | 54 | 1504 | 0.30% | 99.70% |
| Mount Arlington | MOAR | Northern | 280 | 1699 | 1.37% | 98.63% |
| Mount Tabor | MTTAB | Northern | 183 | 371 | 4.11% | 95.89% |
| Mountain Lakes | MOLK | Northern | 201 | 1417 | 1.18% | 98.82% |

| Town Name | Town | County | # of est for FY 2018 | September 2019 meters to be read | % not read | % Read |
|---|---|---|---|---|---|---|
| Mystic Islands | MYSIL | Ocean | 360 | 3777 | 0.79% | 99.21% |
| Navesink | NVSNK | Monmouth | 13 | 500 | 0.22% | 99.78% |
| Neptune City | NEPTC | Monmouth | 17 | 1826 | 0.08% | 99.92% |
| Neptune Township | NEPT | Monmouth | 169 | 9565 | 0.15% | 99.85% |
| Netcong | NETC | Northern | 184 | 562 | 2.73% | 97.27% |
| New Gretna Village | NGRTA | Ocean | 25 | 200 | 1.04% | 98.96% |
| New Monmouth | NEMON | Monmouth | 37 | 1795 | 0.17% | 99.83% |
| Normandy Beach | NORMB | Ocean | 59 | 1297 | 0.38% | 99.62% |
| North Beach | NOBCH | Ocean | 36 | 507 | 0.59% | 99.41% |
| North Beach Haven | NBH | Ocean | 46 | 544 | 0.70% | 99.30% |
| North Middletown | NMIDD | Monmouth | 38 | 2144 | 0.15% | 99.85% |
| Oakhurst | OAKHU | Monmouth | 98 | 3848 | 0.21% | 99.79% |
| Ocean Beach 3 | OCBH3 | Ocean | 37 | 859 | 0.36% | 99.64% |
| Ocean Gate | OCGA | Ocean | 398 | 1136 | 2.92% | 97.08% |
| Ocean Grove | OCGR | Monmouth | 41 | 2323 | 0.15% | 99.85% |
| Oceanport | OCNPT | Monmouth | 31 | 2264 | 0.11% | 99.89% |
| Old Bridge | OLDBG | Ocean | | 58 | 0.00% | 100.00% |
| Ortley Beach | ORTLY | Ocean | 216 | 2052 | 0.88% | 99.12% |
| Parkertown | PRKT | Northern | 49 | 285 | 1.43% | 98.57% |
| Parsippany - Troy Hills | PTH | Monmouth | 1567 | 9400 | 1.39% | 98.61% |
| Pine Beach | PIBCH | Northern | 95 | 968 | 0.82% | 99.18% |
| Pine Brook | PIBK | Ocean | 112 | 1737 | 0.54% | 99.46% |
| Point Pleasant Beach | PPBCH | Ocean | 316 | 3378 | 0.78% | 99.22% |
| Point Pleasant Boro | PTPLS | Northern | 1512 | 8447 | 1.49% | 98.51% |
| Port Monmouth | PTMON | Ocean | 19 | 1608 | 0.10% | 99.90% |
| Randolph Township | RANTP | Monmouth | 872 | 5259 | 1.38% | 98.62% |
| Red Bank | RDBNK | Northern | 79 | 5028 | 0.13% | 99.87% |
| River Plaza | RVRPL | Northern | 7 | 961 | 0.06% | 99.94% |
| Rockaway Boro | ROCK | Northern | 415 | 2281 | 1.52% | 98.48% |
| Rockaway Township | ROTWP | Monmouth | 1134 | 6113 | 1.55% | 98.45% |
| Rumson | RUMSN | Monmouth | 43 | 2686 | 0.13% | 99.87% |
| Sands Point Harbor | SDPTH | Ocean | 22 | 136 | 1.35% | 98.65% |
| Sea Bright | SBRGT | Monmouth | 21 | 852 | 0.21% | 99.79% |
| Sea Girt | SEAGT | Monmouth | 13 | 1414 | 0.08% | 99.92% |
| Seaside Heights | SSHTS | Ocean | 270 | 2175 | 1.03% | 98.97% |
| Seaside Park | SSPK | Ocean | 95 | 2063 | 0.38% | 99.62% |
| Ship Bottom | SHPBT | Ocean | 130 | 1817 | 0.60% | 99.40% |
| Shrewsbury | SHREW | Monmouth | 27 | 1726 | 0.13% | 99.87% |
| Shrewsbury Township | SHTWP | Monmouth | 3 | 391 | 0.06% | 99.94% |
| Skippers Cove | SKC | Monmouth | 47 | 233 | 1.68% | 98.32% |
| South Belmar | SBELM | Monmouth | 24 | 1052 | 0.19% | 99.81% |
| South Seaside Park | SSSPK | Ocean | 93 | 1112 | 0.70% | 99.30% |
| South Toms River | STR | Ocean | 744 | 1210 | 5.12% | 94.88% |
| Spray Beach | SPRBH | Ocean | 14 | 237 | 0.49% | 99.51% |
| Spring Lake | SPLK | Monmouth | 31 | 2029 | 0.13% | 99.87% |
| Spring Lake Heights | SLH | Monmouth | 24 | 2267 | 0.09% | 99.91% |
| Staffordville | STAVL | Ocean | 6 | 16 | 3.13% | 96.88% |
| Succasunna | SUCC | Northern | 382 | 3380 | 0.94% | 99.06% |
| Surf City | SRFCY | Ocean | 136 | 1931 | 0.59% | 99.41% |
| Tinton Falls | TNFLS | Monmouth | 164 | 7746 | 0.18% | 99.82% |

| Town Name | Town | County | # of est for FY 2018 | September 2019 meters to be read | % not read | % Read |
|---|---|---|---|---|---|---|
| Toms River | TR | Ocean | 5835 | 36530 | 1.33% | 98.67% |
| Towaco | TOWA | Northern | 152 | 1122 | 1.13% | 98.87% |
| Tuckerton | TUCK | Ocean | 128 | 1228 | 0.87% | 99.13% |
| Tuckerton Beach | TUCBH | Ocean | 23 | 551 | 0.35% | 99.65% |
| Union Beach | UNBCH | Monmouth | 27 | 2146 | 0.10% | 99.90% |
| Victory Gardens | VIGD | Northern | 433 | 482 | 7.49% | 92.51% |
| Wall Township | WALL | Monmouth | 126 | 10389 | 0.10% | 99.90% |
| Wanamassa | WANA | Monmouth | 44 | 1900 | 0.19% | 99.81% |
| Waretown | WARE | Ocean | 339 | 3808 | 0.74% | 99.26% |
| Washington Twp | WASH | Northern | 4 | 88 | 0.38% | 99.62% |
| Wayside | WAYSD | Monmouth | 79 | 3428 | 0.19% | 99.81% |
| West Allenhurst | WALLN | Monmouth | 4 | 353 | 0.09% | 99.91% |
| West Belmar | WBELM | Monmouth | 12 | 908 | 0.11% | 99.89% |
| West Creek | WSTCK | Ocean | 94 | 766 | 1.02% | 98.98% |
| West Deal | WDEAL | Monmouth | 20 | 512 | 0.33% | 99.67% |
| West End | WSTND | Monmouth | 32 | 754 | 0.35% | 99.65% |
| West Keansburg | WKEAN | Monmouth | 10 | 1018 | 0.08% | 99.92% |
| West Long Branch | WLGBR | Monmouth | 71 | 2880 | 0.21% | 99.79% |
| Wharton | WHAR | Northern | 232 | 2195 | 0.88% | 99.12% |
| Whiting | WHITN | Ocean | 151 | 2187 | 0.58% | 99.42% |
| Wickatunk | WKTNK | Monmouth | 5 | 297 | 0.14% | 99.86% |

**NEW JERSEY NATURAL GAS COMPANY**
**BPU QUARTERLY REPORTS**
**DOCKET NO. GR19030420**

| | Oct-19 | Nov-19 | Dec-19 | **FYTD** | Jan-20 | Feb-20 | Mar-20 | **FYTD** | Apr-20 | May-20 | Jun-20 | **FYTD** | Jul-20 | Aug-20 | Sep-20 | **FYTD** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1) (A) Percent of Calls Answered Within 30 Seconds | 93.20% | 90.56% | 91.51% | **91.79%** | 86.85% | 89.03% | 91.25% | **90.38%** | 98.02% | 94.46% | 91.94% | **91.61%** | 94.58% | 91.52% | 85.64% | **91.33%** |
| (B) Abandoned Call Rate | 0.50% | 0.87% | 0.85% | **0.73%** | 1.02% | 0.95% | 0.82% | **0.83%** | 0.19% | 0.72% | 0.63% | **0.74%** | 0.39% | 0.60% | 1.15% | **0.74%** |
| (C) Average Speed of Answer (in seconds) | 14 | 32 | 26 | **24** | 33 | 27 | 28 | **27** | 7 | 24 | 21 | **24** | 15 | 19 | 44 | **24** |
| 2) (A) Percent of On-Cycle Meter Reads | 99.50% | 99.50% | 99.37% | **99.46%** | 99.55% | 99.55% | 99.43% | **99.48%** | 98.91% | 98.76% | 98.80% | **99.27%** | 99.15% | 99.23% | 99.28% | **99.25%** |
| (B) Meter Read by Town[1] | SEE FOOTNOTE BELOW | | | | | | | | | | | | | | | |
| (C) Rebills/1,000 Customers | 4.12 | 3.81 | 2.55 | **3.49** | 2.80 | 2.82 | 2.93 | **3.17** | 3.35 | 4.85 | 6.45 | **3.74** | 4.37 | 4.56 | 5.58 | **4.02** |
| 3) (A) Leak/Odor Responded to Within 60 Minutes | 100.00% | 100.00% | 100.00% | **100.00%** | 99.96% | 100.00% | 100.00% | **99.99%** | 99.94% | 100.00% | 100.00% | **99.99%** | 100.00% | 99.95% | 100.00% | **99.99%** |
| (B) Percent of Customer Service Appointments Met | 99.99% | 99.97% | 100.00% | **99.98%** | 100.00% | 100.00% | 100.00% | **99.99%** | 100.00% | 100.00% | 100.00% | **99.99%** | 100.00% | 100.0% | 100.0% | **99.99%** |
| 4) (A) Escalated Complaints to the BPU/1,000 Customers | 0.03 | 0.03 | 0.02 | **0.07** | 0.05 | 0.05 | 0.04 | **0.21** | 0.01 | 0.00 | 0.01 | **0.23** | 0.01 | 0.02 | 0.01 | **0.27** |
| (B) Customer Satisfaction [3] | 90.6% | 89.4% | 90.9% | **90.3%** | 89.6% | 89.0% | 89.0% | **89.7%** | 90.9% | 91.2% | 92.1% | **90.20%** | 90.9% | 91.4% | 91.5% | **90.5%** |
| Walk-In Centers (# of Payments): | | | | | | | | | | | | | | | | |
| Location: Rockaway | 144 | 138 | 143 | **425** | 150 | 153 | 114 | **842** | 44 | 41 | 45 | **972** | 36 | 37 | 54 | **1,099** |
| Location: Wall | 713 | 632 | 691 | **2,036** | 675 | 536 | 538 | **3,785** | 167 | 308 | 379 | **4,639** | 941 | 887 | 1,121 | **7,588** |
| Location: Asbury Park | 1,130 | 1,101 | 1,194 | **3,425** | 1,335 | 1,259 | 990 | **7,009** | 144 | 107 | 128 | **7,388** | 131 | 130 | 54 | **7,703** |
| Location: Lakewood | 798 | 629 | 737 | **2,164** | 873 | 807 | 549 | **4,393** | 124 | 139 | 131 | **4,787** | 161 | 180 | 293 | **5,421** |
| Payments at Non-NJNG Locations[2] | 8 | 12 | 6 | **26** | 9 | 47 | 63 | **145** | 40 | 5 | 3 | **193** | 5 | 6 | 8 | **212** |

**Notes:**

1 - Provided Annually (Due 10/31/2020) — Please see attached spreadsheet.

2 - Provided Annually (Due 10/31/2020) — NJNG went live with a new payment vendor in October 2019. Please see above for the previously promised data.

3 - Customer Satisfaction Goal change — The previous Customer Satisfaction goal of 94.5% was a carryover from the Company's prior rate case in Docket No. GR15111304 which was based on the company's internal goal at that time and was measured based on results derived from phone surveys. In 2018, NJNG switched from phone surveys to electronic surveys based on input from our customer base. The scale was also expanded from a ten point scale to an eleven point scale. Generally, survey experience has indicated that survey responders grade harsher on electronic surveys than phone surveys. Additionally, the larger scale can also have a negative impact. Therefore, Customer Satisfaction results for the electronic surveys of at least 89% are meeting NJNG's goal.

| Town | Town Name | County | # of est for FY 2020 | Sept 2020 meters to be read | % not read | % Read |
|---|---|---|---|---|---|---|
| ABRDN | Aberdeen | Monmouth | 99 | 4876 | 0.17% | 99.83% |
| ADELP | Adelphia | Monmouth | | 27 | 0.00% | 100.00% |
| ALLEN | Allenhurst | Monmouth | 3 | 407 | 0.06% | 99.94% |
| ASBPK | Asbury Park | Monmouth | 216 | 5636 | 0.32% | 99.68% |
| ATHLD | Atlantic Highlands | Monmouth | 33 | 1935 | 0.14% | 99.86% |
| AVON | Avon | Monmouth | 17 | 1199 | 0.12% | 99.88% |
| BARN | Barnegat | Ocean | 516 | 9474 | 0.45% | 99.55% |
| BASS | Bass River | Ocean | 28 | 100 | 2.33% | 97.67% |
| BAYHD | Bayhead | Ocean | 106 | 1072 | 0.82% | 99.18% |
| BAYVL | Bayville | Ocean | 1315 | 8381 | 1.31% | 98.69% |
| BCHHC | Beach Haven Crest | Ocean | 29 | 562 | 0.43% | 99.57% |
| BCHHG | Beach Haven Gardens | Ocean | 14 | 406 | 0.29% | 99.71% |
| BCHHS | Beach Haven South | Ocean | 1 | 6 | 1.39% | 98.61% |
| BCHHT | Beach Haven Terrance | Ocean | 45 | 823 | 0.46% | 99.54% |
| BCHHV | Beach haven | Ocean | 103 | 1956 | 0.44% | 99.56% |
| BCHHW | Beach Haven West | Ocean | 225 | 3772 | 0.50% | 99.50% |
| BCHWD | Beachwood | Ocean | 650 | 3539 | 1.53% | 98.47% |
| BELM | Belmar | Monmouth | 80 | 3327 | 0.20% | 99.80% |
| BERK | Berkley | Ocean | 159 | 13366 | 0.10% | 99.90% |
| BHP | Beach Haven Park | Ocean | 48 | 913 | 0.44% | 99.56% |
| BLFD | Belford | Monmouth | 19 | 2237 | 0.07% | 99.93% |
| BNTWP | Boonton Township | Northern | 104 | 568 | 1.53% | 98.47% |
| BOONT | Boonton | Northern | 993 | 3634 | 2.28% | 97.72% |
| BRAD | Bradley Beach | Monmouth | 58 | 2647 | 0.18% | 99.82% |
| BRICK | Brick | Ocean | 6461 | 29067 | 1.85% | 98.15% |
| BRIEL | Brielle | Monmouth | 40 | 2206 | 0.15% | 99.85% |
| BRNLG | Barnegat Light | Ocean | 50 | 496 | 0.84% | 99.16% |
| BRNLT | Barnegat Terrance | Ocean | 42 | 1049 | 0.33% | 99.67% |
| BRTBH | Brandt Beach | Ocean | 40 | 1162 | 0.29% | 99.71% |
| BUDLK | Buddlake | Northern | 125 | 949 | 1.10% | 98.90% |
| CBI | Cedar Beach Island | Ocean | 3 | 69 | 0.36% | 99.64% |
| CDRN | Cedar Run | Ocean | 32 | 351 | 0.76% | 99.24% |
| CHADB | Chadwick Beach | Ocean | 124 | 1878 | 0.55% | 99.45% |
| CHEQK | Cheeseq;uake | Monmouth | 45 | 1195 | 0.31% | 99.69% |
| CLBCH | Cliffwood Beach | Monmouth | 27 | 1134 | 0.20% | 99.80% |
| CLIFF | Cliffwood | Monmouth | 15 | 1237 | 0.10% | 99.90% |
| COLNK | Coltsneck | Monmouth | 116 | 3511 | 0.28% | 99.72% |
| DEAL | Deal | Monmouth | 31 | 1084 | 0.24% | 99.76% |
| DENV | Denville | Northern | 821 | 5377 | 1.27% | 98.73% |
| DOVER | Dover | Northern | 1906 | 4918 | 3.23% | 96.77% |
| ELBER | Elberon | Monmouth | 68 | 1033 | 0.55% | 99.45% |
| ENGTW | Englishtown | Monmouth | 14 | 1041 | 0.11% | 99.89% |
| ETNTN | Eatontown | Monmouth | 60 | 3876 | 0.13% | 99.87% |
| FARM | Farmingdale | Monmouth | 15 | 758 | 0.16% | 99.84% |

| Town | Town Name | County | # of est for FY 2020 | Sept 2020 meters to be read | % not read | % Read |
|---|---|---|---|---|---|---|
| FLAND | Flanders | Northern | 474 | 3810 | 1.04% | 98.96% |
| FORRI | Forked River | Ocean | 1187 | 9263 | 1.07% | 98.93% |
| FREEH | Freehold | Monmouth | 81 | 3926 | 0.17% | 99.83% |
| FRENU | Freneau | Monmouth | 1 | 94 | 0.09% | 99.91% |
| FRHVN | Fairhaven | Monmouth | 41 | 2142 | 0.16% | 99.84% |
| FRTP | Freehold Township | Monmouth | 286 | 12435 | 0.19% | 99.81% |
| FTMON | Fort Monmouth | Monmouth | 9 | 45 | 1.67% | 98.33% |
| HLDS | Highlands | Monmouth | 63 | 1913 | 0.27% | 99.73% |
| HLMDL | Holmdel | Monmouth | 142 | 6137 | 0.19% | 99.81% |
| HOLGT | Holgate | Ocean | 35 | 715 | 0.41% | 99.59% |
| HOWL | Howell | Monmouth | 182 | 17603 | 0.09% | 99.91% |
| HVNBH | Haven Beach | Ocean | 9 | 361 | 0.21% | 99.79% |
| HVYCD | Harvey Cedars | Ocean | 65 | 1020 | 0.53% | 99.47% |
| HZLET | Hazlet | Monmouth | 93 | 6255 | 0.12% | 99.88% |
| INTER | Interlaken | Monmouth | 4 | 393 | 0.08% | 99.92% |
| ISHTS | Island Heights | Ocean | 82 | 866 | 0.79% | 99.21% |
| JEFF | Jefferson | Northern | 156 | 1572 | 0.83% | 99.17% |
| JKSN | Jackson | Ocean | 3393 | 18504 | 1.53% | 98.47% |
| KEANS | Keansburg | Monmouth | 96 | 3529 | 0.23% | 99.77% |
| KENV | Kenville | Northern | 57 | 549 | 0.87% | 99.13% |
| KEYPT | Keyport | Monmouth | 82 | 2814 | 0.24% | 99.76% |
| KINN | Kinnelon | Northern | 10 | 20 | 4.17% | 95.83% |
| LAND | Landing | Northern | 83 | 587 | 1.18% | 98.82% |
| LAV | Lavelette | Ocean | 243 | 2870 | 0.71% | 99.29% |
| LDGWD | Ledgewood | Northern | 118 | 1702 | 0.58% | 99.42% |
| LEON | Leonardo | Monmouth | 32 | 1762 | 0.15% | 99.85% |
| LKHIA | Lake Hiawatha | Northern | 554 | 2658 | 1.74% | 98.26% |
| LKHST | Lakehurst | Ocean | 340 | 2447 | 1.16% | 98.84% |
| LKWD | Lakewood | Ocean | 3410 | 26218 | 1.08% | 98.92% |
| LNCRF | Lincroft | Monmouth | 45 | 2300 | 0.16% | 99.84% |
| LNGBR | Long Branch | Monmouth | 220 | 9486 | 0.19% | 99.81% |
| LNKAH | Lanoka Harbor | Ocean | 396 | 2882 | 1.15% | 98.85% |
| LNPRK | Lincoln Park | Northern | 953 | 3602 | 2.20% | 97.80% |
| LOCH | Loch Arbour | Monmouth | 1 | 157 | 0.05% | 99.95% |
| LOCST | Locust | Monmouth | 19 | 233 | 0.68% | 99.32% |
| LRHBR | Lawrence Harbor | Monmouth | 49 | 2286 | 0.18% | 99.82% |
| LTEGG | Little Egg Harbor | Ocean | 315 | 5786 | 0.45% | 99.55% |
| LTSVR | Little Silver | Monmouth | 52 | 2471 | 0.18% | 99.82% |
| LVLDS | Loveladies | Ocean | 57 | 1224 | 0.39% | 99.61% |
| MANAH | Manahawkin | Ocean | 916 | 8859 | 0.86% | 99.14% |
| MANCH | Manchester | Ocean | 1533 | 8158 | 1.57% | 98.43% |
| MANT | Manoloking | Ocean | 164 | 1309 | 1.04% | 98.96% |
| MATWN | Matwan | Monmouth | 141 | 3336 | 0.35% | 99.65% |
| MDLTN | Middletown | Monmouth | 228 | 10048 | 0.19% | 99.81% |
| MGNVL | Morganville | Monmouth | 118 | 1604 | 0.61% | 99.39% |
| MIHIT | Mine Hill Township | Monmouth | 151 | 937 | 1.34% | 98.66% |
| MMBCH | Monmouth Beach | Monmouth | 23 | 1199 | 0.16% | 99.84% |

| Town | Town Name | County | # of est for FY 2020 | Sept 2020 meters to be read | % not read | % Read |
|---|---|---|---|---|---|---|
| MNTP | Manalpan | Monmouth | 197 | 13037 | 0.13% | 99.87% |
| MOAR | Mount Arlingtion | Northern | 614 | 1711 | 2.99% | 97.01% |
| MOLK | Mountain Lakes | Northern | 285 | 1440 | 1.65% | 98.35% |
| MONT | Montville | Northern | 433 | 4426 | 0.82% | 99.18% |
| MRLBO | Marlboro | Monmouth | 216 | 12910 | 0.14% | 99.86% |
| MSQN | Manasquan | Monmouth | 111 | 3594 | 0.26% | 99.74% |
| MTTAB | Mount Tabor | Northern | 35 | 381 | 0.77% | 99.23% |
| MYETA | Mayetta | Ocean | 7 | 149 | 0.39% | 99.61% |
| MYSIL | Mystic Island | Ocean | 207 | 3829 | 0.45% | 99.55% |
| NBH | North Beach Haven | Ocean | 21 | 549 | 0.32% | 99.68% |
| NEMON | New Monmouth | Monmouth | 30 | 1795 | 0.14% | 99.86% |
| NEPT | Neptune | Monmouth | 246 | 9715 | 0.21% | 99.79% |
| NEPTC | Neptune City | Monmouth | 9 | 1836 | 0.04% | 99.96% |
| NETC | Netcong | Northern | 99 | 663 | 1.24% | 98.76% |
| NGRTA | New Greta Village | Ocean | 14 | 208 | 0.56% | 99.44% |
| NMIDD | North Middleton | Monmouth | 29 | 2153 | 0.11% | 99.89% |
| NOBCH | North Beach | Ocean | 28 | 513 | 0.45% | 99.55% |
| NORMB | Normandy Beach | Ocean | 107 | 1309 | 0.68% | 99.32% |
| NVSNK | Navesink | Monmouth | 26 | 501 | 0.43% | 99.57% |
| OAKHU | Oakhurst | Monmouth | 88 | 3775 | 0.19% | 99.81% |
| OCBH3 | Ocean Beach 3 | Ocean | 35 | 871 | 0.33% | 99.67% |
| OCGA | Ocean Gate | Ocean | 152 | 1149 | 1.10% | 98.90% |
| OCGR | Ocean Grove | Monmouth | 39 | 2329 | 0.14% | 99.86% |
| OCNPT | Ocean Port | Monmouth | 30 | 2277 | 0.11% | 99.89% |
| OLDBG | Old Bridge | Monmouth | 1 | 61 | 0.14% | 99.86% |
| ORTLY | Ortley | Ocean | 210 | 2083 | 0.84% | 99.16% |
| PIBCH | Pine Beach | Ocean | 100 | 967 | 0.86% | 99.14% |
| PIBK | Pine Brook | Northern | 123 | 1746 | 0.59% | 99.41% |
| PPBCH | Point Pleasant Beach | Ocean | 402 | 3403 | 0.98% | 99.02% |
| PRKT | Parkertown | Ocean | 34 | 291 | 0.97% | 99.03% |
| PTH | Parsippany | Northern | 1507 | 9454 | 1.33% | 98.67% |
| PTMON | Port Monmouth | Monmouth | 25 | 1621 | 0.13% | 99.87% |
| PTPLS | Point Pleasant | Ocean | 1945 | 8491 | 1.91% | 98.09% |
| RANTP | Randolph | Northern | 904 | 5344 | 1.41% | 98.59% |
| RDBNK | Redbank | Monmouth | 111 | 5048 | 0.18% | 99.82% |
| ROCK | Rockaway | Northern | 362 | 2313 | 1.30% | 98.70% |
| ROTWP | Rokaway Township | Northern | 865 | 6410 | 1.12% | 98.88% |
| RUMSN | Rumson | Monmouth | 57 | 2705 | 0.18% | 99.82% |
| RVRPL | River Plaza | Monmouth | 36 | 965 | 0.31% | 99.69% |
| SBELM | South Belmar | Monmouth | 28 | 1055 | 0.22% | 99.78% |
| SBRGT | Seabright | Monmouth | 20 | 872 | 0.19% | 99.81% |
| SDPTH | Sands Point Harbor | Ocean | 19 | 137 | 1.16% | 98.84% |
| SEAGT | Seagirt | Monmouth | 20 | 1429 | 0.12% | 99.88% |
| SHPBT | Shipbottom | Ocean | 69 | 1833 | 0.31% | 99.69% |
| SHREW | Shrewsbury | Monmouth | 33 | 1733 | 0.16% | 99.84% |
| SHTWP | Shrewsbury Township | Monmouth | 4 | 391 | 0.09% | 99.91% |
| SKC | Skipper Cove | Ocean | 51 | 235 | 1.81% | 98.19% |

| Town | Town Name | County | # of est for FY 2020 | Sept 2020 meters to be read | % not read | % Read |
|---|---|---|---|---|---|---|
| SLH | Spring Lake Heights | Monmouth | 27 | 2273 | 0.10% | 99.90% |
| SPLK | Spring Lake | Monmouth | 21 | 2035 | 0.09% | 99.91% |
| SPRBH | Spraybeach | Ocean | 11 | 243 | 0.38% | 99.62% |
| SRFCY | Surf City | Ocean | 107 | 1961 | 0.45% | 99.55% |
| SSHTS | South Seaside Heights | Ocean | 344 | 2211 | 1.30% | 98.70% |
| SSPK | Seaside Park | Ocean | 169 | 2065 | 0.68% | 99.32% |
| SSSPK | South Seaside Park | Ocean | 77 | 1121 | 0.57% | 99.43% |
| STAVL | Stafford | Ocean | 7 | 16 | 3.65% | 96.35% |
| STR | South Toms River | Ocean | 883 | 1217 | 6.05% | 93.95% |
| SUCC | Succasunna | Northern | 437 | 3426 | 1.06% | 98.94% |
| TNFLS | Tintonfalls | Monmouth | 168 | 7914 | 0.18% | 99.82% |
| TOWA | Towaco | Northern | 143 | 1168 | 1.02% | 98.98% |
| TR | Toms River | Ocean | 7644 | 36964 | 1.72% | 98.28% |
| TUCBH | Tuckerton Beach | Ocean | 10 | 563 | 0.15% | 99.85% |
| TUCK | Tuckerton | Ocean | 89 | 1251 | 0.59% | 99.41% |
| UNBCH | Union Beach | Monmouth | 19 | 2169 | 0.07% | 99.93% |
| VIGD | Victory Gardens | Northern | 179 | 483 | 3.09% | 96.91% |
| WALL | Wall | Monmouth | 107 | 10438 | 0.09% | 99.91% |
| WALLN | West Allenhurst | Monmouth | 4 | 354 | 0.09% | 99.91% |
| WANA | Wanamassa | Monmouth | 36 | 1905 | 0.16% | 99.84% |
| WARE | Waretown | Ocean | 277 | 3946 | 0.58% | 99.42% |
| WASH | Washington | Northern | 6 | 87 | 0.57% | 99.43% |
| WAYSD | Wayside | Monmouth | 68 | 3490 | 0.16% | 99.84% |
| WBELM | West Belmar | Monmouth | 14 | 913 | 0.13% | 99.87% |
| WDEAL | West Deal | Monmouth | 17 | 513 | 0.28% | 99.72% |
| WHAR | Wharton | Northern | 196 | 2209 | 0.74% | 99.26% |
| WHITN | Whiting | Ocean | 153 | 2313 | 0.55% | 99.45% |
| WKEAN | West Keansburg | Monmouth | 11 | 1029 | 0.09% | 99.91% |
| WKTNK | Wicatunk | Northern | 6 | 298 | 0.17% | 99.83% |
| WLGBR | West Long Branch | Monmouth | 62 | 2888 | 0.18% | 99.82% |
| WSTCK | West Creek | Ocean | 52 | 778 | 0.56% | 99.44% |
| WSTND | West End | Monmouth | 28 | 755 | 0.31% | 99.69% |

**NEW JERSEY NATURAL GAS COMPANY**
**BPU QUARTERLY REPORTS**
**DOCKET NO. GR19030420**

| | Oct-20 | Nov-20 | Dec-20 | **FYTD** | Jan-21 | Feb-21 | Mar-21 | **FYTD** | Apr-21 | May-21 | Jun-21 | **FYTD** | Jul-21 | Aug-21 | Sep-21 | **FYTD** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1) (A) Percent of Calls Answered Within 30 Seconds | 86.13% | 93.74% | 96.29% | **91.92%** | | | | | | | | | | | | |
| (B) Abandoned Call Rate | 1.15% | 0.64% | 0.54% | **0.79%** | | | | | | | | | | | | |
| (C) Average Speed of Answer (in seconds) | 45 | 26 | 15 | **29** | | | | | | | | | | | | |
| 2) (A) Percent of On-Cycle Meter Reads | 99.38% | 99.36% | 99.06% | **99.26%** | | | | | | | | | | | | |
| (B) Meter Read by Town[1] | SEE FOOTNOTE BELOW | | | | | | | | | | | | | | | |
| (C) Rebills/1,000 Customers | 5.50 | 4.59 | 2.61 | **4.17** | | | | | | | | | | | | |
| 3) (A) Leak/Odor Responded to Within 60 Minutes | 100.00% | 100.00% | 100.00% | **100.00%** | | | | | | | | | | | | |
| (B) Percent of Customer Service Appointments Met | 100.00% | 100.00% | 100.00% | **100.00%** | | | | | | | | | | | | |
| 4) (A) Escalated Complaints to the BPU/1,000 Customers | 0.03 | 0.01 | 0.02 | **0.06** | | | | | | | | | | | | |
| (B) Customer Satisfaction [3] | 91.1% | 92.0% | 92.1% | **91.7%** | | | | | | | | | | | | |
| Walk-In Centers (# of Payments): | | | | | | | | | | | | | | | | |
| Location: Rockaway | 45 | 46 | 42 | **133** | | | | | | | | | | | | |
| Location: Wall | 1,222 | 922 | 1,080 | **3,224** | | | | | | | | | | | | |
| Location: Asbury Park | 353 | 178 | 127 | **658** | | | | | | | | | | | | |
| Location: Lakewood | 362 | 223 | 169 | **754** | | | | | | | | | | | | |
| Payments at Non-NJNG Locations[2] | SEE FOOTNOTE BELOW | | | | | | | | | | | | | | | |

**Notes:**

1 - Provided Annually (Due 10/31/2021)

2 - Provided Annually (Due 10/31/2021)

3 - Customer Satisfaction Goal change

The previous Customer Satisfaction goal of 94.5% was a carryover from the Company's prior rate case in Docket No. GR15111304 which was based on the company's internal goal at that time and was measured based on results derived from phone surveys. In 2018, NJNG switched from phone surveys to electronic surveys based on input from our customer base. The scale was also expanded from a ten point scale to an eleven point scale. Generally, survey experience has indicated that survey responders grade harsher on electronic surveys than phone surveys. Additionally, the larger scale can also have a negative impact. Therefore, Customer Satisfaction results for the electronic surveys of at least 89% are meeting NJNG's goal.

# NEW JERSEY NATURAL GAS COMPANY

## DIRECT TESTIMONY
## OF
## JAMES M. CORCORAN
## DIRECTOR – REVENUE REQUIREMENTS

**Q. PLEASE STATE YOUR NAME, AFFILIATION AND BUSINESS ADDRESS.**

**A.** My name is James M. Corcoran and I am the Director – Revenue Requirements for New Jersey Natural Gas Company ("NJNG" or the "Company"). My business address is 1415 Wyckoff Road, Wall, New Jersey 07719.

**Q. PLEASE DESCRIBE YOUR EDUCATION AND EXPERIENCE.**

**A.** I received a Bachelor of Science degree in Accounting from Seton Hall University. In May 2010, I received a Master's of Business Administration - Finance from Seton Hall University. I was employed by the State of New Jersey – Board of Public Utilities ("BPU" or "Board") beginning in July 1986 as an Accountant-Trainee and over a twenty-year career moved into various Analyst positions of increased responsibility. In March 2007, I accepted a Senior Regulatory Analyst position at Public Service Electric and Gas Company with responsibilities that included preparing the requisite testimony and financial schedules for various rate recovery mechanisms. In August 2007, I was promoted to the position of Principal Staff Regulatory Analyst and, in August 2011, I was promoted to the position of Revenue Requirements Manager.

I joined the Company in July 2014 as the Manager – Revenue Requirements. On January 2, 2018, I was promoted to the position of Director-Revenue Requirements. My responsibilities include supporting the Regulatory Affairs department with the preparation of testimony regarding all rate recovery matters. I also participate on behalf of NJNG in the New Jersey Resources financial reporting committee.

As Director - Revenue Requirements, I perform the calculation of revenue requirements for NJNG's base rates as well as cost recovery riders.

**Q. HAVE YOU PREVIOUSLY TESTIFIED IN REGULATORY PROCEEDINGS?**

**A.** Yes. I have submitted Direct Testimony before the Board in NJNG's recent base rate cases (BPU Docket No. GR19030420 and BPU Docket No. GR15111304), the SAVEGREEN 2020 case (BPU Docket Nos. QO19010040 and GO20090622), its Infrastructure Investment Program (BPU Docket No. GR19020278), the NJ Reinvestment in System Enhancement ("NJ RISE") cost recovery petition (BPU Docket No. GR15050638), and various Societal Benefit Charge cost recovery matters. In addition, I have provided testimony on behalf of PSEG Power, LLC in a rate matter proceeding before the Connecticut Public Utilities Regulatory Authority in PURA Docket No. 12-07-17.

**Q. PLEASE SUMMARIZE THE PURPOSE OF YOUR DIRECT TESTIMONY.**

**A.** In this rate case, I am serving as the Company's financial witness. My testimony addresses NJNG's proposed revenue requirements, which encompass the Rate Base and Operating Income for the test year ending August 31, 2021, with appropriate pro forma adjustments. In addition, my testimony explains the need for rate relief associated with the Company's investment in rate base, including capital investments supporting capital replacement of mains and services, distribution and transmission infrastructure, as well as increased operation and maintenance expenses ("O&M"). NJNG's utility plant in service, through its annual construction programs, has increased by approximately $540 million since the resolution of the Company's last base rate case in 2019. The increases in utility plant since the Company's prior base rate case have resulted from capital expenditures for necessary replacement and upgrade of the distribution and transmission systems to ensure the continuation of safe and reliable service, system expansions required to serve new and existing customers, and pipeline integrity management. The Direct Testimony of John B. Wyckoff (Exh. P-2) describes in detail the Company's transmission and delivery operations.

Schedule JMC-1 shows the operating income required to provide a just and reasonable return on NJNG's rate base, the pro forma operating income for the test period, and the additional revenue necessary to satisfy the operating income

requirement. Schedule JMC-2 summarizes NJNG's Rate Base, and Schedule JMC-12 reflects Operating Income as of August 31, 2021, on a 5-month actual and 7-month estimated basis. The Revenue Factor is presented on Schedule JMC-4. The individual amounts shown on these Schedules are further supported by NJNG's accounting records and its operating and capital budgets for the period ending August 31, 2021. The books and records of NJNG are maintained in accordance with the Uniform System of Accounts prescribed by the Board and the Federal Energy Regulatory Commission ("FERC"). The Direct Testimony of Angela M. Cahill (Exh. P-4) describes in detail the Company's financial schedules.

The balance of my testimony supports the Rate Base, Operating Income, and the pro forma adjustments necessary for the period ending August 31, 2021. The additional revenue of $165.67 million requested in this case, as calculated on Schedule JMC-1, is needed to provide NJNG the opportunity to recover operating revenues through base rates sufficient to meet operating expenses, taxes and fixed charges, and to provide a reasonable return on its Rate Base investments, providing service to customers.

Schedules JMC-13 through JMC-30 provide the pro forma adjustments and the detail of Operating Income, which I discuss later in my testimony.

**Q. PLEASE DESCRIBE THE SERVICE COMPANY AND ITS ROLE IN PROVIDING SERVICE TO NJNG.**

**A.** The New Jersey Resources Service Company ("Service Company") provides corporate services that include accounting, human resources, treasury, information technology and legal to NJNG. All costs and services are provided on a fully allocated cost basis. The Service Company allocates its labor to NJNG based on direct time sheet reporting and expenses based on actual monthly costs or assigned costs using various allocation methods (headcount, hours of use, etc.). On a quarterly basis, actual data is used to true-up all allocations to ensure a proper matching is recorded by NJNG to properly assign costs based on a cost causation concept. It is the practice of the Service Company to directly charge its costs whenever possible and use an allocation

methodology when a non-direct cost is incurred.

**Q. PLEASE PROVIDE AN OVERVIEW OF THE NJNG RATE CASE PETITION.**

**A.** NJNG's last base rate case decision was approved by the BPU in an Order dated November 13, 2019 (Docket No. GR19030420). Since that time, the Company has continued to provide safe, reliable and high-quality service to its customers, and is committed to providing the same in the future.

The Company is requesting an increase in its base rate revenues of $165.67 million based on the test year ending August 31, 2021, with adjustments to reflect certain known and measurable changes through February 28, 2022. Financial integrity and strength are key components to the Company's ability to employ the necessary capital and to cover the operating expenses necessary to maintain and improve its distribution and transmission systems, and to continue to provide safe, reliable and high-quality service to approximately 560,000 residential and commercial customers in its service territory. The health and safety of NJNG's customers and employees is the Company's number one priority and maintaining a strong financial position in the marketplace is a necessary ingredient to accomplishing this goal.

**Q. WHAT TEST PERIOD IS NJNG USING TO SUPPORT ITS BASE RATE CASE REQUEST?**

**A.** The test period in this base rate case proceeding is the 12-month period ending August 31, 2021. This filing consists of 5 months actual data ending January 31, 2021, and 7 months estimated data through August 31, 2021.

**Q. PLEASE DESCRIBE THE NJNG RATE BASE – SCHEDULE JMC-2.**

**A.** Schedule JMC-2 presents total Rate Base as of August 31, 2021 of $2.29 billion. The NJNG Rate Base consists of the utility's investment in natural gas plant, net of accumulated depreciation of utility plant; natural gas commodity in storage and Liquefied Natural Gas ("LNG") inventory; materials and supplies; prepayments and cash working capital, offset by customer advances and accumulated deferred income taxes; and a consolidated tax adjustment. I will now address each individual component of the Company's Revenue Requirement.

**Q. HAS THE COMPANY INCLUDED A CONSOLIDATED TAX ADJUSTMENT IN ACCORD WITH THE BOARD'S CURRENT METHODOLOGY?**

**A.** Yes. In accordance with the Board's October 22, 2014 Order in Docket No. EO12121072 and the requirements set out in N.J.A.C. 14:1-5.12(a) (11), the Company has calculated a consolidated tax adjustment ("CTA"). The calculated CTA reduces rate base by $1.41 million. *See* Schedule JMC-2.

**Q. PLEASE DESCRIBE THE WEIGHTED AVERAGE COST OF CAPITAL – SCHEDULE JMC-3.**

**A**. Schedule JMC-3 provides NJNG's capital structure components and their respective embedded cost rates to calculate the requested weighted average cost of capital ("WACC") to establish the proper operating income requirement. The Direct Testimony of Mr. Paul R. Moul (Exh. P-6) supports the capital structure, the long-term debt cost rate and the return on common equity utilized in the weighted average cost of capital. I have incorporated the lower-end recommendation of Mr. Moul and have utilized a 10.50% return on equity in the Company's capital structure.

**Q. PLEASE EXPLAIN THE REVENUE FACTOR – SCHEDULE JMC-4.**

**A.** The revenue factor utilized by the Company in this proceeding is 1.4046. The factor includes State of New Jersey Corporate Business Tax, Federal Income Tax, the Assessments for the Board and the New Jersey Division of Rate Counsel ("Rate Counsel") and Uncollectibles.

**Q. PLEASE EXPLAIN THE NJNG UTILITY PLANT IN SERVICE – SCHEDULE JMC-5 AND SCHEDULE JMC-6.**

**A.** The NJNG utility plant in service, as shown on Schedule JMC-5, is $3.05 billion at August 31, 2021. Since August 2019, plant in service has increased by approximately $540 million. This growth is, in part, attributable to investment in Board-approved infrastructure programs for distribution and transmission mains and services, as well as safety and reliability upgrades in the Company's service territory. Distribution and

transmission plant investments are discussed in the testimony of Mr. John B. Wyckoff. Schedule JMC-6 provides a further breakdown of the Plant Additions summarized on Schedule JMC-5.

**Q. PLEASE DESCRIBE THE ACCUMULATED DEPRECIATION OF UTILITY PLANT – SCHEDULE JMC-7.**

**A.** Plant in service investments have an estimated useful life, which normally extends over many years as it provides natural gas service to customers. The systematic recovery of these investments is accomplished by the recognition in rates and operating expense of annual depreciation charges, with accumulated depreciation primarily representing the cumulative recovery of depreciation expense. This accumulated recovery of depreciation is used to reduce Rate Base. This has been, and continues to be, an acceptable principle in developing Rate Base, since the accumulated depreciation reserve balance infers that these amounts have already been charged to income and recovered from customers. The accumulated depreciation reserve balance of $582.09 million includes the accumulated recognition of depreciation expense, salvage and cost of removal. The accumulated depreciation reserve balance does not recognize the legal Asset Retirement Obligation liabilities associated with the Statement of Financial Accounting Standards No. 143 and Financial Accounting Standards Board Interpretation Number 47.

The Company has proposed new distribution depreciation rates based on a fiscal year 2021 Gas Depreciation Study, supported by the testimony of Dr. Ronald E. White (Exh. P-7). The proposed depreciation rates and related depreciation expense have been annualized for plant balances at August 31, 2021 and are reflected in the Company's revenue requirement.

As detailed on Schedule JMC-7, the Company has increased its August 31, 2021 Accumulated Depreciation Reserve balance by $13.75 million, representing an adjustment equal to one-half of the annualized period-end depreciation expense plus one-half of the annualized depreciation rate change impact as shown on JMC-21. This test year adjustment to the Accumulated Depreciation Reserve balance annualizes the

period-end depreciation expense and the proposed new depreciation rates resulting from Dr. White's depreciation studies for plant balances at August 31, 2021.

**Q. PLEASE DESCRIBE NJNG'S CUSTOMER ADVANCES FOR CONSTRUCTION – SCHEDULE JMC-8.**

**A.** As a normal part of utility business, the costs of construction related to advances made by the Company's customers are capitalized and included in the Net Plant In Service balance. Therefore, it is appropriate to reduce plant costs for these construction related customer advances. As shown on Schedule JMC-2, Rate Base has been reduced by $2.65 million, based upon the 13-month average of actual customer advances through January 31, 2021. This amount will be updated throughout the case.

**Q. PLEASE DESCRIBE THE NATURAL GAS SUPPLY & LNG INVENTORY COMPONENT OF RATE BASE – SCHEDULE JMC-9.**

**A.** Included in Rate Base is a representative amount of natural gas supply and LNG inventory maintained by NJNG to serve its customers. The natural gas supply and LNG inventory, in the amount of $80.85 million, is based on a 13-month projected average as of August 31, 2021.

**Q. PLEASE DESCRIBE THE WORKING CAPITAL COMPONENT OF RATE BASE.**

**A.** The Company's proposed working capital allowance is $167.79 million, consisting of three components: cash (Lead/Lag and Net Assets/Net Liabilities Analysis) of $135.96 million; materials and supplies at a 13-month actual average of $15.86 million; and prepayments at a 13-month actual average of $15.97 million. The cash working capital requirements associated with the Lead/Lag study are discussed in the testimony of Harold Walker, III. (Exh. P-5). I will further discuss the rate treatment for: 1) Materials and Supplies and 2) Prepayments.

**Materials and Supplies – Schedule JMC-9**

Included in Rate Base is $15.86 million of materials and supplies necessary for ongoing

utility operations. This amount is a 13-month actual average balance representing general store items held in NJNG's inventory for operations and maintenance and capital purposes as of January 31, 2021. This amount will be updated throughout the case.

**Prepayments - Schedule JMC-10**

The Company is required to make advance payments for certain operating costs, such as insurance and assessments, prior to the amounts being charged to operating expenses. The NJNG prepayments, which are similar to the materials and supplies, represent a permanent, ongoing investment by the Company. Accordingly, I have included in Rate Base the 13-month actual average of prepayments at January 31, 2021, of $15.97 million. This amount will be updated throughout the case.

**Q. PLEASE DESCRIBE THE ACCUMULATED DEFERRED TAXES PORTION OF RATE BASE – SCHEDULE JMC-11.**

**A.** Deferred income taxes represent the accumulated tax effect for the timing differences between when an item is recognized for tax purposes and when it is recognized for book purposes in Utility Operating Income. Since the accumulated deferred tax balances shown on Schedule JMC-11 relate either to utility assets included in Rate Base or to expenses, both of which are utilized in setting customer rates, a Rate Base deduction is appropriate. The accumulated deferred tax reduction to Rate Base is estimated to be $281.00 million at August 31, 2021.

**Q. PLEASE DESCRIBE THE OPERATING INCOME LEVEL AT CURRENT RATES.**

**A.** Schedule JMC-12 presents NJNG's income statement for the test year ended August 31, 2021.

**Q. PLEASE DESCRIBE THE OPERATING INCOME AND THE PRO FORMA ADJUSTMENTS AT AUGUST 31, 2021.**

**A.** I have made the following pro forma adjustments to Operating Income to recognize a normalized test year ending August 31, 2021:

**Pro Forma Operating Income – Schedule JMC-13**

This Schedule presents a summary of the pro forma adjustments applied to NJNG's test period Operating Income. The pro forma adjustments modify test year Operating Income for known and measurable changes to expense and income levels that will be incurred when the rates are established in this proceeding. Adoption of these adjustments by the Board will provide the Company with an opportunity to earn a reasonable return on its investments during the period when the proposed base rates are in effect.

**Annualization of Wages – Schedule JMC-14**

This adjustment of $3.44 million ($2.47 million, net) represents the annualization of labor costs applicable to represented and non-represented employees at NJNG at August 31, 2021, plus an adjustment for known and measurable changes to include in the test year and the January 2022 wage increase.

The Company and its Union, Local 1820 of the International Brotherhood of Electrical Workers, are operating under an agreement that will expire in December 2021. The contract contains an agreed-upon annual percentage increase of 3.50 percent in 2021. For represented employees, this adjustment annualizes the January 2021 wages and calculates the pro forma impact of an estimated January 2022 union contract increase of 3.5 percent for employees.

The adjustment also annualizes the January 2021 increase and calculates the pro forma impact of a January 2022 increase applicable to the Company's non-represented employees. The identical percent increases afforded the represented work force have been applied to the non-represented employees. The adjustment to labor expense also includes the wage increases associated with the labor dollars charged to NJNG for the Service Company employees in a similar manner.

The Company's employees are a critical element in meeting the service and reliability needs of NJNG's customers, and this adjustment to the test year operating expenses insures that the Company's base rates will reasonably reflect the cost of this workforce during the time these proposed base rates are in effect.

**Annualization of Payroll Taxes – Schedule JMC-15**

This adjustment of $263 thousand ($189 thousand, net) annualizes the test year for changes in payroll taxes and represents the increases in the Federal Insurance Contribution Act ("FICA") Tax for increases in taxable wages. The test period has been annualized for the statutorily mandated rates of 6.2 percent and 1.45 percent for Social Security and Medicare Benefits, respectively.

**Interest Synchronization (Tax Savings) – Schedule JMC-16**

The Board has historically adopted an adjustment to synchronize the federal income tax savings associated with interest expense in the test period with the tax savings, based on an interest calculation using the weighted average cost of debt in the capital structure utilized to support Rate Base.

As shown on Schedule JMC-16, the interest-bearing components of the capitalization supporting the NJNG Rate Base produce interest expenses of $35.63 million. This is $2.09 million more than the recorded test year period interest expense of $33.53 million. This adjustment of $2.09 million ($588 thousand, net) increases Operating Income attributable to the tax savings on the interest component.

**Pension and Benefits Expense – Schedule JMC-17**

An adjustment in the amount of $3.30 million ($2.37 million, net) represents an operating expense increase and reflects the necessary adjustments in pension, Other Post-Employment Benefits ("OPEB"), and medical and dental expenses over the test period amounts included in operating income. This level of expense reflects the forecasted pension, OPEB, and medical and dental expenses though fiscal year 2022 (i.e., October 1, 2021 through September 30, 2022), and includes actuarial assumptions and changes to the mortality tables as prepared by AON (the Company's actuarial consultant) and used by NJNG for U.S. Securities and Exchange Commission ("SEC") disclosure purposes in its financial statements.

Similarly, prepared pension and benefit adjustments have been consistently adopted by the Board in prior rate cases in New Jersey and should be accepted in this

base rate case. By making this adjustment for increased pension and benefit expenses, the test year will reflect pension and benefit expenses during the time that the proposed new base rates are in place. The NJNG pension and OPEB expenses are based on a benefit plan that is closed to new employees effective December 31, 2011.

**BPU and Rate Counsel Assessments – Schedule JMC-18**

In accordance with N.J.S.A. 48:2-60 and N.J.S.A. 52:27EE-52, the Company provides funding to the State of New Jersey associated with the operations of the Board and Rate Counsel. These assessments are predicated on rates established by the State of New Jersey and are applied to each gross intrastate revenue dollar recorded by the Company for the preceding year. The current assessment rates are 0.2026 percent for the Board and 0.0543 percent for Rate Counsel. By applying these rates to year-end 2020 intrastate operating revenues, the Company has estimated its funding obligation for the Board and Rate Counsel at $1.80 million. The adjustment of $491 thousand ($353 thousand, net) increases the test year operating expenses to that level. The adjustment recognizes test year expense for this item at a level that the Company will incur while new rates are in effect, assuming the assessment rate remains stable, and is therefore appropriate to be adopted in this proceeding.

**Basic Gas Supply Service ("BGSS") Incentive Margin – Schedule JMC-19**

Included in test period Operating Income is a level of net BGSS incentive margin that should be excluded from the calculation of base rates in the amount of $9.12 million ($6.56 million, net). This incentive margin should be excluded to prevent NJNG's base rates from being reduced, which would eliminate the incentive margins earned by NJNG pursuant to the Board's separately approved program.

**Outside Services Employed – Schedule JMC-20**

This adjustment represents a normalized level of expense incurred for rate case expense. The expenses are then ratably amortized over an appropriate time to determine an appropriate level of operating expense recovery in base rates. In accord

with the Board's long-standing policy, I have reflected a 50%/50% sharing of rate case expense between shareholders and NJNG's customers. The resulting adjustment represents an increase in operating expense of $216 thousand ($155 thousand, net).

**Annualization of Depreciation – Schedule JMC-21**

The depreciation rate changes reflect the results of the depreciation study completed by Dr. White. The difference between the annualized depreciation expense at current rates and the amount of depreciation expense included in the test year has been recognized, as well as the annualization of the depreciation rate change on Plant In Service investments at August 31, 2021. The adjustment to depreciation expense represents an increase in operating expense of $27.50 million ($19.77 million, net). Depreciation expense is a vital component of NJNG's recovery of its investment in utility plant over its service life, as well as the recovery of the cost of removal for the replacement of existing structures and other plant investment.

**SAVEGREEN Margin – Schedule JMC-22**

Included in test period Operating Income is a level of SAVEGREEN margin that should be excluded from the calculation of base rates in the amount of $6.40 million ($4.60 million, net). This margin should be excluded to prevent NJNG's base rates from being reduced, which would eliminate the margin earned by NJNG pursuant to the Board's separately approved program.

**Real Estate Taxes – Schedule JMC-23**

This adjustment of $26 thousand ($19 thousand, net) increases the test year operating expense to be representative of the level of property real estate tax expense that is expected to be accrued and paid by NJNG on its property in the 12-month period following when new base rates go into effect.

**Insurance – Schedule JMC-24**

This adjustment addresses the items for which NJNG carries insurance policies with

outside vendors (e.g., Automobile & Workers Compensation) for which the Company pays annual premiums of approximately $5.33 million. This adjustment of $320 thousand ($230 thousand, net) for the test year operating expense increase is representative of the level of insurance expense that is expected to be accrued and paid in the 12-month period following when new base rates go into effect, i.e., the rate year. The increase in insurance expense is estimated to be 6.0%.

**Annual Review of Commercial Customer Usage – Schedule JMC-25**

Pursuant to the Company's Tariff, at least once annually, small and large commercial customers' usage is reviewed to determine their appropriate service classification and highest monthly average daily ("HMAD") usage, if applicable. This review is typically performed in September. The Company is proposing an adjustment to reflect the margin impact of the anticipated switching of commercial customers between small and large classes, as well as HMAD changes. The margin accrued during the test year will not accrue at the conclusion of this rate case. A pro forma adjustment to reflect the change in margin and income that results from the annual review of commercial customers' usage is necessary.

Schedule JMC-25 shows the adjustment necessary to reflect the reduction in margin anticipated from the annual review of commercial customers' usage. The adjustment results in a decrease to operating income of $1.59 million ($1.14 million, net). This adjustment will be updated throughout the case.

**Project NEXT– Schedule JMC-26**

Schedule JMC-26 reflects the normalization of O&M costs associated with Project NEXT.

This pro forma adjustment will normalize the O&M expenses anticipated to be incurred for the duration of the Project NEXT build-out. The Company's income statement currently forecasts approximately $11.20 million in test year expenses and an average of $12.65 million over fiscal years 2022 and 2023.

The adjustment represents an increase in operating expense of $1.45 million

($1.04 million, net).

**Revenue– Schedule JMC-27**

Schedule JMC-27 reflects two adjustments to annualize the Company's revenues for its SAFE II/NJ RISE Program and the Conservation Incentive Program ("CIP").

The SAFE II/NJ RISE Program adjustment annualizes the test year revenues for the SAFE II/ NJ RISE rate change that occurred on October 1, 2020. As the proposed Test Year for this rate case begins on September 1, 2020, the Company has increased its revenues to reflect an additional month for this change.

The CIP adjustment normalizes the test year actual results to recognize that, through the resetting of the CIP baseline use per customer in the NJNG Tariff Rider I – Conservation Incentive Program in this base rate case, this accrued margin will not be earned effective with the new base rates emanating from this case.

These two adjustments represent an increase in operating expense of $4.24 million ($3.05 million, net).

**Rate Case Expense– Schedule JMC-28**

Schedule JMC-28 reflects an adjustment to remove the actual rate case expenses incurred through January 31, 2021 from the Test Tear Income Statement to avoid a double count. Total rate case expense is addressed by the pro-forma adjustment in JMC-20 – Outside Services Employed. As of this date, the Company has not paid any expenses associated with this case. This adjustment will be updated throughout the test year and currently represents no impact.

**SAFE II Closeout – Schedule JMC-29**

NJNG is in the process of completing the SAFE II Program necessary to continue its high level of service to its customers. The testimony of Mr. Wyckoff contains a description of this program and its benefit to NJNG customers.

Included in revenue requirements is an adjustment to properly include capital investment associated with the closeout of the SAFE II Program and the associated

depreciation expense.

This adjustment represents an increase to operating expense by $997 thousand ($910 thousand, net) for major system improvements.

**Southern Reliability Link Project – Schedule JMC-30**

The Company has received approvals in two Board Orders to undertake a major transmission pipeline project referred to as the Southern Reliability Link ("SRL") in BPU Docket Nos. GE15040402 and GO15040403.

The SRL commenced construction in November 2018 and is anticipated to be in-service during 2021, which is well within the six-month period for inclusion of post-test year capital additions in rate base. As the magnitude of this single project will have a major financial impact on the Company, NJNG requests authority for inclusion of the SRL in the Company's base rates. NJNG believes that this major transmission pipeline project, the largest in the history of the Company, should be included in rate base and recovered in rates. The testimony of Mr. Wyckoff provides a detailed overview of the SRL project and an explanation of the need for the project and the benefits to customers.

Schedule JMC-30 reflects the estimated revenue requirement to reflect the return on capital investment, deferred taxes and the depreciation expense associated with the SRL's operation. Based on the most recent data available, NJNG is estimating a revenue requirement increase of $39.53 million.

**Q. PLEASE DISCUSS IF YOU ANTICIPATE MAKING ANY ADDITIONAL PRO FORMA ADJUSTMENTS DURING THESE PROCEEDINGS.**

**A.** As stated previously, pro forma adjustments modify test year Operating Income for known or measurable changes. Adoption of these known and measurable adjustments provides an opportunity for the Company to earn a reasonable return on its investment during the period when rates set from this process are in effect.

It is quite possible that additional pro forma adjustments may be necessary during the course of this proceeding as a result of changes to energy policy, capital investment and operating practices.

**Q. HAS THE COMPANY INCLUDED ANY COSTS ASSOCIATED WITH THE ANNUAL COST RECOVERY FILING FOR SAFE II OR NJ RISE IN THIS INSTANT PROCEEDING?**

**A.** No. The investments related to SAFE II and NJ RISE that have been placed in-service from July 1, 2020 through June 30, 2021, are excluded from the Company's rate base. On March 31, 2021, the Company filed its annual cost recovery petition for the SAFE II/NJ RISE investments for the July 1, 2020 through June 30, 2021 period.

**Q. PLEASE SUMMARIZE YOUR TESTIMONY.**

**A.** The Company has continued to provide safe, reliable and high-quality service to customers, as well as stable and reasonable base rates. The Company has now reached the point where the cost of operations and the level of capital investments required to serve its customers need to be updated from those reflected in NJNG's current base rates. Company employees and management have worked hard to provide safe and reliable gas service to a growing service territory at reasonable rates.

As further discussed in detail in other witnesses' testimonies, the Company has consistently made efforts in all areas of its operations to provide efficient and cost-effective service to NJNG's customers. The Company's proposed base rates are just and reasonable in terms of affording the Company an opportunity to earn a fair rate of return and to provide safe and reliable cost-based service to NJNG's customers. As demonstrated by the testimonies of the Company's witnesses in this proceeding, an increase in base rates is required at this time and is in the best interests of the Company and its customers.

**Q. DOES THIS CONCLUDE YOUR TESTIMONY AT THIS TIME?**

**A.** Yes. I reserve my right to supplement and/or amend my testimony in the future.

**NEW JERSEY NATURAL GAS COMPANY**

**DETERMINATION OF REVENUE REQUIREMENTS**
**($000)**

| | | |
|---|---|---|
| Rate Base | $ | 2,294,083 |
| Rate of Return | | 7.53% |
| **Operating Income Requirement** | $ | 172,668 |
| Pro-Forma Operating Income | $ | 54,724 |
| Operating Income Deficiency | $ | 117,945 |
| Revenue Factor | | 1.4046 |
| **Revenue Requirements** | **$** | **165,665** |

For Rate Design Purposes:
*Revenue Requirement From:*

| | | |
|---|---|---|
| Conservation Incentive Program | $ | (4,574) |
| Requested Additional Operating Revenue | **$** | **161,091** |

**NEW JERSEY NATURAL GAS COMPANY**

**RATE BASE**
**($000)**

| | | Balance at August 31, 2021 |
|---|---|---|
| Plant In Service | $ | 3,049,636 |
| Accumulated Depreciation Reserve | | (582,094) |
| Customer Advances | | (2,651) |
| Net Plant In Service | | 2,464,891 |
| Gas Supply & LNG Inventory | | 80,854 |
| Working Capital: | | |
| Cash (Lead/Lag) | $ | 135,963 |
| Materials and Supplies | | 15,858 |
| Prepayments | | 15,971 |
| Net Working Capital | | 167,792 |
| Deferred Taxes | | (280,995) |
| Excess Deferred Tax | | (137,053) |
| Consolidated Tax Adjustment | | (1,405) |
| **Total Rate Base** | **$** | **2,294,083** |

**Source(s):**

| | | |
|---|---|---|
| Workpaper | JMC-1 | LL Summary |
| Workpaper | JMC-2 | Excess DFIT |
| Workpaper | JMC-3 | Consolidated Taxes |

**NEW JERSEY NATURAL GAS COMPANY**

**WEIGHTED AVERAGE COST OF CAPITAL**
**($ MILLIONS)**

| | Amount | Percent | Embedded Cost | Weighted Cost | Net of Tax | Pre-tax |
|---|---|---|---|---|---|---|
| Long-Term Debt | $ 1,107,884 | 43.11% | 3.60% | 1.55% | 1.12% | 1.55% |
| Common Equity | $ 1,462,191 | 56.89% | 10.50% | 5.97% | 5.97% | 8.31% |
| Total | $ 2,570,075 | 100.00% | | 7.53% | 7.09% | 9.86% |

**Source(s):**
Workpaper JMC-4 Long Term Debt

**NEW JERSEY NATURAL GAS COMPANY**

**REVENUE FACTOR**

| | | |
|---|---|---|
| Revenue Increase | 100.0000 | 165,665 |
| Uncollectible Rate | 0.7137 | 1,182 |
| BPU Assessment Rate | 0.2026 | 336 |
| Rate Counsel Assessment Rate | 0.0543 | 90 |
| Income before State of NJ Bus. Income Tax | 99.0294 | 164,057 |
| State of NJ Bus. Income Tax @ 9.00% | 8.9126 | 14,765 |
| Income Before Federal Income Taxes | 90.1167 | 149,292 |
| Federal Income Taxes @ 21% | 18.9245 | 31,351 |
| Return | 71.1922 | 117,941 |
| Revenue Factor | **1.4046** | **1.4046** |

**Source(s):**

Workpaper JMC-5 Uncollectible Rate

**NEW JERSEY NATURAL GAS COMPANY**

**UTILITY PLANT IN-SERVICE**
**($000)**

| | Test Year August 31, 2021 |
|---|---|
| Beginning Balance @ September 1, 2020 | $ 2,656,455 |
| Total Direct Additions | $ 353,634 |
| Retirements: | |
| Production | $ - |
| Storage | - |
| Transmission | (506) |
| Distribution | (5,322) |
| General | (250) |
| Total Retirements | $ (6,077) |
| Meter Lease | 45,625 |
| Total Additions | 45,625 |
| **Total Utility Plant In-Service** | **$ 3,049,636** |

**Source(s):**

| | | |
|---|---|---|
| Workpaper | JMC-6 | Depreciable Plant-Depreciation |
| Workpaper | JMC-7 | FERC Balance Sheet |

**NEW JERSEY NATURAL GAS COMPANY**

**DIRECT ADDITIONS TO PLANT IN-SERVICE**
**($000)**

| | Test Year August 31, 2021 |
|---|---|
| Production | $ - |
| Storage | 6,025 |
| Transmission | 9,257 |
| Distribution | 261,902 |
| General | 76,449 |
| **Total Direct Additions** | **$ 353,634** |

**Source(s):**

Workpaper JMC-6 Depreciable Plant-Depreciation

**NEW JERSEY NATURAL GAS COMPANY**

**ACCUMULATED DEPRECIATION OF UTILITY PLANT**
**($000)**

| | | | Test Year August 31, 2021 |
|---|---|---|---|
| Beginning Balance @ September 1, 2020 | | $ | (589,570) |
| Production | | $ | - |
| Storage | | | (1,322) |
| Transmission | | | (8,619) |
| Distribution | | | (60,531) |
| General | | | (8,355) |
| SAFE II/NJ RISE | | | 22 |
| Total Charge to Depreciation Expense | | $ | (78,806) |
| Retirements | | $ | 6,077 |
| SAFE COR/Retirements | | | 320 |
| Total Cost of Removal | 42,009 | | |
| Cost of Removal | (24,946) | | |
| Excess Cost of Removal - Test Year | | | 17,063 |
| Excess Cost of Removal - through August 31, 2020 | | | 75,080 |
| Accretion of ARO | | | 1,490 |
| Net Increase | | $ | 100,030 |
| Ending Balance | | $ | (568,345) |
| Annualization of Depreciation | | $ | (13,749) |
| **Balance - Accumulated Depreciation** | | **$** | **(582,094)** |

**Source(s):**

Workpaper JMC-6 Depreciable Plant-Depreciation

**NEW JERSEY NATURAL GAS COMPANY**

**CUSTOMER ADVANCES FOR CONSTRUCTION (a)**
**($000)**

| | Test Year August 31, 2021 |
|---|---|
| Extensions/Deposits | $ (2,651) |
| **Total Customer Advances for Construction** | **$ (2,651)** |

(a) 13-month Average Balance (January 2020 - January 2021)

**Source(s):**

Workpaper JMC-7 FERC Balance Sheet

EXHIBIT P-3
SCHEDULE JMC-9

**NEW JERSEY NATURAL GAS COMPANY**

**WORKING CAPITAL - GAS INVENTORY AND MATERIALS & SUPPLIES**
**($000)**

| | Test Year August 31, 2021 | |
|---|---|---|
| Gas Supply and LNG Inventory (a) | $ | 80,854 |
| Materials and Supplies (b) | | 15,858 |
| **Total Materials and Supplies** | **$** | **96,711** |

(a) 13-month Average Balance (August 2020 - August 2021)
(b) 13-month Average Balance (January 2020 - January 2021)

**Source(s):**

| | | |
|---|---|---|
| Workpaper | JMC-8 | Inventory |
| Workpaper | JMC-7 | FERC Balance Sheet |

**NEW JERSEY NATURAL GAS COMPANY**

**WORKING CAPITAL - PREPAYMENTS**
**($000)**

| | Test Year August 31, 2021 |
|---|---|
| Meter Lease (a) | $ 557 |
| Delta Dental (a) | 29 |
| Rents/Leases (a) | (99) |
| Real Estate Taxes (a) | 149 |
| Computer Lease (a) | 2,911 |
| Insurance (a) | 2,032 |
| Postage (a) | 27 |
| BPU & Rate Counsel Assessment | 750 |
| Uniform Transitional Utility Assessment (a) | 9,614 |
| **Total Prepayments** | $ 15,971 |

(a) 13-month Average Balance (January 2020 - January 2021)

**Source(s):**

Workpaper JMC-7 FERC Balance Sheet

**NEW JERSEY NATURAL GAS COMPANY**

**ACCUMULATED DEFERRED INCOME TAXES**
**($000)**

| | Balance at August 31, 2021 |
|---|---|
| Depreciation | $ (225,801) |
| Cost of Removal | 64,835 |
| Repairs and Maintenance | (53,921) |
| Section 174 - R&D | 1,652 |
| Capitalized Interest | 1,852 |
| Contribution-in-Aid-of-Construction | 1,512 |
| NJ Corporate Business Tax | (74,982) |
| Depreciation Study | 3,865 |
| Deferred Taxes SAFE II/NJ RISE | (6) |
| **Total Accumulated Deferred Income Taxes** | $ (280,995) |

**Source(s):**

Workpaper JMC-9 DFIT

**NEW JERSEY NATURAL GAS COMPANY**

**INCOME STATEMENT**
**($000)**

| | Test Year August 31, 2021 |
|---|---|
| Operating Revenues | 719,789 |
| *Operating Expenses:* | |
| Operation Expense | 428,383 |
| Maintenance Expense | 16,828 |
| Depreciation Expense | 79,387 |
| Taxes Other Than Income Taxes | 48,588 |
| Income Taxes - Current & Deferred | 21,467 |
| Total Utility Operating Expenses | $594,652 |
| Utility Operating Income | $125,137 |

**Source(s):**

Workpaper JMC-10 FERC Income Statement

EXHIBIT P-3
SCHEDULE JMC-13

**NEW JERSEY NATURAL GAS COMPANY**

**PRO-FORMA DISTRIBUTION OPERATING INCOME**
**($000)**

| | | | | Test Year August 31, 2021 |
|---|---|---|---|---|
| **Test Year Distribution Operating Income** | | | **$** | **125,137** |
| Adjustment # | **Pro-Forma Adjustments:** | Schedule # | | |
| 1 | Wages | JMC - 14 | $ | (2,471) |
| 2 | Payroll Taxes | JMC - 15 | $ | (189) |
| 3 | Interest Synchronization (Tax Savings) | JMC - 16 | $ | 588 |
| 4 | Pension & Fringe Benefits | JMC - 17 | $ | (2,371) |
| 5 | BPU/Rate Counsel Assessments | JMC - 18 | $ | (353) |
| 6 | BGSS Incentive Margin | JMC - 19 | $ | (6,557) |
| 7 | Outside Services | JMC - 20 | $ | (155) |
| 8 | Depreciation Annualization | JMC - 21 | $ | (19,768) |
| 9 | SAVEGREEN | JMC - 22 | $ | (4,601) |
| 10 | Real Estate Taxes | JMC - 23 | $ | (19) |
| 11 | Insurance | JMC - 24 | $ | (230) |
| 12 | Annual Review of Commercial Customers | JMC - 25 | $ | (1,141) |
| 13 | NEXT | JMC - 26 | $ | (1,042) |
| 14 | Revenue Adjustments | JMC - 27 | $ | (3,049) |
| 15 | Rate Case Expense | JMC - 28 | $ | - |
| 16 | Capital Additions | JMC - 29 | $ | (910) |
| 17 | SRL | JMC - 30 | $ | (28,144) |
| | **Total Pro-Forma Adjustments** | | $ | (70,413) |
| **Total Pro-Forma Distribution Operating Income** | | | **$** | **54,724** |

**NEW JERSEY NATURAL GAS COMPANY**

**Adjustment No. 1**
**Wages**
**($000)**

| | Test Year August 31, 2021 |
|---|---|
| *NJNG:* | |
| 2019 Annualization | $ 824 |
| 2020 Wage Increase | 2,613 |
| Operating Expense Increase before Taxes | $ 3,437 |
| Income Taxes @ 28.11% | 966 |
| **Operating Income Increase (Decrease) After Taxes** | $ (2,471) |

**Source(s):**

Workpaper JMC-11 Wages

**NEW JERSEY NATURALGAS COMPANY**

**Adjustment No. 2**
**Payroll Taxes**
**($000)**

| | Test Year August 31, 2021 |
|---|---|
| *NJNG:* | |
| 2018 Annualization | $ 63 |
| 2019Wage Increase | 200 |
| Operating Expense Increase before Taxes | $ 263 |
| Income Taxes @ 28.11% | 74 |
| **Operating Income Increase (Decrease) After Taxes** | $ (189) |

**NEW JERSEY NATURAL GAS COMPANY**

**Adjustment No. 3**
**Interest Synchronization (Tax Savings)**
**($000)**

| | | | | |
|---|---|---|---|---|
| Rate Base | | | | $ 2,294,083 |
| | **Percent** | **Embedded Cost** | **Weighted Cost** | |
| Debt Components: | | | | |
| Long Term Debt | 43.11% | 3.60% | 1.55% | |
| Total Weighted Cost of Debt | | | | 1.55% |
| Annualized Interest Expense | | | | $ 35,625 |
| Less: Test Period Interest Expense | | | | 33,533 |
| Net Interest Expense Increase/Decrease | | | | $ 2,092 |
| Income Tax Rate | | | | 28.11% |
| **Operating Income Increase (Decrease) After Taxes** | | | | $ 588 |

**Source(s):**

Workpaper JMC-10 FERC Income Statement

**NEW JERSEY NATURAL GAS COMPANY**

**Adjustment No. 4**
**Pension and Fringe Benefits**
**($000)**

| | | | | |
|---|---|---|---|---|
| **Fiscal Year 2022** | Pension/401(K) | | $ | 10,221 |
| | OPEB | | | 8,620 |
| | Medical, net of employee contributions | | | 11,969 |
| | Dental, net of employee contributions | | | 618 |
| | Fringe Transfer | | | (7,603) |
| | | FY 2022 Total | $ | 23,826 |
| *Less:* | | | | |
| **Test Year** | Pension/401(K) | | $ | 8,664 |
| | OPEB | | | 8,246 |
| | Medical, net of employee contributions | | | 11,057 |
| | Dental, net of employee contributions | | | 549 |
| | Fringe Transfer | | | (7,989) |
| | | Total | $ | 20,528 |
| Increase in Test Year Operating Expenses | | | $ | 3,298 |
| Income Taxes @ 28.11% | | | | 927 |
| **Operating Income Increase (Decrease) After Taxes** | | | $ | (2,371) |

**Source(s):**

Workpaper JMC-12 Pensions & Benefits

**NEW JERSEY NATURAL GAS COMPANY**

**Adjustment No. 5**
**BPU/Rate Counsel Assessment**
**($000)**

| | BPU | Rate Counsel | Total |
|---|---|---|---|
| Year 2020 Intrastate Revenues | $ 700,890 | $ 700,890 | |
| Assessment Rate (2020 Fiscal Year) | 0.2026% | 0.0543% | |
| Estimated Assessment | $ 1,420 | $ 381 | $ 1,801 |
| Less: Assessment Included in Test Year Operating Expenses | 1,027 | 282 | $ 1,309 |
| Operating Expense Increase Before Taxes | $ 393 | $ 98 | $ 491 |
| Income Taxes @ 28.11% | 110 | 28 | 138 |
| **Operating Income Increase (Decrease) After Taxes** | $ (282) | $ (71) | $ (353) |

**Source(s):**
Workpaper JMC-13 Assessment

**NEW JERSEY NATURAL GAS COMPANY**

**Adjustment No. 6**
**BGSS Incentive Margin**
**($000)**

| | Test Year August 31, 2021 |
|---|---|
| Net BGSS Incentive Margin | $ 9,121 |
| Income Taxes @ 28.11% | 2,564 |
| **Operating Income Increase (Decrease) After Taxes** | $ (6,557) |

**Source(s):**

Workpaper JMC-14 BGSS Incentive Margin

**NEW JERSEY NATURAL GAS COMPANY**

**Adjustment No. 7**
**Outside Services**
**($000)**

| | | | Test Year August 31, 2021 |
|---|---|---|---|
| **Rate Case:** | | | |
| Outside Counsel | $ | 500 | |
| Consultants | | 360 | |
| Miscellaneous | | 3 | |
| Total Rate Case Expense | $ | 863 | |
| **50/50 Sharing** | $ | 431 | |
| Amortization Period | | 2 | |
| Normalized Rate Case Expense | | | $ 216 |
| Income Taxes @ 28.11% | | | 61 |
| **Operating Income Increase (Decrease) After Taxes** | | | $ (155) |

**Source(s):**

Workpaper JMC-15 Outside Services

**NEW JERSEY NATURAL GAS COMPANY**

**Adjustment No. 8**
**Annualization of Depreciation**
**($000)**

| | | | Test Year August 31, 2021 |
|---|---|---|---|
| Annualization of Depreciation Rate Change | | | $ 21,745 |
| Annualization of Depreciation at Current Rates | $ | 85,139 | |
| Test Year Depreciation | | 79,387 | |
| Difference | | | $ 5,753 |
| Operating Expense Increase Before Taxes | | | $ 27,498 |
| Income Taxes @ 28.11% | | | 7,730 |
| **Operating Income Increase (Decrease) After Taxes** | | | $ (19,768) |

**Source(s):**

| | | |
|---|---|---|
| Workpaper | JMC-6 | Depreciable Plant-Depreciation |
| Workpaper | JMC-10 | FERC Income Statement |

**NEW JERSEY NATURAL GAS COMPANY**

**Adjustment No. 9**
**SAVEGREEN**
**($000)**

| | Test Year August 31, 2021 |
|---|---|
| SAVEGREEN Margin | $ 6,400 |
| Operating Expense Increase Before Taxes | $ 6,400 |
| Income Taxes @ 28.11% | 1,799 |
| **Operating Income Increase (Decrease) After Taxes** | $ (4,601) |

**Source(s):**

Workpaper JMC-16 SAVEGREEN Margin

**NEW JERSEY NATURAL GAS COMPANY**

**Adjustment No. 10**
**Real Estate Taxes**
**($000)**

| | Test Year August 31, 2021 |
|---|---|
| Property Taxes | $ 688 |
| Test Year Property Taxes | 662 |
| Operating Expense Increase Before Taxes | $ 26 |
| Income Taxes @ 28.11% | 7 |
| **Operating Income Increase (Decrease) After Taxes** | $ (19) |

**Source(s):**

Workpaper JMC-17 Taxes Other Than Income

**NEW JERSEY NATURAL GAS COMPANY**

**Adjustment No. 11**
**Insurance**
**($000)**

| | | Test Year August 31, 2021 |
|---|---|---|
| Insurance Premium Expense | $ | 5,651 |
| Test Year Insurance Premium Expense | | 5,331 |
| Operating Expense Increase Before Taxes | $ | 320 |
| Income Taxes @ 28.11% | | 90 |
| **Operating Income Increase (Decrease) After Taxes** | $ | (230) |

**Source(s):**

Workpaper JMC-18 Insurance

**NEW JERSEY NATURAL GAS COMPANY**

**Adjustment No. 12**
**Annual Review of Commercial Customer Usage**
**($000)**

| | | Test Year August 31, 2021 |
|---|---|---|
| Class Change | | 1,675 |
| HMAD | | (87) |
| Operating Income Decrease Before Taxes | $ | 1,588 |
| Income Taxes @ 28.11% | | 446 |
| **Operating Income Increase (Decrease) After Taxes** | $ | (1,141) |

**Source(s):**

Workpaper JMC-19 Annual Review of Commercial Customer Usage

**NEW JERSEY NATURAL GAS COMPANY**

**Adjustment No. 13**
**Program NEXT**
**($000)**

| | | Test Year August 31, 2021 |
|---|---|---|
| Normalized Operation & Maintenance | $ | 12,650 |
| Test Year Operation & Maintenance | | 11,200 |
| Operating Expense Increase Before Taxes | $ | 1,450 |
| Income Taxes @ 28.11% | | 408 |
| **Operating Income Increase (Decrease) After Taxes** | $ | (1,042) |

**NEW JERSEY NATURAL GAS COMPANY**

**Adjustment No. 14**
**Revenue**
**($000)**

| | Test Year August 31, 2021 |
|---|---|
| SAFE II/NJ RISE | $ (289) |
| CIP Impact (Non-Weather) | 4,530 |
| Operating Expense Increase Before Taxes | $ 4,241 |
| Income Taxes @ 28.11% | 1,192 |
| **Operating Income Increase (Decrease) After Taxes** | $ (3,049) |

**Source(s):**

| | | |
|---|---|---|
| Workpaper | JMC-20 | SAFE II-NJ RISE |
| Workpaper | JMC-21 | CIP Non-Weather |

**NEW JERSEY NATURAL GAS COMPANY**

**Adjustment No. 15**
**Rate Case Expense**
**($000)**

| | Test Year August 31, 2021 |
|---|---|
| Rate Case Expense | $ - |
| Operating Expense Decrease Before Taxes | $ - |
| Income Taxes @ 28.11% | - |
| **Operating Income Increase (Decrease) After Taxes** | $ - |

**NEW JERSEY NATURAL GAS COMPANY**

**Adjustment No. 16**
**SAFE II Closeout**
**($000)**

| | | | | Amount |
|---|---|---|---|---|
| **Capital Expenditure** | | | | |
| SAFE II (Closeout) | | | | $ 9,706 |
| **Total** | | | | $ 9,706 |
| Net of Tax Rate of Return | | | | 7.09% |
| **Return on Capital Investment** | | | | $ 688 |
| **Depreciation on Capital** | | | | |
| SAFE II (Closeout) | 3.18% | $ | 309 | |
| **Total Depreciation** | | $ | 309 | |
| Total Net Expense Impact Before Tax | | $ | 309 | |
| Income Taxes @ 28.11% | | | 87 | 222 |
| **Operating Income Increase (Decrease) After Taxes** | | | | $ (910) |

**NEW JERSEY NATURAL GAS COMPANY**

**Adjustment No. 17**
**Southern Reliability Link**
**($000)**

| | | | Amount |
|---|---|---|---|
| **Capital Expenditure** | | | |
| Southern Reliability Link | | | $ 308,387 |
| Deferred Taxes [1] | | | (1,491) |
| **Total** | | | $ 306,896 |
| Net of Tax Rate of Return | | | 7.09% |
| **Return on Capital Investment** | | | $ 21,759 |
| **Depreciation on Capital** | | | |
| Southern Reliability Link | 2.88% | $ 8,882 | |
| **Total Depreciation** | | $ 8,882 | |
| Total Net Expense Impact Before Tax | | $ 8,882 | |
| Income Taxes @ 28.11% | | 2,497 | 6,385 |
| **Operating Expense Increase After Taxes** | | | $ 28,144 |
| **Revenue Factor** | | | 1.4046 |
| **Revenue Requirement** | | | **$ 39,532** |

(1) Deferred Taxes:

| | Federal | State | Total |
|---|---|---|---|
| Tax Depreciation Basis | 283,716 | 283,716 | |
| MACRS Rate | 5.00% | 5.00% | |
| Tax Depreciation | 14,186 | 14,186 | |
| Book Depreciation Basis | 308,387 | 308,387 | |
| Book Rate | 2.88% | 2.88% | |
| Book Depreciation | 8,882 | 8,882 | |
| Difference | (5,304) | (5,304) | |
| Tax Rate | 19.11% | 9.00% | |
| | (1,014) | (477) | **(1,491)** |

**EXHIBIT P-4**

# NEW JERSEY NATURAL GAS COMPANY

## DIRECT TESTIMONY OF
## ANGELA M. CAHILL
## CONTROLLER – REGULATED SERVICES

**Q. PLEASE STATE YOUR NAME, AFFILIATION AND BUSINESS ADDRESS.**

**A.** My name is Angela M. Cahill and I am the Controller – Regulated Services for NJR Service Company ("NJRSC" or "Service Company"). My business address is 1415 Wyckoff Road, Wall, New Jersey 07719.

**Q. PLEASE DESCRIBE YOUR EDUCATION AND EXPERIENCE.**

**A.** I received a Bachelor of Science degree in Accounting from Rowan University and hold the designation of Certified Public Accountant from the State of New Jersey. I was employed by American Water beginning in June 1994 as a Staff Accountant and over a twenty-year career moved into various positions of increased responsibility. In February 2015, I accepted a Manager Regulatory Accounting and Reporting position at Public Service Electric and Gas Company, with responsibilities that included providing accounting support for rate proceedings, responding to interrogatories related to accounting information, and the oversight and coordination for the annual and quarterly regulatory filings with federal and state agencies.

I joined the Service Company in October 2017 as the Controller – Regulated Services. My responsibilities include leading the accounting and reporting requirements for New Jersey Natural Gas Company ("NJNG" or "Company"). I also participate on behalf of NJNG on the New Jersey Resources financial reporting committee.

**Q. HAVE YOU PREVIOUSLY TESTIFIED IN REGULATORY PROCEEDINGS?**

**A.** Yes. I have submitted Direct Testimony before the Board of Public Utilities ("BPU") in NJNG's most recent base rate case (BPU Docket No. GR19030420).

**Q. PLEASE SUMMARIZE THE PURPOSE OF YOUR DIRECT TESTIMONY.**

**A.** The purpose of my direct testimony is to provide an analysis of the historical balance sheets and income statements that are being provided in accordance with the requirements of N.J.A.C. 14:1-5.12. Specifically, I am sponsoring the following schedules:

| | |
|---|---|
| • Schedule AMC-1 | Balance Sheets as of December 31, 2018, 2019 and 2020 |
| • Schedule AMC–2 | Statements of Income for the Years Ended December 31, 2018, 2019 and 2020 |
| • Schedule AMC–3 | Statement of Gas Operating Revenues for the Years Ended December 31, 2018, 2019 and 2020 |
| • Schedule AMC–4 | Allocations to Affiliates during the Years Ended December 31, 2018, 2019 and 2020 |
| • Schedule AMC-5 | Test Year Income Statement |
| • Schedule AMC-6 | Distribution Sales by Class of Business |
| • Schedule AMC-7 | Customers Billed by Class of Business |
| • Schedule AMC-8 | Operating Expenses for the Years Ended December 31, 2018, 2019 and 2020 |
| • Schedule AMC-9 | Test Year Customer Accounts and Information |
| • Schedule AMC-10 | Administrative and General Salaries and Expenses |

| | | |
|---|---|---|
| • | Schedule AMC-11 | Test Year Depreciation |
| • | Schedule AMC-12 | Test Year Taxes Other Than Income Taxes |
| • | Schedule AMC-13 | Test Year Current and Deferred Income Taxes |
| • | Schedule AMC-14 | Statements for the 12-month period ending August 31, 2021 on an estimated basis as follows: |

Income Account

Revenue by Class of Business

Operating Expenses

Adjustments – Present Rates

Pro Forma Operating Income – Proposed Rates

Operating Income, Year-End Rate Base and Rate of Return – Present and Proposed Rates

Net Investment Rate Base at Test Year End

Operating Income, Average Rate Base During the Test Year, and Rate of Return – Present and Proposed Rates

Average Net Investment Rate Base

**Q. PLEASE DESCRIBE THE SERVICE COMPANY AND ITS ROLE IN PROVIDING SERVICE TO NJNG.**

**A.** The Service Company provides corporate services to NJNG that include accounting, human resources, treasury, information technology and legal. All costs and services

are provided on a fully-allocated cost basis. The Service Company allocates its labor to NJNG based on direct time sheet reporting, and expenses based on actual monthly costs or assigned costs using various allocation methods (headcount, hours of use, etc.). On a quarterly basis, actual data is used to true-up allocations to ensure proper matching is recorded by NJNG to properly assign costs based on a cost causation concept. It is the practice of the Service Company to directly charge its costs whenever possible and use an allocation methodology when a non-direct cost is incurred.

**Q. PLEASE DESCRIBE THE OPERATING INCOME LEVEL AT CURRENT RATES.**

**A.** Schedules AMC-5 through AMC-14 represent the financial information details of NJNG's operations. Schedule AMC-5 presents NJNG's income statement for the test year ended August 31, 2021. The remaining schedules (AMC-6 through AMC-14) contain operating revenues, sales, and customer levels by class of service for the Company. Also included are gas supply expenses, operations and maintenance ("O&M") expenses by primary function, administrative and general salaries and expenses, depreciation and amortization, taxes other than income taxes, and current and deferred operating income taxes for the test year.

**Q. PLEASE SUMMARIZE YOUR TESTIMONY.**

**A.** NJNG last filed a base rate case in March 2019. Since then, NJNG's employees and management have worked hard continuing to provide safe and reliable service to its growing customer base at reasonable rates. However, NJNG now has reached the point where current base rates do not appropriately reflect its cost of operations or the level of capital investments required to serve customers. Stated simply, the Company's current rates are unjust and unreasonable and must be updated.

As further discussed in detail in other witnesses' testimonies, NJNG has consistently made efforts in all areas of its operations to provide service to customers in the most efficient and cost-effective way possible. In this proceeding, NJNG has proposed base rates that are just and reasonable in terms of providing the Company

with the resources to continue to provide safe and reliable cost-based service to customers, while also affording NJNG a reasonable opportunity to earn a fair rate of return. As demonstrated by the testimonies of NJNG's witnesses in this proceeding, an increase in base rates is required at this time and in the best interest of NJNG and its customers.

**Q. DOES THIS CONCLUDE YOUR TESTIMONY AT THIS TIME?**

**A.** Yes. However, I reserve my right to supplement and/or amend my testimony in the future.

**NEW JERSEY NATURAL GAS COMPANY**

**BALANCE SHEET**

| | December 31, 2020 | December 31,2019 | December 31, 2018 |
|---|---|---|---|
| Utility Plant | | | |
| Gas Utility Plant | | | |
| Gas Utility Plant in Service | 2,847,031 | 2,638,798 | 2,400,903 |
| Gas Construction Work in Progress | 393,989 | 269,772 | 206,301 |
| Total Gas Utility Plant | 3,241,020 | 2,908,570 | 2,607,203 |
| Accumulated Depreciation & Amortization | (530,148) | (507,412) | (513,318) |
| Net Utility Plant | 2,710,872 | 2,401,158 | 2,093,886 |
| Other Property and Investments | | | |
| Nonutility Plant | 500 | - | - |
| Accumulated Depreciation & Amortization | (1) | - | - |
| Net Nonutility Plant | 499 | - | - |
| Current and Accrued Assets | | | |
| Cash and Temporary Investments | 2,238 | (1,105) | 1,600 |
| Customer Accounts Receivable | 129,016 | 79,428 | 78,784 |
| Unbilled Revenue | 51,720 | 63,656 | 55,155 |
| Accumulated Provision for Uncollectible Accounts (credit) | (9,421) | (5,010) | (4,783) |
| Materials and Supplies, at average cost | 15,762 | 12,044 | 13,075 |
| Gas in Storage, at average cost | 98,434 | 102,987 | 92,643 |
| Prepayments | 50,273 | 12,746 | 6,295 |
| Derivatives, at fair market | 11,023 | 26 | 5,084 |
| Total Current and Accrued Assets | 349,045 | 264,772 | 247,854 |
| Deferred Debits | | | |
| Regulatory Assets | 469,316 | 490,015 | 385,761 |
| Other | 13,950 | 17,738 | 28,071 |
| Total Deferred Debits | 483,266 | 507,753 | 413,832 |
| Total Assets and Other Debits | 3,543,682 | 3,173,683 | 2,755,571 |
| Capitalization | | | |
| Common Stock Equity | 1,360,389 | 1,277,877 | 1,092,672 |
| Long-Term Debt | 1,092,845 | 892,845 | 672,045 |
| Total Capitalization | 2,453,234 | 2,170,722 | 1,764,717 |
| Current Liabilities | | | |
| Current Maturities of Long Term Debt | | | - |
| Short Term Debt | 14,350 | 49,600 | 91,700 |
| Gas Purchases Payable | | | - |
| Accounts Payable and Other | 108,651 | 72,751 | 83,717 |
| Accrued Taxes | (18,183) | 3,097 | 5,004 |
| Derivatives, at fair value | 3,182 | 525 | 2,659 |
| Customers' Credit Balances and Deposits | 13,222 | 15,734 | 13,112 |
| Miscellaneous Current Liabilities | 48,314 | 35,628 | 34,159 |
| Total Current Liabilities | 169,536 | 177,335 | 230,352 |
| Noncurrent Liabilities | | | |
| Deferred Income Taxes | 333,896 | 285,658 | 274,734 |
| Deferred Investment Tax Credits | 2,354 | 1,595 | 1,736 |
| Manufactured Gas Plant Remediation | 148,000 | 129,241 | 129,556 |
| Capital Leases | 59,642 | 26,357 | 32,597 |
| Postretirement Employee Benefit Liability | 152,120 | 31,038 | 3,185 |
| Tax Act Impact | 194,571 | 199,169 | 204,161 |
| Other Deferred Credits | 938 | 125,320 | 88,610 |
| Asset Retirement Obligation | 29,392 | 27,248 | 25,924 |
| Other | | | - |
| Total Noncurrent Liabilities | 920,912 | 825,626 | 760,503 |
| Total Capitalization and Liabilities | $3,543,682 | $3,173,683 | $2,755,571 |

EXHIBIT P-4
SCHEDULE AMC-2

**NEW JERSEY NATURAL GAS COMPANY**

**INCOME ACCOUNT**

| | 12 Months Ended December 31,2020 | 12 Months Ended December 31,2019 | 12 Months Ended December 31, 2018 |
|---|---|---|---|
| Operating Revenues | $ 748,212 | $ 773,316 | $ 734,722 |
| Gas Operating Expenses: | | | |
| Gas Purchases | 250,620 | 341,002 | 340,470 |
| Operation and Maintenance Expense | 201,270.52 | 203,978 | 205,128 |
| Depreciation and Amortization | 74,233 | 60,903 | 54,321 |
| Operating Income Taxes | 26,572 | 11,992 | (7,795) |
| Energy and Other Taxes | 47,227 | 45,584 | 43,863 |
| Total Operating Expenses | 599,923 | 663,459 | 635,987 |
| Operating Income | 148,290 | 109,857 | 98,735 |
| Other Income | 17,201 | 8,537 | 7,847 |
| Other Income Deductions | 668 | 79 | 54 |
| Other Income Taxes | 159 | 246 | 12 |
| Income Before Income Taxes | 16,374 | 8,211 | 7,782 |
| Interest Charges, net | 32,151 | 27,862 | 24,866 |
| Net Income | $ 132,513 | $ 90,206 | $ 81,651 |

EXHIBIT P-4
SCHEDULE AMC-3

**NEW JERSEY NATURAL GAS COMPANY**

**OPERATING REVENUES**

| | 12 Months Ended December 31, 2020 | 12 Months Ended December 31, 2019 | 12 Months Ended December 31, 2018 |
|---|---|---|---|
| Sales of Gas | | | |
| Residential Sales | $ 509,174 | $ 493,867 | $ 456,719 |
| Commercial and Industrial Sales | 88,832 | 99,947 | 96,160 |
| Other Sales to Public Authorities | 4 | 4 | 3 |
| Reveune Transport Gas of Others | $ 77,685 | $ 68,415 | 74,515 |
| Provision For Rate Refunds | 19,261 | 9,288 | (17,847) |
| Total Sales to Customers | $ 694,956 | $ 671,521 | 609,550 |
| Other Gas Revenues | | | |
| Forfeited Discounts | 88 | 347 | 410 |
| Miscellaneous Service Revenues | 1,264 | 1,679 | 1,698 |
| Rent from Gas Property | - | | - |
| Other Gas Revenues | 51,904 | 99,769 | 123,064 |
| Total Other Gas Revenues | 53,255 | 101,795 | 125,172 |
| Total Gas Operating Revenues | $ 748,212 | $ 773,316 | $ 734,722 |

EXHIBIT P-4
SCHEDULE AMC-4

**NEW JERSEY NATURAL GAS COMPANY**

**TOTAL ALLOCATIONS TO NJR AFFILIATES**
(Thousands)

| | Year 2020 | Year 2019 | Year 2018 |
|---|---|---|---|
| NJR Service Company to NJNG | $ 35,853 | $ 35,411 | $ 33,801 |
| NJR Service Company to NJR Energy Services, Including NJNG to NJR Energy Services | 6,006 | 5,218 | 4,808 |
| NJR Service Company to NJR Home Services, Including NJNG to Home Services | 6,396 | 5,564 | 6,542 |
| NJR Service Company to NJR CR&R, Including NJNG to CR&R | 339 | 53 | 289 |
| NJR Service Company to Midstream Including NJNG to Midstream | 1,521 | 1,083 | 1,600 |
| NJR Service Company to NJRCEV Including NJNG to NJRCEV | 3,965 | 2,855 | 2,823 |
| Total Payments to Affiliates | $ 54,080 | $ 50,184 | $ 49,863 |

# NEW JERSEY NATURAL GAS COMPANY

## INCOME STATEMENT
**($000)**

| | Test Year August 31, 2021 |
|---|---|
| Operating Revenues | 719,789 |
| *Operating Expenses:* | |
| Operation Expense | 428,383 |
| Maintenance Expense | 16,828 |
| Depreciation Expense | 79,387 |
| Taxes Other Than Income Taxes | 48,588 |
| Income Taxes - Current & Deferred | 21,467 |
| Total Utility Operating Expenses | $594,652 |
| Utility Operating Income | $125,137 |

**NEW JERSEY NATURAL GAS COMPANY**

**DISTRIBUTION SALES BY CLASS OF BUSINESS**
**(Therms - 000)**

| | Test Year August 31, 2021 |
|---|---|
| *Residential:* | |
| Residential Service | 457,830 |
| Transportation | 20,741 |
| *Commercial:* | |
| Commercial Service | 85,488 |
| Transportation | 112,014 |
| *Industrial:* | |
| Interruptible | - |
| Transportation | 15,152 |
| Street and Yard Light Service | 3 |
| Off-System Sales and Other | 1,399,625 |
| **Total Distribution Sales By Class Of Business** | 2,090,853 |

EXHIBIT P-4
SCHEDULE AMC-7

**NEW JERSEY NATURAL GAS COMPANY**

**CUSTOMERS BILLED BY CLASS OF BUSINESS**

| | Test Year August 31, 2021 |
|---|---|
| *Residential:* | |
| Residential Service | 502,216 |
| Transportation | 22,435 |
| *Commercial:* | |
| Commercial Service | 29,588 |
| Transportation | 9,016 |
| *Industrial:* | |
| Interruptible | - |
| Transportation | 25 |
| Street and Yard Light Service | 2 |
| Off-System Sales and Other | 91 |
| **Total Customers Billed By Class Of Business** | 563,373 |

**NEW JERSEY NATURAL GAS COMPANY**

**OPERATING EXPENSES**

| | | 12 Months Ended | 12 Months Ended | 12 Months Ended |
|---|---|---|---|---|
| ***Operation*** | | December 31, 2020 | December 31, 2019 | December 31, 2018 |
| ***Gas Supply Expenses*** | | | | |
| 7290 | G-Fuel Gas-Raw materials for other gas processes | | | - |
| 8030 | Nat Gas Transmission Line Purc | 251,215,154 | 341,695,950 | 341,219,170 |
| 8040 | G-Op Oth-Natural gas city gate purchases | | - | - |
| 8050 | G-Op Oth-Other gas purchases | | - | - |
| 8051 | Purchase Gas Cost Adjustments | 711 | 3,914 | 5,867 |
| 8074 | Purchase Gas Calculations Exp | 2,359 | 199 | 55 |
| 8083 | Gas Withdrawn from Storage | | - | - |
| 8085 | Gas Withdrawn from Storage | | - | - |
| 8120 | Gas Used for Utility Operation | (621,123) | (743,373) | (788,153) |
| 8130 | G-Op Oth-Other gas supply expenses | 22,999 | 45,053 | 32,928 |
| ***Gas Supply Expenses Total*** | | **250,620,099** | **341,001,743** | **340,469,868** |
| ***Production Expenses*** | | | | |
| 7350 | Misc Production Expense | 8,169,397 | 7,768,385 | 8,946,939 |
| 7100 | Operation Supervision/Engineer | 30,991 | 7,126 | 84,220 |
| ***Production Expenses Total*** | | **8,200,388** | **7,775,511** | **9,031,159** |
| ***Other Storage Expenses*** | | | | |
| 8400 | Operation Supervision/Engineer | 207,964 | 221,215 | 70,414 |
| 8421 | Fuel | | - | 56 |
| 8422 | Power | 218,129 | 315,118 | 283,870 |
| 8410 | G-Op Str Exp-Operation labor and expenses | 294,790 | 390,250 | 315,022 |
| ***Other Storage Expenses Total*** | | **720,883** | **926,583** | **669,363** |
| ***Other Power Generation*** | | | | |
| 7170 | G-Exp Gas-Liquefied petroleum gas expenses | (279) | - | - |
| ***Other Power Generation Total*** | | **(279)** | **-** | **-** |
| ***Distribution Expenses*** | | | | |
| 8700 | G-Mnt Trans-Operation supervision and engineering | 1,621,526 | 1,318,873 | 1,395,166 |
| 8710 | G-Op Dist-Distribution load dispatching | 5,028,697 | (919,265) | 949,020 |
| 8740 | G-Op Dist-Mains and services | 6,481,294 | 5,236,333 | 6,887,013 |
| 8750 | G-Op Dist-Measuring and reg station exp-general | 451,470 | 420,825 | 479,255 |
| 8760 | G-Op Dist-Measuring and reg station exp-industrial | 309,512 | 339,698 | 236,557 |
| 8770 | G-Op Dist-Measur & reg stat exp-city gate chk stat | | - | - |
| 8780 | G-Op Dist-Meter and house regulator expenses | 2,083,448 | 4,286,968 | 3,455,327 |
| 8790 | G-Op Dist-Customer installations expenses | 10,445,574 | 10,364,290 | 12,286,739 |
| 8800 | G-Op Dist-Other expenses | 9,535,721 | 11,017,798 | 7,268,261 |
| 8801 | G-Op Dist-Miscellaneous distribution expenses | | - | - |
| 8802 | G-All Other Misc Operational Expense | | - | - |
| 8810 | G-All Rents | 4,751 | 40,059 | 194,503 |
| ***Distribution Expenses Total*** | | **35,961,993** | **32,105,579** | **33,151,840** |
| ***Transmission Expenses*** | | | | |
| 8500 | Meas/Reg Station Expense | 260,167 | 370,029 | 264,751 |
| 8510 | G-Op Trans-Mains expenses | 753,622 | 688,405 | 608,322 |
| 8520 | Communication System Expenses - Transmission | 12,180 | | |
| 8570 | Meas/Reg Station Expense | 1,647,920 | 1,518,851 | 980,818 |
| 8590 | Other Expenses | 39,764 | 6,907 | 88,919 |
| 8560 | G-Op Trans-Mains expenses | 3,015,985 | 2,257,982 | 2,564,811 |
| ***Transmission Expenses Total*** | | **5,729,638** | **4,842,173** | **4,507,621** |
| ***Customer Accounts Expenses*** | | | | |
| 9010 | Supervision | 682,098 | 697,452 | 637,457 |
| 9020 | G-Op Cust Acct-Meter Reading Expenses | 5,566,529 | 5,900,444 | 5,256,922 |
| 9030 | G-Op Cust Acct-Cust records and collection expense | 14,858,437.53 | 22,735,622 | 10,542,901 |
| 9040 | G-Op Cust Acct-Uncollectible accounts | 5,209,509 | 1,621,000 | 1,783,826 |
| 9050 | G-Op Cust Acct-Misc customer accounts expenses | 3,287,941 | 3,458,949 | 24,823,709 |
| ***Customer Accounts Expenses Total*** | | **29,604,514** | **34,413,467** | **43,044,815** |
| ***Customer Service and Informational Expenses*** | | | | |
| 9080 | G-Op Cust Inf-Customer assistance expenses | 25,714,983 | 25,344,085 | 12,501,600 |
| 9090 | Informational/Instruction Exp | 131,109 | 195,390 | 191,928 |
| 9100 | G-Op Cust Inf-Misc cust service and info expenses | | - | 60,000 |
| ***Customer Service & Informational Exp Totals*** | | **25,846,092** | **25,539,475** | **12,753,528** |
| ***Sales Expense*** | | | | |
| 9110 | Supervision | 658,866 | 388,698 | 855,029 |
| 9120 | G-DEMONSTRATION AND SELLING EXPENSE | 3,004,825 | 2,730,200 | 1,819,375 |
| 9130 | G-ADVERTISING EXPENSE | 43,061 | - | 122,466 |
| 9140 | Economic Development | | - | 22,453 |
| 9160 | G-MISCELLANEOUS SALES EXPENSE | 12,219 | 498 | (3,298,834) |
| ***Sales Expense Total*** | | **3,718,970** | **3,119,396** | **(479,510)** |

| | | 12 Months Ended | 12 Months Ended | 12 Months Ended |
|---|---|---|---|---|
| ***Administrative and General Expenses*** | | December 31, 2020 | December 31, 2019 | December 31, 2018 |
| 9200 | G-Op AG-Administrative and general salaries | 2,281,666 | 3,640,412 | 26,118,085 |
| 9210 | G-Op AG-Office supplies and expenses | 849,618 | 1,921,830 | 8,038,574 |
| 9220 | G-Op AG-Adminstrative Exp Transferr-Cr | | - | (46,080) |
| 9230 | G-Op AG-Outside services employed | 29,134,128 | 20,680,252 | 15,112,968 |
| 9240 | G-Op AG-Property insurance | 311,026 | 272,181 | 260,714 |
| 9250 | G-Op AG-Injuries and damages | 5,239,862 | 5,189,845 | 5,504,698 |
| 9260 | G-Op AG-Employee pensions and benefits | 31,416,766 | 39,038,048 | 25,591,442 |
| 9280 | G-Op AG-Regulatory commission expenses | 4,909,300 | 5,696,905 | 4,384,687 |
| 9290 | G-Op AG-Duplicate charges - credit | | - | - |
| 9300 | G-Op AG-General publicity | | - | - |
| 9301 | G-Op AG-General advertising expenses | 105,011 | 209,790 | 218,524 |
| 9302 | G-Op AG-Miscellaneous general expenses | 1,330,809 | 698,206 | 773,243 |
| 9310 | G-Op AG-Rents | 596,100 | 765,682 | 2,426,555 |
| ***Administrative and General Expenses Total*** | | **76,174,286** | **78,113,152** | **88,383,410** |
| ***Operation Total*** | | ***436,576,585*** | ***527,837,079*** | ***531,532,093*** |
| ***Maintenance*** | | | | |
| ***Manufactured Gas Production*** | | | | |
| 7400 | Mainten Supervision/Engineer | 43,387 | 9,976 | 117,908 |
| 7410 | G-Mnt Gas-Maint of structures and improvements | | - | - |
| 7420 | G-Mnt Gas-Maintenance of production equipment | | - | 164 |
| ***Manufactured Gas Production Totals*** | | **43,387** | **9,976** | **118,071** |
| ***Other Storage Expense*** | | | | |
| 8432 | G-Op Str Exp-Maint of structures and improvements | 357,982 | 190,603 | 108,219 |
| 8433 | G-Op Str Exp-Maintenance of gas holders | 170,953 | 905,945 | 122,777 |
| 8436 | G-Op Str Exp-Maintenance of vaporizing equipment | 141,372 | 257,609 | 211,110 |
| 8437 | G-Op Str Exp-Maintenance of compressor equipment | 286,813 | 451,507 | 246,020 |
| 8439 | Maintenance of Other Equipment | 788,667 | 985,294 | 1,055,221 |
| 8438 | G-Op Str Exp-Maint of measuring and reg equipment | (24,758) | 52,130 | 22,951 |
| ***Other Storage Expenses Total*** | | **1,721,030** | **2,843,087** | **1,766,297** |
| ***Liquefied Natural Gas Terminaling and Processing Expenses*** | | | | |
| 8443 | Liquefaction Processing Labor and Expenses | 4,149 | | |
| 8451 | Fuel | 101 | | |
| 8462 | Other Expenses | 1,500 | | |
| ***Liquefied Natural Gas Terminaling and Processing Exp Totals*** | | **5,751** | **-** | **-** |
| ***Distribution Expenses*** | | | | |
| 8850 | G-Mnt Dist-Maintenance supervision and engineering | 1,287,256 | 1,052,388 | 1,147,578 |
| 8860 | G-Mnt Dist-Maint of structures and improvements | 311,727 | 367,327 | 647,560 |
| 8870 | G-Mnt Dist-Maintenance of mains | 4,515,291 | 4,436,938 | 4,501,120 |
| 8890 | G-Mnt Dist-Maint of measuring & reg stat equip-gen | 1,278,794 | 1,383,061 | 1,205,978 |
| 8900 | G-Mnt Dist-Maint of measuring & reg stat equip-ind | 46,667 | 26,806 | 34,831 |
| 8910 | G-Mnt Dist-Maint of measuring/reg stat equip-cgcs | | - | - |
| 8920 | G-Mnt Dist-Maintenance of services | 3,399,741 | 2,381,349 | 2,596,006 |
| 8930 | G-Mnt Dist-Maint of meters and house regulators | 1,182,709 | 1,203,704 | 1,235,284 |
| 8940 | G-Mnt Dist-Maintenance of other equipment | | - | - |
| 8941 | G-Streetlight Maintenance Expense | | - | - |
| ***Distribution Expenses Total*** | | **12,022,184** | **10,851,572** | **11,368,356** |
| ***Transmission Expenses*** | | | | |
| 8620 | Mainten Sturcture/Improvements | 17,276 | 4,380 | 6,339 |
| 8650 | Mainten Measur/Reg Station Equ | 494,322 | 645,475 | 430,045 |
| 8630 | G-Mnt Trans-Maintenance of mains | 1,009,988 | 2,788,531 | 376,505 |
| ***Transmission Expenses Total*** | | **1,521,586** | **3,438,386** | **812,889** |
| ***Administrative & General Expenses*** | | | | |
| 9320 | G-Mnt AG-Operating expenses | | | - |
| ***Administrative & General Expenses Total*** | | | | **-** |
| ***Maintenance Total*** | | ***15,313,938*** | ***17,143,021*** | ***14,065,614*** |
| ***Depreciation & Amortization*** | | | | |
| 4030 | G-Depreciation expense | 74,233,330 | 60,902,814 | 54,321,442 |
| 4040 | G-Amortization of limited-term plant | | - | - |
| 4071 | G-Amort prop loss, unrecov plt and reg study costs | | - | - |
| ***Depreciation & Amortization Total*** | | ***74,233,330*** | ***60,902,814*** | ***54,321,442*** |
| ***Taxes*** | | | | |
| ***IncomeTaxes*** | | | | |
| 4091 | G-Income taxes, utility operating income | 2,136,550 | 8,847,782 | 3,843,558 |
| 4101 | G-Provision for defer inc tax, util op income | 17,646,003 | (1,699,405) | (13,554,201) |
| 4111 | G-Provision for defer inc tax-credit, util op inc | 7,111,467 | 5,165,424 | 2,237,202 |
| 4114 | G-Investment tax credit adj, utility operations | (321,703) | (321,703) | (321,703) |
| ***IncomeTaxes Total*** | | **26,572,317** | **11,992,098** | **(7,795,144)** |
| ***Taxes Other than Income Taxes*** | | | | |
| 4081 | G-Taxes other than income taxes, util op income | 47,226,641 | 45,583,653 | 43,863,459 |
| ***Taxes Other than Income Taxes Total*** | | **47,226,641** | **45,583,653** | **43,863,459** |
| ***Taxes Total*** | | ***73,798,958*** | ***57,575,751*** | ***36,068,314*** |
| ***Operating Expenses Total*** | | ***599,922,811*** | ***663,458,665*** | ***635,987,463*** |
| ***Operating Income*** | | ***148,288,730*** | ***109,857,335*** | ***98,734,511*** |

| | | 12 Months Ended | 12 Months Ended | 12 Months Ended |
|---|---|---|---|---|
| ***Other Income & Deductions*** | | December 31, 2020 | December 31, 2019 | December 31, 2018 |
| ***Other Income*** | | | | |
| 4150 | G-Rev from merchandising,jobbing and contract work | | - | - |
| 4160 | G-Expenses of merchandising, jobbing and cont work | | - | - |
| 4170 | Revnue Nonutility Operations | 448,733 | 720,884 | 617,565 |
| 4180 | G-Nonoperating rental income | | - | - |
| 4190 | Gas-Interest and Dividend Income | | - | - |
| 4191 | Allow Other Funds Used Constru | 16,328,702 | 7,473,713 | 6,505,619 |
| 4210 | G-Miscellaneous nonoperating income | 423,642 | 342,020 | 561,973 |
| 4211 | G-Gain on disposition of property | | - | 162,252 |
| ***Other Income Total*** | | **17,201,077** | **8,536,617** | **7,847,408** |
| ***Other Income Deductions*** | | | | |
| 4261 | G-Donations | 67,877 | 79,360 | 53,530 |
| 4263 | G-Penalties | | - | - |
| 4264 | G-Exp for civic, political and related activities | | - | - |
| 4265 | G-Other deductions | 600,000 | - | - |
| ***Other Income Deductions Total*** | | **667,877** | **79,360** | **53,530** |
| ***Taxes Other Income and Deductions*** | | | | |
| 4082 | G-Taxes other than inc taxes, other inc and deduct | | - | - |
| 4092 | G-Income tax, other income and deductions | 159,470 | 246,355 | 11,351 |
| 4102 | G-Provision for defer inc tax,other inc and deduct | | - | - |
| 4112 | Provision for def. Inc Tax-credit-oth Inc & Dedcts | | - | - |
| ***Taxes Other Income and Deductions*** | | **159,470** | **246,355** | **11,351** |
| ***Other Income & Deductions Total*** | | ***16,373,731*** | ***8,210,902*** | ***7,782,527*** |
| ***Interest Charges*** | | | | |
| 4270 | G-Interest on long-term debt | 36,128,304 | 29,192,663 | 25,093,643 |
| 4280 | G-Amortization of debt discount and expense | 661,077 | - | - |
| 4281 | G-Amortization of loss on reacquired debt | | - | - |
| 4282 | Amort Debt Discount & Expense | | 320,532 | 266,726 |
| 4283 | Amort Debt Discount & Expense | | 319,978 | 303,401 |
| 4310 | G-Other interest expense | 910,778 | 1,866,569 | 1,832,948 |
| 4320 | G-Allow for Borrowed funds used during construction | (5,549,447) | (3,836,873) | (2,630,643) |
| ***Interest Charges Total*** | | ***32,150,712*** | ***27,862,869*** | ***24,866,076*** |

EXHIBIT P-4
SCHEDULE AMC-9

**NEW JERSEY NATURAL GAS COMPANY**

**CUSTOMER ACCOUNTS AND INFORMATION**
**($000)**

| | | Test Year August 31, 2021 |
|---|---|---|
| Customer Accounts Expenses: | | |
| *Operation:* | | |
| 901 | Supervision | $ 731 |
| 902 | Meter Reading Expenses | 6,340 |
| 903 | Customer Records and Collection Expenses | 16,796 |
| 904 | Uncollectible Accounts | 5,232 |
| 905 | Miscellaneous Customer Accounts Expenses | 3,021 |
| | Total Customer Accounts Expenses | $ 32,119 |
| Customer Service and Informational Expenses: | | |
| *Operation:* | | |
| 908 | Customer Assistance Expenses | $ 27,439 |
| 909 | Informational/Instruction Exp | 208 |
| 910 | Misc. Customer Service and Informational Expenses | - |
| | Total Customer Service and Informational Expenses | $ 27,647 |
| Sales Expenses: | | |
| *Operation:* | | |
| 911 | Supervision | $ 532 |
| 912 | Demonstration and Selling Expenses | 2,705 |
| 913 | Advertising Expense | 43 |
| 914 | Economic Development | - |
| 916 | Miscellaneous Sales Expenses | 187 |
| | Total Sales Expenses | $ 3,466 |
| Total Customer Accounts and Information | | $ 63,233 |

**NEW JERSEY NATURAL GAS COMPANY**

**ADMINISTRATIVE AND GENERAL SALARIES AND EXPENSES**
**($000)**

| | | | Test Year August 31, 2021 |
|---|---|---|---|
| *Operations:* | | | |
| 920 | Salaries & Wages | $ | 4,753 |
| 921 | Supplies & Expenses | | 1,242 |
| 922 | Adminstrative Exp Transferr-Cr | | - |
| 923 | Outside Services | | 52,301 |
| 924 | Property Insurance | | 334 |
| 925 | Injuries and Damages | | 4,901 |
| 926 | Pension/Benefits | | 27,522 |
| 928 | Regulatory Commission Expenses | | 4,986 |
| 929 | Duplicate Charges | | - |
| 930 | General publicity | | - |
| 930.1 | General Advertising | | 182 |
| 930.2 | Miscellaneous | | 1,569 |
| 931 | Rents | | 536 |
| | Total Operation | $ | 98,327 |
| | Maintenance of General Plant | | - |
| | Total Maintenance | $ | - |
| Total Administrative and General Salaries and Expenses | | $ | 98,327 |

**NEW JERSEY NATURAL GAS COMPANY**

**DEPRECIATION**
**($000)**

| | Test Year August 31, 2021 |
|---|---|
| Depreciation and Amortization: | |
| 403 Depreciation | $ 79,387 |
| Total Depreciation | $ 79,387 |

**NEW JERSEY NATURAL GAS COMPANY**

**TAXES OTHER THAN INCOME TAXES**
**($000)**

| | Test Year August 31, 2021 |
|---|---|
| Real Estate | $ 662 |
| FICA | 5,792 |
| State Unemployment | 190 |
| Federal Unemployment | 11 |
| Municipal and State Taxes | 41,933 |
| **Total Taxes Other Than Income** | $48,588 |

**NEW JERSEY NATURAL GAS COMPANY**

**CURRENT AND DEFERRED INCOME TAXES**
**($000)**

| | | Test Year August 31, 2021 |
|---|---|---|
| *Current:* | | |
| Federal | | $ 2,396 |
| State | | - |
| ITC | | (322) |
| | Total Current | $ 2,074 |
| *Deferred:* | | |
| Deferred | | $ 19,392 |
| | Total Deferred | $ 19,392 |
| | Net Income Taxes | 21,467 |

**NEW JERSEY NATURAL GAS COMPANY**

**INCOME ACCOUNT**
**12 MONTHS ENDING August 31, 2021***
**(Thousands)**

| | |
|---|---|
| Operating Revenues | 719,789 |
| Operating Expenses | 594,652 |
| Operating Income | 125,137 |
| Other Income and Deductions: | |
| Other Income | 21,935 |
| Other Deductions | (582) |
| Taxes on Other Income and Deductions | - |
| Total | 21,353 |
| Income Before Interest Charges | 146,489 |
| Interest Charges | (33,533) |
| Net Income | $112,956 |

* 5 Months Actual and 7 Months Estimated

**NEW JERSEY NATURAL GAS COMPANY**

**REVENUE BY CLASS OF BUSINESS**
**12 MONTHS ENDING August 31, 2021***
**(Thousands)**

| | |
|---|---|
| Residential-Service | 514,819 |
| - Transportation | 15,161 |
| Commercial-Service | 103,782 |
| - Transportation | 64,377 |
| Industrial- Interruptible | - |
| - Transportation | 2,017 |
| Street and Yard Light Service | 7 |
| Off-system Sales and Other | 23,175 |
| CIP Rider Revenue | (3,548) |
| Total Natural Gas Service Revenues | 719,789 |

* 5 Months Actual and 7 Months Estimated

**NEW JERSEY NATURAL GAS COMPANY**

**OPERATING EXPENSES**
**12 MONTHS ENDING August 31, 2021***

| | (Thousands) |
|---|---|
| Production Expenses: | |
| Gas Supply Expenses | $212,114 |
| Gas Production | 9,605 |
| Manufactured Gas Production | - |
| Other Storage | 3,134 |
| LPG Expense | - |
| Total Production Expenses | 224,853 |
| Transmission: | |
| Operation | $5,990 |
| Maintenance | $1,333 |
| Total Transmission | 7,323 |
| Distribution: | |
| Operation | $38,073 |
| Maintenance | $13,403 |
| Total Distribution | 51,475 |
| Customer Accounts and Information: | |
| Customer Accounts | $32,119 |
| Customer Service and Informational | $27,647 |
| Total Customer Accounts and Information | 59,766 |
| Sales | 3,466 |
| Administrative and General: | |
| Operation | 98,327 |
| Total Administrative and General | 98,327 |
| Depreciation | 79,387 |
| Taxes other than Income Taxes | 48,588 |
| Income taxes: | |
| Current | 3,837 |
| Deferred (Net) | 17,629 |
| Total Income Taxes | 21,467 |
| Total Gas Operating Expenses | $594,652 |

* 5 Months Actual and 7 Months Estimated

**NEW JERSEY NATURAL GAS COMPANY**

**ADJUSTMENTS - INCREASE OR (DECREASE) - PRESENT RATES**
**12 MONTHS ENDING August 31, 2021***
**(Thousands)**

| | |
|---|---|
| **Test Year Distribution Operating Income** | **$125,137** |
| Wages | (3,437) |
| Federal and State Income Taxes @ 28.11% | 966 |
| Payroll Taxes | (263) |
| Federal and State Income Taxes @ 28.11% | 74 |
| Interest Synchronization (Tax Savings) | 588 |
| Pension and Benefit Expenses | (3,298) |
| Federal and State Income Taxes @ 28.11% | 927 |
| BPU/Rate Counsel Assessments | (491) |
| Federal and State Income Taxes @ 28.11% | 138 |
| BGSS Incentive Margin | (9,121) |
| Federal and State Income Taxes @ 28.11% | 2,564 |
| Outside Services Employed | (216) |
| Federal and State Income Taxes @ 28.11% | 61 |
| Depreciation Annualization | (27,498) |
| Federal and State Income Taxes @ 28.11% | 7,730 |
| SAVEGREEN Margin | (6,400) |
| Federal and State Income Taxes @ 28.11% | 1,799 |
| Real Estate Taxes | (26) |
| Federal and State Income Taxes @ 28.11% | 7 |
| Insurance | (320) |
| Federal and State Income Taxes @ 28.11% | 90 |

* 5 Months Actual and 7 Months Estimated

**NEW JERSEY NATURAL GAS COMPANY**

**ADJUSTMENTS - INCREASE OR (DECREASE) - PRESENT RATES**
**12 MONTHS ENDING August 31, 2021***
**(Thousands)**

| | |
|---|---|
| Commercial Customer Usage | (1,588) |
| Federal and State Income Taxes @ 28.11% | 446 |
| Program NEXT | (1,450) |
| Federal and State Income Taxes @ 28.11% | 408 |
| Revenue Adjustments | (4,241) |
| Federal and State Income Taxes @ 28.11% | 1,192 |
| Capital Additions | (997) |
| Federal and State Income Taxes @ 28.11% | 87 |
| Rate Case Exp | 0 |
| Federal and State Income Taxes @ 28.11% | 0 |
| SRL | (30,641) |
| Federal and State Income Taxes @ 28.11% | 2,497 |
| Total Pro-Forma Adjustments | **(70,413)** |
| **Total Pro-Forma Distribution Operating Income** | **$54,724** |

* 5 Months Actual and 7 Months Estimated

**NEW JERSEY NATURAL GAS COMPANY**

**PRO FORMA OPERATING INCOME - PROPOSED RATES**
**12 MONTHS ENDING August 31, 2021***
**(Thousands)**

| | | |
|---|---|---|
| Operating Income Pro Forma - Present Rates | $ | 54,724 |
| Adjustment: | | |
| 1. Net Increase in Revenues Resulting from proposed Rates | | 165,665 |
| 2. Increase in BPU / RC Assessment and Uncollectible Resulting from Increase Revenue | | (1,604) |
| 3. Increase in State Income Taxes | | (14,765) |
| 4. Increase in Federal Income Taxes | | (31,351) |
| Total Pro Forma Adjustments | | 117,945 |
| Operating Income Pro Forma - Proposed Rates | $ | 172,668 |

* 5 Months Actual and 7 Months Estimated

**NEW JERSEY NATURAL GAS COMPANY**

**OPERATING INCOME, YEAR-END RATE BASE AND RATE OF RETURN**
**12 MONTHS ENDING August 31, 2021***
**(Thousands)**

| | |
|---|---|
| Present Rates | |
| Operating Income | $ 54,724 |
| Year-End Rate Base | $2,294,083 |
| Rate of Return | 2.39% |
| | |
| Proposed Rates | |
| Operating Income | $ 172,668 |
| Year-End Rate Base | $2,294,083 |
| Rate of Return | 7.53% |

* 5 Months Actual and 7 Months Estimated

**NEW JERSEY NATURAL GAS COMPANY**

**RATE BASE - ESTIMATED**
**12 MONTHS ENDING August 31, 2021***
**(Thousands)**

| | |
|---|---|
| Plant in Service | $3,049,636 |
| Accumulated Depreciation Reserve | ($582,094) |
| Customer Advances | ($2,651) |
| Net Plant | 2,464,891 |
| | |
| Gas Supply & LNG Inventory | 80,854 |
| | |
| Working Capital | |
| Cash (Lead/Lag) | 135,963 |
| Materials and Supplies | 15,858 |
| Prepayments | 15,971 |
| Net Working Capital | 167,792 |
| | |
| Net Plant and Working Capital | 2,713,536 |
| | |
| Deferred Taxes | (280,995) |
| Excess Deferred Tax | (137,053) |
| Consolidated Tax Adjustment | (1,405) |
| | |
| Total Rate Base | $2,294,083 |

* 5 Months Actual and 7 Months Estimated

**NEW JERSEY NATURAL GAS COMPANY**

**OPERATING INCOME, AVERAGE NET INVESTMENT RATE BASE AND RATE OF RETURN FOR TEST YEAR ENDING August 31, 2021***

**PRO FORMA PRESENT AND PROPOSED RATES**
**(Thousands)**

| | |
|---|---|
| Present rates | |
| Operating Income | $54,724 |
| Average Net Investment Rate Base | $2,167,944 |
| Rate of Return | 2.52% |
| | |
| Proposed Rates | |
| Operating Income | $ 172,668 |
| Average Net Investment Rate Base | $2,167,944 |
| Rate of Return | 7.96% |

* 5 Months Actual and 7 Months Estimated

**NEW JERSEY NATURAL GAS COMPANY**

**AVERAGE NET INVESTMENT RATE BASE**
**AT AUGUST 31, 2021**
**(Thousands)**

| | |
|---|---|
| Plant in Service | $2,916,666 |
| Accumulated Depreciation Reserve | ($552,246) |
| Customer Advances | ($2,636) |
| Net Plant | 2,361,785 |
| | |
| Gas Supply Inventory | 83,518 |
| | |
| Working Capital | |
| Cash (Lead/Lag) | 114,262 |
| Materials and Supplies | 14,991 |
| Prepayments | 13,475 |
| Net Working Capital | 142,728 |
| | |
| Net Plant and Working Capital | 2,588,031 |
| | |
| Deferred Taxes | (418,681) |
| Consolidated Tax Adjustment | (1,405) |
| | |
| Total Rate Base | $2,167,944 |

STATE OF NEW JERSEY

BOARD OF PUBLIC UTILITIES

# NEW JERSEY NATURAL GAS COMPANY

DIRECT TESTIMONY OF

HAROLD WALKER, III

CONCERNING
LEAD-LAG STUDY
AND NET ASSETS AND LIABILITIES ANALYSIS
FOR DETERMINATION OF OTHER CASH WORKING CAPITAL

MARCH 2021

**Table of Contents**

## INTRODUCTION

**Q. Please state your name and address.**

A. My name is Harold Walker, III. My business mailing address is P. O. Box 80794, Valley Forge, Pennsylvania, 19484.

**Q. By whom are you employed?**

A. I am employed by Gannett Fleming Valuation and Rate Consultants, LLC as Manager, Financial Studies.

**Q. What is your educational background and employment experience?**

A. My educational background, business experience and qualifications are provided at the end of Exhibit P-5 as Appendix A.

## SCOPE OF TESTIMONY

**Q. What is the purpose of your testimony?**

A. The purpose of my testimony is to recommend appropriate "other" working capital allowances that New Jersey Natural Gas Company ("NJNG" or the "Company") should be afforded an opportunity to earn on as part of its rate base claims for their New Jersey Board of Public Utilities ("BPU") jurisdictional operations. My recommendations are based upon the results of a lead-lag study for NJNG's BPU jurisdictional gas distribution service operations.

**Q. Have you prepared an exhibit presenting the results of your studies?**

Yes. I have prepared 25 Schedules identified as Schedule HW-1 through Schedule HW-25 summarizing the Company's other working capital claim in this proceeding.

**PRINCIPLES OF WORKING CAPITAL**

**Q. Would you please explain the ratemaking principles concerning the inclusion of working capital as an element of rate base?**

A. Yes. The working capital allowance is a component of rate base. A utility's need for working capital was first recognized in the noted Supreme Court case, *Smyth v. Ames*.[1] Among the many benchmarks established in the case was the "property devoted to public use" doctrine as a basis for fixing rates. The case recognized that among the matters to be considered in determining the value of property used was "the sum required to meet operating expenses." Since that time working capital has generally been recognized as a proper item to be included in the rate base on which a utility is entitled to earn a return.

The rationale for the inclusion of working capital in rate base is to compensate investors for the use of that amount of their funds over and above their investment in plant. Working capital bridges the gap between the time funds are provided by investors to provide service to the customer and the time the revenue requirement is received from those customers as reimbursement for these services.

**SUMMARY OF OTHER WORKING CAPITAL CLAIM**

**Q. What are the components of the Company's working capital claim?**

A. NJNG's working capital claim is comprised of material and supplies, prepayments and "other." My testimony presents the "other" component of the Company's working capital claim. The materials and supplies and prepayments element of NJNG's working capital claim are included in the Direct Testimony

[1] Smyth v. Ames, 169 U.S. 466 (1898).

of James M. Corcoran. I calculated the "other" component of the Company's working capital through a Lead-Lag Study and a Net Assets and Liabilities Analysis. A summary of NJNG's other working capital requirements is shown on Schedule HW-1.

As shown on Schedule HW-1, the amount of working capital required to finance the recovery of the cost of service is $82,104,000 ($82,104,065 rounded) for NJNG. The amount of working capital required to finance the recovery of the cost of service was developed through a Lead-Lag Study, which is summarized on page 1 Schedule HW-2.

The amount of working capital required to finance the net difference between certain assets and particular liabilities is $53,859,000 ($53,859,170 rounded) for NJNG, shown on Schedule HW-1. The amount of working capital required to finance the net difference between certain assets and particular liabilities was developed through a Net Assets and Liabilities Analysis, which is summarized on Schedule HW-25.

In total, NJNG's other cash working capital requirements is $135,963,000 as shown on Schedule HW-1.

**EXPLAINING A LEAD-LAG STUDY**

**Q. What does a lead-lag study measure and how is it measured?**

A. The lead-lag study in this testimony measures the level of funding required to operate on a day-to-day basis in providing for the cost of service. This is measured by calculating the net lag between the amount of time elapsed between when a company provides a service to its customers and when the company receives payments from its customers, and the amount of time elapsed between

when a company receives goods and services and when the company pays its suppliers for those goods and services. The difference between these two elapsed periods of time is known as the "net lag."

The net lag is multiplied by the average daily cost of service or revenue requirement to determine the cash working capital. Cash working capital is included in rate base to compensate investors for the use of their funds over and above their investment in plant, and to provide investors with a return on the funds required by a company for daily operations.

**Q. What are the components of a lead-lag study?**

A. There are two primary elements of a lead-lag analysis, revenue lags and expense leads. The revenue lag is the sum of three distinct components, the service period lag, the billing lag, and the collection lag. The revenue lag is the elapsed time between the delivery of a company's product to its customers and when a company receives payment for the delivery of the product. Investor-provided funds are required to keep a company running during the revenue lag time period, when the revenue stream is temporarily insufficient to finance daily operational needs.

The expense lead is the sum of two distinct factors, the service lead and the payment lead. The expense lead is the elapsed time between when a good or service is provided to a company and when a company pays its supplier for the good or service. During the expense lead time period, cash received from customers may temporarily exceed a company's payments to its suppliers for goods or services, and the excess may be used to repay investor-provided funds.

The net difference between the revenue lag and expense lead denotes a company's cash working capital requirement.

**Q. What time period does your lead-lag study encompass?**

A. The lead-lag studies in this case analyzed the revenues and the associated cost of service during the 12 months ended September 30, 2020 to derive the appropriate lag (lead) days. The appropriate lag (lead) days were then used to develop the forecasted 12-months ended August 31, 2021 weighted revenue requirement and associated weighted cost of service to calculate the Company's working capital requirements.

**Q. What "adjustments" were made in the lead-lag study?**

A. Page 2 of Schedule HW-2 shows the adjustments made to NJNG's forecasted revenue requirement/cost of service used in the lead-lag study. I made two adjustments to NJNG's revenue requirement/cost of service used in the lead-lag studies consisting of: (1) Removing uncollectibles from both revenues and expenses; and (2) Adding New Jersey energy sales taxes to both revenues and expenses.

I removed the uncollectibles expense because the lag for uncollectible accounts is part of the calculation of the collection lag as a result of the accounts receivable being reduced when uncollectible accounts are expensed or written off. I added New Jersey energy sales taxes because the Company pays them to the State and must finance their billing, collection and payment even though they are not considered part of the Company's revenue requirement/cost of service. A similar approach has previously been approved by the BPU for other energy utilities.

**Q. What data set did you utilize in your lead-lag study?**

A. The lead-lag study reflects information provided by the Company. Specifically, Gannett Fleming requested representative data sets from NJNG after developing an understanding of the Company's collections, payment policies, procedures and expense line items' details. Once the requested raw data was provided, data validation was performed by comparing an actual invoice or bill with data from NJNG's accounting systems to ensure accuracy.

The revenue lag data set was based on an accounts receivable analysis of the beginning balance, the monthly charges to this balance as bills were processed and mailed, and the daily receipts for 366 days of the year during the 12 months ended September 30, 2020. The expense lead data set was based on information generated from the Company's central accounts payable system. The expense lead data sets for the 12 months ended September 30, 2020 were analyzed to develop the service beginning and ending dates, the amount purchased, and the date of payment.

Generally speaking, sampling was randomly done for the invoices within each expense and tax category. In instances where there were large differences in the dollar amount of the invoices in a single expense category, sampling was focused on the largest invoices within the expense category. For example, the larger other operations and maintenance ("O&M") expenses accounts were sampled instead of the smaller other O&M expenses accounts. The samples

analyzed averaged 80% of the Company's total forecasted weighted cost of service to calculate expense and tax dollars.[2]

**RESULTS OF THE LEAD-LAG STUDY**

**Q. What are the results of the lead-lag study?**

A. Schedule HW-2 is a two-page Schedule which sets forth the results of the lead-lag study, page 1, and the adjustments made to the Company's revenue requirement/cost of service, page 2, used in the lead-lag study. On page 1 of Schedule HW-2, the cash working capital requirement for NJNG is $82,104,065.

**Q. Please describe page 1 of Schedule HW-2.**

A. Page 1 of Schedule HW-2 calculates the net lag days and applies the result to the average daily cost of service or revenue requirement. The cash working capital requirement is based on the net difference between the dollar weighted revenue requirement lag days and the dollar weighted cost of service lead days. The weighted lag days for the receipt of the revenue requirement is developed at the top of the schedule, with supporting detail shown in Schedule HW-3. The weighted lead days for the payments of the cost of service is developed on Schedules HW-5 through HW-24 and the schedule references for the weighted lead days for the cost of service line items is shown on Schedule HW-4.

For NJNG, the working capital requirement shown on page 1 of Schedule HW-2 was calculated by subtracting NJNG's weighted lead days for the cost of service of 13.0 days from the weighted average lag days for the revenue requirement of 55.0 days to determine the net lag days of 41.9. The 41.9 net lag days was multiplied by the average adjusted daily cost of service or revenue

[2] Sampling for the total expense and tax dollars paid totaled 80% and reflected a range of sampling from 2% to 100% of the total line item dollars (or expenses). The least amount of sampling, 2%, occurred for the sub- account line item "Pensions."

requirement of $1,957,690. The result is a cash working capital requirement of $82,104,065 for NJNG.

**Q. Please explain the procedures used to determine the revenue requirement lag.**

A. Schedule HW-3 of the exhibit summarizes the development of the 55.0 lag days for the Company's revenue requirement. The lag days for revenue requirement are comprised of: service period lag; billing lag; and collection lag. The lag days for NJNG's service period and the billing lag are developed on page 1 of Schedule HW-3 and the lag days for NJNG's collection lag are developed on page 2 of Schedule HW-3.

**Q. Please explain the procedures used to determine the service period lag days and billing lag days for the revenue requirement.**

A. The service period lag is the average time between actual meter readings of 30.7 days based on monthly billing.[3] The average time between meter readings, 30.8 days, is divided by two to produce a midpoint, or service period lag of 15.4 days. A mid-point is used because it is assumed service is provided evenly over the service period.

The billing lag is the time from the meter reading date to the customer billing date. The customer billing date, or the mailing date, is the day when the total billing amount for a cycle is recorded to accounts receivable. The bills are prepared and mailed 5.3 days after meters are read and billings are recorded to accounts receivable. Adding the service period lag to the billing lag produces a

[3] The service period lag and the billing lag are based on an analysis of four months of meter reads and billing for the months of December 2019, February 2020, May 2020, and July 2020.

combined 20.7 days service period and billing lag (15.4 days + 5.3 days = 20.7 days).

**Q. Please describe the procedure used to calculate the collection lag portion of the revenue lag.**

A. The collection lag is the average number of days from the date the bills posted to accounts receivables to the date payments are received. This was determined by dividing the average monthly accounts receivable balance during the 12 months ended September 30, 2020 by the sum of the daily receipts during the same period. This results in an average collection lag of 34.3 days for NJNG as shown on page 2 of HW-3.

**Q. Please summarize the total revenue lag.**

A. The total revenue lag of 55.0 lag days for NJNG is shown on page 1 of Schedule HW-3 and includes 20.7 days service period and billing lag and a collection lag of 34.3 days.

**Q. Please explain the revenue adjustment line item shown on page 1 of Schedule HW-2.**

A. The revenue adjustment line item adds back the New Jersey energy sales tax that the Company collects. The New Jersey energy sales tax is included as part of the revenue requirement lag in both revenues and operating expenses. Customers are billed the Energy Sales Tax, known as the Sales and Use Tax (SUT), by the Company and the Company remits the charges to the State. The Company is required to remit these dollars to the State in advance of their collection, and the timing difference between the remittance to the State and the collection from customers represents a working capital requirement.

**Q. Please explain the calculation of lead days for the cost of service expenses shown on page 1 of Schedule HW-2.**

A. The lead days for NJNG's cost of service expenses shown on page 1 of Schedule HW-2 are comprised of four major sub-accounts based upon the Company's cost of service. The four major sub accounts include: operating expenses; income taxes; taxes other than income taxes; and operating income.

For most cost of service expense items shown, the lead days were calculated for each invoice or account based on the midpoints of the service periods to the dates the Company paid the invoices or accounts based on varying levels of sampling of data.[4] The exceptions were depreciation and amortization, deferred taxes and operating income line items.

Schedule HW-4 lists the schedule references for the individual cost of service lead days that were calculated for NJNG. Sampling for the line item cost of service expenses (or dollars) averaged 80%, reflecting a range of sampling from 2% to 100% of the Company's total forecasted weighted cost of service to calculate expense and tax dollars expenses line items (or dollars) being sampled.

**Q. How were the lead days determined for the operating expenses sub account line items shown on page 1 of Schedule HW-2?**

A. For most of the operating expenses sub account line items shown, the lead days were determined for each invoice or account sampled based on the midpoints of the service periods to the dates the Company paid the invoices or accounts based on varying levels of sampling of data. The exceptions were the depreciation and amortization line item, uncollectible accounts expense and regulatory expense.

[4] As was the case with the revenue service period, a mid-point is used for the service lead because it is assumed service is provided evenly over the service period.

For the operating expense sub-accounts line items shown on page 1 of Schedule HW-2, the lead days were determined for each invoice or account sampled based on the midpoints of the service periods to the dates the Company paid the invoices or accounts. As explained previously, sampling was randomly done for the invoices within each expense and tax category.

For example, the weighted average lead days for gas supply costs equal 34.5 days (see Schedule HW-5). The lead days for gas supply costs expense were calculated for each invoice examined based on the midpoints of the service periods to the dates the Company paid the invoices. In total, 100% of the Company's forecasted gas supply costs expenses were sampled. Similar analyses were conducted for salary and wages (see Schedule HW-6), pensions (see Schedule HW-7), PEP (see Schedule HW-8), OPEB (see Schedule HW-9), medical insurance (see Schedule HW-10), dental insurance (see Schedule HW-11), short term disability (see Schedule HW-12), group life, AD&D, and LTD (see Schedule HW-13), flexible spending account (see Schedule HW-14), 401k plans (see Schedule HW-15), and other O&M expenses (see Schedule HW-16).

Within the operating expense sub-accounts line items shown on page 1 of Schedule HW-2 is the calculation of the weighted average lead days for pensions and benefits reflecting the various benefit plans. NJNG's weighted average lead days for pensions and benefits is 40.8 lead days based on the midpoints of the service periods to the dates the Company paid the invoices or accounts.

For the depreciation and amortization line item, a zero lead has been assigned because accumulated depreciation, the contra account for the depreciation expense, has been deducted from rate base. The accumulated

depreciation account balance always includes an uncollected amount of depreciation expense that is equal to the revenue requirement lag days (i.e., 55.0 days). Assigning a zero lead recognizes that investor funding occurred but it has not yet been recovered from customers.

In total, NJNG's operating expenses sub account line items have a weighted average 21.6 lead days as shown on page 1 of Schedule HW-2.

**Q. How were the lead days determined for the income taxes sub account line items shown on page 1 of Schedule HW-2?**

A. The lead days for the current federal taxes and current state taxes (CBT) sub-account line items, shown on page 1 of Schedule HW-2, were calculated based on the midpoint of the tax period to the payment date, weighted by the percent of the payment required. The derivation of the current federal taxes 44.9 lead days is shown on Schedule HW-17 and the derivation of the current state taxes (CBT) negative lead days of -15.0 is shown on Schedule HW-18.

A zero lead has been assigned to deferred taxes because accumulated deferred taxes have been deducted from rate base as a source of cost-free funds. The deferred taxes account balance always includes an uncollected amount of deferred tax expense that is equal to the revenue requirement lag days (i.e., 55.0 days). Therefore, the recorded amount of accumulated deferred taxes deducted from rate base overstates the actual amount of available cost-free capital by an amount equal to the revenue requirement lag days. Assigning a zero lead recognizes that a portion of these cost-free funds have not been recovered from customers.

In total, NJNG's income taxes sub account line items have a weighted average lead day of 8.7 as shown on page 1 of Schedule HW-2.

**Q. How were the lead days determined for the taxes other than income sub-account line items shown on page 1 of Schedule HW-2?**

A. The lead days for the taxes other than income taxes sub account line item shown on page 1 of Schedule HW-2 were calculated based on the midpoint of the tax liability period to the payment date, weighted by the actual amount paid. The taxes other than income taxes sub-accounts are shown on Schedules HW-19 and are comprised of the tax sub-accounts shown on Schedules HW-20 through HW-23. These taxes include payroll tax (see Schedule HW-20), real estate tax (see Schedule HW-21), New Jersey sales & use tax (see Schedule HW-22), and motor fuel tax (see Schedule HW-23).

As shown on page 1 of Schedule HW-2, NJNG's taxes other than income taxes sub account line items have a weighted average 6.4 lead days.

**Q. How were the lead days determined for the New Jersey energy sales tax sub-account line items shown on page 1 of Schedule HW-2?**

A. The lead days for the New Jersey energy sales tax sub account line item shown on page 1 of Schedule HW-2 were calculated based on the midpoint of the tax liability period to the payment date, weighted by the actual amount paid. The derivation of the New Jersey energy sales tax lead days is shown on Schedules HW-24. As shown on Schedule HW-2, NJNG's New Jersey energy sales tax sub account line has a weighted average negative lead days of 49.9.

**Q. How were the lead days determined for the operating income sub-account line items shown on page 1 of Schedule HW-2?**

A. I assigned a zero lead day to utility operating income, or return on invested capital, because operating income is the property of investors when it is earned. Further, operating income is earned when service is provided. However, when service is provided, the operating income is not collected simultaneously as is evidenced by the existence of the revenue requirement lag days. This situation is remedied by assigning a zero lead day to operating income in recognition that these earnings have not been recovered from customers.[5]

**Q. Please summarize your results of the amount of working capital required to finance the recovery of the cost of service based on the lead-lag study shown on page 1 of Schedule HW-2?**

A. As shown on page 1 of Schedule HW-2, NJNG's working capital requirement was calculated by subtracting NJNG's weighted lead days for the cost of service of 13.0 days from the weighted average lag days for the revenue requirement of 55.0 days to determine the net lag days of 41.9. The 41.9 net lag days was multiplied by the average adjusted daily cost of service or revenue requirement of $1,957,690. The result is a cash working capital requirement of $82,104,065 for NJNG.

**NET ASSETS AND LIABILITIES ANALYSIS**

**Q. What does a net assets and liabilities analysis measure and how is it measured?**

A. Under a net assets and liabilities analysis, certain liabilities are subtracted from particular assets. This difference in the liabilities and the assets is assumed to be the cash working capital. Under a net assets and liabilities analysis, the assets

[5] Smyth v. Ames, 169 U.S. 466 (1898)

listed require working capital whereas the liabilities listed are sources of working capital.

**RESULTS OF THE NET ASSETS AND LIABILITIES ANALYSIS**

**Q. Please describe the analysis and components of the net assets/liability not recognized in the lead-lag study.**

A. Schedule HW-25 provides the details of the net source of Cash Working Capital not considered elsewhere. The listed assets are additional requirements for Working Capital, the liabilities are sources and their net difference, shown on Schedule HW-25, requires Working Capital. NJNG's cash working capital requirement determined through the net assets and liabilities analysis, shown on Schedule HW-25, is $53,859,170. The result of the net assets and liabilities analysis ($53,859,170) is included on Schedule HW-1 Summary and is additional required working capital above the working capital required to finance the recovery of the cost of service.

**Q. Does this conclude your direct testimony?**

A. Yes, it does.

Professional Qualifications
of
Harold Walker, III
Manager, Financial Studies
Gannett Fleming Valuation and Rate Consultants, LLC.

**EDUCATION**

Mr. Walker graduated from Pennsylvania State University in 1984 with a Bachelor of Science Degree in Finance. His studies concentrated on securities analysis and portfolio management with an emphasis on economics and quantitative business analysis. He has also completed the regulation and the rate-making process courses presented by the College of Business Administration and Economics Center for Public Utilities at New Mexico State University. Additionally, he has attended programs presented by The Institute of Chartered Financial Analysts (CFA).

Mr. Walker was awarded the professional designation "Certified Rate of Return Analyst" (CRRA) by the Society of Utility and Regulatory Financial Analysts. This designation is based upon education, experience and the successful completion of a comprehensive examination. He is also a member of the Society of Utility and Regulatory Financial Analysts (SURFA) and has attended numerous financial forums sponsored by the Society. The SURFA forums are recognized by the Association for Investment Management and Research (AIMR) and the National Association of State Boards of Accountancy for continuing education credits.

Mr. Walker is also a licensed Municipal Advisor Representative (Series 50) by Municipal Securities Rulemaking Board (MSRB) and Financial Industry Regulatory Authority (FINRA).

**BUSINESS EXPERIENCE**

Prior to joining Gannett Fleming Valuation and Rate Consultants, LLC., Mr. Walker was employed by AUS Consultants - Utility Services. He held various positions during his eleven years with AUS, concluding his employment there as a Vice President. His duties included providing and supervising financial and economic studies on behalf of investor owned and municipally owned water, wastewater, electric, natural gas distribution and transmission, oil pipeline and telephone utilities as well as resource recovery companies.

In 1996, Mr. Walker joined Gannett Fleming Valuation and Rate Consultants, LLC. In his capacity as Manager, Financial Studies and for the past twenty years, he has continuously studied rates of return requirements for regulated firms. In this regard, he supervised the preparation of rate of return studies in connection with his testimony and in the past, for other individuals. He also assisted and/or developed dividend policy studies, nuclear prudence studies, calculated fixed charge rates for avoided costs involving cogeneration projects, financial decision studies for capital budgeting purposes and developed financial models for determining future capital requirements and the effect of those requirements on investors and ratepayers, valued utility property and common stock for acquisition and divestiture, and assisted in the private placement of fixed capital securities for public utilities.

Head, Gannett Fleming GASB 34 Task Force responsible for developing Governmental Accounting Standards Board (GASB) 34 services, and educating Gannett Fleming personnel and Gannett Fleming clients on GASB 34 and how it may affect them. The GASB 34 related services include inventory of

assets, valuation of assets, salvage estimation, annual depreciation rate determination, estimation of depreciation reserve, asset service life determination, asset condition assessment, condition assessment documentation, maintenance estimate for asset preservation, establishment of condition level index, geographic information system (GIS) and data management services, management discussion and analysis (MD&A) reporting, required supplemental information (RSI) reporting, auditor interface, and GASB 34 compliance review.

Mr. Walker was also the Publisher of C.A. Turner Utility Reports from 1988 to 1996. C.A. Turner Utility Reports is a financial publication which provides financial data and related ratios and forecasts covering the utility industry. From 1993 to 1994, he became a contributing author for the Fortnightly, a utility trade journal. His column was the Financial News column and focused mainly on the natural gas industry.

In 2004, Mr. Walker was elected to serve on the Board of Directors of SURFA. Previously, he served as an ex officio directors as an advisor to SURFA's existing President. In 2000, Mr. Walker was elected President of SURFA for the 2001-2002 term. Prior to that, he was elected to serve on the Board of Directors of SURFA during the period 1997-1998 and 1999-2000. Currently, he also serves on the Pennsylvania Municipal Authorities Association, Electric Deregulation Committee.

**EXPERT TESTIMONY**

Mr. Walker has submitted testimony or been deposed on various topics before regulatory commissions and courts in 26 states including: Arizona, California, Colorado, Connecticut, Delaware, Hawaii, Idaho, Illinois, Indiana, Kentucky, Maryland, Massachusetts, Michigan, Missouri, New Hampshire, Nevada, New Jersey, New York, North Carolina, Oklahoma, Pennsylvania, Rhode Island, South Carolina, Vermont, Virginia, and West Virginia. His testimonies covered various subjects including: fair market value, the taking of natural resources, appropriate capital structure and fixed capital cost rates, depreciation, fair rate of return, purchased water adjustments, synchronization of interest charges for income tax purposes, valuation, cash working capital, lead-lag studies, financial analyses of investment alternatives, and fair value. The following tabulation provides a listing of the electric power, natural gas distribution, telephone, wastewater, and water service utility cases in which he has been involved as a witness. Additionally, he has been involved in a number of rate proceedings involving small public utilities which were resolved by Option Orders and therefore, are not listed below.

| Client | Docket No. |
|---|---|
| Alpena Power Company | U-10020 |
| Armstrong Telephone Company - Northern Division | 92-0884-T-42T |
| Armstrong Telephone Company - Northern Division | 95-0571-T-42T |
| Artesian Water Company, Inc. | 90 10 |
| Artesian Water Company, Inc. | 06 158 |
| Aqua Illinois Consolidated Water Divisions and Consolidated Sewer Divisions | 11-0436 |
| Aqua Illinois Hawthorn Woods Wastewater Division | 07 0620/07 0621/08 0067 |

| | |
|---|---|
| Aqua Illinois Hawthorn Woods Water Division | 07 0620/07 0621/08 0067 |
| Aqua Illinois Kankakee Water Division | 10-0194 |
| Aqua Illinois Kankakee Water Division | 14-0419 |
| Aqua Illinois Vermilion Division | 07 0620/07 0621/08 0067 |
| Aqua Illinois Willowbrook Wastewater Division | 07 0620/07 0621/08 0067 |
| Aqua Illinois Willowbrook Water Division | 07 0620/07 0621/08 0067 |
| Aqua Pennsylvania Wastewater Inc | A-2016-2580061 |
| Aqua Pennsylvania Wastewater Inc | A-2017-2605434 |
| Aqua Pennsylvania Wastewater Inc | A-2018-3001582 |
| Aqua Pennsylvania Wastewater Inc | A-2019-3008491 |
| Aqua Pennsylvania Wastewater Inc | A-2019-3009052 |
| Aqua Pennsylvania Wastewater Inc | A-2019-3015173 |
| Aqua Virginia - Alpha Water Corporation | Pue-2009-00059 |
| Aqua Virginia - Blue Ridge Utility Company, Inc. | Pue-2009-00059 |
| Aqua Virginia - Caroline Utilities, Inc. (Wastewater) | Pue-2009-00059 |
| Aqua Virginia - Caroline Utilities, Inc. (Water) | Pue-2009-00059 |
| Aqua Virginia - Earlysville Forest Water Company | Pue-2009-00059 |
| Aqua Virginia - Heritage Homes of Virginia | Pue-2009-00059 |
| Aqua Virginia - Indian River Water Company | Pue-2009-00059 |
| Aqua Virginia - James River Service Corp. | Pue-2009-00059 |
| Aqua Virginia - Lake Holiday Utilities, Inc. (Wastewater) | Pue-2009-00059 |
| Aqua Virginia - Lake Holiday Utilities, Inc. (Water) | Pue-2009-00059 |
| Aqua Virginia - Lake Monticello Services Co. (Wastewater) | Pue-2009-00059 |
| Aqua Virginia - Lake Monticello Services Co. (Water) | Pue-2009-00059 |
| Aqua Virginia - Lake Shawnee | Pue-2009-00059 |
| Aqua Virginia - Land'or Utility Company (Wastewater) | Pue-2009-00059 |
| Aqua Virginia - Land'or Utility Company (Water) | Pue-2009-00059 |
| Aqua Virginia - Mountainview Water Company, Inc. | Pue-2009-00059 |
| Aqua Virginia - Powhatan Water Works, Inc. | Pue-2009-00059 |
| Aqua Virginia - Rainbow Forest Water Corporation | Pue-2009-00059 |
| Aqua Virginia - Shawnee Land | Pue-2009-00059 |
| Aqua Virginia - Sydnor Water Corporation | Pue-2009-00059 |
| Aqua Virginia - Water Distributors, Inc. | Pue-2009-00059 |
| Berkshire Gas Company | 18-40 |

| | |
|---|---|
| Borough of Hanover | R-2009-2106908 |
| Borough of Hanover | R-2012-2311725 |
| Borough of Hanover | R-2014-242830 |
| Borough of Royersford | A-2020-3019634 |
| Chaparral City Water Company | W 02113a 04 0616 |
| California-American Water Company | CIVCV156413 |
| Connecticut-American Water Company | 99-08-32 |
| Connecticut Water Company | 06 07 08 |
| Citizens Utilities Company | |
| Colorado Gas Division | - |
| Citizens Utilities Company | |
| Vermont Electric Division | 5426 |
| Citizens Utilities Home Water Company | R 901664 |
| Citizens Utilities Water Company | |
| of Pennsylvania | R 901663 |
| City of Bethlehem - Bureau of Water | R-00984375 |
| City of Bethlehem - Bureau of Water | R 00072492 |
| City of Bethlehem - Bureau of Water | R-2013-2390244 |
| City of Bethlehem - Bureau of Water | R-2020-3020256 |
| City of Dubois – Bureau of Water | R-2013-2350509 |
| City of Dubois – Bureau of Water | R-2016-2554150 |
| City of Lancaster Sewer Fund | R-00005109 |
| City of Lancaster Sewer Fund | R-00049862 |
| City of Lancaster Sewer Fund | R-2012-2310366 |
| City of Lancaster Sewer Fund | R-2019-3010955 |
| City of Lancaster Sewer Fund | R-2019-3010955 |
| City of Lancaster Water Fund | R-00984567 |
| City of Lancaster Water Fund | R-00016114 |
| City of Lancaster Water Fund | R 00051167 |
| City of Lancaster Water Fund | R-2010-2179103 |
| City of Lancaster Water Fund | R-2014-2418872 |
| Coastland Corporation | 15-cvs-216 |
| Consumers Pennsylvania Water Company | |
| Roaring Creek Division | R-00973869 |
| Consumers Pennsylvania Water Company | |
| Shenango Valley Division | R-00973972 |
| Country Knolls Water Works, Inc. | 90 W 0458 |
| East Resources, Inc. - West Virginia Utility | 06 0445 G 42T |
| Elizabethtown Water Company | WR06030257 |

| | |
|---|---|
| Forest Park, Inc. | 19-W-0168 & 19-W-0269 |
| Hampton Water Works Company | DW 99-057 |
| Hidden Valley Utility Services, LP | R-2018-3001306 |
| Hidden Valley Utility Services, LP | R-2018-3001307 |
| Illinois American Water Company | 16-0093 |
| Indian Rock Water Company | R-911971 |
| Indiana Natural Gas Corporation | 38891 |
| Jamaica Water Supply Company | - |
| Kane Borough Authority | A-2019-3014248 |
| Kentucky American Water Company, Inc. | 2007 00134 |
| Middlesex Water Company | WR 89030266J |
| Millcreek Township Water Authority | 55 198 Y 00021 11 |
| Missouri-American Water Company | WR 2000-281 |
| Missouri-American Water Company | SR 2000-282 |
| Mount Holly Water Company | WR06030257 |
| Nevada Power Company d/b/a NV Energy | 20-06003 |
| New Jersey American Water Company | WR 89080702J |
| New Jersey American Water Company | WR 90090950J |
| New Jersey American Water Company | WR 03070511 |
| New Jersey American Water Company | WR-06030257 |
| New Jersey American Water Company | WR08010020 |
| New Jersey American Water Company | WR10040260 |
| New Jersey American Water Company | WR11070460 |
| New Jersey American Water Company | WR15010035 |
| New Jersey American Water Company | WR17090985 |
| New Jersey American Water Company | WR19121516 |
| New Jersey Natural Gas Company | GR19030420 |
| Newtown Artesian Water Company | R-911977 |
| Newtown Artesian Water Company | R-00943157 |
| Newtown Artesian Water Company | R-2009-2117550 |
| Newtown Artesian Water Company | R-2011-2230259 |
| Newtown Artesian Water Company | R-2017-2624240 |
| Newtown Artesian Water Company | R-2019-3006904 |
| North Maine Utilities | 14-0396 |
| Northern Indiana Fuel & Light Company | 38770 |
| Oklahoma Natural Gas Company | PUD-940000477 |
| Palmetto Utilities, Inc. | 2020-281-S |
| Palmetto Wastewater Reclamation, LLC | 2018-82-S |
| Pennichuck Water Works, Inc. | DW 04 048 |

| | |
|---|---|
| Pennichuck Water Works, Inc. | DW 06 073 |
| Pennichuck Water Works, Inc. | DW 08 073 |
| Pennsylvania Gas & Water Company (Gas) | R-891261 |
| Pennsylvania Gas & Water Co. (Water) | R 901726 |
| Pennsylvania Gas & Water Co. (Water) | R-911966 |
| Pennsylvania Gas & Water Co. (Water) | R-22404 |
| Pennsylvania Gas & Water Co. (Water) | R-00922482 |
| Pennsylvania Gas & Water Co. (Water) | R-00932667 |
| Philadelphia Gas Works | R-2020-3017206 |
| Public Service Company of North Carolina, Inc. | G-5, Sub 565 |
| Public Service Electric and Gas Company | ER181010029 |
| Public Service Electric and Gas Company | GR18010030 |
| Presque Isle Harbor Water Company | U-9702 |
| Sierra Pacific Power Company d/b/a NV Energy | 19-06002 |
| St. Louis County Water Company | WR-2000-844 |
| Suez Water Delaware, Inc. | 19-0615 |
| Suez Water Idaho, Inc. | SUZ-W-20-02 |
| Suez Water New Jersey, Inc. | WR18050593 |
| Suez Water New Jersey, Inc. | WR20110729 |
| Suez Water Owego-Nichols, Inc. | 17-W-0528 |
| Suez Water Pennsylvania, Inc. | R-2018-3000834 |
| Suez Water Pennsylvania, Inc. | A-2018-3003519 |
| Suez Water Pennsylvania, Inc. | A-2018-3003517 |
| Suez Water Rhode Island, Inc. | Docket No. 4800 |
| Suez Water Owego-Nichols, Inc. | 19-W-0168 & 19-W-0269 |
| Suez Water New York, Inc. | 19-W-0168 & 19-W-0269 |
| Suez Westchester, Inc. | 19-W-0168 & 19-W-0269 |
| Town of North East Water Fund | 9190 |
| Township of Exeter | A-2018-3004933 |
| United Water New Rochelle | W-95-W-1168 |
| United Water Toms River | WR-95050219 |
| Upper Pottsgrove Township | A-2020-3021460 |
| Valley Township (water) | A-2020-3019859 |
| Valley Township (wastewater) | A-2020-3020178 |
| Valley Water Systems, Inc. | 06 10 07 |
| Virginia American Water Company | PUR-2018-00175 |
| West Virginia-American Water Company | 15-0676-W-42T |
| West Virginia-American Water Company | 15-0675-S-42T |
| Wilmington Suburban Water Corporation | 94-149 |

| | |
|---|---|
| York Water Company | R-901813 |
| York Water Company | R-922168 |
| York Water Company | R-943053 |
| York Water Company | R-963619 |
| York Water Company | R-994605 |
| York Water Company | R-00016236 |
| Young Brothers, LLC | 2019-0117 |

**TECHNICAL PUBLICATIONS & PRESENTATIONS**

Walker, Harold. Panelist "Fair Market Acquisitions Debate." Presented at National Association of Regulatory Utilities Commissioners Winter Policy Summit, February 2019.

Walker, Harold. Panelist "Fair Market Value Legislation." Presented at the National Association of Water Companies Water Summit, October 2018.

Walker, Harold. Panelist "Leveraging Water & Sewer to Address Roads, Schools, and Pension Obligations." Presented at the Maryland Association of Counties 2018 Summer Conference, August 2018.

Walker, Harold. Panelist "Is the Glass Half Full or Half Empty? Valuing Municipal Water Acquisitions." Presented at the Mid-Atlantic Conference of Regulatory Utilities Commissioners 23rd Annual Education Conference, June 2018.

Walker, Harold. "Valuation and Inventory of Governmental Assets Under GASB 34." Presented at the Society of Depreciation Professionals 21st Annual Conference, September 2007.

Walker, Harold. "The Paradox of State Regulatory Opinions and Investor Behavior." Presented at the National Association of Water Companies New England Chapter conference, November 2006.

Walker, Harold. "Valuation and Inventory Under GASB 34." Presented at the Government Finance Officers Association South Central Pennsylvania Regional Chapter conference, August 2003.

Walker, Harold. "Valuation and Inventory under GASB 34." Presented at the Government Finance Officers Association Southeastern Pennsylvania Regional Chapter conference, April 2002.

Walker, Harold. "GASB 34 & Your Infrastructure." *The Authority,* August 2001, Volume XXXII, No. 4, pages 10-13.

Walker, Harold. "Managing Risk." Conference Chairperson, presented at the Society of Utility & Regulatory Financial Analysts 33rd Financial Forum, April 2001.

Walker, Harold. "Paying for Your MSW System - Waste Generation Fees." Presented at the Federation of New York Solid Waste Association Solid Waste/Recycling Conference and Trade Show, May 2001.

Walker, Harold. "Statement No. 34 of the Government Accounting Standards Board." Presented at the Pennsylvania Association of Township Supervisors 79th Annual State Convention, April 2001.

Walker, Harold. "Cost of Capital Issues." Presented at the National Association of Water Companies New England Chapter conference, October 2000.

Walker, Harold, Timothy Hartman, and Mark Everett. "Waste Generation Study: Life After Flow Control." Presented at Waste Con 2000, October 1999.

Walker, Harold, and Timothy Hartman. "The Enhancement of Revenues Through a Waste Generation Study." Presented at SWANA's Planning and Management Symposium, July 1999.

# NEW JERSEY NATURAL GAS COMPANY
WALL, NEW JERSEY

TO ACCOMPANY THE

DIRECT TESTIMONY

# SUPPORTING SCHEDULES

SCHEDULES HW-1 TO HW-25

FOR
LEAD-LAG STUDY
AND NET ASSETS AND LIABILITIES ANALYSIS
FOR DETERMINATION OF OTHER CASH WORKING CAPITAL

MARCH 2021

Prepared by:
GANNETT FLEMING
VALUATION AND RATE CONSULTANTS, LLC

Valley Forge, Pennsylvania

NEW JERSEY NATURAL GAS COMPANY

LEAD-LAG STUDY
FOR THE TWELVE MONTHS ENDED SEPTEMBER 30, 2020

INDEX TO SCHEDULES

Schedule HW-1

NEW JERSEY NATURAL GAS COMPANY
SUMMARY OF OTHER CASH WORKING CAPITAL
FOR THE TWELVE MONTHS ENDED SEPTEMBER 30, 2020

(THOUSANDS)

| | Other Cash Working Capital |
|---|---|
| Amount Required to Recover Cost of Service | $82,104 |
| Net Assets and Liabilities | 53,859 |
| Total Other Cash Working Capital | $135,963 |

Schedule HW-2

NEW JERSEY NATURAL GAS COMPANY
SUMMARY OF CASH WORKING CAPITAL REQUIREMENTS
BASED ON LEAD-LAG STUDY FOR THE TWELVE MONTHS ENDED SEPTEMBER 30, 2020

| | Adjusted Test Year Amount | Lag Days | Weighted Amount |
|---|---|---|---|
| Revenue Requirement | $671,308,850 | 55.0 | $36,888,421,320 |
| New Jersey Energy Sales Tax | 43,248,180 | 55.0 | 2,376,487,511 |
| Total Revenue Requirement | 714,557,031 | 55.0 | 39,264,908,832 |
| Requirements: | | | |
| Gas Supply Costs | $242,263,400 | 34.5 | $8,358,087,294 |
| Salary and Wages | 76,705,793 | 7.6 | 582,964,029 |
| Pension and Benefits: | | | |
| Pensions | 5,164,063 | 189.0 | 976,007,845 |
| PEP | 49,022 | (14.2) | (696,118) |
| OPEB | 8,246,220 | 8.1 | 66,794,381 |
| Medical Insurance | 11,028,256 | 9.1 | 100,357,129 |
| Dental Insurance | 578,137 | 39.5 | 22,836,427 |
| Short Term Disability | 0 | 53.7 | 0 |
| Group Life, AD&D, and LTD | 785,685 | 10.1 | 7,935,423 |
| Flexible Spending Account | 0 | 82.7 | 0 |
| 401K Plans | 3,425,210 | 6.3 | 21,578,826 |
| Other Fringes | (2,042,837) | 40.8 | (83,347,757) |
| Total Pension and Benefits | 27,233,757 | 40.8 | 1,111,466,155 |
| Uncollectibles | 0 | 0.0 | 0 |
| Other O&M Expenses | 93,776,413 | 12.6 | 1,181,582,798 |
| Depreciation & Amortization | 79,386,751 | 0.0 | 0 |
| Subtotal Operating Expenses | 519,366,113 | 21.6 | 11,234,100,277 |
| Income Taxes: | | | |
| Current Federal Taxes | 4,158,926 | 44.9 | 186,735,777 |
| Current State (CBT) | 0 | (15.0) | 0 |
| Deferred Taxes | 17,307,591 | 0.0 | 0 |
| Subtotal Income Taxes | 21,466,517 | 8.7 | 186,735,777 |
| Taxes Other than Income Tax | 5,339,546 | 6.4 | 34,173,095 |
| New Jersey Energy Sales Tax | 43,248,180 | (49.9) | (2,158,084,200) |
| Operating Income | 125,136,674 | 0.0 | 0 |
| Total Cost of Service Requirement | 714,557,031 | 13.0 | 9,296,924,949 |
| Average Daily Cost of Service Requirement | 1,957,690 | | |
| **Net Lag Days** | | **41.9** | |
| **Cash Working Capital Requirement** | | | **$82,104,065** |

Schedule HW-2

NEW JERSEY NATURAL GAS COMPANY
SUMMARY OF TEST YEAR ADJUSTMENTS
REQUIRED FOR COST OF SERVICE LEAD LAG STUDY
FOR THE TWELVE MONTHS ENDED SEPTEMBER 30, 2020

| | Test Year Amount | Adjustments | Adjusted Test Year Amount |
|---|---|---|---|
| Revenue Requirement | $676,540,457 | ($5,231,606) | $671,308,850 |
| New Jersey Energy Sales Tax | 0 | 43,248,180 | 43,248,180 |
| Total Revenue Requirement | 676,540,457 | 38,016,574 | 714,557,031 |
| Requirements: | | | |
| Gas Supply Costs | $242,263,400 | $0 | $242,263,400 |
| Salary and Wages | 76,705,793 | 0 | 76,705,793 |
| Pension and Benefits: | | | |
| Pensions | 5,164,063 | 0 | 5,164,063 |
| PEP | 49,022 | 0 | 49,022 |
| OPEB | 8,246,220 | 0 | 8,246,220 |
| Medical Insurance | 11,028,256 | 0 | 11,028,256 |
| Dental Insurance | 578,137 | 0 | 578,137 |
| Short Term Disability | 0 | 0 | 0 |
| Group Life, AD&D, and LTD | 785,685 | 0 | 785,685 |
| Flexible Spending Account | 0 | 0 | 0 |
| 401K Plans | 3,425,210 | 0 | 3,425,210 |
| Other Fringes | (2,042,837) | 0 | (2,042,837) |
| Total Pension and Benefits | 27,233,757 | 0 | 27,233,757 |
| Uncollectibles | 5,231,606 | (5,231,606) | 0 |
| Other O&M Expenses | 93,776,413 | 0 | 93,776,413 |
| Depreciation & Amortization | 79,386,751 | 0 | 79,386,751 |
| Subtotal Operating Expenses | 524,597,720 | (5,231,606) | 519,366,113 |
| Income Taxes: | | | |
| Current Federal Taxes | 4,158,926 | 0 | 4,158,926 |
| Current State (CBT) | 0 | 0 | 0 |
| Deferred Taxes | 17,307,591 | 0 | 17,307,591 |
| Subtotal Income Taxes | 21,466,517 | 0 | 21,466,517 |
| Taxes Other than Income Tax | 5,339,546 | 0 | 5,339,546 |
| New Jersey Energy Sales Tax | 0 | 43,248,180 | 43,248,180 |
| Operating Income | 125,136,674 | 0 | 125,136,674 |
| Total Cost of Service Requirement | 676,540,457 | 38,016,574 | 714,557,031 |

Schedule HW-3

NEW JERSEY NATURAL GAS COMPANY
CALCULATION OF TOTAL REVENUE LAG DAYS
BASED ON LEAD-LAG STUDY FOR THE TWELVE MONTHS ENDED SEPTEMBER 30, 2020

| | |
|---|---|
| Service Period Lag Days | 15.4 |
| Billing Lag Days | 5.3 |
| Collection Lag Days | 34.3 |
| Total Revenue Lag Days | 55.0 |

CALCULATION OF SERVICE & BILLING REVENUE LAG DAYS

| Months Sampled | Sampled Customer Billings | Weighted Service Period (days) | Weighted Service Amount | Average Service Period (days) |
|---|---|---|---|---|
| December-19 | $102,175,703 | 32.5 | $3,318,250,842 | 16.3 |
| February-20 | 94,129,560 | 29.2 | 2,745,049,011 | 14.6 |
| May-20 | 56,304,151 | 29.5 | 1,658,929,189 | 14.8 |
| July-20 | 28,996,606 | 32.0 | 928,780,607 | 16.0 |
| Totals | $281,606,020 | 30.7 | $8,651,009,649 | 15.4 |

| Months Sampled | Sampled Customer Billings | Weighted Billing Lag (days) | Weighted Billing Amount | Billing Lag (days) |
|---|---|---|---|---|
| December-19 | $102,175,703 | 4.6 | $473,272,873 | 4.6 |
| February-20 | 94,129,560 | 5.4 | 504,720,559 | 5.4 |
| May-20 | 56,304,151 | 6.6 | 368,855,161 | 6.6 |
| July-20 | 28,996,606 | 5.3 | 152,430,308 | 5.3 |
| Totals | $281,606,020 | 5.3 | $1,499,278,900 | 5.3 |

Schedule HW-3

NEW JERSEY NATURAL GAS COMPANY
CALCULATION OF COLLECTION LAG DAYS
BASED ON LEAD-LAG STUDY FOR THE TWELVE MONTHS ENDED SEPTEMBER 30, 2020

| Date | NJNG Customer Month End Accounts Receivables Amount |
|---|---|
| 9/30/2019 | $36,301,952 |
| 10/31/2019 | 32,917,677 |
| 11/30/2019 | 48,244,134 |
| 12/31/2019 | 78,365,016 |
| 1/31/2020 | 95,923,776 |
| 2/29/2020 | 95,944,632 |
| 3/31/2020 | 104,853,086 |
| 4/30/2020 | 100,909,114 |
| 5/31/2020 | 89,906,504 |
| 6/30/2020 | 78,370,169 |
| 7/31/2020 | 69,916,031 |
| 8/31/2020 | 62,292,724 |
| 9/30/2020 | 52,133,607 |

| | | |
|---|---|---|
| 13 Month Average A/R | | 72,775,263 |
| Multiplied By Days, 10/1/19 to 9/30/20 | x | 366 |
| Sum of Average Daily Balance | | 26,635,746,342 |
| | | |
| NJNG Accounts Receivable on 9/30/19 | | 36,301,952 |
| Minus NJNG Accounts Receivable on 9/30/20 | - | 52,133,607 |
| Change in Accounts Receivables for 12-Months | | (15,831,655) |
| | | |
| The Sum of Daily Revenue, 10/1/19 to 9/30/20 | | 792,556,605 |
| Plus Change in A/R for 12-Months | + | (15,831,655) |
| The Sum of 12-Months Daily Receipts | | 776,724,950 |
| | | |
| Sum of Average Daily Balance | | 26,635,746,342 |
| Divided By the Sum of Daily 12-Months Receipts | ÷ | 776,724,950 |
| Total Collection Lag Days | | 34.3 |

Schedule HW-4

NEW JERSEY NATURAL GAS COMPANY
SUMMARY OF OPERATING EXPENSES AND TAXES LEAD DAYS
BASED ON LEAD-LAG STUDY FOR THE TWELVE MONTHS ENDED SEPTEMBER 30, 2020

| Description | Schedule Reference | Amount | Weighted Amount | Lead Days |
|---|---|---|---|---|
| (1) | (2) | (3) | (4) | (5)=(4)/(3) |
| Operating Expenses & Taxes* | | | | |
| Gas Supply Costs | Schedule HW-5 | 248,970,482 | 8,582,219,547 | 34.5 |
| Salary and Wages | Schedule HW-6 | 66,678,707 | 507,786,593 | 7.6 |
| Pensions | Schedule HW-7 | 112,093 | 21,185,965 | 189.0 |
| PEP | Schedule HW-8 | 102,441 | -1,452,298 | -14.2 |
| OPEB | Schedule HW-9 | 1,690,067 | 13,666,143 | 8.1 |
| Medical Insurance | Schedule HW-10 | 19,977,692 | 181,879,618 | 9.1 |
| Dental Insurance | Schedule HW-11 | 494,008 | 19,491,532 | 39.5 |
| Short Term Disability | Schedule HW-12 | 279,393 | 14,999,195 | 53.7 |
| Group Life, AD&D, and LTD | Schedule HW-13 | 493,219 | 4,970,305 | 10.1 |
| Flexible Spending Account | Schedule HW-14 | 4,340 | 359,123 | 82.7 |
| 401K Plans | Schedule HW-15 | 3,035,073 | 19,049,443 | 6.3 |
| Other Fringes | ** | ** | ** | 40.8 |
| Other O&M Expenses | Schedule HW-16 | 13,776,833 | 174,101,055 | 12.6 |
| Depreciation & Amortization | *** | *** | *** | 0.0 |
| Current Federal Taxes | Schedule HW-17 | | | 44.9 |
| Current State (CBT) | Schedule HW-18 | | | -15.0 |
| Deferred Taxes | *** | *** | *** | 0.0 |
| Taxes Other than Income Tax | Schedule HW-19 | 24,536,091 | 157,064,781 | 6.4 |
| Payroll Tax | Schedule HW-20 | 22,843,411 | 173,962,249 | 7.6 |
| Real Estate Tax | Schedule HW-21 | 1,406,135 | -26,471,436 | -18.8 |
| New Jersey Sales & Use Tax | Schedule HW-22 | 223,193 | 7,743,253 | 34.7 |
| Motor Fuel Tax | Schedule HW-23 | 63,352 | 1,830,716 | 28.9 |
| New Jersey Energy Sales Tax | Schedule HW-24 | 43,539,998 | -2,171,535,168 | -49.9 |
| Operating Income | *** | *** | *** | 0.0 |

* Lead days for expenses are calculated from the mid-point of the service period to the payment date. (See Schedules 5 - 24.)
** Weighted average of pension and benefits
*** Lead days are assumed to be 0.

Schedule HW-5

NEW JERSEY NATURAL GAS COMPANY

CALCULATION OF LEAD DAYS FOR GAS SUPPLY COSTS

BASED ON LEAD-LAG STUDY FOR THE TWELVE MONTHS ENDED SEPTEMBER 30, 2020

| Month of Payment | Lead/ (Lag) Days | Amount | Weighted Amount |
|---|---|---|---|
| (1) | (2) | (3) | (4) |
| October-19 | 35.9 | $23,667,233.35 | $850,327,460.76 |
| November-19 | 35.6 | 22,036,533.22 | 784,325,598.02 |
| December-19 | 37.0 | 29,556,878.54 | 1,094,210,501.71 |
| January-20 | 37.1 | 22,913,070.74 | 849,334,551.33 |
| February-20 | 35.6 | 20,452,365.59 | 728,062,911.54 |
| March-20 | 33.1 | 15,612,528.88 | 516,736,912.66 |
| April-20 | 36.5 | 17,792,031.19 | 649,431,742.37 |
| May-20 | 35.1 | 24,622,549.54 | 863,291,137.94 |
| June-20 | 27.0 | 16,635,406.71 | 449,812,106.22 |
| July-20 | 34.8 | 16,574,075.09 | 577,389,309.26 |
| August-20 | 44.0 | 5,792,757.51 | 254,881,330.44 |
| September-20 | 28.9 | 33,315,051.16 | 964,415,984.56 |
| Total Gas Supply Costs | 34.5 | $248,970,481.52 | $8,582,219,546.80 |

Schedule HW-6

NEW JERSEY NATURAL GAS COMPANY

CALCULATION OF LEAD DAYS FOR SALARY AND WAGES

BASED ON LEAD-LAG STUDY FOR THE TWELVE MONTHS ENDED SEPTEMBER 30, 2020

| Month of Payment | Lead/ (Lag) Days | Amount* | Weighted Amount |
|---|---|---|---|
| (1) | (2) | (3) | (4) |
| October-19 | 7.4 | $4,840,396.41 | $36,060,354.01 |
| November-19 | 7.7 | 6,288,367.85 | 48,329,067.17 |
| December-19 | 5.7 | 10,071,634.38 | 57,778,905.14 |
| January-20 | 7.9 | 5,200,204.45 | 40,872,358.78 |
| February-20 | 8.0 | 4,753,335.75 | 38,055,009.88 |
| March-20 | 7.8 | 5,352,428.19 | 41,868,254.73 |
| April-20 | 7.7 | 4,525,197.51 | 34,660,768.04 |
| May-20 | 8.4 | 4,531,319.75 | 38,123,360.76 |
| June-20 | 8.8 | 5,246,639.35 | 46,272,382.66 |
| July-20 | 6.9 | 5,613,005.24 | 38,971,421.63 |
| August-20 | 7.8 | 4,784,040.28 | 37,335,503.53 |
| September-20 | 9.0 | 5,472,137.42 | 49,459,206.49 |
| Total Salary and Wages | 7.6 | $66,678,706.58 | $507,786,592.81 |

* Calculated on gross wages

Schedule HW-7

NEW JERSEY NATURAL GAS COMPANY

CALCULATION OF LEAD DAYS FOR PENSIONS

BASED ON LEAD-LAG STUDY FOR THE TWELVE MONTHS ENDED SEPTEMBER 30, 2020

| Month of Payment | Lead/ (Lag) Days | Amount | Weighted Amount |
|---|---|---|---|
| (1) | (2) | (3) | (4) |
| August-20 | 189.0 | $112,092.91 | $21,185,964.54 |
| Total Pensions | 189.0 | $112,092.91 | $21,185,964.54 |

Schedule HW-8

NEW JERSEY NATURAL GAS COMPANY

CALCULATION OF LEAD DAYS FOR PEP

BASED ON LEAD-LAG STUDY FOR THE TWELVE MONTHS ENDED SEPTEMBER 30, 2020

| Month of Payment | Lead/ (Lag) Days | Amount | Weighted Amount |
|---|---|---|---|
| (1) | (2) | (3) | (4) |
| October-19 | (15.0) | $9,685.37 | -$145,280.55 |
| November-19 | (14.5) | 8,432.37 | -122,269.37 |
| December-19 | (14.0) | 8,432.37 | -118,053.18 |
| January-20 | (14.0) | 8,432.37 | -118,053.18 |
| February-20 | (12.0) | 8,432.37 | -101,188.44 |
| March-20 | (14.0) | 8,432.37 | -118,053.18 |
| April-20 | (14.5) | 8,432.37 | -122,269.37 |
| May-20 | (15.0) | 8,432.37 | -126,485.55 |
| June-20 | (14.5) | 8,432.37 | -122,269.37 |
| July-20 | (15.0) | 8,432.37 | -126,485.55 |
| August-20 | (13.0) | 8,432.37 | -109,620.81 |
| September-20 | (14.5) | 8,432.37 | -122,269.37 |
| Total PEP | (14.2) | $102,441.44 | -$1,452,297.90 |

Schedule HW-9

NEW JERSEY NATURAL GAS COMPANY

CALCULATION OF LEAD DAYS FOR OPEB

BASED ON LEAD-LAG STUDY FOR THE TWELVE MONTHS ENDED SEPTEMBER 30, 2020

| Month of Payment | Lead/ (Lag) Days | Amount | Weighted Amount |
|---|---|---|---|
| (1) | (2) | (3) | (4) |
| October-19 | 15.0 | $440,151.97 | $6,602,279.55 |
| November-19 | 9.5 | 439,840.84 | 4,178,487.98 |
| December-19 | (5.0) | 445,035.25 | -2,225,176.25 |
| January-20 | 14.0 | 365,039.40 | 5,110,551.60 |
| Total OPEB | 8.1 | $1,690,067.46 | $13,666,142.88 |

Schedule HW-10

NEW JERSEY NATURAL GAS COMPANY

CALCULATION OF LEAD DAYS FOR MEDICAL INSURANCE

BASED ON LEAD-LAG STUDY FOR THE TWELVE MONTHS ENDED SEPTEMBER 30, 2020

| Month of Payment | Lead/ (Lag) Days | Amount | Weighted Amount |
|---|---|---|---|
| (1) | (2) | (3) | (4) |
| October-19 | 12.0 | $2,038,308.40 | $24,459,700.80 |
| November-19 | 5.5 | 2,069,728.71 | 11,383,507.91 |
| December-19 | (7.0) | 2,055,184.92 | -14,386,294.44 |
| January-20 | 14.0 | 985,780.91 | 13,800,932.74 |
| February-20 | 11.0 | 1,579,094.37 | 17,370,038.07 |
| March-20 | 10.0 | 1,683,102.01 | 16,831,020.10 |
| April-20 | 12.5 | 1,629,585.45 | 20,369,818.13 |
| May-20 | 11.0 | 1,548,406.69 | 17,032,473.59 |
| June-20 | 14.5 | 1,589,292.03 | 23,044,734.44 |
| July-20 | 11.0 | 1,576,832.23 | 17,345,154.53 |
| August-20 | 8.0 | 1,613,373.19 | 12,906,985.52 |
| September-20 | 13.5 | 1,609,003.45 | 21,721,546.58 |
| Total Medical Insurance | 9.1 | $19,977,692.36 | $181,879,617.95 |

Schedule HW-11

NEW JERSEY NATURAL GAS COMPANY

CALCULATION OF LEAD DAYS FOR DENTAL INSURANCE

BASED ON LEAD-LAG STUDY FOR THE TWELVE MONTHS ENDED SEPTEMBER 30, 2020

| Month of Payment | Lead/ (Lag) Days | Amount | Weighted Amount |
|---|---|---|---|
| (1) | (2) | (3) | (4) |
| November-19 | 44.0 | $87,929.90 | $3,868,915.60 |
| December-19 | 30.5 | 77,483.68 | 2,363,252.24 |
| February-20 | 56.0 | 66,159.13 | 3,704,911.28 |
| April-20 | 47.2 | 113,721.81 | 5,362,851.07 |
| May-20 | 28.5 | 28,414.14 | 809,802.99 |
| June-20 | 30.0 | 8,345.82 | 250,374.60 |
| July-20 | 44.5 | 39,218.88 | 1,745,240.16 |
| August-20 | 20.0 | 38,476.04 | 769,520.80 |
| September-20 | 18.0 | 34,259.07 | 616,663.26 |
| Total Dental Insurance | 39.5 | $494,008.47 | $19,491,532.00 |

Schedule HW-12

NEW JERSEY NATURAL GAS COMPANY

CALCULATION OF LEAD DAYS FOR SHORT TERM DISABILITY

BASED ON LEAD-LAG STUDY FOR THE TWELVE MONTHS ENDED SEPTEMBER 30, 2020

| Month of Payment | Lead/ (Lag) Days | Amount | Weighted Amount |
|---|---|---|---|
| (1) | (2) | (3) | (4) |
| December-19 | 44.4 | $92,076.84 | $4,090,529.43 |
| May-20 | 58.2 | 187,316.28 | 10,908,665.82 |
| Total Short Term Disability | 53.7 | $279,393.12 | $14,999,195.25 |

Schedule HW-13

NEW JERSEY NATURAL GAS COMPANY

CALCULATION OF LEAD DAYS FOR GROUP LIFE, AD&D, AND LTD

BASED ON LEAD-LAG STUDY FOR THE TWELVE MONTHS ENDED SEPTEMBER 30, 2020

| Month of Payment | Lead/ (Lag) Days | Amount | Weighted Amount |
|---|---|---|---|
| (1) | (2) | (3) | (4) |
| November-19 | 6.0 | $119,986.56 | $719,919.36 |
| December-19 | (5.0) | 60,016.10 | -300,080.50 |
| January-20 | 13.0 | 36,783.32 | 478,183.16 |
| March-20 | 23.5 | 66,985.82 | 1,574,166.77 |
| April-20 | 12.5 | 37,534.61 | 469,182.63 |
| May-20 | 12.0 | 33,558.41 | 402,700.92 |
| June-20 | 14.5 | 34,118.66 | 494,720.57 |
| July-20 | 11.0 | 34,488.33 | 379,371.63 |
| August-20 | 8.0 | 34,444.15 | 275,553.20 |
| September-20 | 13.5 | 35,302.76 | 476,587.26 |
| Total Group Life, AD&D, and LTD | 10.1 | $493,218.72 | $4,970,305.00 |

Schedule HW-14

NEW JERSEY NATURAL GAS COMPANY

CALCULATION OF LEAD DAYS FOR FLEXIBLE SPENDING ACCOUNT

BASED ON LEAD-LAG STUDY FOR THE TWELVE MONTHS ENDED SEPTEMBER 30, 2020

| Month of Payment | Lead/ (Lag) Days | Amount | Weighted Amount |
|---|---|---|---|
| (1) | (2) | (3) | (4) |
| June-20 | 97.3 | $3,455.00 | $336,112.50 |
| August-20 | 26.0 | 885.00 | 23,010.00 |
| Total Flexible Spending Account | 82.7 | $4,340.00 | $359,122.50 |

Schedule HW-15

NEW JERSEY NATURAL GAS COMPANY

CALCULATION OF LEAD DAYS FOR 401K PLANS

BASED ON LEAD-LAG STUDY FOR THE TWELVE MONTHS ENDED SEPTEMBER 30, 2020

| Month of Payment | Lead/ (Lag) Days | Amount | Weighted Amount |
|---|---|---|---|
| (1) | (2) | (3) | (4) |
| October-19 | 6.9 | $174,913.44 | $1,215,312.22 |
| November-19 | 7.6 | 172,003.74 | 1,314,013.40 |
| December-19 | 5.9 | 214,641.36 | 1,262,599.28 |
| January-20 | 7.0 | 192,693.26 | 1,345,603.50 |
| February-20 | 7.4 | 194,949.66 | 1,445,281.64 |
| March-20 | 3.3 | 793,881.09 | 2,616,683.66 |
| April-20 | 7.2 | 196,800.82 | 1,426,481.68 |
| May-20 | 8.1 | 196,706.82 | 1,596,380.17 |
| June-20 | 8.4 | 227,463.43 | 1,911,952.01 |
| July-20 | 6.4 | 241,437.67 | 1,534,392.87 |
| August-20 | 7.2 | 201,798.49 | 1,454,419.34 |
| September-20 | 8.5 | 227,783.07 | 1,926,323.32 |
| Total 401K Plans | 6.3 | $3,035,072.85 | $19,049,443.07 |

Schedule HW-16

NEW JERSEY NATURAL GAS COMPANY

CALCULATION OF LEAD DAYS FOR OTHER O&M EXPENSES

BASED ON LEAD-LAG STUDY FOR THE TWELVE MONTHS ENDED SEPTEMBER 30, 2020

| Month of Payment | Lead/ (Lag) Days | Amount | Weighted Amount |
|---|---|---|---|
| (1) | (2) | (3) | (4) |
| October-19 | 1.6 | $1,022,423.45 | $1,667,534.86 |
| November-19 | 24.3 | 806,635.33 | 19,563,894.37 |
| December-19 | 28.2 | 628,506.28 | 17,711,892.46 |
| January-20 | 25.4 | 618,052.60 | 15,705,769.11 |
| February-20 | 24.3 | 627,156.93 | 15,229,176.64 |
| March-20 | 31.9 | 969,081.49 | 30,866,087.07 |
| April-20 | 29.5 | 689,967.05 | 20,379,498.75 |
| May-20 | (25.6) | 1,121,884.77 | -28,674,971.14 |
| June-20 | 23.6 | 880,571.97 | 20,793,533.50 |
| July-20 | 7.1 | 2,693,495.10 | 19,017,652.13 |
| August-20 | 9.7 | 1,827,590.73 | 17,772,624.00 |
| September-20 | 12.7 | 1,891,467.45 | 24,068,363.72 |
| Total Other O&M Expenses | 12.6 | $13,776,833.15 | $174,101,055.48 |

NEW JERSEY NATURAL GAS COMPANY

Schedule HW-17

CALCULATION OF LEAD DAYS FOR CURRENT FEDERAL TAXES

BASED ON LEAD-LAG STUDY FOR THE TWELVE MONTHS ENDED SEPTEMBER 30, 2020

| Service Period | | Payment | (Lead)/ | | Weighted |
|---|---|---|---|---|---|
| From | To | Date | Lag Days | Amount | Amount |
| (1) | (2) | (3) | (4) | (5) | (6) |
| Federal Income Taxes (Current) | | | | | |
| 10/1/18 | 9/30/19 | 10/15/19 | 197.0 | 25% | 49.3 |
| 10/1/19 | 9/30/20 | 1/15/20 | (76.5) | 25% | (19.1) |
| 10/1/19 | 9/30/20 | 3/15/20 | (16.5) | 25% | (4.1) |
| 10/1/19 | 9/30/20 | 6/15/20 | 75.5 | 25% | 18.9 |
| Total Federal Income Taxes (Current) | | | 44.9 | 100% | 44.9 |

Schedule HW-18

NEW JERSEY NATURAL GAS COMPANY

CALCULATION OF LEAD DAYS FOR CURRENT STATE (CBT)

BASED ON LEAD-LAG STUDY FOR THE TWELVE MONTHS ENDED SEPTEMBER 30, 2020

| Service Period | | Payment | (Lead)/ | | | Weighted |
|---|---|---|---|---|---|---|
| From | To | Date | Lag Days | Amount | | Amount |
| (1) | (2) | (3) | (4) | (5) | | (6) |
| Current State (CBT) | | | | | | |
| 10/1/19 | 9/30/20 | 1/15/20 | (76.5) | 25% | | (19.1) |
| 10/1/19 | 9/30/20 | 3/15/20 | (16.5) | 50% | | (8.3) |
| 10/1/19 | 9/30/20 | 5/20/20 | 49.5 | 25% | * | 12.4 |
| 10/1/19 | 9/30/20 | 9/15/20 | 167.5 | 0% | | 0.0 |
| Total Current State (CBT) | | | (15.0) | 100% | | (15.0) |

* The May UTUA payment is credited agains 4th quarter (9/15/20) payment which would be 25% without the UTUA payment

Schedule HW-19

NEW JERSEY NATURAL GAS COMPANY

CALCULATION OF LEAD DAYS FOR TAXES OTHER THAN INCOME TAX

BASED ON LEAD-LAG STUDY FOR THE TWELVE MONTHS ENDED SEPTEMBER 30, 2020

| Expense | Lead/ (Lag) Days | Amount | Weighted Amount |
|---|---|---|---|
| (1) | (2) | (3) | (4) |
| Total Payroll Tax (see Sch. 20) | 7.6 | $22,843,410.84 | $173,962,248.99 |
| Total Real Estate Tax (see Sch. 21) | (18.8) | 1,406,135.16 | -26,471,436.11 |
| Total New Jersey Sales & Use Tax (see Sch. 22) | 34.7 | 223,193.00 | 7,743,253.00 |
| Total Motor Fuel Tax (see Sch. 23) | 28.9 | 63,352.00 | 1,830,715.50 |
| Total Taxes Other than Income Tax | 6.4 | $24,536,091.00 | $157,064,781.38 |

Schedule HW-20

NEW JERSEY NATURAL GAS COMPANY

CALCULATION OF LEAD DAYS FOR PAYROLL TAX

BASED ON LEAD-LAG STUDY FOR THE TWELVE MONTHS ENDED SEPTEMBER 30, 2020

| Month of Payment | Lead/ (Lag) Days | Amount * | Weighted Amount |
|---|---|---|---|
| (1) | (2) | (3) | (4) |
| October-19 | 7.4 | $1,658,267.98 | $12,353,891.16 |
| November-19 | 7.7 | 2,154,327.49 | 16,557,020.91 |
| December-19 | 5.7 | 3,450,434.09 | 19,794,434.19 |
| January-20 | 7.9 | 1,781,534.36 | 14,002,432.45 |
| February-20 | 8.0 | 1,628,441.93 | 13,037,238.90 |
| March-20 | 7.8 | 1,833,684.58 | 14,343,615.71 |
| April-20 | 7.7 | 1,550,284.21 | 11,874,407.97 |
| May-20 | 8.4 | 1,552,381.62 | 13,060,655.13 |
| June-20 | 8.8 | 1,797,442.46 | 15,852,422.81 |
| July-20 | 6.9 | 1,922,955.49 | 13,351,191.74 |
| August-20 | 7.8 | 1,638,960.97 | 12,790,743.70 |
| September-20 | 9.0 | 1,874,695.66 | 16,944,194.31 |
| Total Payroll Tax | 7.6 | $22,843,410.84 | $173,962,248.99 |

* Includes employee and employer paid tax allocated on gross pay.

Schedule HW-21

NEW JERSEY NATURAL GAS COMPANY

CALCULATION OF LEAD DAYS FOR REAL ESTATE TAX

BASED ON LEAD-LAG STUDY FOR THE TWELVE MONTHS ENDED SEPTEMBER 30, 2020

| Month of Payment | Lead/ (Lag) Days | Amount | Weighted Amount |
|---|---|---|---|
| (1) | (2) | (3) | (4) |
| October-19 | 114.0 | $368,871.09 | $42,056,118.16 |
| January-20 | (163.5) | 344,102.99 | -56,260,838.87 |
| April-20 | (63.6) | 344,102.77 | -21,872,466.67 |
| July-20 | 27.5 | 349,058.31 | 9,605,751.27 |
| Total Real Estate Tax | (18.8) | $1,406,135.16 | -$26,471,436.11 |

Schedule HW-22

NEW JERSEY NATURAL GAS COMPANY

CALCULATION OF LEAD DAYS FOR NEW JERSEY SALES & USE TAX

BASED ON LEAD-LAG STUDY FOR THE TWELVE MONTHS ENDED SEPTEMBER 30, 2020

| Month of Payment | Lead/ (Lag) Days | Amount | Weighted Amount |
|---|---|---|---|
| (1) | (2) | (3) | (4) |
| February-20 | 35.0 | $25,665.00 | $898,275.00 |
| March-20 | 34.0 | 21,069.00 | 716,346.00 |
| April-20 | 35.0 | 17,719.00 | 620,165.00 |
| May-20 | 34.5 | 41,101.00 | 1,417,984.50 |
| June-20 | 35.0 | 24,584.00 | 860,440.00 |
| July-20 | 34.5 | 53,765.00 | 1,854,892.50 |
| August-20 | 35.0 | 17,269.00 | 604,415.00 |
| September-20 | 35.0 | 22,021.00 | 770,735.00 |
| Total New Jersey Sales & Use Tax | 34.7 | $223,193.00 | $7,743,253.00 |

Schedule HW-23

NEW JERSEY NATURAL GAS COMPANY

CALCULATION OF LEAD DAYS FOR MOTOR FUEL TAX

BASED ON LEAD-LAG STUDY FOR THE TWELVE MONTHS ENDED SEPTEMBER 30, 2020

| Month of Payment | Lead/ (Lag) Days | Amount | Weighted Amount |
|---|---|---|---|
| (1) | (2) | (3) | (4) |
| February-20 | 36.4 | $11,215.00 | $408,031.00 |
| March-20 | 37.1 | 10,228.00 | 379,745.00 |
| April-20 | 30.0 | 16,867.00 | 506,424.00 |
| May-20 | 17.4 | 9,335.00 | 162,423.00 |
| June-20 | 18.9 | 10,028.00 | 189,525.00 |
| July-20 | 32.5 | 5,679.00 | 184,567.50 |
| Total Motor Fuel Tax | 28.9 | $63,352.00 | $1,830,715.50 |

Schedule HW-24

NEW JERSEY NATURAL GAS COMPANY

CALCULATION OF LEAD DAYS FOR NEW JERSEY ENERGY SALES TAX

BASED ON LEAD-LAG STUDY FOR THE TWELVE MONTHS ENDED SEPTEMBER 30, 2020

| Month of Payment | Lead/ (Lag) Days | Amount | Weighted Amount |
|---|---|---|---|
| (1) | (2) | (3) | (4) |
| February-20 | 35.0 | $3,728,866.00 | $130,510,310.00 |
| March-20 | 34.0 | 5,799,947.00 | 197,198,198.00 |
| April-20 | 34.0 | 4,598,388.00 | 156,345,192.00 |
| May-20 | (110.4) | 25,310,919.00 | -2,794,131,556.50 |
| June-20 | 34.0 | 2,259,551.00 | 76,824,734.00 |
| July-20 | 33.5 | 1,842,327.00 | 61,717,954.50 |
| Total New Jersey Energy Sales Tax | (49.9) | $43,539,998.00 | -$2,171,535,168.00 |

Schedule HW-25

NEW JERSEY NATURAL GAS COMPANY
SUMMARY OF NET ASSETS AND LIABILITIES
13-MONTH AVERAGE BALANCE ENDING JANUARY 31, 2021

| | 13-Month Average Balance Ending January 31, 2021 |
|---|---|
| **Assets:** | |
| Cash Balances | $26,693,948 |
| Work Orders | 311,709 |
| Third Party Damage | 663,182 |
| NJ Lifeline | 76,109 |
| LI Heap | 281,387 |
| Employees | 17,641 |
| Billing In Progress | 7,073,741 |
| Account Receivables | (520,580) |
| BCBS | 1,662,679 |
| Damage Claims | 8,346 |
| Prepaid Comm'L Paper Interest | 361 |
| Prepaid Commitment Fees | 466,165 |
| Pension/OBEB Asset | 179,434,759 |
| CSV Life Insurance | 1,413,558 |
| Total Assets | $217,583,004 |
| | |
| **Liabilities** | |
| Pension/OPEB Liability | ($127,663,887) |
| Vouchers | (17,057,921) |
| Undistributed Invoices | (6,766) |
| Dental Claim Reserve | (49,900) |
| Account Payables | (132,184) |
| VIP Life Insurance Deduction | (97,344) |
| Allstate Supplemental Insurance | (11,678) |
| Credit Card Processing | (313,649) |
| Retainage Payable | (4,966,998) |
| Customer Deposits | (12,884,498) |
| Current and Accrued Liabilities | (9,617) |
| Supplemental Retirement | (529,393) |
| Total Liabilities | ($163,723,834) |
| | |
| **Net Assets/Liability** | $53,859,170 |

STATE OF NEW JERSEY

BOARD OF PUBLIC UTILITIES

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IN THE MATTER OF THE PETITION OF

**NEW JERSEY NATURAL GAS COMPANY**

FOR APPROVAL OF INCREASED BASE TARIFF RATES AND CHARGES
FOR GAS SERVICE AND OTHER TARIFF REVISIONS

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BPU Docket No.

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Direct Testimony

of

Paul R. Moul, Managing Consultant
P. Moul & Associates

Concerning

# Cost of Equity and Fair Rate of Return

**New Jersey Natural Gas Company**
Direct Testimony of Paul R. Moul
Table of Contents

| GLOSSARY OF ACRONYMS AND DEFINED TERMS | |
|---|---|
| **ACRONYM** | **DEFINED TERM** |
| AFUDC | Allowance for Funds Used During Construction |
| β | Beta |
| b | Represents the retention rate that consists of the fraction of earnings that are not paid out as dividends |
| b x r | Represents internal growth |
| CAPM | Capital Asset Pricing Model |
| CCR | Corporate Credit Rating |
| CE | Comparable Earnings |
| CIP | Conservation Incentive Program |
| DCF | Discounted Cash Flow |
| FOMC | Federal Open Market Committee |
| g | Growth rate |
| IGF | Internally Generated Funds |
| LDC | Local Distribution Company |
| LT | Long Term |
| NJNG | New Jersey Natural Gas Company |
| NJR | New Jersey Resources Corporation |
| OFO | Operational flow orders |
| BPU | New Jersey Board of Public Utilities |
| | |
| r | Represents the expected rate of return on common equity |
| RDM | Revenue Decoupling Mechanism |
| Rf | Risk-free rate of return |
| Rm | Market risk premium |
| RP | Risk Premium |
| s | Represents the new common shares expected to be issued by a Firm |
| s x v | Represents external growth |
| S&P | Standard & Poor's |

| GLOSSARY OF ACRONYMS AND DEFINED TERMS | |
|---|---|
| **ACRONYM** | **DEFINED TERM** |
| v | Represents the value that accrues to existing shareholders from selling stock at a price different from book value |
| WNC | Weather Normalization Adjustment Clause |
| ytm | Yield to maturity |

## INTRODUCTION AND SUMMARY OF RECOMMENDATIONS

**Q. Please state your name, occupation and business address.**

A. My name is Paul Ronald Moul. My business address is 251 Hopkins Road, Haddonfield, New Jersey 08033-3062. I am Managing Consultant at the firm P. Moul & Associates, an independent financial and regulatory consulting firm. My educational background, business experience and qualifications are provided in Appendix A, which follows my direct testimony.

**Q. What is the purpose of your direct testimony?**

A. My testimony presents evidence, analysis, and a recommendation concerning the appropriate cost of common equity, support for the Company's proposed capital structure, and overall rate of return that the New Jersey Board of Public Utilities (BPU or the Board) should recognize in the determination of the revenues that New Jersey Natural Gas Company (NJNG or the Company) should be authorized as a result of this proceeding. My analysis and recommendation are supported by the detailed financial data contained in Exhibit PRM-1, which is a multi-page document divided into fifteen (15) schedules. My testimony is based on my knowledge of the Company, discussions with the Company's management, and information obtained from the Company including specific financial data.

**Q. Based upon your analysis, what is your conclusion concerning the appropriate rate of return for the Company in this case?**

A. Based upon my analysis of the Company, it is my opinion that the rate of return on common equity should be set within the range of 10.50% to 11.25%. My cost of equity determination should be viewed in the context of the need for supportive regulation at a time of increased infrastructure improvements now underway for the Company. As shown on page 1 of Schedule 1, I have presented the weighted average cost of capital for the Company, which is calculated with the August 31,

2021 test year. My recommended range of the rate of return and return on equity range are shown below:

| Type of Capital | Ratios | Cost Rate | Weighted Cost Rate |
|---|---|---|---|
| Long-Term Debt | 43.11% | 3.60% | 1.55% |
| Common Equity | 56.89% | 10.50% | 5.97% |
| Total | 100.00% | | 7.53% |

| Type of Capital | Ratios | Cost Rate | Weighted Cost Rate |
|---|---|---|---|
| Long-Term Debt | 43.11% | 3.60% | 1.55% |
| Common Equity | 56.89% | 11.25% | 6.40% |
| Total | 100.00% | | 7.95% |

The resulting overall cost of capital, which is the product of weighting the individual capital costs by the proportion of each respective type of capital, should establish a compensatory level of return for the use of capital and, if achieved, will provide the Company with the ability to attract capital on reasonable terms.

**Q. Are there unusual factors that you included in your analysis of the cost of equity for the Company?**

A. Yes. My cost of equity analysis reflects the impact of the coronavirus pandemic and the collapse of crude oil prices that occurred in the first quarter of 2020. These events had a significant impact on the capital markets -- both debt and equity. Extraordinary events around the COVID-19 pandemic have produced significant turmoil that has rocked the stock and bond markets beginning in the February-March 2020 time frame. During this period, we saw abrupt reaction to the coronavirus pandemic and declines in the price of crude oil. These events led to the end of the record-setting 128-month economic expansion. As we entered a recession in

February 2020, extraordinary actions were taken by the Federal Open Market Committee (FOMC) to address these disruptions. I have considered these events as they impact the inputs that I used in the various models of the cost of equity. That is to say, I have analyzed the cost of equity models using input data that follows the onset of the economic recession.

**Q. What background information have you considered in reaching a conclusion concerning the Company's cost of capital?**

A. The Company is a wholly-owned subsidiary of New Jersey Resources Corporation (NJR). The common stock of NJR is traded on the New York Stock Exchange.

The Company provides natural gas distribution service to over 558,000 customers located in central and northern New Jersey. Throughput to on-system customers in 2020 was represented by approximately 68% to sales and firm transportation customers and approximately 32% to interruptible customers. The Company has additional throughput pursuant to its incentive programs. NJNG obtains its natural gas supplies from producers and marketers and has transportation arrangements through connections to five interstate pipelines. The Company has storage arrangements with five suppliers and owns two liquefied natural gas facilities to supplement flowing gas.

**Q. How have you determined the cost of common equity in this case?**

A. The cost of common equity is established using capital market and financial data relied upon by investors to assess the relative risk, and hence, the cost of equity for a natural gas utility, such as NJNG. In this regard, I have considered four (4) well-recognized models. These methods include: the Discounted Cash Flow (DCF) model, the Risk Premium (RP) analysis, the Capital Asset Pricing Model (CAPM), and the Comparable Earnings (CE) approach. The results of a variety of approaches

indicate that the Company's rate of return on common equity is in the range of 10.50% to 11.25%.

**Q. In your opinion, what factors should the Board consider when determining the Company's cost of capital in this proceeding?**

A. The Board's rate of return allowance must be set to cover the Company's interest and dividend payments, provide a reasonable level of earnings retention, produce an adequate level of internally generated funds to meet capital requirements, be commensurate with the risk to which the Company's capital is exposed, assure confidence in the financial integrity of the Company, support reasonable credit quality, and allow the Company to raise capital on reasonable terms. The return that I propose fulfills these established standards of a fair rate of return set forth by the landmark Bluefield and Hope cases.[1] That is to say, my proposed rate of return is commensurate with returns available on investments having corresponding risks.

**Q. How have you measured the cost of equity in this case?**

A. The models that I used to measure the cost of common equity for the Company were applied with market and financial data developed from a group of nine (9) gas companies. I will refer to these companies as the Gas Group throughout my testimony. I began with all of the gas utilities contained in The Value Line Investment Survey, which consists of ten companies. Value Line is an investment advisory service that is a widely used source in public utility rate cases. I eliminated one company from the Value Line group. UGI Corporation was removed due to its diversified businesses consisting of six reportable segments, including propane, two international LPG segments, natural gas utility, energy services, and electric generation. The companies in the Gas Group are identified on page 2 of Schedule 3.

[1] Bluefield Water Works & Improvement Co. v. P.S.C. of West Virginia, 262 U.S. 679 (1923) and F.P.C. v. Hope Natural Gas Co., 320 U.S. 591 (1944).

**Q. How have you performed your cost of equity analysis with the market data for the Gas Group?**

A. I have applied the models/methods for estimating the cost of equity using the average data for the Gas Group. I have not measured separately the cost of equity for the individual companies within the Gas Group, because the determination of the cost of equity for an individual company can be problematic. The use of group average data will reduce the effect of potentially anomalous results for an individual company if a company-by-company approach were utilized.

**Q. Please summarize your cost of equity analysis.**

A. My cost of equity determination was derived from the results of the methods/models identified above. In general, the use of more than one method provides a superior foundation to arrive at the cost of equity. At any point in time, a single method can provide an incomplete measure of the cost of equity. The specific application of these methods/models will be described later in my testimony. The following table provides a summary of the indicated costs of equity using each of these approaches.

| | Excluding Flotation Costs[2] | |
|---|---|---|
| | High End | Low End[3] |
| DCF | 13.46% | 11.29% |
| Risk Premium | 10.00% | 10.00% |
| CAPM | 12.67% | 10.65% |
| Comparable Earnings[4] | 12.00% | 12.00% |

[2] Flotation costs are defined as the out-of-pocket costs associated with the issuance of common stock. Those costs typically consist of the underwriters' discount and company issuance expenses.

[3] Excluding the leverage adjustment .

[4] Average of historical and forecast returns.

I have also provided the cost of equity analysis that includes flotation costs as shown later in my testimony. From these measures, I recommend a cost of equity of 10.50% to 11.25%. The low end of my range is based on the low end results of the CAPM, i.e., the 10.65% return rounded down to 10.50%. The upper end of my range is represented by the low end results of the DCF rounded down to 11.25%. The midpoint of the range is 10.875%. If all of the market-based models were considered (i.e., DCF, Risk Premium and CAPM), the average of the midpoint of each end of the range would have produced a higher midpoint of 11.35%. To obtain new capital and retain existing capital, the rate of return on common equity must be high enough to satisfy investors' requirements.

## NATURAL GAS RISK FACTORS

**Q. What factors currently affect the business risk of natural gas utilities?**

A. Gas utilities face risks arising from competition, economic regulation, the business cycle, and customer usage patterns. Today, they operate in a complex environment with time frames for decision-making considerably shortened. Their business profile is influenced by market-oriented pricing for the commodity distributed to customers and open access for the transportation of natural gas for customers. The gas distribution industry also faces the risk associated with increased availability of renewable energy sources and expanded emphasis on energy efficiency.

Natural gas utilities have focused increased attention on safety and reliability issues and on conservation. In order to address these issues and to comply with new and pending pipeline safety regulations, natural gas companies are now allocating more of their resources to addressing aging infrastructure issues. The testimony of Company witnesses discusses the investments that the Company has made and will make to address these issues.

**Q. What specific risks should the Board consider when setting the rate of return for NJNG in this case?**

A. Those risks fall in the general categories of regulatory, operational and infrastructure.

**Q. Please detail the regulatory risks faced by the Company?**

A. Among other factors, regulatory risks faced by the Company are elevated when it comes to permits and approvals necessary for the siting of projects that assure reliable supply of natural gas. Obtaining these permits and approvals has become a time consuming process that adds delay and costs to the projects that will assure adequate gas supply for the Company.

**Q. Please discuss some of the operational risks faced by the Company?**

A. Risks that affect the Company's operations relate to adequate delivery capability, counterparty risk and risks related to cyber-security. The Company has been faced with operational flow orders (OFOs) associated with balancing supply capabilities with customer demand. It is expected the OFOs will continue until new projects become operational that will enhance gas supply. Along these lines, the Company is also faced with counterparty risk should suppliers fail to perform under their obligations, especially with regard to hedging obligations. In addition, the handling of natural gas is inherently a risky. Finally, cyber-security has taken on increased risk when systems that deliver gas to customers are vulnerable to attack from foreign enemies and domestic terrorists.

**Q. What risks are associated with the Company's infrastructure?**

A. The Company's infrastructure is aging rapidly and is in the process of rehabilitation and replacement. Investments that address these issues cause costs to increase without any corresponding increase in throughput that would add to revenues. This places pressure on the price paid by customers that may prompt them to seek alternative energy sources.

**Q. Are there other features of the Company's business that should be considered when assessing the Company's risk?**

A. Yes. Most of the Company's residential and commercial customers use natural gas for space heating purposes. This indicates that a large proportion of the Company's residential and commercial customers present a low load factor profile and their energy demands are significantly influenced by temperature conditions, over which the Company has absolutely no control. To help deal with this issue, NJNG has a Conservation Incentive Program (CIP) as part of its tariff.

**Q. Does your cost of equity analysis and recommendation take into account the CIP?**

A. Yes. The Company currently operates under a CIP that provides revenue decoupling and promotes conservation programs. It is intended to reconcile actual weather-adjusted sales margins with those approved in the Company's most recent rate case. Weather variations are also part of the CIP, which formerly was handled through the Weather Normalization Clause (WNC), which was in place since 1992 for the Company. My cost of equity analysis takes into account the Company's CIP.

**Q. How have you addressed this issue?**

A. The LDCs included in my Gas Group already have tariff mechanisms similar to decoupling, and therefore, my analysis already reflects the impact of decoupling on investor expectations through the use of market-determined models. All of the companies in my Gas Group have some form of revenue decoupling mechanism (RDM) that is intended to accomplish the same result as the Company's decoupling mechanism. As a group, the market prices of these companies' common equity reflect the expectations of investors that the companies' revenues are stabilized to some extent by a decoupling mechanism. Therefore, my analysis reflects the impacts of decoupling on investor expectations through the use of market-

determined models. As such, the market prices of these companies' common stocks reflect the expectations of investors related to a regulatory mechanism that adjusts revenues for conservation, abnormal weather, and other items. The trend in the industry is to stabilize the recovery of fixed costs, which are unaffected by usage. Indeed, there has been a proliferation of tracking mechanisms in the LDC business. Since my Gas Group that I use to measure the cost of equity has the risk attributes related to the RDM "baked in" to their stock prices, absent the benefit of the RDM would increase the cost of equity as determined by the models that are applied with the Gas Group data.

**Q. Please indicate how the Company's construction program affects its risk profile.**

A. The Company is faced with the requirement to undertake investments to maintain and upgrade existing facilities in its service territory. To maintain safe and reliable service to existing customers, the Company must invest to upgrade its infrastructure. The rehabilitation of the Company's infrastructure represents capital expenditures that do not increase the Company's customer base. Although the Company has made significant strides in reducing its percentage of unprotected steel pipe, these facilities represent 96 miles of its distribution mains as of year-end 2020. For the future, the Company expects its capital expenditures to be:

| Year | Capital Expenditures ($000) |
|---|---|
| 2021 | $ 443,300 |
| 2022 | $ 359,018 |
| 2023 | $ 346,729 |
| 2024 | $ 219,000 |
| 2025 | $ 218,648 |
| Total | $ 1,586,695 |

The Company's total capital expenditures over the next five years will represent approximately 62% ($1,586,695 ÷ $2,578,263) of the net utility plant in service at September 30, 2020.

**Q. How should the Board respond to the issues facing the natural gas utilities and in particular NJNG?**

A. The Board should recognize and take into account the heightened capital requirements for the Company in determining the rate of return in this case. It is essential that the Board provide a reasonable opportunity for the Company to actually earn its authorized rate of return so that it can raise the capital necessary to fund its large capital program.

## FUNDAMENTAL RISK ANALYSIS

**Q. Is it necessary to conduct a fundamental risk analysis to provide a framework for a determination of a utility's cost of equity?**

A. Yes, it is. It is necessary to establish a company's relative risk position within its industry through a fundamental analysis of various quantitative and qualitative factors that bear upon investors' assessment of overall risk. The qualitative factors that bear upon Company risk have already been discussed previously. The quantitative risk analysis follows. The items that influence investors' evaluation of risk and their required returns were described above. For this purpose, I compared the Company to the S&P Public Utilities, an industry-wide proxy consisting of various regulated businesses, and to the Gas Group.

**Q. What are the components of the S&P Public Utilities?**

A. The S&P Public Utilities is a widely recognized index that is comprised of electric power and natural gas companies. These companies are identified on page 3 of Schedule 4.

**Q. What companies comprise the gas group?**

A. My Gas Group consists of the following companies: Atmos Energy Corp., Chesapeake Utilities Corporation, New Jersey Resources Corp., NiSource, Inc., Northwest Natural Holding Co., ONE Gas, Inc., South Jersey Industries, Inc., Southwest Gas Holdings, and Spire, Inc.

**Q. Is knowledge of a utility's bond rating an important factor in assessing its risk and cost of capital?**

A. Yes. Knowledge of a company's credit quality rating is important because the cost of each type of capital is directly related to the associated risk of the firm. So, while a company's credit quality risk is shown directly by the rating and yield on its bonds, these relative risk assessments also bear upon the cost of equity. This is because a firm's cost of equity is represented by its borrowing cost plus compensation to recognize the higher risk of an equity investment compared to debt.

**Q. How do the credit quality ratings compare for the Company, the Gas Group, and the S&P Public Utilities?**

A. Presently, the Company's credit quality rating is A1 from Moody's Investors Service (Moody's). The rating represents the Long Term (LT) issuer rating by Moody's, which focuses upon the credit quality of the issuer of the debt rather than upon the debt obligation itself. For the Gas Group, the average LT issuer rating is A2 by Moody's, as displayed on page 2 of Schedule 3. For the S&P Public Utilities, the average credit quality rating is A3 by Moody's, as displayed on page 3 of Schedule 4. Many of the financial indicators that I will subsequently discuss are considered during the rating process.

**Q. How do the financial data compare for the Company, the Gas Group, and the S&P Public Utilities?**

A. The broad categories of financial data that I will discuss are shown on Schedules 2, 3, and 4. The data cover the five-year period 2015-2019. The important categories of relative risk may be summarized as follows:

Size. In terms of capitalization, the Company is smaller than the average size of the Gas Group, and smaller still than the average size of the S&P Public Utilities. All other things being equal, a smaller company is riskier than a larger company because a given change in revenue and expense has a proportionately greater impact on a small firm. As I will demonstrate later, the size of a firm can impact its cost of equity.

Market Ratios. Market-based financial ratios, such as earnings/price ratios and dividend yields, provide a partial measure of the investor-required cost of equity. If all other factors are equal, investors will require a higher rate of return for companies that exhibit greater risk, in order to compensate for that risk. That is to say, a firm that investors perceive to have higher risks will experience a lower price per share in relation to expected earnings.[5]

There are no market ratios available for the Company because its stock is owned by New Jersey Resources. The five-year average price-earnings multiple was somewhat higher for the Gas Group compared to the S&P Public Utilities. The five-year average dividend yield was lower for the Gas Group as compared to the S&P Public Utilities. The five-year average market-to-book ratio was somewhat higher for the Gas Group as compared to the S&P Public Utilities.

Common Equity Ratio. The level of financial risk is measured by the proportion of long-term debt and other senior capital that is contained in a company's capitalization. Financial risk is also analyzed by comparing common equity ratios

[5]For example, two otherwise similarly situated firms each reporting $1.00 in earnings per share would have different market prices at varying levels of risk (i.e., the firm with a higher level of risk will have a lower share value, while the firm with a lower risk profile will have a higher share value).

(the complement of the ratio of debt and other senior capital). That is to say, a firm with a high common equity ratio has lower financial risk, while a firm with a low common equity ratio has higher financial risk. The five-year average common equity ratios, based on permanent capital, were 55.9% for NJNG, 52.6% for the Gas Group, and 42.2% for the S&P Public Utilities. The Company's common equity ratio was higher than the Gas Group, thereby indicating lower financial risk.

Return on Book Equity. Greater variability (i.e., uncertainty) of a firm's earned returns signifies relatively greater levels of risk, as shown by the coefficient of variation (standard deviation ÷ mean) of the rate of return on book common equity. The higher the coefficients of variation, the greater degree of variability. For the five-year period, the coefficients of variation were 0.132 (1.2% ÷ 9.1%) for the Company, 0.089 (0.8% ÷ 9.0%) for the Gas Group, and 0.049 (0.5% ÷ 10.2%) for the S&P Public Utilities. The variability of the Company's rates of return was considerably higher than the Gas Group and the S&P Public Utilities, thereby signifying higher risk for the Company.

Operating Ratios. I have also compared operating ratios (the percentage of revenues consumed by operating expense, depreciation, and taxes other than income).[6] The five-year average operating ratios were 82.2% for the Company, 84.1% for the Gas Group, and 78.8% for the S&P Public Utilities. The Company's operating ratios were somewhat lower than the Gas Group, thereby indicating slightly lower risk.

Coverage. The level of fixed charge coverage (i.e., the multiple by which available earnings cover fixed charges, such as interest expense) provides an indication of the earnings protection for creditors. Higher levels of coverage, and hence earnings protection for fixed charges, are usually associated with superior

[6]The complement of the operating ratio is the operating margin which provides a measure of profitability. The higher the operating ratio, the lower the operating margin.

grades of creditworthiness. Excluding Allowance for Funds Used During Construction (AFUDC), the five-year average pre-tax interest coverage was 4.85 times for the Company, 4.23 times for the Gas Group, and 3.22 times for the S&P Public Utilities. The interest coverages were higher for the Company as compared to the Gas Group, thereby indicating less credit risk.

Quality of Earnings. Measures of earnings quality usually are revealed by the percentage of AFUDC related to income available for common equity, the effective income tax rate, and other cost deferrals. These measures of earnings quality usually influence a firm's internally generated funds because poor quality of earnings would not generate high levels of cash flow. During the COVID pandemic, there is further pressure on cash flows due to the suspension of collection activities and the moratorium against shut off service due to nonpayment. Moreover, the Company has created a regulatory asset consisting of COVID-related costs that have been deferred. Such actions have a negative impact on the Company's cash flow. Quality of earnings has not been a significant concern for the Company, the Gas Group and the S&P Public Utilities. During the recent period of heightened construction, the AFUDC percentage has spiked upward for the Company.

Internally Generated Funds. Internally generated funds (IGF) provide an important source of new investment capital for a utility and represent a key measure of credit strength. Historically, the five-year average percentage of IGF to capital expenditures was 66.8% for the Company, 59.5% for the Gas Group and 74.1% for the S&P Public Utilities. The Company's IGF to construction percentage has fallen precipitously during the recent period of heightened construction expenditures.

Betas. The financial data that I have been discussing relate primarily to company-specific risks. Market risk for firms with publicly-traded stock is measured by beta coefficients. Beta coefficients attempt to identify systematic risk, i.e., the risk

associated with changes in the overall market for common equities.[7] Value Line publishes such a statistical measure of a stock's relative historical volatility to the rest of the market. A comparison of market risk is shown by the Value Line beta of 0.87 as the average for the Gas Group (see page 2 of Schedule 3) and 0.91 as the average for the S&P Public Utilities (see page 3 of Schedule 4). The systematic risk for the Gas Group as measured by the Value Line beta is fairly similar to the S&P Public Utilities.

**Q. Please summarize your risk evaluation.**

A. In several aspects, principally related to its smaller size, its higher earnings variability, and somewhat lower operation ratio, NJNG's risk is higher than the Gas Group. Its common equity ratio, and interest coverage points to lower risk for NJNG. Quality of earnings and IGF to construction shows similar risk for NJNG and the Gas Group. During recent periods of heighten construction, the Company's IGF percentage has fallen and moved the Company's risk higher. On balance, the cost of equity measured with the Gas Group data will provide a reasonable representation of the Company's cost of equity.

## CAPITAL STRUCTURE RATIOS

**Q. Please explain the selection of capital structure ratios for NJNG.**

A. It is appropriate that NJNG's capital structure ratios be employed for rate of return purposes. In the situation where the operating public utility raises its own debt directly in the capital markets, as is the case for the Company, it is proper to employ the capital structure ratios and senior capital cost rates of the regulated public utility

[7]Beta is a relative measure of the historical sensitivity of the stock's price to overall fluctuations in the New York Stock Exchange Composite Index. The ''Beta coefficient'' is derived from a regression analysis of the relationship between weekly percentage changes in the price of a stock and weekly percentage changes in the NYSE Index over a period of five years. The betas are adjusted for their long-term tendency to converge toward 1.00. A common stock that has a beta less than 1.0 is considered to have less systematic risk than the market as a whole and would be expected to rise and fall more slowly than the rest of the market. A stock with a beta above 1.0 would have more systematic risk.

for rate of return purposes. Furthermore, consistency requires that the embedded cost rate of the Company's senior securities also be employed. This procedure is consistent with the ratesetting procedures used by the Board in prior rate cases for NJNG.

**Q. Does Schedule 5 provide the Company's capitalization and capital structure ratios?**

A. Yes. Schedule 5 presents the Company's capitalization and related capital structure ratios. The August 31, 2021 capitalization corresponds with the end of the test year in this case. The Company's initial filing contains the actual December 31, 2020 capital structure for informational purposes. The test year data will be updated as the case progresses. The Company's capital structure estimated at August 31, 2021 reflects the forecast increase in retained earnings by August 31, 2021, which assumes no common dividend payments during the period.

**Q. What capital structure ratios do you recommend be adopted for rate of return purposes in this proceeding?**

A. Since ratesetting is prospective, the rate of return should, at a minimum, reflect known or reasonably foreseeable changes that will occur during the course of the test year. As a result, I will adopt the Company's test year-end capital structure ratios of 43.11% long-term debt and 56.89% common equity. These capital structure ratios are the best approximation of the mix of capital the Company will employ to finance its rate base during the period new rates are in effect. The capital structure is reasonable and required to finance the large construction requirements over the next few years.

## COST OF SENIOR CAPITAL

**Q. What cost rate have you assigned to the debt portion of NJNG's capital structure?**

A. Consistency with the capital structure ratios for the Company requires that the embedded cost rates of NJNG's senior securities must also be employed. This procedure is consistent with the ratesetting procedures used by the Board in prior NJNG rate cases. The determination of the cost of debt is essentially an arithmetic exercise. This is due to the fact that the Company has contracted for the use of this capital for a specific period of time at a specified cost rate. As shown on page 3 of Schedule 6, the embedded cost rate of long-term debt is estimated to be 3.60% by August 31, 2021. The details leading to the development of the individual effective cost rates for each series of long-term debt, using the yield to maturity (ytm) technique, are shown on page 4 of Schedule 6. The ytm is the rate of discount that equates the present value of all future interest and principal payments with the net proceeds of the bond after recognizing issuance costs. Other elements of the Company's cost of debt include the historical carrying cost of 3.14% on the meter leases.

I will adopt the 3.60% prospective embedded cost of debt for rate of return purposes. The 3.60% debt cost rate is related to the amount of long-term debt shown on Schedule 5 which provides the basis for the 43.11% long-term debt ratio.

## COST OF EQUITY – GENERAL APPROACH

**Q. Please describe how you determined the cost of equity for the Company.**

A. Although my fundamental financial analysis provides the required framework to establish the risk relationships among NJNG, the Gas Group, and the S&P Public Utilities, the cost of equity must be measured by standard financial models that I identified above. Differences in risk traits, such as size, business diversification, geographical diversity, regulatory policy, financial leverage, and bond ratings must be considered when analyzing the cost of equity.

It is also important to reiterate that no one method or model of the cost of equity can be applied in an isolated manner. Rather, informed judgment must be used to take into consideration the relative risk traits of the firm. It is for this reason that I have used more than one method to measure the Company's cost of equity. As I describe below, each of the methods used to measure the cost of equity contains certain incomplete and/or overly restrictive assumptions and constraints that are not optimal. Therefore, I favor considering the results from a variety of methods. In this regard, I applied each of the methods with data taken from the Gas Group and arrived at a cost of equity in the range of 10.50% to 11.25%.

## DISCOUNTED CASH FLOW

**Q. Please describe the Discounted Cash Flow model.**

A. The DCF model seeks to explain the value of an asset as the present value of future expected cash flows discounted at the appropriate risk-adjusted rate of return. In its simplest form, the DCF-determined return on common stock consists of a current cash (dividend) yield and future price appreciation (growth) of the investment. The dividend discount equation is the familiar DCF valuation model, which assumes that future dividends are systematically related to one another by a constant growth rate. The DCF formula is derived from the standard valuation model: P = D/(k-g), where P = price, D = dividend, k = the cost of equity, and g = growth in cash flows. By rearranging the terms, we obtain the familiar DCF equation: k= D/P + g. All of the terms in the DCF equation represent investors' assessment of expected future cash flows that they will receive in relation to the value that they set for a share of stock (P). The DCF equation is sometimes referred to as the "Gordon" model.[8] My DCF results are provided on Schedule 1, page 2, for the Gas Group. The DCF return is

[8] Although the popular application of the DCF model is often attributed to the work of Myron J. Gordon in the mid-1950's, J. B. Williams exposited the DCF model in its present form nearly two decades earlier.

13.46% with the leverage adjustment and 11.29% without the leverage adjustment for the Gas Group.

Among the limitations of the model, there is a certain element of circularity in the DCF method when applied in rate cases. This is because investors' expectations for the future depend upon regulatory decisions. In turn, when regulators depend upon the DCF model to set the cost of equity, they rely upon investor expectations that include an assessment of how regulators will decide rate cases. Due to this circularity, the DCF model may not fully reflect the true risk of a utility.

**Q. What is the dividend yield component of a DCF analysis?**

A. The dividend yield reveals the portion of investors' cash flow that is generated by the return provided by the dividends an investor receives. It is measured by the dividends per share relative to the price per share. The DCF methodology requires the use of an expected dividend yield to establish the investor-required cost of equity. For the twelve months ended December 2020, the monthly dividend yields are shown on Schedule 7. The month-end prices were adjusted to reflect the buildup of the dividend in the price that has occurred since the last ex-dividend date (i.e., the date by which a shareholder must own the shares to be entitled to the dividend payment – usually about two to three weeks prior to the actual payment).

For the twelve months ended December 2020 the average dividend yield was 3.36% for the Gas Group based upon a calculation using annualized dividend payments and adjusted month-end stock prices. The dividend yields for the more recent six-month and three-month periods were 3.65% for both periods. For applying the DCF model, I have used the six-month average dividend yield of 3.65% for the Gas Group. The use of this dividend yield will reflect current capital costs, while avoiding spot yields. For the purpose of a DCF calculation, the average dividend yield must be adjusted to reflect the prospective nature of the dividend

payments, i.e., the higher expected dividends for the future. Recall that the DCF is an expectational model that must reflect investors' anticipated cash flows. I have adjusted the six-month average dividend yield in three different, but generally accepted, manners and used the average of the three adjusted values as calculated in the lower panel of data presented on Schedule 7. This adjustment adds fourteen basis points to the six-month average historical yield, thus producing the 3.79% adjusted dividend yield for the Gas Group.

**Q. What factors influence investors' growth expectations?**

A. As noted previously, investors are interested principally in the dividend yield and future growth of their investment (i.e., the price per share of the stock). Future growth in earnings per share is the DCF model's primary focus because, under the model's assumption that the price-earnings multiple remains constant, the price per share of stock will grow at the same rate as earnings per share. A growth rate analysis considers a variety of variables to reach a consensus of prospective growth, including historical data and widely available analysts' forecasts of earnings, dividends, book value, and cash flow (all stated on a per-share basis). A fundamental growth rate analysis is frequently based upon internal growth (b x r), where "r" is the expected rate of return on common equity and "b" is the retention rate (a fraction representing the proportion of earnings not paid out as dividends). To be complete, the internal growth rate should be modified to account for sales of new common stock (external growth), which is represented by the formula s x v, where "s" is the number of new common shares the firm expects to issue and "v" is the value that accrues to existing shareholders from selling stock at a price above book value. Fundamental growth, which combines internal and external growth, encompasses the factors that cause book value per share to grow over time.

Growth also can be expressed in multiple stages. This expression of growth consists of an initial "growth" stage where a firm enjoys rapidly expanding markets, high profit margins, and abnormally high growth in earnings per share. Thereafter, a firm enters a "transition" stage where fewer technological advances and increased product saturation begin to reduce the growth rate and profit margins come under pressure. During the "transition" phase, investment opportunities begin to mature, capital requirements decline, and a firm begins to pay out a larger percentage of earnings to shareholders. Finally, the mature or "steady-state" stage is reached when a firm's earnings growth, payout ratio, and return on equity stabilize at levels where they remain for the life of a firm. The three stages of growth assume a step-down of high initial growth to lower sustainable growth. Even if these three stages of growth can be envisioned for a firm, the third "steady-state" growth stage, which is assumed to remain fixed in perpetuity, represents an unrealistic expectation because the three stages of growth can be repeated. That is to say, the stages can be repeated where growth for a firm ramps-up and ramps-down in cycles over time. For these reasons, there is no need to analyze growth rates individually for each cycle, but rather to rely upon analysts' growth forecasts, which are those used by investors when pricing common stocks.

**Q. How did you determine an appropriate growth rate?**

A. The growth rate used in a DCF calculation should measure investor expectations. Investors consider both company-specific variables and overall market sentiment (i.e., level of inflation rates, interest rates, economic conditions, etc.) when balancing their capital gains expectations with their dividend yield requirements. Investors are not influenced solely by a single set of company-specific variables weighted in a formulaic manner. Therefore, all relevant growth rate indicators should be evaluated

using a variety of techniques when formulating a judgment of investor-expected growth.

**Q. What data for the Gas Group have you considered in your growth rate analysis?**

A. I considered the growth in the financial variables shown on Schedules 8 and 9, which reflect historical (Schedule 8) and projected (Schedule 9) rates of growth in earnings per share, dividends per share, book value per share, and cash flow per share for the Gas Group. While analysts will review all measures of growth, as I have done, earnings per share growth directly influences the expectations of investors for the future performance of utility stocks. Forecasts of earnings growth are required because the DCF model is forward-looking, and, with the constant price-earnings multiple and constant payout ratio that the DCF model assumes, all other measures of growth will mirror earnings growth. The historical growth rates were obtained from the Value Line publication that provides those data. While historical data cannot be ignored, it is much less significant in applying the DCF model than projections of future growth. Investors cannot purchase the past earnings of a utility. To the contrary, they are only entitled to future earnings, which are the focus of growth projections. Furthermore, if significant weight is assigned to historical performance, the historical data are double counted because they are already factored into analysts' forecasts of earnings growth.

**Q. Is a five-year investment horizon associated with the analysts' forecasts consistent with the traditional DCF model?**

A. Yes, it is. Although the constant form of the DCF model assumes an infinite stream of cash flows, investors do not expect to hold an investment indefinitely. Rather than viewing the DCF in the context of an endless stream of growing dividends (e.g., a century of cash flows), the growth in the share value (i.e., capital appreciation, or

capital gains yield) is most relevant to investors' total return expectations. Hence, the sale price of a stock can be viewed as a liquidating dividend that can be discounted along with the annual dividend receipts during the investment-holding period to arrive at the investors' expected return. The growth in the price per share will equal the growth in earnings per share if, as the DCF model assumes, there is no change in the price-earnings (P-E) multiple. As such, my company-specific growth analysis, which focuses principally upon five-year forecasts of earnings per share growth, conforms with the type of analysis that influences investors' expectations of their actual total return. Moreover, academic research focuses also on five-year growth rates specifically because market outcomes occurring over that investment horizon are what influence stock prices. Indeed, if investors required forecasts beyond five years in order to properly value common stocks, then it would be reasonable to expect that some investment advisory service would begin publishing that information for individual stocks in order to meet the demands of the marketplace. The absence of such a publication suggests that there is no market for this information because investors do not require forecasts for an infinite series of future data points in order to make informed decisions to purchase and sell stocks.

**Q. What are the analysts' forecasts of future growth that you considered?**

A. Schedule 9 provides projected earnings per share growth rates taken from analysts' five-year forecasts compiled by IBES/First Call, Zacks, and Value Line. These are all reliable authorities of projected growth that investors use to make buy, sell and hold decisions. The IBES/First Call, and Zacks estimates are obtained from the Internet and are widely available to investors. The growth rates reported by IBES/First Call and Zacks are consensus forecasts taken from a survey of analysts that make growth projections for these companies. Notably, First Call's earnings forecasts are frequently quoted in the financial press. The Value Line forecasts also are widely

available to investors and can be obtained by subscription or free-of-charge at most public and collegiate libraries. The IBES/First Call, and Zacks forecasts are limited to earnings per share growth, while Value Line makes projections of other financial variables. The Value Line forecasts of dividends per share, book value per share, and cash flow per share for the Gas Group are also included on Schedule 9.

**Q. What are the projected growth rates published by the sources you discussed?**

A. Schedule 9 shows the prospective five-year earnings per share growth rates projected for the Gas Group by IBES/First Call (6.83%), Zacks (9.16%), and Value Line (9.89%).

**Q. Are certain growth rate forecasts entitled to greater weight in developing a growth rate for use in the DCF model?**

A. Yes. While a variety of factors should be examined to reach a reasonable conclusion on the DCF growth rate, growth in earnings per share should receive the greatest emphasis. Growth in earnings per share is the primary determinant of investors' expectations of the total returns they will obtain from stocks because the capital gains yield (i.e., price appreciation) will track earnings growth if the P-E multiple remains constant, as the DCF model assumes. Moreover, earnings per share (derived from net income) are the source of dividend payments and are the primary driver of retention growth and its surrogate, i.e., book value per share growth. As such, under these circumstances, greater emphasis must be placed upon projected earnings per share growth. In fact, Professor Myron Gordon, the foremost proponent of the use of the DCF model in setting utility rates, concluded that the best measure of growth for use in the DCF model is a forecast of earnings per-share growth.[9] Consistent with Professor Gordon's findings, projections of

[9] Gordon, Gordon & Gould, "Choice Among Methods of Estimating Share Yield," The Journal of Portfolio Management (Spring 1989).

earnings per share growth, such as those published by IBES/First Call, Zacks, and Value Line, provide the best indication of investor expectations.

**Q. What growth rate do you use in your DCF model?**

A. The forecasts shown on Schedule 9 for the Gas Group exhibit a range of average earnings per share growth rates from 6.83% to 9.89%. DCF growth rates should not be established by mathematical formulation, and I have not done so. In my opinion, a growth rate of 7.50% is a reasonable estimate of investor-expected growth for the Gas Group. This value is within the array of analysts' forecasts of five-year earnings per share growth rates and is below the midpoint of that data set. The reasonableness of this growth rate is also supported by the expected continuation of gas utility infrastructure spending.

**Q. Are the dividend yield and growth components of the DCF adequate to accurately depict the rate of return on common equity when it is used to calculate a utility's weighted average overall cost of capital?**

A. The components of the DCF model are adequate for that purpose only if the capital structure ratios are measured by the market value of debt and equity. In the case of the Gas Group, average capital structure ratios are 33.04% long-term debt, 0.00% preferred stock, and 66.96% common equity, as shown on Schedule 10. If book values are used to compute the capital structure ratios, then a leverage adjustment is required.

**Q. What is a leverage adjustment?**

A. If a firm's capitalization, as measured by its stock price, diverges from its capitalization, measured at book value, the potential exists for a financial risk difference. Such a risk difference arises because a market-valued capitalization contains more equity and less debt than a book-value capitalization and, therefore, has less risk than the book-value capitalization. A leverage adjustment properly

accounts for the risk differential between market-value and book-value capital structures.

**Q. Why is a leverage adjustment necessary?**

A. In order to make the DCF results relevant to the capitalization measured at book value (as is done for rate setting purposes), the market-derived cost rate must be adjusted to account for this difference in financial risk. The only perspective that is important to investors is the return that they can realize on the market value of their investment. As I have measured the DCF, the simple yield (D/P) plus growth (g) provides a return applicable strictly to the price (P) that an investor is willing to pay for a share of stock. The need for the leverage adjustment arises when the results of the DCF model (k) are to be applied to a capital structure that is different from the capital structure indicated by the market price (P). From the market perspective, the financial risk of the Gas Group is accurately measured by the capital structure ratios calculated from the market-valued capitalization of a firm. If the rate setting process utilized the market capitalization ratios, then no additional analysis or adjustment would be required, and the simple yield (D/P) plus growth (g) components of the DCF would satisfy the financial risk associated with the market value of the equity capitalization. Because the rate-setting process uses ratios calculated from a firm's book value capitalization, further analysis is required to synchronize the financial risk of the book capitalization with the required return on the book value of the firm's equity. This adjustment is developed through precise mathematical calculations, using well recognized analytical procedures that are widely accepted in the financial literature. To arrive at that return, the rate of return on common equity is the unleveraged cost of capital (or equity return at 100% equity) plus one or more terms reflecting the increase in financial risk resulting from the use of leverage in the capital structure. The calculations presented in the lower panel of data shown on Schedule

10, under the heading "M&M," provides a return of 8.91% when applicable to a capital structure with 100% common equity.

**Q. Are there specific factors that influence market-to-book ratios that determine whether the leverage adjustment should be made?**

A. No. The leverage adjustment is not intended, nor was it designed, to address the reasons that stock prices vary from book value. Hence, any observations concerning market prices relative to book are not on point. The leverage adjustment deals with the issue of financial risk and does not transform the DCF result to a book value return through a market-to-book adjustment. Again, the leverage adjustment that I propose is based on the fundamental financial precept that the cost of equity is equal to the rate of return for an unleveraged firm (i.e., where the overall rate of return equates to the cost of equity with a capital structure that contains 100% equity) plus the additional return required for introducing debt and/or preferred stock leverage into the capital structure.

Further, as noted previously, the relatively high market prices of utility stocks cannot be attributed solely to the notion that these companies are expected to earn a return on the book value of equity that differs from their cost of equity determined from stock market prices. Stock prices above book value are common for utility stocks, and indeed the stock prices of non-regulated companies exceed book values by even greater margins. It is difficult to accept that the vast majority of all firms operating in our economy are generating returns far in excess of their cost of capital. Certainly, in our free-market economy, competition should contain such "excesses" if they actually existed.

Finally, the leverage adjustment adds stability to the final DCF cost rate. That is to say, as the market capitalization increases relative to its book value, the leverage adjustment increases while the simple yield (D/P) plus growth (g) result

declines. The reverse is also true: when the market capitalization declines, the leverage adjustment also declines as the simple yield (D/P) plus growth (g) result increases.

**Q. Is the leverage adjustment that you propose designed to transform the market return into one that is designed to produce a particular market-to-book ratio?**

A. No, it is not. What I label a "leverage adjustment" is merely a convenient way of showing the amount that must be added to (or subtracted from) the result of the simple DCF model (i.e., D/P + g) when the DCF return applies to a capital structure used for ratemaking that is computed with book-value weighting rather than market-value weighting. Although I specify a separate factor, which I call the leverage adjustment, there is no need to do so other than to identify this factor. If I expressed my return solely in the context of the book value weighting that we use to calculate the weighted average cost of capital and ignore the familiar D/P + g expression entirely, then a separate element in the DCF cost of equity determination would not be needed to reflect the differential in financial leverage between a market-value and book-value capitalization. As shown in the bottom panel of data on Schedule 10, the equity return applicable to the book value common equity ratio is equal to 8.91%, which is the return for the Gas Group appropriate for a capital structure with no debt (i.e., a 100% equity ratio) plus 4.55% to compensate investors for the risk of a 48.57% debt ratio. Under this approach, the parts sum to 13.46% (8.91% + 4.55%), and there is no need to even address the cost of equity in terms of D/P + g. To express this same return in the context of the familiar DCF model, I summed the 3.79% dividend yield, the 7.50% growth rate, and 2.17% for the leverage adjustment in order to arrive at the same 13.46% (3.79% + 7.50% + 2.17%) return. I know of no means to mathematically solve for the 2.17% leverage adjustment by expressing it in the terms of any particular relationship of market price to book value. The 2.17%

adjustment is merely a convenient way to compare the 13.46% return computed using the Modigliani & Miller formulas to the 11.29% return generated by the DCF model (i.e., $D_1/P_0$ + g, or the traditional form of the DCF shown on Schedule 7, page 1) based on a market-value capital structure. A 11.29% return assigned to anything other than the market value of equity cannot equate to a reasonable return on book value that has higher financial risk. My point is that when we use a market-determined cost of equity developed from the DCF model, it reflects a level of financial risk that is different (in this case, lower) from the capital structure stated at book value. This process has nothing to do with targeting any particular market-to-book ratio.

**Q. Please provide the DCF return based upon your preceding discussion of dividend yield, growth, and leverage.**

A. As explained previously, I have utilized a six-month average dividend yield ($D_1/P_0$) adjusted in a forward-looking manner for my DCF calculation. This dividend yield is used in conjunction with the growth rate (g) previously developed. The DCF also includes the leverage modification (lev.) required when the book value equity ratio is used in determining the weighted average cost of capital in the rate-setting process rather than the market value equity ratio related to the price of stock. The cost of equity must also include an adjustment to cover flotation costs (flot.), as shown on Schedule 11. In developing the flotation cost adjustment factor, I reduced the 3.9% issuance and selling expenses shown on Schedule 11 to 1.5%. I did this because I applied the adjustment factor (i.e., 1.000 + 0.015) to the entire DCF return, rather than to just the dividend yield component. The resulting DCF cost rate is 13.46%, computed as follows:

| | $D_1/P_0$ | + | $g$ | + | *lev.* | = | $k$ | x | *flot.* | = | $K$ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Gas Group | 3.79% | + | 7.50% | + | 2.17% | = | 13.46% | x | 1.015 | = | 13.66% |

As indicated by the DCF result shown above, the flotation cost adjustment adds 0.20% (13.66% - 13.46%) to the rate of return on common equity for the Gas Group. The DCF result shown above represents the simplified (i.e., Gordon) form of the model that contains a constant-growth assumption. I should reiterate, however, that the DCF-indicated cost rate provides an explanation of the rate of return on common stock market prices without regard to the prospect of a change in the price-earnings multiple. An assumption that there will be no change in the price-earnings multiple is not supported by the realities of the equity market because price-earnings multiples do not remain constant. This is one of the constraints of this model that makes it important to consider the results of other models when determining a company's cost of equity.

## RISK PREMIUM ANALYSIS

**Q. Please describe your use of the Risk Premium approach to determine the cost of equity.**

A. With the Risk Premium approach, the cost of equity capital is determined by corporate bond yields plus a premium to account for the fact that common equity is exposed to greater investment risk than debt capital. The result of my Risk Premium study is shown on Schedule 1, page 2. That result is 10.00% excluding flotation costs and somewhat higher including flotation costs.

**Q. What long-term public utility debt cost rate did you use in your Risk Premium analysis?**

A. In my opinion, and as I will explain in more detail further in my testimony, a 3.25% yield represents a reasonable estimate of the prospective yield on long-term A-rated public utility bonds.

**Q. What historical data are shown by the Moody's data?**

A. I have analyzed the historical yields on the Moody's index of long-term public utility debt as shown on Schedule 12, page 1. For the twelve months ended December 2020, the average monthly yield on Moody's index of A-rated public utility bonds was 3.02%. For the six and three-month periods ended December 2020, the yields were 2.81% and 2.86%, respectively. During the twelve-months ended December 2020, the range of the yields on A-rated public utility bonds was 2.73% to 3.50%. Page 2 of Schedule 12 shows the long-run spread in yields between A-rated public utility bonds and long-term Treasury bonds. As shown on page 3 of Schedule 12, the yields on A-rated public utility bonds have exceeded those on Treasury bonds by 1.45% on a twelve-month average basis, 1.32% on a six-month average basis, and 1.24% on a three-month average basis. Giving greater emphasis to the three-month average spread, which reflects the downtrend, 1.25% represents a reasonable spread for the yield on A-rated public utility bonds over Treasury bonds.

**Q. What forecasts of interest rates have you considered in your analysis?**

A. I have determined the prospective yield on A-rated public utility debt by using the Blue Chip Financial Forecasts (Blue Chip) along with the spread in the yields that I describe below. Blue Chip is a reliable authority and contains consensus forecasts of a variety of interest rates compiled from a panel of banking, brokerage, and investment advisory services. In early 1999, Blue Chip stopped publishing forecasts of yields on A-rated public utility bonds because the Federal Reserve deleted these yields from its Statistical Release H.15. To independently project a forecast of the yields on A-rated public utility bonds, I have combined the forecast yields on long-

term Treasury bonds published on January 1, 2021, and a yield spread of 1.25%, derived from historical data.

**Q. How have you used these data to project the yield on A-rated public utility bonds for the purpose of your Risk Premium analyses?**

A. Shown below is my calculation of the prospective yield on A-rated public utility bonds using the building blocks discussed above, i.e., the Blue Chip forecast of Treasury bond yields and the public utility bond yield spread. For comparative purposes, I also have shown the Blue Chip forecasts of Aaa-rated and Baa-rated corporate bonds. These forecasts are:

| | | Blue Chip Financial Forecasts | | | | |
|---|---|---|---|---|---|---|
| | | Corporate | | 30-Year | A-rated Public Utility | |
| Year | Quarter | Aaa-rated | Baa-rated | Treasury | Spread | Yield |
| 2021 | First | 2.5% | 3.5% | 1.7% | 1.25% | 2.95% |
| 2021 | Second | 2.5% | 3.6% | 1.8% | 1.25% | 3.05% |
| 2021 | Third | 2.6% | 3.7% | 1.9% | 1.25% | 3.15% |
| 2021 | Fourth | 2.7% | 3.8% | 2.0% | 1.25% | 3.25% |
| 2022 | First | 2.8% | 3.8% | 2.1% | 1.25% | 3.35% |
| 2022 | Second | 2.8% | 3.8% | 2.1% | 1.25% | 3.35% |

**Q. Are there additional forecasts of interest rates that extend beyond those shown above?**

A. Yes. Twice yearly, Blue Chip provides long-term forecasts of interest rates. In its December 1, 2020 publication, Blue Chip published longer-term forecasts of interest rates, which were reported to be:

| | Blue Chip Financial Forecasts | | |
|---|---|---|---|
| | Corporate | | 30-Year |
| Averages | Aaa-rated | Baa-rated | Treasury |
| 2022-2026 | 3.6% | 4.6% | 2.8% |
| 2027-2031 | 4.5% | 5.4% | 3.6% |

The longer-term forecasts by Blue Chip suggest that interest rates will move up from the levels revealed by the near-term forecasts. A 3.25% yield on A-rated public utility bonds represents a reasonable benchmark for measuring the cost of equity in this

case. All the data I used to formulate my conclusion as to a prospective yield on A-rated public utility debt are available to investors, who regularly rely upon those data to make investment decisions.

**Q. What equity risk premium have you determined for public utilities?**

A. To develop an appropriate equity risk premium, I analyzed the results from 2020 SBBI Yearbook, Stocks, Bonds, Bills and Inflation. My investigation reveals that the equity risk premium varies according to the level of interest rates. That is to say, the equity risk premium increases as interest rates decline, and it declines as interest rates increase. This inverse relationship is revealed by the summary data presented below and shown on Schedule 13, page 1.

| Common Equity Risk Premiums | |
|---|---|
| Low Interest Rates | 6.70% |
| Average Across All Interest Rates | 5.69% |
| High Interest Rates | 4.69% |

Based on my analysis of the historical data, the equity risk premium was 6.70% when the marginal cost of long-term government bonds was low (i.e., 2.88%, which was the average yield during periods of low rates). Conversely, when the yield on long-term government bonds was high (i.e., 7.09% on average during periods of high interest rates), the spread narrowed to 4.69%. Over the entire spectrum of interest rates, the equity risk premium was 5.69% when the average government bond yield was 4.99%. I have utilized a 6.75% equity risk premium. The equity risk premium of 6.75% that I employed is near the risk premiums associated with low interest rates.

**Q. What common equity cost rate did you determine based on your RPremium analysis?**

A. The cost of equity (i.e., k) is represented by the sum of the prospective yield for long-term public utility debt (i.e., i), and the equity risk premium (i.e., RP), and the

adjustment for flotation costs (i.e., flot.). The Risk Premium approach provides a cost of equity of:

| | *i* | + | *RP* | = | *k* | + | *flot.* | = | *K* |
|---|---|---|---|---|---|---|---|---|---|
| Gas Group | 3.25% | + | 6.75% | = | 10.00% | + | 0.20% | = | 10.20% |

## CAPITAL ASSET PRICING MODEL

**Q. How is the CAPM used to measure the cost of equity?**

A. The CAPM uses the yield on a risk-free interest-bearing obligation plus a rate of return premium that is proportional to the systematic risk of an investment. As shown on page 2 of Schedule 1, the result of the CAPM is 12.67% for the Gas Group with the leverage adjustment. Without the leverage adjustment, the CAPM result is 10.65% (12.67% - (.23 x 8.77%)). To compute the cost of equity with the CAPM, three components are necessary: a risk-free rate of return (Rf), the beta measure of systematic risk (β), and the market risk premium (Rm-Rf) derived from the total return on the market of equities reduced by the risk-free rate of return. The CAPM specifically accounts for differences in systematic risk (i.e., market risk as measured by the beta) between an individual firm or group of firms and the entire market of equities.

**Q. What betas have you considered in the CAPM?**

A. For my CAPM analysis, I initially considered the Value Line betas. As shown on page 2 of Schedule 3, the average beta is 0.87 for the Gas Group.

**Q. Did you use the Value Line betas in the CAPM determined cost of equity?**

A. I used the Value Line betas as a foundation for the leverage adjusted betas that I used in the CAPM. The betas must be reflective of the financial risk associated with the rate-setting capital structure that is measured at book value. Therefore, Value Line betas cannot be used directly in the CAPM, unless the cost rate developed using those betas is applied to a capital structure measured with market values. To

develop a CAPM cost rate applicable to a book-value capital structure, the Value Line (market value) betas have been unleveraged and re-leveraged for the book value common equity ratios using the Hamada formula,[10] as follows:

$$\beta l = \beta u \, [1 + (1 - t) \, D/E + P/E]$$

where ßl = the leveraged beta, ßu = the unleveraged beta, t = income tax rate, D = debt ratio, P = preferred stock ratio, and E = common equity ratio. The betas published by Value Line have been calculated with the market price of stock and are related to the market value capitalization. By using the formula shown above and the capital structure ratios measured at market value, the beta would become 0.63 for the Gas Group if it employed no leverage and was 100% equity financed. Those calculations are shown on Schedule 10 under the section labeled "Hamada," who is credited with developing those formulas. With the unleveraged beta as a base, I calculated the leveraged beta of 1.10 for the book value capital structure of the Gas Group.

**Q. What risk-free rate have you used in the CAPM?**

A. As shown on page 1 of Schedule 14, I provided the historical yields on Treasury notes and bonds. For the twelve months ended December 2020, the average yield on 30-year Treasury bonds was 1.56%. For the six- and three-months ended December 2020, the yields on 30-year Treasury bonds were 1.49% and 1.62%, respectively. During the twelve-months ended December 2020, the range of the yields on 30-year Treasury bonds was 1.27% to 2.22%. The low yields that existed during recent periods can be traced to weakness in business fixed investment and exports due in part to the U.S.'s trade war with China. Thereafter, extraordinary events associated with the COVID-19 pandemic induced significant turmoil that jolted

[10] Robert S. Hamada, "The Effects of the Firm's Capital Structure on the Systematic Risk of Common Stocks" *The Journal of Finance* Vol. 27, No. 2, Papers and Proceedings of the Thirtieth Annual Meeting of the American Finance Association, New Orleans, Louisiana, December 27-29, 1971. (May 1972), pp. 435-452.

the capital markets in the February-May 2020 time frame. During this period, we saw abrupt reaction to the coronavirus pandemic and significant declines in the price of crude oil. These events led to the end of the record-setting 128-month economic expansion. As the recession unfolded in February 2020, the FOMC acted to address these disruptions. The FOMC continues to support the money and capital markets during the recovery from the coronavirus pandemic. Presently, the Fed Funds rate is near zero.

As shown on page 2 of Schedule 14, forecasts published by Blue Chip on January 1, 2021 indicate that the yields on long-term Treasury bonds are expected to be in the range of 1.7% to 2.1% during the next six quarters. The forecast for the FPFTY is 2.1% for 30-year Treasury Bonds. The longer-term forecasts described previously show that the yields on 30-year Treasury bonds will average 2.8% from 2022 through 2026 and 3.6% from 2027 to 2031. For the reasons explained previously, forecasts of interest rates should be emphasized at this time in selecting the risk-free rate of return in CAPM. Hence, I have used a 2.00% risk-free rate of return for CAPM purposes, which considers the Blue Chip forecasts.

**Q. What market premium have you used in the CAPM?**

A. As shown in the lower panel of data presented on Schedule 14, page 2 the market premium is derived from historical data and the forecast returns. For the historically based market premium, I have used the arithmetic mean obtained from the data presented on Schedule 13, page 1. On that schedule, the market return was 11.92% on large stocks during periods of low interest rates. During those periods, the yield on long-term government bonds was 2.88% when interest rates were low. As such, I carried over to Schedule 14, page 2, the average large common stock returns of 11.92% and the average yield on long-term government bonds of 2.88%. The resulting market premium is 9.04% (11.92% - 2.88%) based on historical data, as

shown on Schedule 14, page 2. As also shown on Schedule 14, page 2, I calculated the forecast returns, which show a 10.50% total market return. With this forecast, I calculated a market premium of 8.50% (10.50% - 2.00%) using forecast data. The resulting market premium applicable to the CAPM derived from these sources equals 8.77% (8.50% + 9.04% = 17.54% ÷ 2).

**Q. Are there adjustments to the CAPM that are necessary to fully reflect the rate of return on common equity?**

A. Yes. The technical literature supports an adjustment relating to the size of the company or portfolio for which the calculation is performed. As the size of a firm decreases, its risk and required return increases. Moreover, in his discussion of the cost of capital, Professor Brigham has indicated that smaller firms have higher capital costs than otherwise similar larger firms. Also, the Fama/French study (see "The Cross-Section of Expected Stock Returns"; The Journal of Finance, June 1992) established that the size of a firm helps explain stock returns. In an October 15, 1995 article in Public Utility Fortnightly, entitled “Equity and the Small-Stock Effect,” it was demonstrated that the CAPM could understate the cost of equity significantly according to a company’s size. Indeed, it was demonstrated in the SBBI Yearbook that the returns for stocks in lower deciles (i.e., smaller stocks) had returns in excess of those shown by the simple CAPM. As noted previously, UGI is relatively smaller than the Gas Group. To recognize this fact, I used the mid-cap adjustment of 1.02%, as revealed on page 3 of Schedule 14, for the CAPM calculation.

**Q. What does your CAPM analysis show?**

A. Using the 2.00% risk-free rate of return, the leverage adjusted beta of 1.10 for the Gas Group, the 8.77% market premium, the 1.02% size adjustment, and the flotation cost adjustment the following result is indicated.

| | *Rf* | + | *ß* | *x ( Rm-Rf )* | + | *size* | = | *k* | + | *flot.* | = | *K* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gas Group | 2.00% | + | 1.10 | x ( 8.77% ) | + | 1.02% | = | 12.67% | + | 0.20% | = | 12.87% |

## COMPARABLE EARNINGS APPROACH

**Q. What is the Comparable Earnings approach?**

A. The Comparable Earnings approach estimates a fair return on equity by comparing returns realized by non-regulated companies to returns that a public utility with similar risks characteristics would need to realize in order to compete for capital. Because regulation is a substitute for competitively determined prices, the returns realized by non-regulated firms with comparable risks to a public utility provide useful insight into investor expectations for public utility returns. The firms selected for the Comparable Earnings approach should be companies whose prices are not subject to cost-based price ceilings (i.e., non-regulated firms) so that circularity is avoided.

There are two avenues available to implement the Comparable Earnings approach. One method involves the selection of another industry (or industries) with comparable risks to the public utility in question, and the results for all companies within that industry serve as a benchmark. The second approach requires the selection of parameters that represent similar risk traits for the public utility and the comparable risk companies. Using this approach, the business lines of the comparable companies become unimportant. The latter approach is preferable with the further qualification that the comparable risk companies exclude regulated firms in order to avoid the circular reasoning implicit in the use of the achieved earnings/book ratios of other regulated firms. The United States Supreme Court has held that:

> A public utility is entitled to such rates as will permit it to earn a return on the value of the property which it employs for the convenience of the public equal to that generally being made at the same time and in the

> same general part of the country on investments in other business undertakings which are attended by corresponding risks and uncertainties. The return should be reasonably sufficient to assure confidence in the financial soundness of the utility and should be adequate, under efficient and economical management, to maintain and support its credit and enable it to raise the money necessary for the proper discharge of its public duties. Bluefield Water Works vs. Public Service Commission, 262 U.S. 668 (1923).

It is important to identify the returns earned by firms that compete for capital with a public utility. This can be accomplished by analyzing the returns of non-regulated firms that are subject to the competitive forces of the marketplace.

**Q. Did you compare the results of your DCF and CAPM analyses to the results indicated by a Comparable Earnings approach?**

A. Yes. I selected companies from The Value Line Investment Survey for Windows that have six categories of comparability designed to reflect the risk of the Gas Group. These screening criteria were based upon the range as defined by the rankings of the companies in the Gas Group. The items considered were: Timeliness Rank, Safety Rank, Financial Strength, Price Stability, Value Line betas, and Technical Rank. The definition for these parameters is provided on Schedule 15, page 3. The identities of the companies comprising the Comparable Earnings group and their associated rankings within the ranges are identified on Schedule 15, page 1.

I relied upon Value Line data because they provide a comprehensive basis for evaluating the risks of the comparable firms. As to the returns calculated by Value Line for these companies, there is some downward bias in the figures shown on Schedule 15, page 2, because Value Line computes the returns on year-end rather than average book value. If average book values had been employed, the rates of return would have been slightly higher. Nevertheless, these are the returns considered by investors when taking positions in these stocks. Because many of the comparability factors, as well as the published returns, are used by investors in

selecting stocks, and the fact that investors rely on the Value Line service to gauge returns, it is an appropriate database for measuring comparable return opportunities.

**Q. What data did you consider in your Comparable Earnings analysis?**

A. I used both historical realized returns and forecasted returns for non-utility companies. As noted previously, I have not used returns for utility companies in order to avoid the circularity that arises from using regulatory-influenced returns to determine a regulated return. It is appropriate to consider a relatively long measurement period in the Comparable Earnings approach in order to cover conditions over an entire business cycle. A ten-year period (five historical years and five projected years) is sufficient to cover an average business cycle. Unlike the DCF and CAPM, the results of the Comparable Earnings method can be applied directly to the book value capitalization. In other words, the Comparable Earnings approach does not contain the potential misspecification contained in market models when the market capitalization and book value capitalization diverge significantly. A point of demarcation was chosen to eliminate the results of highly profitable enterprises, which the Bluefield case stated were not the type of returns that a utility was entitled to earn. For this purpose, I used 20% as the point where those returns could be viewed as highly profitable and should be excluded from the Comparable Earnings approach. The average historical rate of return on book common equity was 11.9% using only the returns that were less than 20%, as shown on Schedule 15, page 2. The average forecasted rate of return as published by Value Line is 12.1% also using values less than 20%, as provided on Schedule 15, page 2. Using the average of these data my Comparable Earnings result is 12.00%, as shown on Schedule 1, page 2.

## CONCLUSION ON COST OF EQUITY

**Q. What is your conclusion regarding the Company's cost of common equity?**

A. Based upon the application of a variety of methods and models described previously, it is my opinion that a reasonable rate of return on common equity is 10.50% to 11.25% for NJNG. It is essential that the Board employ a variety of techniques to measure the Company's cost of equity because of the limitations/infirmities that are inherent in each method. In summary, the Company should be provided an opportunity to realize a 10.50% to 11.25% rate of return on common equity so that it can compete in the capital markets and retain reasonable credit quality.

**Q. Does this complete your direct testimony?**

A. Yes. However, I reserve the right to supplement my testimony, if necessary, and to respond to witnesses presented by other parties.

**APPENDIX A TO DIRECT TESTIMONY OF PAUL R. MOUL**

## Educational Background, Business Experience and Qualifications

I was awarded a degree of Bachelor of Science in Business Administration by Drexel University in 1971. While at Drexel, I participated in the Cooperative Education Program which included employment, for one year, with American Water Works Service Company, Inc., as an internal auditor, where I was involved in the audits of several operating water companies of the American Water Works System and participated in the preparation of annual reports to regulatory agencies and assisted in other general accounting matters.

Upon graduation from Drexel University, I was employed by American Water Works Service Company, Inc., in the Eastern Regional Treasury Department where my duties included preparation of rate case exhibits for submission to regulatory agencies, as well as responsibility for various treasury functions of the thirteen New England operating subsidiaries.

In 1973, I joined the Municipal Financial Services Department of Betz Environmental Engineers, a consulting engineering firm, where I specialized in financial studies for municipal water and wastewater systems.

In 1974, I joined Associated Utility Services, Inc., now known as AUS Consultants. I held various positions with the Utility Services Group of AUS Consultants, concluding my employment there as a Senior Vice President.

In 1994, I formed P. Moul & Associates, an independent financial and regulatory consulting firm. In my capacity as Managing Consultant and for the past twenty-nine years, I have continuously studied the rate of return requirements for cost of service-regulated firms. In this regard, I have supervised the preparation of rate of return studies, which were employed, in connection with my testimony and in the past for other individuals. I have presented direct testimony on the subject of fair rate of return, evaluated rate of return

testimony of other witnesses, and presented rebuttal testimony.

My studies and prepared direct testimony have been presented before thirty-seven (37) federal, state and municipal regulatory commissions, consisting of: the Federal Energy Regulatory Commission; state public utility commissions in Alabama, Alaska, California, Colorado, Connecticut, Delaware, Florida, Georgia, Hawaii, Illinois, Indiana, Iowa, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Missouri, New Hampshire, New Jersey, New York, North Carolina, Ohio, Oklahoma, Pennsylvania, Rhode Island, South Carolina, Tennessee, Texas, Virginia, West Virginia, Wisconsin, and the Philadelphia Gas Commission, and the Texas Commission on Environmental Quality. My testimony has been offered in over 200 rate cases involving electric power, natural gas distribution and transmission, resource recovery, solid waste collection and disposal, telephone, wastewater, and water service utility companies. While my testimony has involved principally fair rate of return and financial matters, I have also testified on capital allocations, capital recovery, cash working capital, income taxes, factoring of accounts receivable, and take-or-pay expense recovery. My testimony has been offered on behalf of municipal and investor-owned public utilities and for the staff of a regulatory commission. I have also testified at an Executive Session of the State of New Jersey Commission of Investigation concerning the BPU regulation of solid waste collection and disposal.

I was a co-author of a verified statement submitted to the Interstate Commerce Commission concerning the 1983 Railroad Cost of Capital (Ex Parte No. 452). I was also co-author of comments submitted to the Federal Energy Regulatory Commission regarding the Generic Determination of Rate of Return on Common Equity for Public Utilities in 1985, 1986 and 1987 (Docket Nos. RM85-19-000, RM86-12-000, RM87-35-000 and RM88-25-000). Further, I have been the consultant to the New York Chapter of the National Association of Water Companies, which represented the water utility group in the Proceeding on Motion of the Commission to Consider Financial Regulatory Policies for New

**APPENDIX A TO DIRECT TESTIMONY OF PAUL R. MOUL**

York Utilities (Case 91-M-0509). I have also submitted comments to the Federal Energy Regulatory Commission in its Notice of Proposed Rulemaking (Docket No. RM99-2-000) concerning Regional Transmission Organizations and on behalf of the Edison Electric Institute in its intervention in the case of Southern California Edison Company (Docket No. ER97-2355-000). Also, I was a member of the panel of participants at the Technical Conference in Docket No. PL07-2 on the Composition of Proxy Groups for Determining Gas and Oil Pipeline Return on Equity.

In late 1978, I arranged for the private placement of bonds on behalf of an investor-owned public utility. I have assisted in the preparation of a report to the Delaware Public Service Commission relative to the operations of the Lincoln and Ellendale Electric Company. I was also engaged by the Delaware P.S.C. to review and report on the proposed financing and disposition of certain assets of Sussex Shores Water Company (P.S.C. Docket Nos. 24-79 and 47-79). I was a co-author of a Report on Proposed Mandatory Solid Waste Collection Ordinance prepared for the Board of County Commissioners of Collier County, Florida.

I have been a consultant to the Bucks County Water and Sewer Authority concerning rates and charges for wholesale contract service with the City of Philadelphia. My municipal consulting experience also included an assignment for Baltimore County, Maryland, regarding the City/County Water Agreement for Metropolitan District customers (Circuit Court for Baltimore County in Case 34/153/87-CSP-2636).

STATE OF NEW JERSEY

BOARD OF PUBLIC UTILITIES

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IN THE MATTER OF THE PETITION OF

**NEW JERSEY NATURAL GAS COMPANY**

FOR APPROVAL OF INCREASED BASE TARIFF RATES AND CHARGES
FOR GAS SERVICE AND OTHER TARIFF REVISIONS

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BPU Docket No.

OAL Docket No.

---

Exhibit to Accompany the

Direct Testimony

of

Paul R. Moul, Managing Consultant
P. Moul & Associates

Concerning

# Cost of Equity and Fair Rate of Return

New Jersey Natural Gas Company
Index of Schedules

Schedule 1 [1 of 2]

**New Jersey Natural Gas Company**
Summary Cost of Capital
Estimated at August 31 2021

| Type of Capital | Ratios | Cost Rate Range | | | Weighted Cost Rate | | |
|---|---|---|---|---|---|---|---|
| | | Low | Midpoint | High | Low | Midpoint | High |
| Total Long-Term Debt | 43.11% | 3.60% | 3.60% | 3.60% | 1.55% | 1.55% | 1.55% |
| Common Equity | 56.89% | 10.50% | 10.875% | 11.25% | 5.97% | 6.19% | 6.40% |
| Total | 100.00% | | | | 7.53% | 7.74% | 7.95% |

Indicated levels of fixed charge coverage assuming that the Company could actually achieve its overall cost of capital:

Pre-tax coverage of interest expense based upon a 28.11% composite federal and state income tax rate

| | | | |
|---|---|---|---|
| ( 9.86% ÷ 1.55% ) | 6.36 x | | |
| ( 10.16% ÷ 1.55% ) | | 6.56 x | |
| ( 10.45% ÷ 1.55% ) | | | 6.74 x |

Post-tax coverage of interest expense

| | | | |
|---|---|---|---|
| ( 7.53% ÷ 1.55% ) | 4.86 x | | |
| ( 7.74% ÷ 1.55% ) | | 4.99 x | |
| ( 7.95% ÷ 1.55% ) | | | 5.13 x |

Schedule 1 [2 of 2]

**New Jersey Natural Gas Company**
Cost of Equity
as of December 31, 2020

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Discounted Cash Flow (DCF)*** | | | $D_1/P_0$ [1] | + | ***g*** [2] | + | ***lev.*** [3] | = | ***k*** | | |
| Gas Group | | | 3.79% | + | 7.50% | + | 2.17% | = | 13.46% | | |
| ***Risk Premium (RP)*** | | | | | ***I*** [4] | + | ***RP*** [5] | = | ***k*** | | |
| Gas Group | | | | | 3.25% | + | 6.75% | = | 10.00% | | |
| ***Capital Asset Pricing Model (CAPM)*** | ***Rf*** [6] | + | ***ß*** [7] | x | ( ***Rm-Rf*** [8] ) | + | ***size*** [9] | = | ***k*** | | |
| Gas Group | 2.00% | + | 1.10 | x | ( 8.77% ) | + | 1.02% | = | 12.67% | | |

| ***Comparable Earnings (CE)*** [10] | ***Historical*** | ***Forecast*** | ***Average*** |
|---|---|---|---|
| Comparable Earnings Group | 11.9% | 12.1% | 12.00% |

References:
[1] Schedule 07
[2] Schedule 09
[3] Schedule 10
[4] A-rated public utility bond yield comprised of a 2.00% risk-free rate of return (Schedule 14 page 2) and a yield spread of 1.25% (Schedule 12 page 3)
[5] Schedule 12 page 1
[6] Schedule 13 page 2
[7] Schedule 10
[8] Schedule 13 page 2
[9] Schedule 13 page 3
[10] Schedule 14 page 2

Schedule 2 [1 of 2]

New Jersey Natural Gas Company
Capitalization and Financial Statistics
2015-2019, Inclusive

| | 2019 | 2018 | 2017 | 2016 | 2015 | |
|---|---|---|---|---|---|---|
| | | | (Millions of Dollars) | | | |
| Amount of Capital Employed | | | | | | |
| Permanent Capital | $ 2,103.2 | $ 1,702.4 | $ 1,601.2 | $ 1,595.2 | $ 1,406.5 | |
| Short-Term Debt | $ - | $ 64.0 | $ 11.0 | $ - | $ 27.0 | |
| Total Capital | $ 2,103.2 | $ 1,766.4 | $ 1,612.2 | $ 1,595.2 | $ 1,433.5 | |
| Capital Structure Ratios | | | | | | |
| Based on Permanent Captial: | | | | | | Average |
| Long-Term Debt | 43.7% | 41.2% | 44.1% | 46.5% | 44.8% | 44.1% |
| Common Equity [1] | 56.3% | 58.8% | 55.9% | 53.5% | 55.2% | 55.9% |
| | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Based on Total Capital: | | | | | | |
| Total Debt incl. Short Term | 43.7% | 43.3% | 44.4% | 46.5% | 45.8% | 44.7% |
| Common Equity [1] | 56.3% | 56.7% | 55.6% | 53.5% | 54.2% | 55.3% |
| | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Rate of Return on Book Common Equity [1] | 7.1% | 8.9% | 9.9% | 9.3% | 10.2% | 9.1% |
| Operating Ratio [2] | 84.4% | 86.3% | 78.2% | 78.8% | 83.4% | 82.2% |
| Coverage incl. AFUDC [3] | | | | | | |
| Pre-tax: All Interest Charges | 3.93 x | 4.01 x | 5.81 x | 5.45 x | 6.51 x | 5.14 x |
| Post-tax: All Interest Charges | 3.62 x | 4.08 x | 4.20 x | 4.05 x | 4.63 x | 4.12 x |
| Coverage excl. AFUDC [3] | | | | | | |
| Pre-tax: All Interest Charges | 3.59 x | 3.74 x | 5.62 x | 5.08 x | 6.21 x | 4.85 x |
| Post-tax: All Interest Charges | 3.27 x | 3.81 x | 4.01 x | 3.68 x | 4.33 x | 3.82 x |
| Quality of Earnings & Cash Flow | | | | | | |
| AFC/Income Avail. for Common Equity | 13.1% | 8.9% | 6.0% | 12.3% | 8.3% | 9.7% |
| Effective Income Tax Rate | 10.8% | -2.3% | 33.3% | 31.5% | 34.1% | 21.5% |
| Internal Cash Generation/Construction [4] | 38.8% | 38.2% | 86.9% | 94.5% | 75.4% | 66.8% |
| Gross Cash Flow/ Avg. Total Debt [5] | 13.5% | 13.6% | 22.8% | 23.2% | 18.9% | 18.4% |
| Gross Cash Flow Interest Coverage [6] | 4.71 x | 4.62 x | 7.08 x | 7.36 x | 6.58 x | 6.07 x |
| Common Dividend Coverage [7] | x | 4.23 x | 3.77 x | x | 6.43 x | 4.81 x |

See Page 2 for Notes.

Schedule 2 [2 of 2]

New Jersey Natural Gas Company
Capitalization and Financial Statistics
2019-2015, Inclusive

Notes:

(1) Excluding Accumulated Other Comprehensive Income ("OCI") from the equity account.

(2) Total operating expenses, maintenance, depreciation and taxes other than income as a percentage of operating revenues.

(3) Coverage calculations represent the number of times available earnings, both including and excluding AFUDC (allowance for funds used during construction) as reported in its entirety, cover fixed charges.

(4) Internal cash generation/gross construction is the percentage of gross construction expenditures provided by internally-generated funds from operations after payment of all cash dividends divided by gross construction expenditures.

(5) Gross Cash Flow (sum of net income, depreciation, amortization, net deferred income taxes and investment tax credits, less AFUDC) as a percentage of average total debt.

(6) Gross Cash Flow (sum of net income, depreciation, amortization, net deferred income taxes and investment tax credits, less total AFUDC) plus interest charges, divided by interest charges.

(7) Common dividend coverage is the relationship of internally generated funds from operations after payment of preferred stock dividends to common dividends paid.

Source of Information: Audited Financial Statements by Deloitte Touche Tohmatsu

Schedule 3 [1 of 2]

Gas Group
Capitalization and Financial Statistics [1]
2015-2019, Inclusive

| | 2019 | 2018 | 2017 | 2016 | 2015 | Average |
|---|---|---|---|---|---|---|
| | | | (Millions of Dollars) | | | |
| Amount of Capital Employed | | | | | | |
| Permanent Capital | $ 5,169.4 | $ 4,698.4 | $ 4,133.8 | $ 3,746.8 | $ 3,522.8 | |
| Short-Term Debt | $ 553.3 | $ 499.2 | $ 402.2 | $ 393.6 | $ 259.5 | |
| Total Capital | $ 5,722.7 | $ 5,197.6 | $ 4,536.0 | $ 4,140.4 | $ 3,782.3 | |
| Market-Based Financial Ratios | | | | | | |
| Price-Earnings Multiple | 26 x | 20 x | 22 x | 22 x | 19 x | 22 x |
| Market/Book Ratio | 222.4% | 217.6% | 224.2% | 201.9% | 187.7% | 210.8% |
| Dividend Yield | 2.7% | 2.8% | 2.6% | 2.8% | 3.0% | 2.8% |
| Dividend Payout Ratio | 72.5% | 52.4% | 71.1% | 60.7% | 67.7% | 64.9% |
| Capital Structure Ratios | | | | | | |
| Based on Permanent Capital: | | | | | | |
| Long-Term Debt | 48.3% | 47.9% | 47.1% | 45.0% | 45.9% | 46.8% |
| Preferred Stock | 1.5% | 1.0% | 0.0% | 0.1% | 0.0% | 0.5% |
| Common Equity [2] | 50.3% | 51.1% | 52.9% | 54.9% | 54.0% | 52.6% |
| | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Based on Total Capital: | | | | | | |
| Total Debt incl. Short Term | 53.4% | 53.4% | 53.0% | 50.5% | 51.3% | 52.3% |
| Preferred Stock | 1.3% | 0.9% | 0.0% | 0.1% | 0.0% | 0.5% |
| Common Equity [2] | 45.3% | 45.7% | 47.0% | 49.5% | 48.7% | 47.2% |
| | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Rate of Return on Book Common Equity [2] | 8.6% | 10.0% | 8.0% | 9.2% | 9.4% | 9.0% |
| Operating Ratio [3] | 83.6% | 84.6% | 84.1% | 83.0% | 85.0% | 84.1% |
| Coverage incl. AFUDC [4] | | | | | | |
| Pre-tax: All Interest Charges | 3.79 x | 3.65 x | 4.22 x | 4.88 x | 4.85 x | 4.28 x |
| Post-tax: All Interest Charges | 3.37 x | 3.47 x | 3.31 x | 3.58 x | 3.62 x | 3.47 x |
| Overall Coverage: All Int. & Pfd. Div. | 3.33 x | 3.47 x | 3.31 x | 3.58 x | 3.62 x | 3.46 x |
| Coverage excl. AFUDC [4] | | | | | | |
| Pre-tax: All Interest Charges | 3.73 x | 3.60 x | 4.19 x | 4.82 x | 4.79 x | 4.23 x |
| Post-tax: All Interest Charges | 3.30 x | 3.42 x | 3.27 x | 3.52 x | 3.57 x | 3.42 x |
| Overall Coverage: All Int. & Pfd. Div. | 3.26 x | 3.42 x | 3.27 x | 3.52 x | 3.57 x | 3.41 x |
| Quality of Earnings & Cash Flow | | | | | | |
| AFC/Income Avail. for Common Equity | 3.0% | 3.2% | -5.2% | 2.3% | 2.4% | 1.1% |
| Effective Income Tax Rate | 15.0% | 15.6% | 39.7% | 33.6% | 32.6% | 27.3% |
| Internal Cash Generation/Construction [5] | 48.7% | 46.7% | 59.5% | 71.6% | 71.0% | 59.5% |
| Gross Cash Flow/ Avg. Total Debt [6] | 18.3% | 18.4% | 21.4% | 23.7% | 22.8% | 20.9% |
| Gross Cash Flow Interest Coverage [7] | 6.24 x | 6.05 x | 6.69 x | 7.35 x | 6.96 x | 6.66 x |
| Common Dividend Coverage [8] | 3.86 x | 3.63 x | 4.21 x | 4.60 x | 4.48 x | 4.16 x |

See Page 2 for Notes.

Schedule 3 [2 of 2]

Gas Group
Capitalization and Financial Statistics
2015-2019, Inclusive

Notes:

(1) All capitalization and financial statistics for the group are the arithmetic average of the achieved results for each individual company in the group.
(2) Excluding Accumulated Other Comprehensive Income ("OCI") from the equity account.
(3) Total operating expenses, maintenance, depreciation and taxes other than income taxes as a percent of operating revenues.
(4) Coverage calculations represent the number of times available earnings, both including and excluding AFUDC (allowance for funds used during construction) as reported in its entirety, cover fixed charges.
(5) Internal cash generation/gross construction is the percentage of gross construction expenditures provided by internally-generated funds from operations after payment of all cash dividends divided by gross construction expenditures.
(6) Gross Cash Flow (sum of net income, depreciation, amortization, net deferred income taxes and investment tax credits, less total AFUDC) plus interest charges, divided by interest charges.
(7) Gross Cash Flow plus interest charges divided by interest charges.
(8) Common dividend coverage is the relationship of internally-generated funds from operations after payment of preferred stock dividends to common dividends paid.

Basis of Selection:
The Gas Group includes companies that are contained in The Value Line Investment Survey within the industry group "Natural Gas Utility," they are not currently the target of a publicly-announced merger or acquisition, and after eliminating UGI Corp. due to its highly diversified businesses.

| | | Corporate Credit Ratings | | Stock | Value Line |
|---|---|---|---|---|---|
| Ticker | Company | Moody's | S&P | Traded | Beta |
| ATO | Atmos Energy Corp. | A1 | A | NYSE | 0.80 |
| CPK | Chesapeake Utilities Corp. | NAIC "1" | | NYSE | 0.80 |
| NJR | New Jersey Resources Corp. | A1 | BBB+ | NYSE | 0.95 |
| NI | NiSource Inc. | Baa2 | BBB+ | NYSE | 0.85 |
| NWN | Northwest Natural Holding Compa | Baa1 | A+ | NYSE | 0.80 |
| OGS | ONE Gas, Inc. | A2 | A | NYSE | 0.80 |
| SJI | South Jersey Industries, Inc. | A3 | BBB | NYSE | 1.05 |
| SWX | Southwest Gas Holdings, Inc. | A3 | A- | NYSE | 0.95 |
| SR | Spire, Inc. | A1 | A- | NYSE | 0.85 |
| | Average | A2 | A- | | 0.87 |

Note: Ratings are those of utility subsidiaries

Source of Information: Utility COMPUSTAT
Moody's Investors Service
Standard & Poor's Corporation

Schedule 4 [1 of 3]

Standard & Poor's Public Utilities
Capitalization and Financial Statistics [1]
2015-2019, Inclusive

| | 2019 | 2018 | 2017 | 2016 | 2015 | |
|---|---|---|---|---|---|---|
| | | | (Millions of Dollars) | | | |
| Amount of Capital Employed | | | | | | |
| Permanent Capital | $ 36,567.1 | $ 32,871.6 | $ 30,827.6 | $ 29,173.1 | $ 26,655.9 | |
| Short-Term Debt | $ 1,221.9 | $ 1,420.3 | $ 1,076.1 | $ 1,032.2 | $ 875.5 | |
| Total Capital | $ 37,789.0 | $ 34,291.9 | $ 31,903.7 | $ 30,205.3 | $ 27,531.4 | |
| Market-Based Financial Ratios | | | | | | Average |
| Price-Earnings Multiple | 20 x | 21 x | 21 x | 21 x | 18 x | 20 x |
| Market/Book Ratio | 220.8% | 204.7% | 214.4% | 196.0% | 181.1% | 203.4% |
| Dividend Yield | 3.2% | 3.5% | 3.3% | 3.5% | 3.6% | 3.4% |
| Dividend Payout Ratio | 62.7% | 71.7% | 74.4% | 74.6% | 68.8% | 70.4% |
| Capital Structure Ratios | | | | | | |
| Based on Permanent Captial: | | | | | | |
| Long-Term Debt | 56.7% | 55.0% | 56.8% | 56.6% | 54.7% | 55.9% |
| Preferred Stock | 2.2% | 2.5% | 1.4% | 1.9% | 1.6% | 1.9% |
| Common Equity [2] | 41.1% | 42.5% | 41.8% | 41.6% | 43.8% | 42.2% |
| | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Based on Total Capital: | | | | | | |
| Total Debt incl. Short Term | 58.2% | 57.0% | 58.4% | 58.2% | 56.1% | 57.6% |
| Preferred Stock | 2.1% | 2.4% | 1.4% | 1.8% | 1.5% | 1.8% |
| Common Equity [2] | 39.7% | 40.7% | 40.3% | 40.1% | 42.4% | 40.6% |
| | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Rate of Return on Book Common Equity [2] | 10.3% | 10.3% | 10.8% | 9.7% | 9.7% | 10.2% |
| Operating Ratio [3] | 79.3% | 79.8% | 77.0% | 78.2% | 79.7% | 78.8% |
| Coverage incl. AFUDC [4] | | | | | | |
| Pre-tax: All Interest Charges | 3.05 x | 2.94 x | 3.42 x | 3.38 x | 3.80 x | 3.32 x |
| Post-tax: All Interest Charges | 3.10 x | 2.59 x | 2.86 x | 2.55 x | 2.79 x | 2.78 x |
| Overall Coverage: All Int. & Pfd. Div. | 3.04 x | 2.55 x | 2.84 x | 2.52 x | 2.75 x | 2.74 x |
| Coverage excl. AFUDC [4] | | | | | | |
| Pre-tax: All Interest Charges | 2.95 x | 2.84 x | 3.31 x | 3.28 x | 3.70 x | 3.22 x |
| Post-tax: All Interest Charges | 3.00 x | 2.48 x | 2.75 x | 2.44 x | 2.69 x | 2.67 x |
| Overall Coverage: All Int. & Pfd. Div. | 2.94 x | 2.44 x | 2.73 x | 2.41 x | 2.65 x | 2.63 x |
| Quality of Earnings & Cash Flow | | | | | | |
| AFC/Income Avail. for Common Equity | 5.8% | 7.3% | 7.3% | 6.5% | 5.5% | 6.5% |
| Effective Income Tax Rate | 12.2% | 19.0% | 28.2% | 29.0% | 32.5% | 24.2% |
| Internal Cash Generation/Construction [5] | 66.0% | 75.7% | 78.7% | 78.0% | 71.9% | 74.1% |
| Gross Cash Flow/ Avg. Total Debt [6] | 17.5% | 17.4% | 19.9% | 20.5% | 20.0% | 19.1% |
| Gross Cash Flow Interest Coverage [7] | 4.97 x | 4.98 x | 5.57 x | 5.54 x | 5.41 x | 5.29 x |
| Common Dividend Coverage [8] | 5.56 x | 4.80 x | 4.33 x | 4.31 x | 4.24 x | 4.65 x |

See Page 2 for Notes.

Schedule 4 [2 of 3]

Standard & Poor's Public Utilities
Capitalization and Financial Statistics
2015-2019, Inclusive

Notes:

(1) All capitalization and financial statistics for the group are the arithmetic average of the achieved results for each individual company in the group.
(2) Excluding Accumulated Other Comprehensive Income ("OCI") from the equity account
(3) Total operating expenses, maintenance, depreciation and taxes other than income taxes as a percent of operating revenues.
(4) Coverage calculations represent the number of times available earnings, both including and excluding AFUDC (allowance for funds used during construction) as reported in its entirety, cover fixed charges.
(5) Internal cash generation/gross construction is the percentage of gross construction expenditures provided by internally-generated funds from operations after payment of all cash dividends divided by gross construction expenditures.
(6) Gross Cash Flow (sum of net income, depreciation, amortization, net deferred income taxes and investment tax credits, less total AFUDC) as a percentage of average total debt.
(7) Gross Cash Flow (sum of net income, depreciation, amortization, net deferred income taxes and investment tax credits, less total AFUDC) plus interest charges, divided by interest charges.
(8) Common dividend coverage is the relationship of internally-generated funds from operations after payment of preferred stock dividends to common dividends paid.

Source of Information: Annual Reports to Shareholders
Utility COMPUSTAT

Schedule 4 [3 of 3]

**Standard & Poor's Public Utilities**
Company Identities

| | Ticker | Credit Rating [1] Moody's | Credit Rating [1] S&P | Common Stock Traded | Value Line Beta |
|---|---|---|---|---|---|
| Alliant Energy Corporation | LNT | Baa1 | A- | NYSE | 0.85 |
| Ameren Corporation | AEE | Baa1 | BBB+ | NYSE | 0.85 |
| American Electric Power | AEP | Baa1 | A- | NYSE | 0.75 |
| American Water Works | AWK | Baa1 | A | NYSE | 0.85 |
| CenterPoint Energy | CNP | Baa1 | BBB+ | NYSE | 1.15 |
| CMS Energy | CMS | A3 | A- | NYSE | 0.80 |
| Consolidated Edison | ED | Baa1 | A- | NYSE | 0.75 |
| Dominion Energy | D | A2 | BBB+ | NYSE | 0.80 |
| DTE Energy Co. | DTE | A2 | A- | NYSE | 0.95 |
| Duke Energy | DUK | A1 | BBB+ | NYSE | 0.85 |
| Edison Int'l | EIX | Baa2 | BBB | NYSE | 0.95 |
| Entergy Corp. | ETR | Baa1 | A- | NYSE | 0.95 |
| Evergy, Inc. | EVRG | Baa1 | A- | NYSE | 1.00 |
| Eversource | ES | A3 | A | NYSE | 0.90 |
| Exelon Corp. | EXC | A2 | BBB+ | NYSE | 0.95 |
| FirstEnergy Corp. | FE | A3 | BB+ | NYSE | 0.85 |
| NextEra Energy Inc. | NEE | A1 | A | NYSE | 0.90 |
| NiSource Inc. | NI | Baa2 | BBB+ | NYSE | 0.85 |
| NRG Energy Inc. | NRG | Ba1 | BB+ | NYSE | 1.25 |
| Pinnacle West Capital | PNW | A2 | A- | NYSE | 0.90 |
| PPL Corp. | PPL | A3 | A- | NYSE | 1.15 |
| Public Serv. Enterprise Inc. | PEG | A2 | A- | NYSE | 0.90 |
| Sempra Energy | SRE | Baa1 | BBB+ | NYSE | 1.00 |
| Southern Co. | SO | Baa1 | A- | NYSE | 0.90 |
| WEC Energy Corp. | WEC | A2 | A- | NYSE | 0.80 |
| Xcel Energy Inc | XEL | A2 | A- | NYSE | 0.80 |
| Average for S&P Utilities | | A3 | BBB+ | | 0.91 |

Note: [1] Ratings are those of utility subsidiaries

Source of Information: SNL Financial LLC
Standard & Poor's Stock Guide
Value Line Investment Survey for Windows

Schedule 5 [1 of 1]

**New Jersey Natural Gas Company**
Capitalization and Related Capital Structure Ratios
Actual at December 31, 2018 and Estimated at August 31 2021

| | Actual at December 31, 2018 | | Estimated at August 31 2021 | |
|---|---|---|---|---|
| | Amount Outstanding | Ratios | Amount Outstanding | Ratios |
| Long-Term Debt | $ 1,092,845,000 | | $ 1,092,845,000 | |
| Meter Lease | 17,770,228 | | 15,038,506 | |
| ` | 1,110,615,228 | 44.95% | 1,107,883,506 | 43.11% |
| Common Equity | | | | |
| Common stock | 16,074,615 | | 16,074,615 | |
| Premium on Capital Stock | 11,269,176 | | 11,269,176 | |
| Other Paid-in Capital | 551,753,056 | | 551,753,056 | |
| Retained earnings | 781,292,722 | | 883,094,355 | |
| Total Common Equity | 1,360,389,569 | 55.05% | 1,462,191,202 | 56.89% |
| Total Capital | $ 2,471,004,797 | 100.00% | $ 2,570,074,708 | 100.00% |

Source of Information: Company provided data

Schedule 6 [1 of 4]

**New Jersey Natural Gas Company**
Calculation of the Embedded Cost of Long-Term Debt
Actual at December 30, 2020

| Series | Principal Amount Outstanding | Percent to Total | Effective Cost Rate (1) | Weighted Cost Rate |
|---|---|---|---|---|
| Series OO | $ 46,500,000 | 4.25% | 3.23% | 0.14% |
| Series PP | 50,000,000 | 4.58% | 3.20% | 0.15% |
| Series QQ | 70,000,000 | 6.41% | 3.60% | 0.23% |
| Series RR | 55,000,000 | 5.03% | 4.63% | 0.23% |
| Series SS | 50,000,000 | 4.58% | 2.84% | 0.13% |
| Series TT | 100,000,000 | 9.15% | 3.68% | 0.34% |
| Series UU | 125,000,000 | 11.44% | 3.66% | 0.42% |
| Series VV | 125,000,000 | 11.44% | 4.15% | 0.47% |
| Series WW | 10,300,000 | 0.94% | 3.56% | 0.03% |
| Series XX | 10,500,000 | 0.96% | 3.42% | 0.03% |
| Series YY | 15,000,000 | 1.37% | 2.76% | 0.04% |
| Series ZZ | 100,000,000 | 9.15% | 3.79% | 0.35% |
| Series AAA | 85,000,000 | 7.78% | 3.88% | 0.30% |
| Series BBB | 9,545,000 | 0.87% | 2.91% | 0.03% |
| Series CCC | 41,000,000 | 3.75% | 3.21% | 0.12% |
| Series DDD | 50,000,000 | 4.58% | 3.44% | 0.16% |
| Series EEE | 50,000,000 | 4.58% | 3.44% | 0.16% |
| Series FFF | 25,000,000 | 2.29% | 3.60% | 0.08% |
| Series GGG | 25,000,000 | 2.29% | 2.90% | 0.07% |
| Series HHH | 50,000,000 | 4.58% | 2.99% | 0.14% |
| Long-Term Debt | $1,092,845,000 | 100.00% | | 3.61% |
| Long-Term Debt | $1,092,845,000 | 98.40% | 3.61% | 3.55% |
| Meter Lease | 17,770,228 | 1.60% | 3.14% | 0.05% |
| Total Debt | $1,110,615,228 | 100.00% | | 3.60% |

Note: (1) As calculated on page 2 of this schedule.

Source of Information: Company provided data

Schedule 6 [2 of 4]

**New Jersey Natural Gas Company**
Calculation of the Effective Cost of Long-Term Debt by Series

| Series | Coupon Rate | Date of Issue | Date of Maturity | Average Term in Years [1] | Principal Amount Issued | Discount and Expense | Net Proceeds | Net Proceeds Ratio | Effective Cost Rate [2] |
|---|---|---|---|---|---|---|---|---|---|
| Series OO | 3.00% | 08/01/13 | 08/01/43 | 30 | $ 46,500,000 | $ 2,045,576 | $ 44,454,424 | 95.60% | 3.23% |
| Series PP | 3.15% | 04/15/13 | 04/15/28 | 15 | 50,000,000 | 279,031 | 49,720,969 | 99.44% | 3.20% |
| Series QQ | 3.58% | 03/13/14 | 03/13/24 | 10 | 70,000,000 | 112,609 | 69,887,391 | 99.84% | 3.60% |
| Series RR | 4.61% | 03/13/14 | 03/13/44 | 30 | 55,000,000 | 219,077 | 54,780,923 | 99.60% | 4.63% |
| Series SS | 2.82% | 04/15/15 | 04/15/25 | 10 | 50,000,000 | 106,751 | 49,893,249 | 99.79% | 2.84% |
| Series TT | 3.66% | 04/15/15 | 04/15/45 | 30 | 100,000,000 | 412,631 | 99,587,369 | 99.59% | 3.68% |
| Series UU | 3.63% | 06/15/16 | 06/15/46 | 30 | 125,000,000 | 577,905 | 124,422,095 | 99.54% | 3.66% |
| Series VV | 4.01% | 05/11/18 | 05/11/48 | 30 | 125,000,000 | 2,935,533 | 122,064,467 | 97.65% | 4.15% |
| Series WW | 3.50% | 04/18/19 | 04/18/42 | 23 | 10,300,000 | 94,909 | 10,205,091 | 99.08% | 3.56% |
| Series XX | 3.38% | 04/18/19 | 04/18/38 | 19 | 10,500,000 | 72,953 | 10,427,047 | 99.31% | 3.42% |
| Series YY | 2.45% | 04/18/19 | 04/18/59 | 40 | 15,000,000 | 1,117,130 | 13,882,870 | 92.55% | 2.76% |
| Series ZZ | 3.76% | 07/17/19 | 07/17/49 | 30 | 100,000,000 | 579,254 | 99,420,746 | 99.42% | 3.79% |
| Series AAA | 3.86% | 07/17/19 | 07/17/59 | 40 | 85,000,000 | 335,379 | 84,664,621 | 99.61% | 3.88% |
| Series BBB | 2.75% | 08/01/13 | 08/01/39 | 26 | 9,545,000 | 274,890 | 9,270,110 | 97.12% | 2.91% |
| Series CCC | 3.00% | 08/01/13 | 08/01/43 | 30 | 41,000,000 | 1,626,889 | 39,373,111 | 96.03% | 3.21% |
| Series DDD | 3.13% | 07/23/20 | 07/23/50 | 30 | 50,000,000 | 2,861,093 | 47,138,907 | 94.28% | 3.44% |
| Series EEE | 3.13% | 07/23/20 | 07/23/50 | 30 | 50,000,000 | 2,861,093 | 47,138,907 | 94.28% | 3.44% |
| Series FFF | 3.33% | 07/23/20 | 07/23/60 | 40 | 25,000,000 | 1,430,546 | 23,569,454 | 94.28% | 3.60% |
| Series GGG | 2.87% | 09/01/20 | 09/01/50 | 30 | 25,000,000 | 131,821 | 24,868,179 | 99.47% | 2.90% |
| Series HHH | 2.97% | 09/01/20 | 09/01/60 | 40 | 50,000,000 | 263,641 | 49,736,359 | 99.47% | 2.99% |

Notes: [1] Determined by taking into account the effect the annual sinking fund requirements, which are met by the payment of principal that reduces the term of each issue.
[2] The effective cost for each issue is the yield to maturity ("ytm") using as inputs the average term of the issue, the coupon rate, and the net proceeds ratio.

Source of Information: Company provided data

Schedule 6 [3 of 4]

**New Jersey Natural Gas Company**
Calculation of the Embedded Cost of Long-Term Debt
Estimated at August 31 2021

| Series | Principal Amount Outstanding | Percent to Total | Effective Cost Rate (1) | Weighted Cost Rate |
|---|---|---|---|---|
| Series OO | $ 46,500,000 | 4.25% | 3.22% | 0.14% |
| Series PP | 50,000,000 | 4.58% | 3.19% | 0.15% |
| Series QQ | 70,000,000 | 6.41% | 3.60% | 0.23% |
| Series RR | 55,000,000 | 5.03% | 4.63% | 0.23% |
| Series SS | 50,000,000 | 4.58% | 2.84% | 0.13% |
| Series TT | 100,000,000 | 9.15% | 3.68% | 0.34% |
| Series UU | 125,000,000 | 11.44% | 3.65% | 0.42% |
| Series VV | 125,000,000 | 11.44% | 4.14% | 0.47% |
| Series WW | 10,300,000 | 0.94% | 3.55% | 0.03% |
| Series XX | 10,500,000 | 0.96% | 3.42% | 0.03% |
| Series YY | 15,000,000 | 1.37% | 2.75% | 0.04% |
| Series ZZ | 100,000,000 | 9.15% | 3.79% | 0.35% |
| Series AAA | 85,000,000 | 7.78% | 3.88% | 0.30% |
| Series BBB | 9,545,000 | 0.87% | 2.89% | 0.03% |
| Series CCC | 41,000,000 | 3.75% | 3.20% | 0.12% |
| Series DDD | 50,000,000 | 4.58% | 3.43% | 0.16% |
| Series EEE | 50,000,000 | 4.58% | 3.43% | 0.16% |
| Series FFF | 25,000,000 | 2.29% | 3.60% | 0.08% |
| Series GGG | 25,000,000 | 2.29% | 2.90% | 0.07% |
| Series HHH | 50,000,000 | 4.58% | 2.99% | 0.14% |
| Long-Term Debt | $1,092,845,000 | 100.00% | | 3.60% |
| Long-Term Debt | $1,092,845,000 | 98.64% | 3.60% | 3.55% |
| Meter Lease | 15,038,506 | 1.36% | 3.14% | 0.04% |
| Total Debt | $1,107,883,506 | 100.00% | | 3.60% |

Note: (1) As calculated on page 4 of this schedule.

Source of Information: Company provided data

Schedule 6 [4 of 4]

**New Jersey Natural Gas Company**
Calculation of the Effective Cost of Long-Term Debt by Series

| Series | Coupon Rate | Date of Issue | Date of Maturity | Average Term in Years [1] | Principal Amount Issued | Discount and Expense | Net Proceeds | Net Proceeds Ratio | Effective Cost Rate [2] |
|---|---|---|---|---|---|---|---|---|---|
| Series OO | 3.00% | 08/01/13 | 08/01/43 | 30 | $ 46,500,000 | $ 1,987,605 | $ 44,512,395 | 95.73% | 3.22% |
| Series PP | 3.15% | 04/15/13 | 04/15/28 | 15 | 50,000,000 | 259,281 | 49,740,719 | 99.48% | 3.19% |
| Series QQ | 3.58% | 03/13/14 | 03/13/24 | 10 | 70,000,000 | 91,866 | 69,908,134 | 99.87% | 3.60% |
| Series RR | 4.61% | 03/13/14 | 03/13/44 | 30 | 55,000,000 | 213,560 | 54,786,440 | 99.61% | 4.63% |
| Series SS | 2.82% | 04/15/15 | 04/15/25 | 10 | 50,000,000 | 91,805 | 49,908,195 | 99.82% | 2.84% |
| Series TT | 3.66% | 04/15/15 | 04/15/45 | 30 | 100,000,000 | 402,671 | 99,597,329 | 99.60% | 3.68% |
| Series UU | 3.63% | 06/15/16 | 06/15/46 | 30 | 125,000,000 | 564,598 | 124,435,402 | 99.55% | 3.65% |
| Series VV | 4.01% | 05/11/18 | 05/11/48 | 30 | 125,000,000 | 2,872,693 | 122,127,307 | 97.70% | 4.14% |
| Series WW | 3.50% | 04/18/19 | 04/18/42 | 23 | 10,300,000 | 73,478 | 10,226,522 | 99.29% | 3.55% |
| Series XX | 3.38% | 04/18/19 | 04/18/38 | 19 | 10,500,000 | 59,151 | 10,440,849 | 99.44% | 3.42% |
| Series YY | 2.45% | 04/18/19 | 04/18/59 | 40 | 15,000,000 | 1,084,135 | 13,915,865 | 92.77% | 2.75% |
| Series ZZ | 3.76% | 07/17/19 | 07/17/49 | 30 | 100,000,000 | 567,617 | 99,432,383 | 99.43% | 3.79% |
| Series AAA | 3.86% | 07/17/19 | 07/17/59 | 40 | 85,000,000 | 330,297 | 84,669,703 | 99.61% | 3.88% |
| Series BBB | 2.75% | 08/01/13 | 08/01/39 | 26 | 9,545,000 | 250,837 | 9,294,163 | 97.37% | 2.89% |
| Series CCC | 3.00% | 08/01/13 | 08/01/43 | 30 | 41,000,000 | 1,561,813 | 39,438,187 | 96.19% | 3.20% |
| Series DDD | 3.13% | 07/23/20 | 07/23/50 | 30 | 50,000,000 | 2,806,597 | 47,193,403 | 94.39% | 3.43% |
| Series EEE | 3.13% | 07/23/20 | 07/23/50 | 30 | 50,000,000 | 2,806,597 | 47,193,403 | 94.39% | 3.43% |
| Series FFF | 3.33% | 07/23/20 | 07/23/60 | 40 | 25,000,000 | 1,403,299 | 23,596,701 | 94.39% | 3.60% |
| Series GGG | 2.87% | 09/01/20 | 09/01/50 | 30 | 25,000,000 | 131,821 | 24,868,179 | 99.47% | 2.90% |
| Series HHH | 2.97% | 09/01/20 | 09/01/60 | 40 | 50,000,000 | 263,641 | 49,736,359 | 99.47% | 2.99% |

Notes: [1] Determined by taking into account the effect the annual sinking fund requirements, which are met by the payment of principal that reduces the term of each issue.
[2] The effective cost for each issue is the yield to maturity ("ytm") using as inputs the average term of the issue, the coupon rate, and the net proceeds ratio.

Source of Information: Company provided data

Schedule 7 [1 of 1]

**Monthly Dividend Yields for**
**Natural Gas Group**
**for the Twelve Months Ending December 2020**

| Company | Jan-20 | Feb-20 | Mar-20 | Apr-20 | May-20 | Jun-20 | Jul-20 | Aug-20 | Sep-20 | Oct-20 | Nov-20 | Dec-20 | 12-Month Average | 6-Month Average | 3-Month Average |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Atmos Energy Corp (ATO) | 1.97% | 2.23% | 2.32% | 2.27% | 2.24% | 2.32% | 2.18% | 2.31% | 2.41% | 2.74% | 2.61% | 2.63% | | | |
| Chesapeake Utilities Corp (CPK) | 1.69% | 1.90% | 1.89% | 2.01% | 1.96% | 2.10% | 2.09% | 2.16% | 2.09% | 1.81% | 1.70% | 1.63% | | | |
| New Jersey Resources Corporation (NJR) | 3.04% | 3.57% | 3.69% | 3.72% | 3.59% | 3.83% | 4.31% | 4.45% | 4.93% | 4.58% | 4.06% | 3.75% | | | |
| NiSource Inc (NI) | 2.89% | 3.11% | 3.38% | 3.35% | 3.54% | 3.72% | 3.44% | 3.80% | 3.84% | 3.66% | 3.48% | 3.69% | | | |
| Northwest Natural Holding Company (NWN) | 2.60% | 2.91% | 3.11% | 2.93% | 2.99% | 3.44% | 3.57% | 3.75% | 4.24% | 4.32% | 4.02% | 4.21% | | | |
| ONE Gas Inc (OGS) | 2.30% | 2.63% | 2.59% | 2.72% | 2.58% | 2.81% | 2.87% | 2.92% | 3.14% | 3.15% | 2.73% | 2.82% | | | |
| South Jersey Industries Inc (SJI) | 3.85% | 4.41% | 4.73% | 4.15% | 4.20% | 4.73% | 5.09% | 5.39% | 6.15% | 6.34% | 5.32% | 5.63% | | | |
| Southwest Gas Holdings Inc (SWX) | 2.91% | 3.38% | 3.15% | 3.03% | 3.01% | 3.32% | 3.30% | 3.63% | 3.63% | 3.50% | 3.55% | 3.77% | | | |
| Spire Inc. (SR) | 2.97% | 3.34% | 3.35% | 3.43% | 3.44% | 3.80% | 4.06% | 4.32% | 4.69% | 4.67% | 4.10% | 4.07% | | | |
| **Average** | **2.69%** | **3.05%** | **3.13%** | **3.07%** | **3.06%** | **3.34%** | **3.43%** | **3.64%** | **3.90%** | **3.86%** | **3.51%** | **3.58%** | **3.36%** | **3.65%** | **3.65%** |

Note: Monthly dividend yields are calculated by dividing the annualized quarterly dividend by the month-end closing stock price adjusted by the fraction of the ex-dividend.

Source of Information: http://performance.morningstar.com/stock/performance-return
http://www.snl.com/interactivex/dividends

**Forward-looking Dividend Yield**

| | | | | |
|---|---|---|---|---|
| 1/2 Growth | $D_0/P_0$ | (.5g) | $D_1/P_0$ | $K = \frac{D_0(1+g)^0 + D_0(1+g)^0 + D_0(1+g)^1 + D_0(1+g)^1}{P_0} + g$ |
| | 3.65% | 1.037500 | 3.79% | |
| Discrete | $D_0/P_0$ | Adj. | $D_1/P_0$ | $K = \frac{D_0(1+g)^{.25} + D_0(1+g)^{.50} + D_0(1+g)^{.75} + D_0(1+g)^{1.00}}{P_0} + g$ |
| | 3.65% | 1.046451 | 3.82% | |
| Quarterly | $D_0/P_0$ | Adj. | $D_1/P_0$ | $K = \left[\left(1 + \frac{D_0(1+g)^{.25}}{P_0}\right)^4 - 1\right] + g$ |
| | 0.9133% | 1.018245 | 3.77% | |
| Average | | | 3.79% | |
| **Growth rate** | | | 7.50% | |
| **K** | | | 11.29% | |

Schedule 8 [1 of 1]

**Historical Growth Rates**
Earnings Per Share, Dividends Per Share,
Book Value Per Share, and Cash Flow Per Share

| Gas Group | Earnings per Share | | Dividends per Share | | Book Value per Share | | Cash Flow per Share | |
|---|---|---|---|---|---|---|---|---|
| | Value Line | | Value Line | | Value Line | | Value Line | |
| | 5 Year | 10 Year | 5 Year | 10 Year | 5 Year | 10 Year | 5 Year | 10 Year |
| Atmos Energy Corp (ATO) | 9.50% | 7.50% | 6.50% | 4.00% | 8.50% | 6.50% | 7.00% | 5.50% |
| Chesapeake Utilities Corp (CPK) | 8.00% | 9.00% | 6.50% | 5.50% | 10.50% | 9.50% | 7.00% | 10.00% |
| New Jersey Resources Corporation (NJR) | 6.00% | 7.00% | 6.50% | 7.00% | 8.50% | 7.00% | 7.50% | 7.50% |
| NiSource Inc (NI) | -8.00% | -1.00% | -5.00% | -2.00% | -7.00% | -3.00% | -5.00% | -2.00% |
| Northwest Natural Holding Company (NWN) | -17.00% | -11.00% | 0.50% | 2.00% | -0.50% | 1.50% | -5.50% | -3.00% |
| ONE Gas Inc (OGS) | 9.50% | - | 17.00% | - | 2.50% | - | 7.00% | - |
| South Jersey Industries Inc (SJI) | 1.50% | -2.50% | 6.00% | 8.00% | 6.00% | 6.50% | 3.50% | 5.00% |
| Southwest Gas Holdings Inc (SWX) | 4.50% | 8.00% | 9.50% | 8.50% | 6.50% | 6.00% | 1.50% | 4.00% |
| Spire Inc. (SR) | 9.50% | 3.50% | 5.50% | 4.00% | 7.00% | 7.00% | 13.00% | 5.50% |
| Average | 2.61% | 2.56% | 5.89% | 4.63% | 4.67% | 5.13% | 4.00% | 4.06% |

Source of Information: Value Line Investment Survey, November 27, 2020

Schedule 9 [1 of 1]

**Analysts' Five-Year Projected Growth Rates**
Earnings Per Share, Dividends Per Share,
Book Value Per Share, and Cash Flow Per Share

| Gas Group | I/B/E/S First Call | Zacks | Value Line Earnings Per Share | Value Line Dividends Per Share | Value Line Book Value Per Share | Value Line Cash Flow Per Share | Value Line Percent Retained to Common Equity |
|---|---|---|---|---|---|---|---|
| Atmos Energy Corp (ATO) | 7.10% | 7.10% | 7.00% | 7.50% | 7.50% | 5.50% | 4.50% |
| Chesapeake Utilities Corp (CPK) | 4.74% | NA | 9.00% | 8.50% | 11.00% | 8.50% | 5.50% |
| New Jersey Resources Corporation | 6.00% | 6.00% | 2.00% | 6.00% | 8.50% | 2.00% | 3.00% |
| NiSource Inc (NI) | 1.65% | 5.60% | 13.00% | 7.50% | 5.00% | 7.50% | 4.50% |
| Northwest Natural Holding Compan | 3.10% | 3.10% | 24.50% | 0.50% | 6.00% | 8.00% | 3.00% |
| ONE Gas Inc (OGS) | 5.00% | 5.50% | 6.50% | 7.50% | 5.50% | 7.00% | 3.50% |
| South Jersey Industries Inc (SJI) | 24.50% | 24.50% | 12.50% | 3.50% | 5.00% | 6.00% | 5.50% |
| Southwest Gas Holdings Inc (SWX) | 4.00% | 5.00% | 9.00% | 4.00% | 6.50% | 7.50% | 5.50% |
| Spire Inc. (SR) | 5.37% | 16.50% | 5.50% | 5.00% | 8.50% | 5.50% | 3.00% |
| Average | 6.83% | 9.16% | 9.89% | 5.56% | 7.06% | 6.39% | 4.22% |

Source of Information :
Yahoo Finance, January 3, 2021
Zacks, January 3, 2021
Value Line Investment Survey, November 27, 2020

Schedule 10 [1 of 1]

## Gas Group
### Financial Risk Adjustment

| | ATMOS Energy (NYSE:ATO) | Chesapeake Utilities (NYSE:CPK) | New Jersey Resources (NYSE:NJR) | NiSource, Inc (NYSE:NI) | Northwest Natural Gas (NYSE:NWN) | ONE Gas Inc (NYSE:OGS) | South Jersey Industries (NYSE:SJI) | Southwest Gas (SWX) | Spire Inc. (NYSESR) | Average |
|---|---|---|---|---|---|---|---|---|---|---|
| Fiscal Year | 09/30/19 | 12/31/19 | 09/30/19 | 12/31/19 | 12/31/19 | 12/31/19 | 12/31/19 | 12/31/19 | 09/30/19 | |
| Capitalization at Fair Values | | | | | | | | | | |
| Debt(D) | 4,216,249 | 505,000 | 1,568,864 | 8,764,400 | 957,268 | 1,500,000 | 2,730,000 | 2,672,077 | 2,373,400 | 2,809,695 |
| Preferred(P) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Equity(E) | 13,349,252 | 1,571,974 | 3,913,860 | 10,638,657 | 2,246,701 | 4,937,853 | 3,047,159 | 4,178,915 | 4,246,604 | 5,347,886 |
| Total | 17,565,501 | 2,076,974 | 5,482,724 | 19,403,057 | 3,203,969 | 6,437,853 | 5,777,159 | 6,850,992 | 6,620,004 | 8,157,581 |
| Capital Structure Ratios | | | | | | | | | | |
| Debt(D) | 24.00% | 24.31% | 28.61% | 45.17% | 29.88% | 23.30% | 47.26% | 39.00% | 35.85% | 33.04% |
| Preferred(P) | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| Equity(E) | 76.00% | 75.69% | 71.39% | 54.83% | 70.12% | 76.70% | 52.74% | 61.00% | 64.15% | 66.96% |
| Total | 100.00% | 100.00% | 100.00% | 100.00% | 100.00% | 100.00% | 100.00% | 100.00% | 100.00% | 100.00% |
| Common Stock | | | | | | | | | | |
| Issued | 119,338.925 | 16,403.776 | 89,998.788 | 382,135.680 | 30,472.000 | 52,771.749 | 92,394.155 | 55,007.433 | 50,973.515 | |
| Treasury | 0.000 | 0.000 | 2,185.013 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | |
| Outstanding | 119,338.925 | 16,403.776 | 87,813.775 | 382,135.680 | 30,472.000 | 52,771.749 | 92,394.155 | 55,007.433 | 50,973.515 | |
| Market Price | $111.86 | $95.83 | $44.57 | $27.84 | $73.73 | $93.57 | $32.98 | $75.97 | $83.31 | |
| Capitalization at Carrying Amounts | | | | | | | | | | |
| Debt(D) | 3,560,000 | 486,600 | 1,442,845 | 7,869,600 | 881,064 | 1,300,000 | 2,540,000 | 2,463,994 | 2,122,600 | 2,518,523 |
| Preferred(P) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Equity(E) | 5,750,223 | 561,577 | 1,551,717 | 5,986,700 | 865,999 | 2,129,390 | 1,423,785 | 2,505,914 | 2,543,000 | 2,590,923 |
| Total | 9,310,223 | 1,048,177 | 2,994,562 | 13,856,300 | 1,747,063 | 3,429,390 | 3,963,785 | 4,969,908 | 4,665,600 | 5,109,445 |
| Capital Structure Ratios | | | | | | | | | | |
| Debt(D) | 38.24% | 46.42% | 48.18% | 56.79% | 50.43% | 37.91% | 64.08% | 49.58% | 45.49% | 48.57% |
| Preferred(P) | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| Equity(E) | 61.76% | 53.58% | 51.82% | 43.21% | 49.57% | 62.09% | 35.92% | 50.42% | 54.51% | 51.43% |
| Total | 100.00% | 100.00% | 100.00% | 100.00% | 100.00% | 100.00% | 100.00% | 100.00% | 100.00% | 100.00% |
| Betas Value Line | 0.80 | 0.80 | 0.95 | 0.85 | 0.80 | 0.80 | 1.05 | 0.95 | 0.85 | 0.87 |

Hamada

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Bl | = | Bu | [1+ | (1 - t ) | D/E | + | P/E | ] | |
| 0.87 | = | Bu | [1+ | (1-0.21) | 0.4934 | + | 0.0000 | ] | |
| 0.87 | = | Bu | [1+ | 0.79 | 0.4934 | + | 0.0000 | ] | |
| 0.87 | = | Bu | 1.3898 | | | | | | |
| 0.63 | = | Bu | | | | | | | |

Hamada

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Bl | = | 0.63 | [1+ | (1 - t) | D/E | + | P/E | ] | |
| Bl | = | 0.63 | [1+ | 0.79 | 0.9443 | + | 0.0000 | ] | |
| Bl | = | 0.63 | 1.7460 | | | | | | |
| Bl | = | 1.10 | | | | | | | |

M&M

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ku | = | ke | - | ((( | ku | - | i | ) | | 1-t | ) | | D | / | E | - (ku - d ) P / E |
| 8.91% | = | 11.29% | - | ((( | 8.91% | - | 2.81% | ) | | 0.79 | ) | | 33.04% | / | 66.96% | - 8.91% - 5.68% ) 0.00% / 66.96% |
| 8.91% | = | 11.29% | - | ((( | 6.10% | | | ) | | 0.79 | ) | | 0.4934 | | | - 3.23% ) 0.0000 |
| 8.91% | = | 11.29% | - | (( | 4.82% | | | | | | ) | | 0.4934 | | | - 3.23% ) 0 |
| 8.91% | = | 11.29% | - | | 2.38% | | | | | | | | | | | - 0.00% |

M&M

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ke | = | ku | + | ((( | ku | - | i | ) | | 1-t | ) | | D | / | E | + (ku - d ) P / E |
| 13.46% | = | 8.91% | + | ((( | 8.91% | - | 2.81% | ) | | 0.79 | ) | | 48.57% | / | 51.43% | + 8.91% - 5.68% ) 0.00% / 51.43% |
| 13.46% | = | 8.91% | + | ((( | 6.10% | | | ) | | 0.79 | ) | | 0.9443 | | | + 3.23% ) 0.0000 |
| 13.46% | = | 8.91% | + | (( | 4.82% | | | | | | ) | | 0.9443 | | | + 3.23% ) 0 |
| 13.46% | = | 8.91% | + | | 4.55% | | | | | | | | | | | + 0.00% |

Schedule 11 [1 of 1]

## Analysis of Public Offerings of Gas Distribution Company Common Stock

| Company | Date of Offering | No. of shares offered | Dollar amount of offering | Price to public | Underwriters' discount and commission | Gross Proceeds per share | Estimated company issuance expenses | Net proceeds per share | Percent of offering price: Underwriters' discount and commission | Percent of offering price: Estimated company issuance expenses | Percent of offering price: Total Issuance and selling expense |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Piedmont Natural Gas Company, Inc. | 01/29/13 | 4,000,000 | $ 128,000,000 | $32.00 | 1.120 | $30.880 | $0.088 | $30.792 | 3.5% | 0.3% | 3.8% |
| Atmos Energy Corporation | 12/07/06 | 5,500,000 | $ 173,250,000 | $31.50 | 1.103 | $30.398 | $0.073 | $30.325 | 3.5% | 0.2% | 3.7% |
| AGL Resources Inc. | 11/19/04 | 9,600,000 | $ 297,696,000 | $31.01 | 0.930 | $30.080 | $0.042 | $30.038 | 3.0% | 0.1% | 3.1% |
| Atmos Energy Corporation | 10/21/04 | 14,000,000 | $ 346,500,000 | $24.75 | 0.990 | $23.760 | $0.029 | $23.731 | 4.0% | 0.1% | 4.1% |
| Atmos Energy Corporation | 07/19/04 | 8,650,000 | $ 214,087,500 | $24.75 | 0.990 | $23.760 | $0.046 | $23.714 | 4.0% | 0.2% | 4.2% |
| The Laclede Group, Inc. | 05/25/04 | 1,500,000 | $ 40,200,000 | $26.80 | 0.871 | $25.929 | $0.067 | $25.862 | 3.3% | 0.3% | 3.6% |
| Northwest Natural Gas Company | 03/30/04 | 1,200,000 | $ 37,200,000 | $31.00 | 1.010 | $29.990 | $0.146 | $29.844 | 3.3% | 0.5% | 3.8% |
| Piedmont Natural Gas Company, Inc. | 01/23/04 | 4,250,000 | $ 180,625,000 | $42.50 | 1.490 | $41.010 | $0.082 | $40.928 | 3.5% | 0.2% | 3.7% |
| Atmos Energy Corporation | 06/18/03 | 4,000,000 | $ 101,240,000 | $25.31 | 1.012 | $24.298 | $0.095 | $24.203 | 4.0% | 0.4% | 4.4% |
| AGL Resources Inc. | 02/11/03 | 5,600,000 | $ 123,200,000 | $22.00 | 0.770 | $21.230 | $0.045 | $21.185 | 3.5% | 0.2% | 3.7% |
| WGL Holdings, Inc | 06/26/01 | 1,790,000 | $ 47,846,700 | $26.73 | 0.895 | $25.835 | $0.031 | $25.804 | 3.3% | 0.1% | 3.4% |
| Atmos Energy Corporation | 11/07/00 | 6,000,000 | $ 133,500,000 | $22.25 | 1.110 | $21.140 | $0.058 | $21.082 | 5.0% | 0.3% | 5.3% |
| Average | | | | | | | | | 3.7% | 0.2% | 3.9% |

Source of Information: SNL Financial and SEC filings

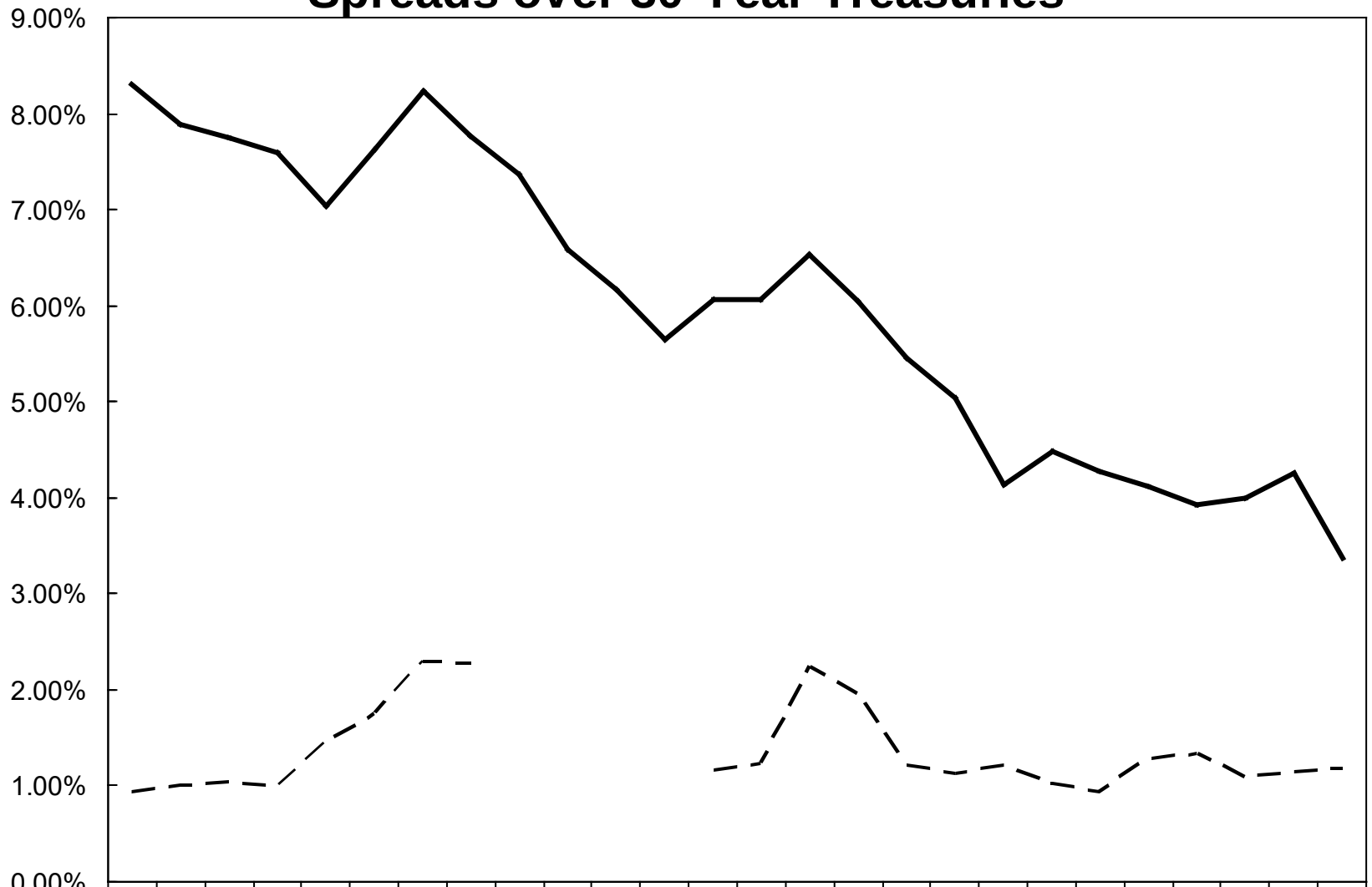
Schedule 12 [1 of 3]

**Interest Rates for Investment Grade Public Utility Bonds**
**Yearly for 2015-2019**
**and the Twelve Months Ended December 2020**

| Years | Aa Rated | A Rated | Baa Rated | Average |
|---|---|---|---|---|
| 2015 | 4.00% | 4.12% | 5.03% | 4.38% |
| 2016 | 3.73% | 3.93% | 4.68% | 4.11% |
| 2017 | 3.82% | 4.00% | 4.38% | 4.07% |
| 2018 | 4.09% | 4.25% | 4.67% | 4.34% |
| 2019 | 3.61% | 3.77% | 4.19% | 3.86% |
| **Five-Year Average** | 3.85% | 4.01% | 4.59% | 4.15% |
| **Months** | | | | |
| Jan-20 | 3.12% | 3.29% | 3.60% | 3.34% |
| Feb-20 | 2.96% | 3.11% | 3.42% | 3.16% |
| Mar-20 | 3.30% | 3.50% | 3.96% | 3.59% |
| Apr-20 | 2.93% | 3.19% | 3.82% | 3.31% |
| May-20 | 2.89% | 3.14% | 3.63% | 3.22% |
| Jun-20 | 2.80% | 3.07% | 3.44% | 3.10% |
| Jul-20 | 2.46% | 2.74% | 3.09% | 2.77% |
| Aug-20 | 2.49% | 2.73% | 3.06% | 2.76% |
| Sep-20 | 2.62% | 2.84% | 3.17% | 2.88% |
| Oct-20 | 2.72% | 2.95% | 3.27% | 2.98% |
| Nov-20 | 2.63% | 2.85% | 3.17% | 2.89% |
| Dec-20 | 2.57% | 2.77% | 3.05% | 2.80% |
| **Twelve-Month Average** | 2.79% | 3.02% | 3.39% | 3.07% |
| **Six-Month Average** | 2.58% | 2.81% | 3.14% | 2.85% |
| **Three-Month Average** | 2.64% | 2.86% | 3.16% | 2.89% |

Schedule 12 [2 of 3]

# Yields on A-rated Public Utility Bonds and Spreads over 30-Year Treasuries




| | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A-rated Public Utility | 8.31 | 7.89 | 7.75 | 7.60 | 7.04 | 7.62 | 8.24 | 7.76 | 7.37 | 6.58 | 6.16 | 5.65 | 6.07 | 6.07 | 6.53 | 6.04 | 5.46 | 5.04 | 4.13 | 4.48 | 4.28 | 4.12 | 3.93 | 4.00 | 4.25 | 3.37 |
| Spread vs. 30-year | 0.94 | 1.01 | 1.04 | 0.99 | 1.46 | 1.75 | 2.30 | 2.27 | | | | | 1.16 | 1.23 | 2.25 | 1.96 | 1.21 | 1.13 | 1.21 | 1.03 | 0.94 | 1.28 | 1.34 | 1.10 | 1.14 | 1.19 |

Schedule 12 [3 of 3]

## A rated Public Utility Bonds over 30-Year Treasuries

| Year | A-rated Public Utility | 30-Year Treasuries Yield | 30-Year Treasuries Spread |
|---|---|---|---|
| Jan-99 | 6.97% | 5.16% | 1.81% |
| Feb-99 | 7.09% | 5.37% | 1.72% |
| Mar-99 | 7.26% | 5.58% | 1.68% |
| Apr-99 | 7.22% | 5.55% | 1.67% |
| May-99 | 7.47% | 5.81% | 1.66% |
| Jun-99 | 7.74% | 6.04% | 1.70% |
| Jul-99 | 7.71% | 5.98% | 1.73% |
| Aug-99 | 7.91% | 6.07% | 1.84% |
| Sep-99 | 7.93% | 6.07% | 1.86% |
| Oct-99 | 8.06% | 6.26% | 1.80% |
| Nov-99 | 7.94% | 6.15% | 1.79% |
| Dec-99 | 8.14% | 6.35% | 1.79% |
| Jan-00 | 8.35% | 6.63% | 1.72% |
| Feb-00 | 8.25% | 6.23% | 2.02% |
| Mar-00 | 8.28% | 6.05% | 2.23% |
| Apr-00 | 8.29% | 5.85% | 2.44% |
| May-00 | 8.70% | 6.15% | 2.55% |
| Jun-00 | 8.36% | 5.93% | 2.43% |
| Jul-00 | 8.25% | 5.85% | 2.40% |
| Aug-00 | 8.13% | 5.72% | 2.41% |
| Sep-00 | 8.23% | 5.83% | 2.40% |
| Oct-00 | 8.14% | 5.80% | 2.34% |
| Nov-00 | 8.11% | 5.78% | 2.33% |
| Dec-00 | 7.84% | 5.49% | 2.35% |
| Jan-01 | 7.80% | 5.54% | 2.26% |
| Feb-01 | 7.74% | 5.45% | 2.29% |
| Mar-01 | 7.68% | 5.34% | 2.34% |
| Apr-01 | 7.94% | 5.65% | 2.29% |
| May-01 | 7.99% | 5.78% | 2.21% |
| Jun-01 | 7.85% | 5.67% | 2.18% |
| Jul-01 | 7.78% | 5.61% | 2.17% |
| Aug-01 | 7.59% | 5.48% | 2.11% |
| Sep-01 | 7.75% | 5.48% | 2.27% |
| Oct-01 | 7.63% | 5.32% | 2.31% |
| Nov-01 | 7.57% | 5.12% | 2.45% |
| Dec-01 | 7.83% | 5.48% | 2.35% |
| Jan-02 | 7.66% | 5.45% | 2.21% |
| Feb-02 | 7.54% | 5.40% | 2.14% |
| Mar-02 | 7.76% | | |
| Apr-02 | 7.57% | | |
| May-02 | 7.52% | | |
| Jun-02 | 7.42% | | |
| Jul-02 | 7.31% | | |
| Aug-02 | 7.17% | | |
| Sep-02 | 7.08% | | |
| Oct-02 | 7.23% | | |
| Nov-02 | 7.14% | | |
| Dec-02 | 7.07% | | |
| Jan-03 | 7.07% | | |
| Feb-03 | 6.93% | | |
| Mar-03 | 6.79% | | |
| Apr-03 | 6.64% | | |
| May-03 | 6.36% | | |
| Jun-03 | 6.21% | | |
| Jul-03 | 6.57% | | |
| Aug-03 | 6.78% | | |
| Sep-03 | 6.56% | | |
| Oct-03 | 6.43% | | |
| Nov-03 | 6.37% | | |
| Dec-03 | 6.27% | | |

| Year | A-rated Public Utility | 30-Year Treasuries Yield | 30-Year Treasuries Spread |
|---|---|---|---|
| Jan-04 | 6.15% | | |
| Feb-04 | 6.15% | | |
| Mar-04 | 5.97% | | |
| Apr-04 | 6.35% | | |
| May-04 | 6.62% | | |
| Jun-04 | 6.46% | | |
| Jul-04 | 6.27% | | |
| Aug-04 | 6.14% | | |
| Sep-04 | 5.98% | | |
| Oct-04 | 5.94% | | |
| Nov-04 | 5.97% | | |
| Dec-04 | 5.92% | | |
| Jan-05 | 5.78% | | |
| Feb-05 | 5.61% | | |
| Mar-05 | 5.83% | | |
| Apr-05 | 5.64% | | |
| May-05 | 5.53% | | |
| Jun-05 | 5.40% | | |
| Jul-05 | 5.51% | | |
| Aug-05 | 5.50% | | |
| Sep-05 | 5.52% | | |
| Oct-05 | 5.79% | | |
| Nov-05 | 5.88% | | |
| Dec-05 | 5.80% | | |
| Jan-06 | 5.75% | | |
| Feb-06 | 5.82% | 4.54% | 1.28% |
| Mar-06 | 5.98% | 4.73% | 1.25% |
| Apr-06 | 6.29% | 5.06% | 1.23% |
| May-06 | 6.42% | 5.20% | 1.22% |
| Jun-06 | 6.40% | 5.15% | 1.25% |
| Jul-06 | 6.37% | 5.13% | 1.24% |
| Aug-06 | 6.20% | 5.00% | 1.20% |
| Sep-06 | 6.00% | 4.85% | 1.15% |
| Oct-06 | 5.98% | 4.85% | 1.13% |
| Nov-06 | 5.80% | 4.69% | 1.11% |
| Dec-06 | 5.81% | 4.68% | 1.13% |
| Jan-06 | 5.75% | | |
| Feb-06 | 5.82% | 4.54% | 1.28% |
| Mar-06 | 5.98% | 4.73% | 1.25% |
| Apr-06 | 6.29% | 5.06% | 1.23% |
| May-06 | 6.42% | 5.20% | 1.22% |
| Jun-06 | 6.40% | 5.15% | 1.25% |
| Jul-06 | 6.37% | 5.13% | 1.24% |
| Aug-06 | 6.20% | 5.00% | 1.20% |
| Sep-06 | 6.00% | 4.85% | 1.15% |
| Oct-06 | 5.98% | 4.85% | 1.13% |
| Nov-06 | 5.80% | 4.69% | 1.11% |
| Dec-06 | 5.81% | 4.68% | 1.13% |
| Jan-07 | 5.96% | 4.85% | 1.11% |
| Feb-07 | 5.90% | 4.82% | 1.08% |
| Mar-07 | 5.85% | 4.72% | 1.13% |
| Apr-07 | 5.97% | 4.87% | 1.10% |
| May-07 | 5.99% | 4.90% | 1.09% |
| Jun-07 | 6.30% | 5.20% | 1.10% |
| Jul-07 | 6.25% | 5.11% | 1.14% |
| Aug-07 | 6.24% | 4.93% | 1.31% |
| Sep-07 | 6.18% | 4.79% | 1.39% |
| Oct-07 | 6.11% | 4.77% | 1.34% |
| Nov-07 | 5.97% | 4.52% | 1.45% |
| Dec-07 | 6.16% | 4.53% | 1.63% |

| Year | A-rated Public Utility | 30-Year Treasuries Yield | 30-Year Treasuries Spread |
|---|---|---|---|
| Jan-08 | 6.02% | 4.33% | 1.69% |
| Feb-08 | 6.21% | 4.52% | 1.69% |
| Mar-08 | 6.21% | 4.39% | 1.82% |
| Apr-08 | 6.29% | 4.44% | 1.85% |
| May-08 | 6.28% | 4.60% | 1.68% |
| Jun-08 | 6.38% | 4.69% | 1.69% |
| Jul-08 | 6.40% | 4.57% | 1.83% |
| Aug-08 | 6.37% | 4.50% | 1.87% |
| Sep-08 | 6.49% | 4.27% | 2.22% |
| Oct-08 | 7.56% | 4.17% | 3.39% |
| Nov-08 | 7.60% | 4.00% | 3.60% |
| Dec-08 | 6.52% | 2.87% | 3.65% |
| Jan-09 | 6.39% | 3.13% | 3.26% |
| Feb-09 | 6.30% | 3.59% | 2.71% |
| Mar-09 | 6.42% | 3.64% | 2.78% |
| Apr-09 | 6.48% | 3.76% | 2.72% |
| May-09 | 6.49% | 4.23% | 2.26% |
| Jun-09 | 6.20% | 4.52% | 1.68% |
| Jul-09 | 5.97% | 4.41% | 1.56% |
| Aug-09 | 5.71% | 4.37% | 1.34% |
| Sep-09 | 5.53% | 4.19% | 1.34% |
| Oct-09 | 5.55% | 4.19% | 1.36% |
| Nov-09 | 5.64% | 4.31% | 1.33% |
| Dec-09 | 5.79% | 4.49% | 1.30% |
| Jan-10 | 5.77% | 4.60% | 1.17% |
| Feb-10 | 5.87% | 4.62% | 1.25% |
| Mar-10 | 5.84% | 4.64% | 1.20% |
| Apr-10 | 5.81% | 4.69% | 1.12% |
| May-10 | 5.50% | 4.29% | 1.21% |
| Jun-10 | 5.46% | 4.13% | 1.33% |
| Jul-10 | 5.26% | 3.99% | 1.27% |
| Aug-10 | 5.01% | 3.80% | 1.21% |
| Sep-10 | 5.01% | 3.77% | 1.24% |
| Oct-10 | 5.10% | 3.87% | 1.23% |
| Nov-10 | 5.37% | 4.19% | 1.18% |
| Dec-10 | 5.56% | 4.42% | 1.14% |
| Jan-10 | 5.77% | 4.60% | 1.17% |
| Feb-10 | 5.87% | 4.62% | 1.25% |
| Mar-10 | 5.84% | 4.64% | 1.20% |
| Apr-10 | 5.81% | 4.69% | 1.12% |
| May-10 | 5.50% | 4.29% | 1.21% |
| Jun-10 | 5.46% | 4.13% | 1.33% |
| Jul-10 | 5.26% | 3.99% | 1.27% |
| Aug-10 | 5.01% | 3.80% | 1.21% |
| Sep-10 | 5.01% | 3.77% | 1.24% |
| Oct-10 | 5.10% | 3.87% | 1.23% |
| Nov-10 | 5.37% | 4.19% | 1.18% |
| Dec-10 | 5.56% | 4.42% | 1.14% |
| Jan-11 | 5.57% | 4.52% | 1.05% |
| Feb-11 | 5.68% | 4.65% | 1.03% |
| Mar-11 | 5.56% | 4.51% | 1.05% |
| Apr-11 | 5.55% | 4.50% | 1.05% |
| May-11 | 5.32% | 4.29% | 1.03% |
| Jun-11 | 5.26% | 4.23% | 1.03% |
| Jul-11 | 5.27% | 4.27% | 1.00% |
| Aug-11 | 4.69% | 3.65% | 1.04% |
| Sep-11 | 4.48% | 3.18% | 1.30% |
| Oct-11 | 4.52% | 3.13% | 1.39% |
| Nov-11 | 4.25% | 3.02% | 1.23% |
| Dec-11 | 4.33% | 2.98% | 1.35% |

| Year | A-rated Public Utility | 30-Year Treasuries Yield | 30-Year Treasuries Spread |
|---|---|---|---|
| Jan-12 | 4.34% | 3.03% | 1.31% |
| Feb-12 | 4.36% | 3.11% | 1.25% |
| Mar-12 | 4.48% | 3.28% | 1.20% |
| Apr-12 | 4.40% | 3.18% | 1.22% |
| May-12 | 4.20% | 2.93% | 1.27% |
| Jun-12 | 4.08% | 2.70% | 1.38% |
| Jul-12 | 3.93% | 2.59% | 1.34% |
| Aug-12 | 4.00% | 2.77% | 1.23% |
| Sep-12 | 4.02% | 2.88% | 1.14% |
| Oct-12 | 3.91% | 2.90% | 1.01% |
| Nov-12 | 3.84% | 2.80% | 1.04% |
| Dec-12 | 4.00% | 2.88% | 1.12% |
| Jan-13 | 4.15% | 3.08% | 1.07% |
| Feb-13 | 4.18% | 3.17% | 1.01% |
| Mar-13 | 4.20% | 3.16% | 1.04% |
| Apr-13 | 4.00% | 2.93% | 1.07% |
| May-13 | 4.17% | 3.11% | 1.06% |
| Jun-13 | 4.53% | 3.40% | 1.13% |
| Jul-13 | 4.68% | 3.61% | 1.07% |
| Aug-13 | 4.73% | 3.76% | 0.97% |
| Sep-13 | 4.80% | 3.79% | 1.01% |
| Oct-13 | 4.70% | 3.68% | 1.02% |
| Nov-13 | 4.77% | 3.80% | 0.97% |
| Dec-13 | 4.81% | 3.89% | 0.92% |
| Jan-14 | 4.63% | 3.77% | 0.86% |
| Feb-14 | 4.53% | 3.66% | 0.87% |
| Mar-14 | 4.51% | 3.62% | 0.89% |
| Apr-14 | 4.41% | 3.52% | 0.89% |
| May-14 | 4.26% | 3.39% | 0.87% |
| Jun-14 | 4.29% | 3.42% | 0.87% |
| Jul-14 | 4.23% | 3.33% | 0.90% |
| Aug-14 | 4.13% | 3.20% | 0.93% |
| Sep-14 | 4.24% | 3.26% | 0.98% |
| Oct-14 | 4.06% | 3.04% | 1.02% |
| Nov-14 | 4.09% | 3.04% | 1.05% |
| Dec-14 | 3.95% | 2.83% | 1.12% |
| Jan-14 | 4.63% | 3.77% | 0.86% |
| Feb-14 | 4.53% | 3.66% | 0.87% |
| Mar-14 | 4.51% | 3.62% | 0.89% |
| Apr-14 | 4.41% | 3.52% | 0.89% |
| May-14 | 4.26% | 3.39% | 0.87% |
| Jun-14 | 4.29% | 3.42% | 0.87% |
| Jul-14 | 4.23% | 3.33% | 0.90% |
| Aug-14 | 4.13% | 3.20% | 0.93% |
| Sep-14 | 4.24% | 3.26% | 0.98% |
| Oct-14 | 4.06% | 3.04% | 1.02% |
| Nov-14 | 4.09% | 3.04% | 1.05% |
| Dec-14 | 3.95% | 2.83% | 1.12% |
| Jan-15 | 3.58% | 2.46% | 1.12% |
| Feb-15 | 3.67% | 2.57% | 1.10% |
| Mar-15 | 3.74% | 2.63% | 1.11% |
| Apr-15 | 3.75% | 2.59% | 1.16% |
| May-15 | 4.17% | 2.96% | 1.21% |
| Jun-15 | 4.39% | 3.11% | 1.28% |
| Jul-15 | 4.40% | 3.07% | 1.33% |
| Aug-15 | 4.25% | 2.86% | 1.39% |
| Sep-15 | 4.39% | 2.95% | 1.44% |
| Oct-15 | 4.29% | 2.89% | 1.40% |
| Nov-15 | 4.40% | 3.03% | 1.37% |
| Dec-15 | 4.35% | 2.97% | 1.38% |

| Year | A-rated Public Utility | 30-Year Treasuries Yield | 30-Year Treasuries Spread |
|---|---|---|---|
| Jan-16 | 4.27% | 2.86% | 1.41% |
| Feb-16 | 4.11% | 2.62% | 1.49% |
| Mar-16 | 4.16% | 2.68% | 1.48% |
| Apr-16 | 4.00% | 2.62% | 1.38% |
| May-16 | 3.93% | 2.63% | 1.30% |
| Jun-16 | 3.78% | 2.45% | 1.33% |
| Jul-16 | 3.57% | 2.23% | 1.34% |
| Aug-16 | 3.59% | 2.26% | 1.33% |
| Sep-16 | 3.66% | 2.35% | 1.31% |
| Oct-16 | 3.77% | 2.50% | 1.27% |
| Nov-16 | 4.08% | 2.86% | 1.22% |
| Dec-16 | 4.27% | 3.11% | 1.16% |
| Jan-17 | 4.14% | 3.02% | 1.12% |
| Feb-17 | 4.18% | 3.03% | 1.15% |
| Mar-17 | 4.23% | 3.08% | 1.15% |
| Apr-17 | 4.12% | 2.94% | 1.18% |
| May-17 | 4.12% | 2.96% | 1.16% |
| Jun-17 | 3.94% | 2.80% | 1.14% |
| Jul-17 | 3.99% | 2.88% | 1.11% |
| Aug-17 | 3.86% | 2.80% | 1.06% |
| Sep-17 | 3.87% | 2.78% | 1.09% |
| Oct-17 | 3.91% | 2.88% | 1.03% |
| Nov-17 | 3.83% | 2.80% | 1.03% |
| Dec-17 | 3.79% | 2.77% | 1.02% |
| Jan-18 | 3.86% | 2.88% | 0.98% |
| Feb-18 | 4.09% | 3.13% | 0.96% |
| Mar-18 | 4.13% | 3.09% | 1.04% |
| Apr-18 | 4.17% | 3.07% | 1.10% |
| May-18 | 4.28% | 3.13% | 1.15% |
| Jun-18 | 4.27% | 3.05% | 1.22% |
| Jul-18 | 4.27% | 3.01% | 1.26% |
| Aug-18 | 4.26% | 3.04% | 1.22% |
| Sep-18 | 4.32% | 3.15% | 1.17% |
| Oct-18 | 4.45% | 3.34% | 1.11% |
| Nov-18 | 4.52% | 3.36% | 1.16% |
| Dec-18 | 4.37% | 3.10% | 1.27% |
| Jan-19 | 4.35% | 3.04% | 1.31% |
| Feb-19 | 4.25% | 3.02% | 1.23% |
| Mar-19 | 4.16% | 2.98% | 1.18% |
| Apr-19 | 4.08% | 2.94% | 1.14% |
| May-19 | 3.98% | 2.82% | 1.16% |
| Jun-19 | 3.82% | 2.57% | 1.25% |
| Jul-19 | 3.69% | 2.57% | 1.12% |
| Aug-19 | 3.29% | 2.12% | 1.17% |
| Sep-19 | 3.37% | 2.16% | 1.21% |
| Oct-19 | 3.39% | 2.19% | 1.20% |
| Nov-19 | 3.43% | 2.28% | 1.15% |
| Dec-19 | 3.40% | 2.30% | 1.10% |
| Jan-20 | 3.29% | 2.22% | 1.07% |
| Feb-20 | 3.11% | 1.97% | 1.14% |
| Mar-20 | 3.50% | 1.46% | 2.04% |
| Apr-20 | 3.19% | 1.27% | 1.92% |
| May-20 | 3.14% | 1.38% | 1.76% |
| Jun-20 | 3.07% | 1.49% | 1.58% |
| Jul-20 | 2.74% | 1.31% | 1.43% |
| Aug-20 | 2.73% | 1.36% | 1.37% |
| Sep-20 | 2.84% | 1.42% | 1.42% |
| Oct-20 | 2.95% | 1.57% | 1.38% |
| Nov-20 | 2.85% | 1.62% | 1.23% |
| Dec-20 | 2.77% | 1.67% | 1.10% |

| | | |
|---|---|---|
| Average: | 12-months | 1.45% |
| | 6-months | 1.32% |
| | 3-months | 1.24% |

Schedule 13 [1 of 2]

**Common Equity Risk Premiums**
**Years 1926-2019**

| | Large Common Stocks | Long-Term Corp. Bonds | Equity Risk Premium | Long-Term Govt. Bonds Yields |
|---|---|---|---|---|
| Low Interest Rates | 11.92% | 5.22% | 6.70% | 2.88% |
| Average Across All Interest Rates | 12.09% | 6.40% | 5.69% | 4.99% |
| High Interest Rates | 12.26% | 7.57% | 4.69% | 7.09% |

Source of Information: 2020 SBBI Yearbook Stocks, Bonds, Bills, and Inflation

Schedule 13 [2 of 2]

## Basic Series
## Annual Total Returns (except yields)

| Year | Large Common Stocks | Long-Term Corp. Bonds | Long-Term Govt. Bonds Yields |
|---|---|---|---|
| 1940 | -9.78% | 3.39% | 1.94% |
| 1945 | 36.44% | 4.08% | 1.99% |
| 1941 | -11.59% | 2.73% | 2.04% |
| 1949 | 18.79% | 3.31% | 2.09% |
| 1946 | -8.07% | 1.72% | 2.12% |
| 1950 | 31.71% | 2.12% | 2.24% |
| 2019 | 31.49% | 19.95% | 2.25% |
| 1939 | -0.41% | 3.97% | 2.26% |
| 1948 | 5.50% | 4.14% | 2.37% |
| 1947 | 5.71% | -2.34% | 2.43% |
| 1942 | 20.34% | 2.60% | 2.46% |
| 1944 | 19.75% | 4.73% | 2.46% |
| 2012 | 16.00% | 10.68% | 2.46% |
| 2014 | 13.69% | 17.28% | 2.46% |
| 1943 | 25.90% | 2.83% | 2.48% |
| 1938 | 31.12% | 6.13% | 2.52% |
| 2017 | 21.83% | 12.25% | 2.54% |
| 1936 | 33.92% | 6.74% | 2.55% |
| 2011 | 2.11% | 17.95% | 2.55% |
| 2015 | 1.38% | -1.02% | 2.68% |
| 1951 | 24.02% | -2.69% | 2.69% |
| 1954 | 52.62% | 5.39% | 2.72% |
| 2016 | 11.96% | 6.70% | 2.72% |
| 1937 | -35.03% | 2.75% | 2.73% |
| 1953 | -0.99% | 3.41% | 2.74% |
| 1935 | 47.67% | 9.61% | 2.76% |
| 1952 | 18.37% | 3.52% | 2.79% |
| 2018 | -4.38% | -4.73% | 2.84% |
| 1934 | -1.44% | 13.84% | 2.93% |
| 1955 | 31.56% | 0.48% | 2.95% |
| 2008 | -37.00% | 8.78% | 3.03% |
| 1932 | -8.19% | 10.82% | 3.15% |
| 1927 | 37.49% | 7.44% | 3.17% |
| 1957 | -10.78% | 8.71% | 3.23% |
| 1930 | -24.90% | 7.98% | 3.30% |
| 1933 | 53.99% | 10.38% | 3.36% |
| 1928 | 43.61% | 2.84% | 3.40% |
| 1929 | -8.42% | 3.27% | 3.40% |
| 1956 | 6.56% | -6.81% | 3.45% |
| 1926 | 11.62% | 7.37% | 3.54% |
| 2013 | 32.39% | -7.07% | 3.78% |
| 1960 | 0.47% | 9.07% | 3.80% |
| 1958 | 43.36% | -2.22% | 3.82% |
| 1962 | -8.73% | 7.95% | 3.95% |
| 1931 | -43.34% | -1.85% | 4.07% |
| 2010 | 15.06% | 12.44% | 4.14% |
| 1961 | 26.89% | 4.82% | 4.15% |
| 1963 | 22.80% | 2.19% | 4.17% |
| 1964 | 16.48% | 4.77% | 4.23% |
| 1959 | 11.96% | -0.97% | 4.47% |
| 1965 | 12.45% | -0.46% | 4.50% |
| 2007 | 5.49% | 2.60% | 4.50% |
| 1966 | -10.06% | 0.20% | 4.55% |
| 2009 | 26.46% | 3.02% | 4.58% |
| 2005 | 4.91% | 5.87% | 4.61% |
| 2002 | -22.10% | 16.33% | 4.84% |
| 2004 | 10.88% | 8.72% | 4.84% |
| 2006 | 15.79% | 3.24% | 4.91% |
| 2003 | 28.68% | 5.27% | 5.11% |
| 1998 | 28.58% | 10.76% | 5.42% |
| 1967 | 23.98% | -4.95% | 5.56% |
| 2000 | -9.10% | 12.87% | 5.58% |
| 2001 | -11.89% | 10.65% | 5.75% |
| 1971 | 14.30% | 11.01% | 5.97% |
| 1968 | 11.06% | 2.57% | 5.98% |
| 1972 | 18.99% | 7.26% | 5.99% |
| 1997 | 33.36% | 12.95% | 6.02% |
| 1995 | 37.58% | 27.20% | 6.03% |
| 1970 | 3.86% | 18.37% | 6.48% |
| 1993 | 10.08% | 13.19% | 6.54% |
| 1996 | 22.96% | 1.40% | 6.73% |
| 1999 | 21.04% | -7.45% | 6.82% |
| 1969 | -8.50% | -8.09% | 6.87% |
| 1976 | 23.93% | 18.65% | 7.21% |
| 1973 | -14.69% | 1.14% | 7.26% |
| 1992 | 7.62% | 9.39% | 7.26% |
| 1991 | 30.47% | 19.89% | 7.30% |
| 1974 | -26.47% | -3.06% | 7.60% |
| 1986 | 18.67% | 19.85% | 7.89% |
| 1994 | 1.32% | -5.76% | 7.99% |
| 1977 | -7.16% | 1.71% | 8.03% |
| 1975 | 37.23% | 14.64% | 8.05% |
| 1989 | 31.69% | 16.23% | 8.16% |
| 1990 | -3.10% | 6.78% | 8.44% |
| 1978 | 6.57% | -0.07% | 8.98% |
| 1988 | 16.61% | 10.70% | 9.19% |
| 1987 | 5.25% | -0.27% | 9.20% |
| 1985 | 31.73% | 30.09% | 9.56% |
| 1979 | 18.61% | -4.18% | 10.12% |
| 1982 | 21.55% | 42.56% | 10.95% |
| 1984 | 6.27% | 16.86% | 11.70% |
| 1983 | 22.56% | 6.26% | 11.97% |
| 1980 | 32.50% | -2.76% | 11.99% |
| 1981 | -4.92% | -1.24% | 13.34% |

Schedule 14 [1 of 3]

**Yields for Treasury Constant Maturities**
**Yearly for 2015-2019**
**and the Twelve Months Ended December 2020**

| Years | 1-Year | 2-Year | 3-Year | 5-Year | 7-Year | 10-Year | 20-Year | 30-Year |
|---|---|---|---|---|---|---|---|---|
| 2015 | 0.32% | 0.69% | 1.03% | 1.53% | 1.89% | 2.14% | 2.55% | 2.84% |
| 2016 | 0.61% | 0.84% | 1.01% | 1.34% | 1.64% | 1.84% | 2.23% | 2.60% |
| 2017 | 1.20% | 1.40% | 1.58% | 1.91% | 2.16% | 2.33% | 2.65% | 2.90% |
| 2018 | 2.33% | 2.53% | 2.63% | 2.75% | 2.85% | 2.91% | 3.02% | 3.11% |
| 2019 | 2.05% | 1.97% | 1.94% | 1.96% | 2.05% | 2.14% | 2.40% | 2.58% |
| **Five-Year Average** | 1.30% | 1.49% | 1.64% | 1.90% | 2.12% | 2.27% | 2.57% | 2.81% |
| **Months** | | | | | | | | |
| Jan-20 | 1.53% | 1.52% | 1.52% | 1.56% | 1.67% | 1.76% | 2.07% | 2.22% |
| Feb-20 | 1.41% | 1.33% | 1.31% | 1.32% | 1.42% | 1.50% | 1.81% | 1.97% |
| Mar-20 | 0.33% | 0.45% | 0.50% | 0.59% | 0.78% | 0.87% | 1.26% | 1.46% |
| Apr-20 | 0.18% | 0.22% | 0.28% | 0.39% | 0.55% | 0.66% | 1.06% | 1.27% |
| May-20 | 0.16% | 0.17% | 0.22% | 0.34% | 0.53% | 0.67% | 1.12% | 1.38% |
| Jun-20 | 0.18% | 0.19% | 0.22% | 0.34% | 0.55% | 0.73% | 1.27% | 1.49% |
| Jul-20 | 0.15% | 0.15% | 0.17% | 0.28% | 0.46% | 0.62% | 1.09% | 1.31% |
| Aug-20 | 0.13% | 0.14% | 0.16% | 0.27% | 0.46% | 0.65% | 1.14% | 1.36% |
| Sep-20 | 0.13% | 0.13% | 0.16% | 0.27% | 0.46% | 0.68% | 1.21% | 1.42% |
| Oct-20 | 0.13% | 0.15% | 0.19% | 0.34% | 0.55% | 0.79% | 1.34% | 1.57% |
| Nov-20 | 0.12% | 0.17% | 0.22% | 0.39% | 0.63% | 0.87% | 1.40% | 1.62% |
| Dec-20 | 0.10% | 0.14% | 0.19% | 0.39% | 0.66% | 0.93% | 1.47% | 1.67% |
| **Twelve-Month Average** | 0.38% | 0.40% | 0.43% | 0.54% | 0.73% | 0.89% | 1.35% | 1.56% |
| **Six-Month Average** | 0.13% | 0.15% | 0.18% | 0.32% | 0.54% | 0.76% | 1.28% | 1.49% |
| **Three-Month Average** | 0.12% | 0.15% | 0.20% | 0.37% | 0.61% | 0.86% | 1.40% | 1.62% |

Schedule 14 [2 of 3]

**Measures of the Risk-Free Rate & Corporate Bond Yields**

The forecast of Treasury and Corporate yields
per the consensus of nearly 50 economists
reported in the Blue Chip Financial Forecasts dated December 1, 2020 and January 1, 2021

| | | Treasury | | | | | Corporate | |
|---|---|---|---|---|---|---|---|---|
| Year | Quarter | 1-Year Bill | 2-Year Note | 5-Year Note | 10-Year Note | 30-Year Bond | Aaa Bond | Baa Bond |
| 2021 | First | 0.1% | 0.2% | 0.4% | 0.9% | 1.7% | 2.5% | 3.5% |
| 2021 | Second | 0.2% | 0.2% | 0.5% | 1.0% | 1.8% | 2.5% | 3.6% |
| 2021 | Third | 0.2% | 0.3% | 0.6% | 1.1% | 1.9% | 2.6% | 3.7% |
| 2021 | Fourth | 0.2% | 0.3% | 0.6% | 1.2% | 2.0% | 2.7% | 3.8% |
| 2022 | First | 0.2% | 0.4% | 0.7% | 1.3% | 2.1% | 2.8% | 3.8% |
| 2022 | Second | 0.3% | 0.4% | 0.8% | 1.4% | 2.1% | 2.8% | 3.8% |
| **Long-range CONSENSUS** | | | | | | | | |
| 2022 | | 0.3% | 0.4% | 0.8% | 1.3% | 2.1% | 2.8% | 3.9% |
| 2023 | | 0.6% | 0.8% | 1.2% | 1.7% | 2.4% | 3.2% | 4.3% |
| 2024 | | 1.0% | 1.2% | 1.6% | 2.0% | 2.8% | 3.6% | 4.7% |
| 2025 | | 1.4% | 1.6% | 2.0% | 2.4% | 3.1% | 4.0% | 5.0% |
| 2026 | | 1.8% | 1.9% | 2.3% | 2.6% | 3.4% | 4.2% | 5.2% |
| Averages: | | | | | | | | |
| | 2022-2026 | 1.0% | 1.2% | 1.5% | 2.0% | 2.8% | 3.6% | 4.6% |
| | 2027-2031 | 2.1% | 2.3% | 2.5% | 2.8% | 3.6% | 4.5% | 5.4% |

**Measures of the Market Premium**

Value Line Return

| As of: | Dividend Yield | | Median Appreciation Potential | | Median Total Return |
|---|---|---|---|---|---|
| 25-Dec-20 | 2.0% | + | 7.79% | = | 9.79% |

DCF Result for the S&P 500 Composite

| D/P | | 1+.5g | | + | g | = | k |
|---|---|---|---|---|---|---|---|
| 1.73% | ( | 1.0470 | ) | + | 9.40% | = | 11.21% |

Summary

| | | | |
|---|---|---|---|
| Value Line | | | 9.79% |
| S&P 500 | | | 11.21% |
| Average | | | 10.50% |
| Risk-free Rate of Return (Rf) | | | 2.00% |
| Forecast Market Premium | | | 8.50% |
| | | | |
| Historical Market Premium | | | |
| Low Interest Rates | (Rm) | (Rf) | |
| 1926-2019 Arith. mean | 11.92% | 2.88% | 9.04% |
| | | | |
| Average - Forecast/Historical | | | 8.77% |

**Exhibit 7.8:** Size-Decile Portfolios of the NYSE/NYSE MKT/NASDAQ Long-Term Returns in Excess of CAPM
1926–2016

| Size Grouping | OLS Beta | Arithmetic Mean | Return in Excess of Risk-free Rate (actual) | Return in Excess of Risk-free Rate (as predicted by CAPM) | Size Premium |
|---|---|---|---|---|---|
| Mid-Cap (3–5) | 1.12 | 13.82% | 8.80% | 7.79% | 1.02% |
| Low-Cap (6–8) | 1.22 | 15.26% | 10.24% | 8.49% | 1.75% |
| Micro-Cap (9–10) | 1.35 | 18.04% | 13.02% | 9.35% | 3.67% |
| Breakdown of Deciles 1–10 | | | | | |
| 1-Largest | 0.92 | 11.05% | 6.04% | 6.38% | -0.35% |
| 2 | 1.04 | 12.82% | 7.81% | 7.19% | 0.61% |
| 3 | 1.11 | 13.57% | 8.55% | 7.66% | 0.89% |
| 4 | 1.13 | 13.80% | 8.78% | 7.80% | 0.98% |
| 5 | 1.17 | 14.62% | 9.60% | 8.09% | 1.51% |
| 6 | 1.17 | 14.81% | 9.79% | 8.14% | 1.66% |
| 7 | 1.25 | 15.41% | 10.39% | 8.67% | 1.72% |
| 8 | 1.30 | 16.14% | 11.12% | 9.04% | 2.08% |
| 9 | 1.34 | 16.97% | 11.96% | 9.28% | 2.68% |
| 10-Smallest | 1.39 | 20.27% | 15.25% | 9.66% | 5.59% |

Betas are estimated from monthly returns in excess of the 30-day U.S. Treasury bill total return, January 1926–December 2016. Historical riskless rate measured by the 91-year arithmetic mean income return component of 20-year government bonds (5.02%). Calculated in the context of the CAPM by multiplying the equity risk premium by beta. The equity risk premium is estimated by the arithmetic mean total return of the S&P 500 (11.95%) minus the arithmetic mean income return component of 20-year government bonds (5.02%) from 1926–2016. Source: Morningstar *Direct* and CRSP. Calculated based on data from CRSP US Stock Database and CRSP US Indices Database ©2017 Center for Research. Used with permission. All calculations performed by Duff & Phelps, LLC.

Schedule 15 [1 of 3]

**Comparable Earnings Approach**
Using Non-Utility Companies with
Timeliness of 3 & 4; Safety Rank of 1, 2 & 3; Financial Strength of B+, B++, A & A+;
Price Stability of 70 to 95; Betas of .80 to 1.05; and Technical Rank of 3, 4 & 5

| Company | Industry | Timeliness Rank | Safety Rank | Financial Strength | Price Stability | Beta | Technical Rank |
|---|---|---|---|---|---|---|---|
| ACI Worldwide Inc | IT Services | 3 | 3 | B+ | 70 | 1.05 | 3 |
| Alamo Group | Machinery | 3 | 3 | B+ | 70 | 1.05 | 3 |
| Brown Forman Corp (Class B) | Beverage | 3 | 1 | A | 95 | 0.85 | 3 |
| Badger Meter Inc | Precision Instrument | 3 | 3 | B++ | 70 | 1.05 | 5 |
| Brady Corp | Diversified Co. | 4 | 3 | B++ | 80 | 1.00 | 5 |
| CACI International Inc | IT Services | 3 | 3 | B+ | 80 | 0.95 | 3 |
| Caseys General Stores Inc | Retail/Wholesale Food | 3 | 3 | B+ | 85 | 0.85 | 3 |
| Cerner Corp | Healthcare Information | 3 | 2 | A+ | 85 | 0.95 | 3 |
| Chemed Corporation | Diversified Co. | 3 | 2 | A | 95 | 0.85 | 4 |
| Cincinnati Financial Corp | Insurance (Prop/Cas.) | 4 | 3 | B++ | 70 | 1.05 | 4 |
| CME Group Inc | Brokers & Exchanges | 4 | 2 | A | 90 | 0.95 | 5 |
| CoStar Group Inc | Information Services | 3 | 2 | A+ | 80 | 0.95 | 4 |
| Dolby Laboratories Inc | Entertainment Tech | 3 | 2 | A | 90 | 0.95 | 3 |
| Ennis Inc. | Office Equip/Supplies | 3 | 3 | B++ | 85 | 0.80 | 4 |
| ESCO Technologies Inc | Diversified Co. | 3 | 3 | B+ | 90 | 1.00 | 3 |
| Exponent Inc. | Information Services | 3 | 3 | B+ | 90 | 0.85 | 3 |
| FirstCash Inc. | Financial Svcs. (Div.) | 4 | 3 | B++ | 85 | 0.85 | 4 |
| FactSet Research Systems Inc | Information Services | 3 | 2 | A+ | 85 | 1.00 | 3 |
| Franklin Electric Co Inc | Electrical Equipment | 3 | 3 | A | 75 | 1.00 | 3 |
| FLIR Systems Inc | Electrical Equipment | 4 | 3 | B++ | 70 | 0.95 | 5 |
| GATX Corp | Railroad | 3 | 3 | B+ | 75 | 1.00 | 3 |
| Gentex Corp | Auto Parts | 3 | 3 | B++ | 85 | 0.95 | 3 |
| Graphic Packaging | Packaging & Container | 3 | 3 | B+ | 80 | 1.00 | 3 |
| Huntington Ingalls Industries Inc | Aerospace/Defense | 3 | 3 | B++ | 75 | 1.05 | 4 |
| Hill Rom Holdings | Med Supp Non-Invasive | 4 | 3 | B++ | 70 | 1.05 | 4 |
| Integra LifeSciences Holdings Corporati | Med Supp Invasive | 3 | 3 | B+ | 75 | 1.00 | 4 |
| International Business Machines Corp | Computers/Peripherals | 3 | 1 | A | 90 | 1.05 | 4 |
| Intercontinental Exch. | Brokers & Exchanges | 3 | 2 | A | 95 | 0.90 | 4 |
| Ingredion Incorporated | Food Processing | 4 | 3 | B++ | 90 | 0.90 | 4 |
| Innospec Inc | Chemical (Specialty) | 4 | 3 | B++ | 75 | 1.00 | 4 |
| J B Hunt Transport Services Inc | Trucking | 3 | 2 | A+ | 85 | 0.95 | 3 |
| J and J Snack Foods Corp | Food Processing | 4 | 1 | A+ | 90 | 0.90 | 4 |
| ManTech International Corporation | IT Services | 3 | 3 | B+ | 85 | 0.85 | 3 |
| Mercury General Corp | Insurance (Prop/Cas.) | 3 | 3 | B++ | 75 | 0.95 | 4 |
| Monster Beverage Corporation | Beverage | 3 | 2 | A+ | 80 | 0.85 | 4 |
| Monolithic Power Sys. | Semiconductor | 3 | 3 | A | 75 | 1.00 | 4 |
| MSA Safety | Machinery | 3 | 3 | B+ | 80 | 1.00 | 3 |
| MSC Industrial Direct Co Inc | Machinery | 3 | 2 | A | 80 | 0.95 | 3 |
| Neogen Corp | Med Supp Non-Invasive | 3 | 3 | B++ | 70 | 0.80 | 3 |
| New York Times Co | Publishing | 3 | 3 | B+ | 75 | 0.80 | 4 |
| Omnicom Group Inc | Advertising | 4 | 3 | B+ | 90 | 1.00 | 3 |
| Post Holdings Inc | Food Processing | 3 | 3 | B++ | 85 | 0.95 | 5 |
| Power Integrations Inc | Semiconductor | 3 | 3 | A | 70 | 0.85 | 4 |
| Roper Tech. | Machinery | 3 | 1 | A+ | 95 | 1.00 | 3 |
| Scholastic Corporation | Publishing | 4 | 3 | B++ | 75 | 1.00 | 4 |
| Tennant Co | Machinery | 4 | 3 | B++ | 70 | 1.05 | 4 |
| Trimas Corporation | Diversified Co. | 3 | 3 | B+ | 80 | 0.90 | 3 |
| AMERCO | Trucking | 3 | 2 | B++ | 90 | 0.95 | 3 |
| UniFirst Corp | Industrial Services | 3 | 2 | A | 90 | 0.95 | 3 |
| Valmont Industries | Diversified Co. | 3 | 2 | A | 80 | 1.05 | 3 |
| VeriSign Inc | Internet | 3 | 3 | B++ | 90 | 0.95 | 5 |
| Washington Federal Inc | Thrift | 4 | 3 | B+ | 80 | 1.05 | 4 |
| Encore Wire | Electronics | 3 | 3 | A | 70 | 1.00 | 4 |
| Watts Water Technologies Inc | Machinery | 3 | 2 | B++ | 95 | 1.00 | 3 |
| Yum Brands Inc | Restaurant | 3 | 3 | B++ | 85 | 1.05 | 3 |
| Average | | 3 | 3 | B++ | 82 | 0.96 | 4 |
| Gas Group | Average | 3 | 2 | A | 87 | 0.87 | 4 |

Source of Information: Value Line Investment Survey for Windows, January 2021

Schedule 15 [2 of 3]

**Comparable Earnings Approach**
Five -Year Average Historical Earned Returns
for Years 2015-2019 and
Projected 3-5 Year Returns

| Company | 2015 | 2016 | 2017 | 2018 | 2019 | Average | Projected 2023-25 |
|---|---|---|---|---|---|---|---|
| ACI Worldwide Inc | 13.1% | 17.2% | 0.7% | 6.6% | 5.9% | 8.7% | 11.0% |
| Alamo Group | 12.0% | 10.3% | 12.1% | 14.5% | 11.0% | 12.0% | 13.0% |
| Brown Forman Corp (Class B) | 45.3% | 48.8% | 56.7% | 50.7% | 41.9% | 48.7% | 60.0% |
| Badger Meter Inc | 11.2% | 12.6% | 12.5% | 14.8% | 14.3% | 13.1% | 20.0% |
| Brady Corp | 11.1% | 13.3% | 13.7% | 14.9% | 15.4% | 13.7% | 14.0% |
| CACI International Inc | 8.5% | 8.9% | 9.1% | 9.4% | 11.2% | 9.4% | 11.0% |
| Caseys General Stores Inc | 20.9% | 14.9% | 11.2% | 14.5% | 16.1% | 15.5% | 15.0% |
| Cerner Corp | 19.1% | 20.1% | 16.8% | 16.6% | 20.0% | 18.5% | 20.0% |
| Chemed Corporation | 21.5% | 20.7% | 26.1% | 33.9% | 31.7% | 26.8% | 28.5% |
| Cincinnati Financial Corp | 9.2% | 7.2% | 5.5% | 7.0% | 7.0% | 7.2% | 9.0% |
| CME Group Inc | 6.1% | 7.5% | 18.1% | 7.6% | 8.1% | 9.5% | 9.0% |
| CoStar Group Inc | 4.3% | 8.3% | 5.8% | 10.0% | 11.0% | 7.9% | 11.0% |
| Dolby Laboratories Inc | 10.0% | 9.4% | 9.4% | 12.6% | 11.1% | 10.5% | 13.5% |
| Ennis Inc. | 12.0% | 10.5% | 12.5% | 12.9% | 13.0% | 12.2% | 12.5% |
| ESCO Technologies Inc | 7.1% | 8.3% | 8.6% | 9.0% | 9.9% | 8.6% | 9.5% |
| Exponent Inc. | 16.6% | 17.4% | 14.3% | 23.0% | 23.5% | 19.0% | 30.0% |
| FirstCash Inc. | 14.1% | 4.1% | 7.9% | 11.6% | 12.2% | 10.0% | 12.5% |
| FactSet Research Systems Inc | 45.3% | 49.7% | 46.1% | 50.8% | 52.5% | 48.9% | 43.5% |
| Franklin Electric Co Inc | 13.2% | 12.8% | 12.5% | 14.6% | 12.3% | 13.1% | 12.5% |
| FLIR Systems Inc | 13.4% | 12.5% | 13.7% | 16.6% | 16.2% | 14.5% | 16.0% |
| GATX Corp | 18.1% | 17.6% | 10.4% | 11.2% | 10.9% | 13.6% | 8.0% |
| Gentex Corp | 18.5% | 18.2% | 18.0% | 23.5% | 21.9% | 20.0% | 25.0% |
| Graphic Packaging | 22.4% | 21.6% | 23.2% | 11.9% | 13.2% | 18.5% | 17.5% |
| Huntington Ingalls Industries Inc | 27.1% | 34.7% | 27.2% | 55.1% | 36.5% | 36.1% | 19.5% |
| Hill Rom Holdings | 13.4% | 18.3% | 19.0% | 19.9% | 21.9% | 18.5% | 17.5% |
| Integra LifeSciences Holdings Corporation | 13.6% | 16.1% | 15.9% | 14.8% | 16.8% | 15.4% | 21.0% |
| International Business Machines Corp | 93.7% | 65.1% | 72.8% | 75.4% | 54.9% | 72.4% | 26.5% |
| Intercontinental Exch. | 9.2% | 10.6% | 10.4% | 12.1% | 12.7% | 11.0% | 12.0% |
| Ingredion Incorporated | 19.1% | 20.5% | 19.5% | 20.8% | 16.4% | 19.3% | 17.5% |
| Innospec Inc | 19.8% | 12.4% | 7.8% | 10.3% | 12.2% | 12.5% | 13.0% |
| J B Hunt Transport Services Inc | 32.9% | 30.6% | 22.6% | 29.7% | 24.9% | 28.1% | 17.5% |
| J and J Snack Foods Corp | 11.7% | 11.9% | 11.6% | 11.1% | 11.4% | 11.5% | 11.5% |
| ManTech International Corporation | 4.3% | 4.5% | 4.7% | 5.9% | 7.6% | 5.4% | 9.0% |
| Mercury General Corp | 7.1% | 5.4% | 5.1% | 6.2% | 8.0% | 6.4% | 14.5% |
| Monster Beverage Corporation | 13.4% | 21.4% | 20.0% | 27.5% | 26.6% | 21.8% | 21.0% |
| Monolithic Power Sys. | 9.5% | 12.2% | 15.1% | 16.4% | 14.1% | 13.5% | 23.0% |
| MSA Safety | 18.3% | 18.8% | 23.6% | 27.7% | 25.9% | 22.9% | 26.5% |
| MSC Industrial Direct Co Inc | 17.5% | 21.1% | 18.7% | 20.8% | 20.0% | 19.6% | 22.0% |
| Neogen Corp | 9.6% | 9.0% | 9.3% | 10.3% | 9.4% | 9.5% | 8.0% |
| New York Times Co | 7.7% | 3.7% | 0.5% | 12.1% | 11.9% | 7.2% | 20.5% |
| Omnicom Group Inc | 44.6% | 53.1% | 46.0% | 52.1% | 46.9% | 48.5% | 34.5% |
| Post Holdings Inc | 1.8% | 7.2% | 7.6% | 10.1% | 12.7% | 7.9% | 11.5% |
| Power Integrations Inc | 9.1% | 9.8% | 11.9% | 13.3% | 6.9% | 10.2% | 9.5% |
| Roper Tech. | 12.8% | 11.4% | 11.0% | 15.9% | 14.4% | 13.1% | 12.0% |
| Scholastic Corporation | 3.6% | 4.7% | 5.0% | 3.9% | 2.6% | 4.0% | 6.0% |
| Tennant Co | 18.2% | 16.7% | 9.2% | 12.8% | 14.9% | 14.4% | 13.5% |
| Trimas Corporation | 10.7% | 11.6% | 11.8% | 13.1% | 9.5% | 11.3% | 14.0% |
| AMERCO | 21.7% | 15.2% | 9.0% | 10.0% | 7.0% | 12.6% | 6.5% |
| UniFirst Corp | 10.0% | 8.5% | 7.4% | 10.2% | 10.0% | 9.2% | 7.5% |
| Valmont Industries | 4.4% | 18.4% | 14.2% | 16.1% | 13.8% | 13.4% | 12.5% |
| VeriSign Inc | - | - | - | - | - | - | NMF |
| Washington Federal Inc | 8.2% | 8.3% | 8.7% | 10.2% | 10.3% | 9.1% | 9.5% |
| Encore Wire | 8.8% | 5.9% | 10.5% | 10.8% | 7.5% | 8.7% | 9.0% |
| Watts Water Technologies Inc | 12.0% | 12.5% | 12.5% | 14.4% | 14.2% | 13.1% | 14.0% |
| Yum Brands Inc | NMF | - | - | - | - | - | NMF |
| Average | | | | | | 16.7% | 16.7% |
| Median | | | | | | 13.1% | 13.5% |
| Average (excluding companies with values >20%) | | | | | | 11.9% | 12.1% |

Schedule 15 [3 of 3]

**Comparable Earnings Approach**
Screening Parameters

Timeliness Rank

The rank for a stock's probable relative market performance in the year ahead. Stocks ranked 1 (Highest) or 2 (Above Average) are likely to outpace the year-ahead market. Those ranked 4 (Below Average) or 5 (Lowest) are not expected to outperform most stocks over the next 12 months. Stocks ranked 3 (Average) will probably advance or decline with the market in the year ahead. Investors should try to limit purchases to stocks ranked 1 (Highest) or 2 (Above Average) for Timeliness.

Safety Rank

A measure of potential risk associated with individual common stocks rather than large diversified portfolios (for which Beta is good risk measure). Safety is based on the stability of price, which includes sensitivity to the market (see Beta) as well as the stock's inherent volatility, adjusted for trend and other factors including company size, the penetration of its markets, product market volatility, the degree of financial leverage, the earnings quality, and the overall condition of the balance sheet. Safety Ranks range from 1 (Highest) to 5 (Lowest). Conservative investors should try to limit purchases to equities ranked 1 (Highest) or 2 (Above Average) for Safety.

Financial Strength

The financial strength of each of the more than 1,600 companies in the VS II data base is rated relative to all the others. The ratings range from A++ to C in nine steps. (For screening purposes, think of an A rating as "greater than" a B). Companies that have the best relative financial strength are given an A++ rating, indicating ability to weather hard times better than the vast majority of other companies. Those who don't quite merit the top rating are given an A+ grade, and so on. A rating as low as C++ is considered satisfactory. A rating of C+ is well below average, and C is reserved for companies with very serious financial problems. The ratings are based upon a computer analysis of a number of key variables that determine (a) financial leverage, (b) business risk, and (c) company size, plus the judgment of Value Line's analysts and senior editors regarding factors that cannot be quantified across-the-board for companies. The primary variables that are indexed and studied include equity coverage of debt, equity coverage of intangibles, "quick ratio", accounting methods, variability of return, fixed charge coverage, stock price stability, and company size.

Price Stability Index

An index based upon a ranking of the weekly percent changes in the price of the stock over the last five years. The lower the standard deviation of the changes, the more stable the stock. Stocks ranking in the top 5% (lowest standard deviations) carry a Price Stability Index of 100; the next 5%, 95; and so on down to 5. One standard deviation is the range around the average weekly percent change in the price that encompasses about two thirds of all the weekly percent change figures over the last five years. When the range is wide, the standard deviation is high and the stock's Price Stability Index is low.

Beta

A measure of the sensitivity of the stock's price to overall fluctuations in the New York Stock Exchange Composite Average. A Beta of 1.50 indicates that a stock tends to rise (or fall) 50% more than the New York Stock Exchange Composite Average. Use Beta to measure the stock market risk inherent in any diversified portfolio of, say, 15 or more companies. Otherwise, use the Safety Rank, which measures total risk inherent in an equity, including that portion attributable to market fluctuations. Beta is derived from a least squares regression analysis between weekly percent changes in the price of a stock and weekly percent changes in the NYSE Average over a period of five years. In the case of shorter price histories, a smaller time period is used, but two years is the minimum. The Betas are periodically adjusted for their long-term tendency to regress toward 1.00.

Technical Rank

A prediction of relative price movement, primarily over the next three to six months. It is a function of price action relative to all stocks followed by Value Line. Stocks ranked 1 (Highest) or 2 (Above Average) are likely to outpace the market. Those ranked 4 (Below Average) or 5 (Lowest) are not expected to outperform most stocks over the next six months. Stocks ranked 3 (Average) will probably advance or decline with the market. Investors should use the Technical and Timeliness Ranks as complements to one another.

**BEFORE THE**
**NEW JERSEY BOARD OF PUBLIC UTILITIES**

# PREPARED DIRECT TESTIMONY OF DR. RONALD E. WHITE ON BEHALF OF NEW JERSEY NATURAL GAS

## I. INTRODUCTION

**Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

A. My name is Ronald E. White. My business address is 17595 S. Tamiami Trail, Suite 260, Fort Myers, Florida 33908.

**Q. WHAT IS YOUR OCCUPATION?**

A. I serve as President of Foster Associates Consultants, LLC. Foster Associates is a public utility economic consulting firm offering economic research and consulting services on issues and problems arising from governmental regulation of business. Areas of specialization supported by the firm's Fort Myers office include property service–life forecasting, depreciation estimation, and valuation of industrial property.

**Q. PLEASE DESCRIBE YOUR EDUCATIONAL TRAINING AND PROFESSIONAL BACKGROUND.**

A. I was awarded a B.S. degree in Engineering Operations and an M.S. degree and Ph.D. degree in Engineering Valuation from Iowa State University. I have taught graduate and undergraduate courses in industrial engineering, engineering economics, and engineering valuation at Iowa State and previously served on the faculty for Depreciation Programs for public utility commissions, companies, and consultants, sponsored by Depreciation Programs, Inc., in cooperation with Western Michigan University. I also conduct courses in depreciation and public utility economics for clients of the firm.

I have prepared and presented a number of papers to professional organizations, committees, and conferences and have published several articles on matters relating to depreciation, valuation and economics. I am a past member of the Board of Direc-

tors of the Iowa State Regulatory Conference and an affiliate member of the joint American Gas Association (A.G.A.) – Edison Electric Institute (EEI) Depreciation Accounting Committee, where I previously served as chairman of a standing committee on capital recovery and its effect on corporate economics. I am also a member of the American Economic Association, the Financial Management Association, the Midwest Finance Association, and a founding member of the Society of Depreciation Professionals.

**Q. WHAT IS YOUR PROFESSIONAL EXPERIENCE?**

A. I joined the firm of Foster Associates in 1979, as a specialist in depreciation, the economics of capital investment decisions, and cost of capital studies for ratemaking applications. Before joining Foster Associates, I was employed by Northern States Power Company (1968–1979) in various assignments related to finance and treasury activities. As Manager of the Corporate Economics Department, I was responsible for book depreciation studies, studies involving staff assistance from the Corporate Economics Department in evaluating the economics of capital investment decisions, and the development and execution of innovative forms of project financing. As Assistant Treasurer at Northern States, I was responsible for bank relations, cash requirements planning, and short–term borrowings and investments.

**Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE A REGULATORY BODY?**

A. Yes. I have testified in numerous proceedings before administrative and judicial bodies in over 30 jurisdictions, including several appearances in New Jersey. I have also testified before the Federal Energy Regulatory Commission, the Federal Power Commission, the Alberta Energy Board, the Ontario Energy Board, and the Securities and Exchange Commission. I have sponsored position statements before the Federal Communications Commission and numerous local franchising authorities in matters relating to the regulation of telephone and cable television. A more detailed description of my professional qualifications is contained in Appendix REW–1.

**Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS PROCEEDING?**

A. Foster Associates was engaged by New Jersey Natural Gas Company ("NJNG" or "Company") to conduct a fiscal 2021 depreciation study for gas properties owned and operated by NJNG. The purpose of my testimony is to describe and sponsor the study conducted by Foster Associates.

**Q. DO YOU SPONSOR ANY EXHIBITS IN SUPPORT OF YOUR TESTIMONY?**

A. Yes. I sponsor Exhibit REW–1, a document titled "Fiscal 2021 Depreciation Rate Study." This document was prepared by me or under my direction and supervision.

## II. DEVELOPMENT OF DEPRECIATION RATES

**Q. PLEASE EXPLAIN WHY DEPRECIATION STUDIES ARE NEEDED FOR ACCOUNTING AND RATEMAKING PURPOSES.**

A. The goal of depreciation accounting is to charge to operations a reasonable estimate of the cost of the service potential of an asset (or group of assets) consumed during an accounting interval. The service potential (or future economic benefit) of an asset is the present value of future net revenue (*i.e.*, revenue less expenses exclusive of depreciation and other noncash expenses) or cash inflows attributable to the use of that asset alone. A number of depreciation systems have been developed to achieve this objective, most of which employ time as the apportionment base.

Implementation of a time–based (or age–life system) of depreciation accounting requires the estimation of several parameters or statistics related to a plant account. The average service life of a vintage, for example, is a statistic that will not be known with certainty until all property units from the original placement have been retired from service. A vintage average service life, therefore, must be estimated initially and periodically revised as indications of the eventual average service life becomes more certain. Future net salvage rates and projection curves, which describe the expected distribution of retirements over time, are also estimated parameters of a depreciation system that are subject to future revisions. Depreciation studies should be conducted periodically to assess the continuing reasonableness of parameters and accrual rates derived from prior estimates.

The need for periodic depreciation studies is also a derivative of the ratemaking

process which establishes prices for utility services based on costs. Absent regulation, deficient or excessive depreciation rates will produce no adverse consequence other than a systematic over or understatement of an accounting measurement of earnings. While a continuance of such practices may not comport with the goals of depreciation accounting, the achievement of capital recovery is not dependent upon either the amount or the timing of depreciation expense for an unregulated entity. In the case of a regulated utility, however, recovery of investor–supplied capital is dependent upon allowed revenues, which are in turn are dependent upon authorized levels of depreciation expense. Periodic reviews of depreciation rates are, therefore, essential to the achievement of timely capital recovery for a regulated utility.

It is also important to recognize that revenue associated with depreciation can be a significant source of internally generated funds used to finance plant replacements, new capacity additions or other cash expenditures. This is not to suggest that internal cash generation should be substituted for the goals of depreciation accounting. However, the potential for realizing a reduction in the marginal cost of external financing provides an added incentive for conducting periodic depreciation studies and adopting proper depreciation rates.

**Q. PLEASE DESCRIBE THE PRINCIPAL ACTIVITIES UNDERTAKEN IN CONDUCTING A DEPRECIATION STUDY.**

A. The first step in conducting a depreciation study is the collection of plant accounting data needed to conduct a statistical analysis of past retirement experience. Data are also collected to permit an analysis of the relationship between retirements and realized gross salvage and cost of removal. The data collection phase should include a verification of the accuracy of the plant accounting records and a reconciliation of the assembled data to the official plant records of the company.

The next step is the estimation of service life statistics from an analysis of past retirement experience. The term *life analysis* is used to describe the activities undertaken in this step to obtain a mathematical description of the forces of retirement acting upon a plant category. The mathematical expressions used to describe these forces are known as survival functions or survivor curves.

Life indications obtained from an analysis of past retirement experience are blended with expectations about future forces of retirement to obtain an appropriate projection life and curve descriptive of the parent population from which a plant account is viewed as a random sample. This step, called *life estimation*, is concerned with predicting the expected remaining life of property units still exposed to the forces of retirement. The amount of weight given to the analysis of historical data will depend upon the extent to which past retirement experience and service life indications are considered descriptive of the future.

An estimate of net salvage associated with future retirements is most often derived from an analysis of gross salvage and cost of removal realized in the past. An analysis of past experience (including an examination of trends over time) provides a baseline for estimating future salvage and cost of removal. Consideration, however, should be given to events that may cause deviations from net salvage realized in the past. Among the factors that should be considered are the age of plant retirements; the portion of retirements that will be reused; changes in the method of removing plant; the type of plant to be retired in the future; inflation expectations; the shape of the estimated projection–life curve; and economic conditions that may warrant greater or lesser weight to be given to the net salvage observed in the past.

A comprehensive study will also include an analysis of the adequacy (or inadequacy) of recorded depreciation reserves. The purpose of such an analysis is to compare current recorded reserve balances with the balances required to achieve the goals and objectives of depreciation accounting if the amount and timing of future retirements and net salvage are realized exactly as predicted. The difference between a required (or theoretical) reserve and a recorded reserve provides a measurement of the expected excess or shortfall that will remain in the depreciation reserve if corrective action is not taken to extinguish the reserve imbalance.

Although reserve records are typically maintained by various account classifications, the sum of all reserves is the most important indicator of the adequacy (or inadequacy) of recorded depreciation reserves. Differences between theoretical and recorded reserves will arise as a normal occurrence when service lives, dispersion

patterns and net salvage estimates are adjusted in the course of depreciation reviews. Differences will also arise due to plant accounting activity such as transfers and adjustments requiring an identification of reserves at a different level from that maintained in the accounting system. It is appropriate, therefore, and consistent with group depreciation theory, to periodically redistribute or rebalance recorded reserves among primary accounts based on the most recent estimates of retirement dispersion and net salvage rates. A redistribution of recorded reserves will initialize a reserve balance for each primary account consistent with the estimates of retirement dispersion selected to describe mortality characteristics of the accounts and establish a baseline against which future comparisons can be made.

Finally, parameters estimated from service life and net salvage studies are integrated into an appropriate formulation of an accrual rate based upon a selected depreciation system. Three elements are needed to describe a depreciation system. The sub–elements most widely used in constructing a depreciation system are shown in Figure 1 below.

| Methods | Procedures | Techniques |
|---|---|---|
| Retirement | Total Company | Whole-Life |
| Compound-Interest | Broad Group | Remaining-Life |
| Sinking-Fund | Vintage Group | Probable-Life |
| Straight-Line | Equal-Life Group | |
| Declining Balance | Unit Summation | |
| Sum-of-Years'-Digits | Item | |
| Expensing | | |
| Unit-of-Production | | |
| Net Revenue | | |

**Figure 1. Elements of a Depreciation System**

The above elements (*i.e.*, method, procedure and technique) can be visualized as three dimensions of a cube in which each face describes a variety of sub–elements that can be combined to form a system. A depreciation system is therefore formed by selecting a sub–element from each face such that the system contains one method, one procedure and one technique.

## III. F2021 DEPRECIATION RATE STUDY

**Q. PLEASE DESCRIBE THE SOURCE OF DEPRECIATION RATES CURRENTLY USED BY NJNG.**

A. Depreciation rates currently used by NJNG were approved by the New Jersey Board of Public Utilities (BPU) pursuant to a Stipulation in Docket No. GR19030420 (Order dated November 13, 2019). The Stipulation approved revenue requirements derived from a composite depreciation rate of 2.78 percent composed of an investment rate of 1.90 percent and a net salvage rate of 0.88 percent.[1] Settled rates were obtained by adjusting projection lives and future net salvage rates (as shown in Table 1 below) to achieve a rate of 2.78 percent.

| | | Filed Parameters | | | Settlement Parameters | | |
|---|---|---|---|---|---|---|---|
| Account | Description | P-Life/ AYFR | Curve Shape | Fut. Sal. | P-Life/ AYFR | Curve Shape | Fut. Sal. |
| A | | B | C | G | H | I | M |
| **TRANSMISSION PLANT** | | | | | | | |
| 367.00 | Mains | 63.00 | S4 | -60.0 | 70.00 | S4 | -60.0 |
| **DISTRIBUTION PLANT** | | | | | | | |
| 376.00 | Mains - Steel | 65.00 | S1.5 | -60.0 | 77.00 | S1.5 | -93.0 |
| 376.26 | Mains - Plastic | 50.00 | S4 | -60.0 | 70.00 | S4 | -60.0 |
| 380.01 | Services - Steel | 65.00 | L0 | -60.0 | 70.00 | L0 | -60.0 |
| 380.21 | Services - Plastic | 45.00 | S3 | -60.0 | 70.00 | S3 | -60.0 |

**Table 1. Filed vs Settled Parameters**

**Q. DID NJNG PROVIDE FOSTER ASSOCIATES PLANT ACCOUNTING DATA FOR CONDUCTING THE F2021 DEPRECIATION STUDY?**

A. Yes. The database used in the current study was assembled by appending transactions over the period October 1, 2018 through September 30, 2020 to the database used in conducting the F2019 study.[2] Reserve transactions recorded over the period fiscal 1972–2020 were used in the analysis of future net salvage rates.

[1] A composite rate of 3.67 percent composed of an investment rate of 2.50 percent and a net salvage rate of 1.17 percent was recommended in the F2019 Depreciation Rate Study based on September 30, 2018 plant and depreciation reserve balances.

[2] Fiscal–year reporting of plant activity was adopted by NJNG in 1988 coincident by the conversion from a manual fixed asset accounting system to a McCormick & Dodge mechanized system. The M&D system was replaced in 1993 by a JD Edwards system that was replaced in 2003 by Information Intellect's IntelliPlant system. Fixed asset accounting is currently maintained in a PowerPlan system installed in 2008 and initialized with September 2008 age distributions.

**Q. DID FOSTER ASSOCIATES CONDUCT STATISTICAL LIFE STUDIES FOR NJNG PLANT AND EQUIPMENT?**

A. Yes. As discussed in Exhibit REW–1, full mortality plant accounts were analyzed using a technique in which first, second and third–degree polynomials were fitted to a set of observed retirement ratios. The resulting functions were expressed as survivorship functions and numerically integrated to obtain an estimate of the projection life of a plant category. The observed proportions surviving were then fitted by a weighted least–squares procedure to the Iowa–curve family to obtain a mathematical description or classification of the dispersion characteristics of the data. Service life indications derived from the statistical analyses were blended with expectations about the future to obtain an appropriate projection life and curve for each plant category. Plant accounts classified in storage and processing and transmission structures were treated as life–span categories in the F2021 study.

**Q. DID FOSTER ASSOCIATES CONDUCT A NET SALVAGE ANALYSIS IN THE F2021 STUDY?**

A. Yes. A five–year moving average analysis of the ratio of realized salvage and cost of removal to the associated retirements was used in the F2021 study to: a) estimate realized net salvage rates; b) detect the emergence of historical trends; and c) establish a basis for estimating future net salvage rates.

However, at the request of NJNG, future net salvage rates for transmission and distribution mains and distribution services were adjusted to produce a Company total accrual for net salvage approximately equal to the most recent five–year average of net salvage realized from all plant accounts. Using a future net salvage rate of –90 percent applied to Accounts 367.00, 376.00, 376.26, 380.01 and 380.21 produces an annualized net salvage accrual of $37,528,335 compared with a realized five–year average of $36,736,121.

Average net salvage rates were estimated using direct dollar weighting of historical retirements with historical net salvage rates, and future retirements (*i.e.*, surviving plant) with the estimated future net salvage rates. The computation of the estimated average net salvage rates is shown in Exhibit REW–1, Statement E.

**Q. DID FOSTER ASSOCIATES CONDUCT AN ANALYSIS OF RECORDED DEPRECIATION RESERVES?**

A. Yes. Exhibit REW–1, Statement C provides a comparison of the computed, recorded and rebalanced reserves at September 30, 2020. The recorded reserve was $564,660,311 or 20.8 percent of the depreciable plant investment. The corresponding computed reserve is $873,735,805 or 32.2 percent of the depreciable plant investment. A proportionate amount of the measured reserve imbalance of $309,075,494 will be amortized over the composite weighted–average remaining life of each rate category using the remaining life depreciation rates recommended in this study.

**Q. IS FOSTER ASSOCIATES RECOMMENDING A REBALANCING OF DEPRECIATION RESERVES?**

A. Yes. A redistribution of recorded reserves is again considered appropriate for NJNG. Offsetting reserve imbalances attributable to both the passage of time and parameter adjustments recommended in the current study should be realigned among primary accounts to reduce offsetting imbalances and increase depreciation rate stability.

A redistribution of recorded reserves for depreciable plant categories was achieved by multiplying the calculated reserve for each primary account within a function by the ratio of the function total recorded reserves to the function total calculated reserve. The sum of redistributed reserves within a function is, therefore, equal to the function total recorded depreciation reserve before redistribution. Depreciation reserves for amortizable categories were redistributed by setting recorded reserves for the amortization accounts equal to the theoretical reserves derived from the proposed amortization periods and distributing the residual imbalances to the remaining depreciable accounts within the general function.

**Q. PLEASE DESCRIBE THE DEPRECIATION SYSTEM CURRENTLY APPROVED FOR NJNG.**

A. Current depreciation rates were developed and approved for each primary account using a depreciation system composed of the straight–line method, vintage group pro-

cedure and remaining–life technique. The formulation of an account accrual rate using the currently approved system is given by:

$$\text{Accrual Rate} = \frac{1.0 - \text{Reserve Ratio} - \text{Future Net Salvage Rate}}{\text{Remaining Life}}.$$

A remaining–life rate is equivalent to the sum of a whole–life rate and an amortization of any reserve imbalance over the estimated remaining life of a rate category. Stated as an equation, a remaining–life accrual rate is equivalent to:

$$\text{Accrual Rate} = \frac{1.0 - \text{Average Net Salvage}}{\text{Average Life}} + \frac{\text{Computed Reserve} - \text{Recorded Reserve}}{\text{Remaining Life}}$$

where both computed and recorded reserves are expressed as ratios to the plant in service.

**Q. IS FOSTER ASSOCIATES RECOMMENDING A CHANGE IN THE DEPRECIATION SYSTEM USED BY NJNG?**

A. No. Depreciation rates recommended in the F2021 study were developed using the currently approved system. It is the opinion of Foster Associates that this system will remain appropriate for NJNG, provided depreciation studies are conducted periodically and parameters are routinely adjusted to reflect changing operating conditions. It is also the opinion of Foster Associates that amortization accounting currently approved for selected general support asset accounts is consistent with the goals and objectives of depreciation accounting and remains appropriate for these plant categories.

## IV. SUMMARY

**Q. PLEASE SUMMARIZE THE DEPRECIATION RATES AND ACCRUALS RECOMMENDED FOR NJNG IN THE F2021 STUDY.**

A. Table 2 below provides a summary of the changes in annual rates and accruals resulting from adoption of the parameters and depreciation rates recommended in the F2021 study for gas storage and processing, transmission, distribution and general plant categories.

| Function | Accrual Rate | | | F2021 Annualized Accrual | | |
|---|---|---|---|---|---|---|
| | Current | Proposed | Difference | Current | Proposed | Difference |
| A | B | C | D=C-B | E | F | G=F-E |
| Storage | 1.65% | 1.73% | 0.08% | $ 1,318,988 | $ 1,378,052 | $ 59,064 |
| Transmission | 2.60% | 3.07% | 0.47% | 8,497,947 | 10,056,101 | 1,558,154 |
| Distribution | 2.71% | 3.43% | 0.72% | 58,435,412 | 74,085,316 | 15,649,904 |
| General Plant | 5.44% | 6.03% | 0.59% | 7,714,166 | 8,552,720 | 838,554 |
| Total | 2.81% | 3.47% | 0.66% | $75,966,513 | $94,072,189 | $18,105,676 |

**Table 2. Depreciation Rates and Accruals**

Foster Associates is recommending primary account depreciation rates equivalent to a composite rate of 3.47 percent. Depreciation expense is presently accrued at rates that composite to 2.81 percent. The recommended change in the composite depreciation rate is, therefore, an increase of 0.66 percentage points.

A continued application of current rates would provide annualized depreciation expense of $75,966,513 compared with an annualized expense of $94,072,189 using the rates developed in this study. The proposed F2021 expense increase is $18,105,676. Of this increase, $787,154 represents amortization of a $309,075,494 reserve deficiency. The remaining portion of the increase is attributable to adjusted service lives and net salvage parameters.

**Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?**

A. Yes, it does.

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# Ronald E. White, Ph.D.

**Education**

1961 - 1964 Valparaiso University
Major: Electrical Engineering

1965 Iowa State University
B.S., Engineering Operations

1968 Iowa State University
M.S., Engineering Valuation
Thesis: The Multivariate Normal Distribution and the Simulated Plant Record Method of Life Analysis

1977 Iowa State University
Ph.D., Engineering Valuation
Minor: Economics
Dissertation: A Comparative Analysis of Various Estimates of the Hazard Rate Associated With the Service Life of Industrial Property

**Employment**

2015 - Present Foster Associates Consultants, LLC
President

2007 - 2015 Foster Associates, Inc.
Chairman

1996 - 2007 Foster Associates, Inc.
Executive Vice President

1988 - 1996 Foster Associates, Inc.
Senior Vice President

1979 - 1988 Foster Associates, Inc.
Vice President

1978 - 1979 Northern States Power Company
Assistant Treasurer

1974 - 1978 Northern States Power Company
Manager, Corporate Economics

1972 - 1974 Northern States Power Company
Corporate Economist

1970 - 1972 Iowa State University
Graduate Student and Instructor

1968 - 1970 Northern States Power Company
Valuation Engineer

1965 - 1968 Iowa State University
Graduate Student and Teaching Assistant

**Publications**

*A New Set of Generalized Survivor Tables*, Journal of the Society of Depreciation Professionals, October, 1992.

*The Theory and Practice of Depreciation Accounting Under Public Utility Regulation,* Journal of the Society of Depreciation Professionals, December, 1989.

*Standards for Depreciation Accounting Under Regulated Competition,* paper presented at The Institute for Study of Regulation, Rate Symposium, February, 1985.

*The Economics of Price-Level Depreciation,* paper presented at the Iowa State University Regulatory Conference, May, 1981.

*Depreciation and the Discount Rate for Capital Investment Decisions,* paper presented at the National Communications Forum - National Electronics Conference, October 1979.

*A Computerized Method for Generating a Life Table From the 'h-System' of Survival Functions,* paper presented at the American Gas Association - Edison Electric Institute Depreciation Accounting Committee Meeting, December, 1975.

*The Problem With AFDC is …,* paper presented at the Iowa State University Conference on Public Utility Valuation and the Rate Making Process, May, 1973.

*The Simulated Plant-Record Method of Life Analysis*, paper presented at the Missouri Public Service Commission Regulatory Information Systems Conference, May, 1971.

*Simulated Plant-Record Survivor Analysis Program (User's Manual),* special report published by Engineering Research Institute, Iowa State University, February, 1971.

*A Test Procedure for the Simulated Plant-Record Method of Life Analysis,* Journal of the American Statistical Association, September, 1970.

*Modeling the Behavior of Property Records*, paper presented at the Iowa State University Conference on Public Utility Valuation and the Rate Making Process, May, 1970.

*A Technique for Simulating the Retirement Experience of Limited-Life Industrial Property*, paper presented at the National Conference of Electric and Gas Utility Accountants, May, 1969.

*How Dependable are Simulated Plant-Record Estimates?,* paper presented at the Iowa State University Conference on Public Utility Valuation and the Rate Making Process, April, 1968.

**Testifying Witness**

Alabama Public Service Commission, Docket No. 18488, General Telephone Company of the Southeast; testimony concerning engineering economy study techniques.

Alabama Public Service Commission, Docket No. 20208, General Telephone Company of the South; testimony concerning the equal-life group procedure and remaining-life technique.

Alberta Energy and Utilities Board, Application No. 1250392, Aquila Networks Canada; rebuttal testimony supporting proposed depreciation rates.

Alberta Energy and Utilities Board, Case No. RE95081, Edmonton Power Inc.; rebuttal evidence concerning appropriate depreciation rates.

Alberta Energy and Utilities Board, 1999/2000 General Tariff Application, Edmonton Power Inc.; direct and rebuttal evidence concerning appropriate depreciation rates.

Arizona Corporation Commission, Docket No. T-01051B-97-0689, U S West Communications, Inc.; testimony concerning appropriate depreciation rates.

Arizona Corporation Commission, Docket No. G-1032A-02-0598, Citizens Communications Company; testimony supporting proposed depreciation rates.

Arizona Corporation Commission, Docket No. E–0135A–03–0437, Arizona Public Service Company; rebuttal testimony supporting net salvage rates.

Arizona Corporation Commission, Docket No. E–01345A–05–0816, Arizona Public Service Company; testimony supporting proposed depreciation rates.

Arizona Corporation Commission, Docket No. E–01345A–08–0172, Arizona Public Service Company; testimony supporting proposed depreciation rates.

Arizona Corporation Commission, Docket No. E–01345A–11–0224, Arizona Public Service Company; testimony supporting proposed depreciation rates.

Arizona Corporation Commission, Docket No. E–01345A–16–0036, Arizona Public Service Company; testimony supporting proposed depreciation rates.

Arizona Corporation Commission, Docket No. E–01345A–19–0236, Arizona Public Service Company; testimony supporting proposed depreciation rates.

Arizona Corporation Commission, Docket No. E–01933A–12–0126, Tucson Electric Power Company; testimony supporting proposed depreciation rates.

Arizona Corporation Commission, Docket No. E–01933A–15–0322, Tucson Electric Power Company; testimony supporting proposed depreciation rates.

Arizona Corporation Commission, Docket No. E–01933A–19–0028, Tucson Electric Power Company; testimony supporting proposed depreciation rates.

Arizona Corporation Commission, Docket No. G–04204A–06–0463, UNS Gas, Inc.; testimony supporting proposed depreciation rates.

Arizona Corporation Commission, Docket No. E–04204A–06–0783, UNS Electric, Inc.; testimony supporting proposed depreciation rates.

Arizona Corporation Commission, Docket No. E–04204A–09–0206, UNS Electric, Inc.; testimony supporting proposed depreciation rates.

Arizona Corporation Commission, Docket No. E–04204A–15–0142, UNS Electric, Inc.; testimony supporting proposed depreciation rates.

Arizona State Board of Equalization, Docket No. 6302-07-2, Arizona Public Service Company; testimony concerning valuation and assessment of contributions in aid of construction.

California Public Utilities Commission, Case Nos. A.92-06-040, 92-06-042, GTE California Incorporated; rebuttal testimony supporting depreciation study techniques.

California Public Utilities Commission. Docket No. GRC A.05–12–002, Pacific Gas and Electric Company; testimony regarding estimation of net salvage rates.

California Public Utilities Commission. Docket No. GRC A.06–12–009/A.06–12–010, San Diego Gas & Electric Company and Southern California Gas Company; testimony regarding estimation of net salvage rates.

California Public Utilities Commission. Application No. A.16–09–001 Southern California Edison; testimony regarding estimation of service lives and net salvage rates.

Public Utilities Commission of the State of Colorado, Application No. 36883-Reopened. U S WEST Communications; testimony concerning equal-life group procedure.

State of Connecticut Department of Public Utility Control, Docket No. 10–12–02, Yankee Gas Services Company; testimony supporting recommended depreciation rates.

State of Connecticut Department of Public Utility Control, Docket No. 09–12–05, The Connecticut Light and Power Company; testimony supporting recommended depreciation rates.

State of Connecticut Department of Public Utility Control, Docket No. 06–12PH01, Yankee Gas Services Company; testimony supporting recommended depreciation rates.

State of Connecticut Department of Public Utility Control, Docket No. 05–03–17, The Southern Connecticut Gas Company; testimony supporting recommended depreciation rates.

Delaware Public Service Commission, Docket No. 81-8, Diamond State Telephone Company; testimony concerning the amortization of inside wiring.

Delaware Public Service Commission, Docket No. 82-32, Diamond State Telephone Company; testimony concerning the equal-life group procedure and remaining-life technique.

Public Service Commission of the District of Columbia, Formal Case No. 842, District of Columbia Natural Gas; testimony concerning depreciation rates.

Public Service Commission of the District of Columbia, Formal Case No. 1016, Washington Gas Light Company - District of Columbia; testimony supporting proposed depreciation rates.

Public Service Commission of the District of Columbia, Formal Case No. 1054, Washington Gas Light Company - District of Columbia; testimony supporting proposed depreciation rates.

Public Service Commission of the District of Columbia, Formal Case No. 1093, Washington Gas Light Company - District of Columbia; testimony supporting proposed depreciation rates.

Public Service Commission of the District of Columbia, Formal Case No. 1115, Washington Gas Light Company - District of Columbia; testimony supporting proposed depreciation rates.

Public Service Commission of the District of Columbia, Formal Case No. 1137, Washington Gas Light Company - District of Columbia; testimony supporting proposed depreciation rates.

Public Service Commission of the District of Columbia, Formal Case No. 1162, Washington Gas Light Company - District of Columbia; testimony supporting proposed depreciation rates.

Federal Communications Commission, Prescription of Revised Depreciation Rates for AT&T Communications; statement concerning depreciation, regulation and competition.

Federal Communications Commission, Petition for Modification of FCC Depreciation Prescription Practices for AT&T; statement concerning alignment of depreciation expense used for financial reporting and regulatory purposes.

Federal Communications Commission, Docket No. *99*-117, Bell Atlantic; affidavit concerning revenue requirement and capital recovery implications of omitted plant retirements.

Federal Energy Regulatory Commission, Docket No. RP14-118-000, WBI Energy Transmission, Inc.; testimony supporting proposed depreciation rates.

Federal Energy Regulatory Commission, Docket No. ER10-2110-000, ITC Midwest; testimony supporting proposed depreciation rates.

Federal Energy Regulatory Commission, Docket No. ER10-185-000, Michigan Electric Transmission Company; testimony supporting proposed depreciation rates.

Federal Energy Regulatory Commission, Docket No. ER09-1530-000, ITC *Transmission*; testimony supporting proposed depreciation rates.

Federal Energy Regulatory Commission, Docket No. ER95-267-000, New England Power Company; testimony supporting proposed depreciation rates.

Federal Energy Regulatory Commission, Docket No. ER11-3638-000, Arizona Public Service Company; testimony supporting proposed depreciation rates.

Federal Energy Regulatory Commission, Docket No. RP89-248, Mississippi River Transmission Corporation; rebuttal testimony concerning appropriateness of net salvage component in depreciation rates.

Federal Energy Regulatory Commission, Docket No. ER91-565, New England Power Company; testimony supporting proposed depreciation rates.

Federal Energy Regulatory Commission, Docket No. ER78-291, Northern States Power Company; testimony concerning rate of return and general financial requirements.

Federal Energy Regulatory Commission, Docket Nos. RP80-97 and RP81-54, Tennessee Gas Pipeline Company; testimony concerning offshore plant depreciation rates.

Federal Power Commission, Docket No. E-8252, Northern States Power Company; testimony concerning general financial requirements and measurements of financial performance.

Federal Power Commission, Docket No. E-9148, Northern States Power Company; testimony concerning general financial requirements and measurements of financial performance.

Federal Power Commission, Docket No. ER76-818, Northern States Power Company; testimony concerning rate of return and general financial requirements.

Federal Power Commission, Docket No. RP74-80, *Northern* Natural Gas Company; testimony concerning depreciation expense.

Public Utilities Commission of the State of Hawaii, Docket No. 00-0309, The Gas Company; testimony supporting proposed depreciation rates.

Public Utilities Commission of the State of Hawaii, Docket No. 94-0298, GTE Hawaiian Telephone Company Incorporated; testimony concerning the need for shortened service lives and disclosure of asset impairment losses.

Idaho Public Utilities Commission, Case No. U-1002-59, General Telephone Company of the Northwest, Inc.; testimony concerning the remaining-life technique and the equal-life group procedure.

Illinois Commerce Commission, Case No. 04–0476, Illinois Power Company; testimony supporting proposed depreciation rates.

Illinois Commerce Commission, Docket No. 94-0481, Citizens Utilities Company of Illinois; rebuttal testimony concerning applications of the Simulated Plant-Record method of life analysis.

Iowa State Commerce Commission, Docket No. RPU 82-47, North Central Public Service Company; testimony on depreciation rates.

Iowa State Commerce Commission, Docket No. RPU 84-34, General Telephone Company of the Midwest; testimony concerning the remaining-life technique and the equal-life group procedure.

Iowa State Utilities Board, Docket No. DPU-86-2, Northwestern Bell Telephone Company; testimony concerning capital recovery in competition.

Iowa State Utilities Board, Docket No. RPU-84-7, Northwestern Bell Telephone Company; testimony concerning the deduction of a reserve deficiency from the rate base.

Iowa State Utilities Board, Docket No. DPU-88-6, U S WEST Communications; testimony concerning depreciation subject to refund.

Iowa State Utilities Board, Docket No. RPU-90-9, Central Telephone Company of Iowa; testimony concerning depreciation rates.

Iowa State Utilities Board, Docket No. RPU-93-9, U S WEST Communications; testimony concerning principles of depreciation accounting and abandonment of FASB 71.

Iowa State Utilities Board, Docket No. DPU-96-1, U S WEST Communications; testimony concerning principles of depreciation accounting and abandonment of FASB 71.

Iowa State Utilities Board, Docket No. RPU-05-2, Aquila Networks; testimony supporting recommended depreciation rates.

Kansas Corporation Commission, Docket No. 16-KGSG-491-RTS, Kansas Gas Service, a Division of ONE Gas, Inc.; testimony supporting proposed depreciation rates.

Kansas Corporation Commission, Docket No. 12-KGSG-835-RTS, Kansas Gas Service, a Division of ONEOK, Inc.; testimony supporting proposed depreciation rates.

Kansas Corporation Commission, Docket No. 12-WSEE-112-RTS, Westar Energy, Inc.; testimony supporting proposed depreciation rates.

Kansas Corporation Commission, Docket No. 12-WSEE-328-RTS, Westar Energy, Inc.; testimony supporting proposed depreciation rates.

Kansas Corporation Commission, Docket No. 18-WSEE-328-RTS, Westar Energy, Inc.; testimony supporting proposed depreciation rates.

Kansas Corporation Commission, Docket No. 10–KCPE–415–RTS; Kansas City Power and Light; cross–answering testimony addressing the recording and treatment of third–party reimbursements in estimating net salvage rates.

Kansas Corporation Commission, Docket No. 04–AQLE–1065–RTS, Aquila Networks – WPE (Kansas); testimony supporting proposed depreciation rates.

Kansas Corporation Commission, Docket No. 03–KGSG–602–RTS, Kansas Gas Service, a Division of ONEOK, Inc.; rebuttal testimony supporting net salvage rates.

Kansas Corporation Commission, Docket No. 06–KGSG–1209–RTS, Kansas Gas Service, a Division of ONEOK, Inc.; testimony supporting proposed depreciation rates.

Kentucky Public Service Commission, Case No. 97-224, Jackson Purchase Electric Cooperative Corporation; rebuttal testimony supporting proposed depreciation rates.

Maryland Public Service Commission, Case No. 9096, Baltimore Gas and Electric Company; testimony supporting proposed depreciation rates.

Maryland Public Service Commission, Case No. 8485, Baltimore Gas and Electric Company; testimony supporting proposed depreciation rates.

Maryland Public Service Commission, Case No. 9424, Delmarva Power and Light Company; testimony supporting proposed depreciation rates.

Maryland Public Service Commission, Case No. 9385, Potomac Electric Power Company; testimony supporting proposed depreciation rates.

Maryland Public Service Commission, Case No. 9481, Washington Gas Light Company; testimony supporting proposed depreciation rates.

Maryland Public Service Commission, Case No. 9103, Washington Gas Light Company; rebuttal testimony supporting proposed depreciation rates.

Maryland Public Service Commission, Case No. 8960, Washington Gas Light Company; testimony supporting proposed depreciation rates.

Maryland Public Service Commission, Case No. 7689, Washington Gas Light Company; testimony concerning life analysis and net salvage.

Commonwealth of Massachusetts Department of Public Utilities, D.P.U. 15–155, Massachusetts Electric Company/Nantucket Electric Company; testimony supporting proposed depreciation rates.

Commonwealth of Massachusetts Department of Public Utilities, D.P.U. 10–70, Western Massachusetts Electric Company; testimony supporting proposed depreciation rates.

Commonwealth of Massachusetts Department of Telecommunications and Energy, D.T.E. 06–55, Western Massachusetts Electric Company; testimony supporting proposed depreciation rates.

Massachusetts Department of Public Utilities, Case No. DPU 91-52, Massachusetts Electric Company; testimony supporting proposed depreciation rates which include a net salvage component.

Michigan Public Service Commission, Case No. U–18150, DTE Electric Company; testimony supporting proposed depreciation rates.

Michigan Public Service Commission, Case No. U–16991, The Detroit Edison Company; testimony supporting proposed depreciation rates.

Michigan Public Service Commission, Case No. U–16117, The Detroit Edison Company; testimony supporting proposed depreciation rates.

Michigan Public Service Commission, Case No. U–15699, Michigan Consolidated Gas Company; testimony supporting proposed depreciation rates.

Michigan Public Service Commission, Case No. U–13899, Michigan Consolidated Gas Company; testimony concerning service life estimates.

Michigan Public Service Commission, Case No. U-13393, Aquila Networks – MGU; testimony supporting proposed depreciation rates.

Michigan Public Service Commission, Case No. U-12395, Michigan Gas Utilities; testimony supporting proposed depreciation rates including amortization accounting and redistribution of recorded reserves.

Michigan Public Service Commission, Case No. U-6587, General Telephone Company of Michigan; testimony concerning use of a theoretical depreciation reserve with the remaining-life technique.

Michigan Public Service Commission, Case No. U-7134, General Telephone Company of Michigan; testimony concerning the equal-life group depreciation procedure.

Minnesota Public Service Commission, Docket No. E-611, Northern States Power Company; testimony concerning rate of return and general financial requirements.

Minnesota Public Service Commission, Docket No. E-1086, Northern States Power Company; testimony concerning depreciation rates.

Minnesota Public Service Commission, Docket No. G-1015, Northern States Power Company; testimony concerning rate of return and general financial requirements.

Public Service Commission of the State of Missouri, Case No. ER-2009-0090, KCP&L Greater Missouri Operations, rebuttal testimony concerning depreciation rates.

Public Service Commission of the State of Missouri, Case No. ER-2001-672, Missouri Public Service, a division of Utilicorp United Inc.; surrebuttal testimony regarding computation of income tax expense.

Public Service Commission of the State of Missouri, Case No. TO-82-3, Southwestern Bell Telephone Company; rebuttal testimony concerning the remaining-life technique and the equal-life group procedure.

Public Service Commission of the State of Missouri, Case No. GO-97-79, Laclede Gas Company; rebuttal testimony concerning adequacy of database for conducting depreciation studies.

Public Service Commission of the State of Missouri, Case No. GR-99-315, Laclede Gas Company; rebuttal testimony concerning treatment of net salvage in development of depreciation rates.

Public Service Commission of the State of Missouri, Case No. HR–2004–0024, Aquila Inc. d/b/a/ Aquila Networks–L & P; testimony supporting depreciation rates.

Public Service Commission of the State of Missouri, Case No. ER–2004–0034, Aquila Inc. d/b/a/ Aquila Networks–L & P and Aquila Networks–MPS; testimony supporting depreciation rates.

Public Service Commission of the State of Missouri, Case No. GR–2004–0072, Aquila Inc. d/b/a/ Aquila Networks–L & P and Aquila Networks–MPS; testimony supporting depreciation rates.

Public Service Commission of the State of Montana, Docket No. 88.2.5, Mountain State Telephone and Telegraph Company; rebuttal testimony concerning the equal-life group procedure and amortization of reserve imbalances.

Montana Public Service Commission, Docket No. D95.9.128, The Montana Power Company; testimony supporting proposed depreciation rates.

Montana Public Service Commission, Docket No. D2018.2.12, NorthWestern Energy – Montana; testimony supporting proposed depreciation rates

Nebraska Public Service Commission, Docket No. NG–0041, Aquila Networks (PNG Nebraska); testimony supporting proposed depreciation rates.

Public Service Commission of Nevada, Docket No. 92-7002, Central Telephone Company-Nevada; testimony supporting proposed depreciation rates.

Public Service Commission of Nevada, Docket No. 91-5054, Central Telephone Company-Nevada; testimony supporting proposed depreciation rates.

New Hampshire Public Utilities Commission, Docket No. DR95-169, Granite State Electric Company; testimony supporting proposed net salvage rates.

New Jersey Board of Public Utilities, Docket No. GR07110889, New Jersey Natural Gas Company; testimony supporting proposed depreciation rates.

New Jersey Board of Public Utilities, Docket No. GR87060552, New Jersey Natural Gas Company; testimony supporting proposed depreciation rates.

New Jersey Board of Public Utilities, Docket No. GR19030420, New Jersey Natural Gas Company; testimony supporting proposed depreciation rates.

New Jersey Board of Regulatory Commissioners, Docket No. GR93040114J, New Jersey Natural Gas Company; testimony supporting depreciation rates.

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New York Public Service Commission, Case No. 12–G–0202. Niagara Mohawk Power Corporation d/b/a National Grid; testimony supporting recommended depreciation rates.

New York Public Service Commission, Case No. 10–E–0050. Niagara Mohawk Power Corporation d/b/a National Grid; testimony supporting recommended depreciation rates.

North Carolina Utilities Commission, Docket No. E-7, SUB 487, Duke Power Company; rebuttal testimony concerning proposed depreciation rates.

North Carolina Utilities Commission, Docket No. P-19, SUB 207, General Telephone Company of the South; rebuttal testimony concerning the equal-life group depreciation procedure.

North Dakota Public Service Commission, Case No. 8860, Northern States Power Company; testimony concerning general financial requirements.

North Dakota Public Service Commission, Case No. 9634, Northern States Power Company; testimony concerning rate of return and general financial requirements.

North Dakota Public Service Commission, Case No. 9666, Northern States Power Company; testimony concerning rate of return and general financial requirements.

North Dakota Public Service Commission, Case No. 9741, Northern States Power Company; testimony concerning rate of return and general financial requirements.

Oklahoma Corporation Commission, Cause No. PUD 201500213, Oklahoma Natural Gas Company; testimony supporting revised depreciation rates.

Oklahoma Corporation Commission, Cause No. PUD 200900110, Oklahoma Natural Gas Company; testimony supporting revised depreciation rates.

Ontario Energy Board, E.B.R.O. 385, Tecumseh Gas Storage Limited; testimony concerning depreciation rates.

Ontario Energy Board, E.B.R.O. 388, Union Gas Limited; testimony concerning depreciation rates.

Ontario Energy Board, E.B.R.O. 456, Union Gas Limited; testimony concerning depreciation rates.

Ontario Energy Board, E.B.R.O. 476-03, Union Gas Limited; testimony concerning depreciation rates.

Public Utilities Commission of Ohio, Case No. 81-383-TP-AIR, General Telephone Company of Ohio; testimony in support of the remaining-life technique.

Public Utilities Commission of Ohio, Case No. 82-886-TP-AIR, General Telephone Company of Ohio; testimony concerning the remaining-life technique and the equal-life group procedure.

Public Utilities Commission of Ohio, Case No. 84-1026-TP-AIR, General Telephone Company of Ohio; testimony in support of the equal-life group procedure and the remaining-life technique.

Public Utilities Commission of Ohio, Case No. 81-1433, The Ohio Bell Telephone Company; testimony concerning the remaining-life technique and the equal-life group procedure.

Public Utilities Commission of Ohio, Case No. 83-300-TP-AIR, The Ohio Bell Telephone Company; testimony concerning straight-line age-life depreciation.

Public Utilities Commission of Ohio, Case No. 84-1435-TP-AIR, The Ohio Bell Telephone Company; testimony in support of test period depreciation expense.

Public Utilities Commission of Oregon, Docket No. UM 204, GTE of the Northwest; testimony concerning the theory and practice of depreciation accounting under public utility regulation.

Public Utilities Commission of Oregon, Docket No. UM 840, GTE Northwest Incorporated; rebuttal testimony concerning principles of capital recovery.

Pennsylvania Public Utility Commission, Docket No. R-80061235, The Bell Telephone Company of Pennsylvania; testimony concerning the proper depreciation reserve to be used with an original cost rate base.

Pennsylvania Public Utility Commission, Docket No. R-811512, General Telephone Company of Pennsylvania; testimony concerning the proper depreciation reserve to be used with an original cost rate base.

Pennsylvania Public Utility Commission, Docket No. R-811819, The Bell Telephone Company of Pennsylvania; testimony concerning the proper depreciation reserve to be used with an original cost rate base.

Pennsylvania Public Utility Commission, Docket No. R-822109, General Telephone Company of Pennsylvania; testimony in support of the remaining-life technique.

Pennsylvania Public Utility Commission, Docket No. R-850229, General Telephone Company of Pennsylvania; testimony in support of the remaining-life technique and the proper depreciation reserve to be used with an original cost rate base.

Pennsylvania Public Utility Commission, Docket No. C-860923, The Bell Telephone Company of Pennsylvania; testimony concerning capital recovery under competition.

Rhode Island Public Utilities Commission, Docket No. 2290, The Narragansett Electric Company; testimony supporting proposed net salvage rates and depreciation rates.

South Carolina Public Service Commission, Docket No. 91-216-E, Duke Power Company; testimony supporting proposed depreciation rates.

South Dakota Public Utilities Commission, Docket No. EL14–106, NorthWestern Energy; testimony supporting revised depreciation rates.

Public Utilities Commission of the State of South Dakota, Case No. F-3062, Northern States Power Company; testimony concerning general financial requirements and measurements of financial performance.

Public Utilities Commission of the State of South Dakota, Case No. F-3188, Northern States Power Company; testimony concerning rate of return and general financial requirements.

Securities and Exchange Commission, File No. 3-5749, Northern States Power Company; testimony concerning the financial and ratemaking implications of an affiliation with Lake Superior District Power Company.

Tennessee Public Service Commission, Docket No. 89-11041, United Inter-Mountain Telephone Company; testimony concerning depreciation principles and capital recovery under competition.

The Railroad Commission of Texas, GUD Docket No. 9988, Texas Gas Service, testimony supporting recommended depreciation rates.

The Railroad Commission of Texas, GUD Docket No. 10488, Texas Gas Service, testimony supporting recommended depreciation rates.

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State of Vermont Public Service Board, Docket No. 6596, Citizens Communications Company – Vermont Electric Division; testimony supporting recommended depreciation rates.

State of Vermont Public Service Board, Docket No. 6946 and 6988, Central Vermont Public Service Corporation; testimony supporting net salvage rates.

Commonwealth of Virginia State Corporation Commission, Case No. PUE-2002-00364, Washington Gas Light Company; testimony supporting proposed depreciation rates.

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**Other Consulting Activities**

Arbitrator in a Technical Dispute relating to classification of Capital Budget expenditures.

Moran Towing Corporation. In Re: Barge TEXAS-97 CIV. 2272 (ADS) and Tug HEIDE MORAN – 97 CIV. 1947 (ADS), United States District Court, Southern District of New York.

John Reigle, et al. v. Baltimore Gas & Electric Co., et al., Case No. C-2001-73230-CN, Circuit Court for Anne Arundel County, Maryland.

SR International Business Insurance Co. vs. WTC Properties et. al., 01,CV–9291 (JSM) and other related cases.

BellSouth Telecommunications, Inc. v. Citizens Utilities Company d/b/a/ Louisiana Gas Service Company, CA No. 95-2207, United States District Court, Eastern District of Louisiana.

Affidavit on behalf of Continental Cablevision, Inc. and its operating cable television systems regarding basic broadcast tier and equipment and installation cost-of-service rate justification.

Office of Chief Counsel, Internal Revenue Service. In Re: Kansas City Southern Railway Co., et. al. Docket Nos. 971-72, 974-72, and 4788-73.

Office of Chief Counsel, Internal Revenue Service. In Re: Northern Pacific Railway Co., Docket No. 4489-69.

United States Department of Justice. In Re: Burlington Northern Inc. v. United States, Ct. Cl. No. 30-72.

Minnesota District Court. In Re: Northern States Power Company v. Ronald G. Blank, et. al. File No. 394126; testimony concerning depreciation and engineering economics.

**Faculty**

Depreciation Programs for public utility commissions, companies, and consultants, sponsored by Depreciation Programs, Inc., in cooperation with Western Michigan University. (1980 - 1999)

United States Telephone Association (USTA), Depreciation Training Seminar, November 1999.

Depreciation Advocacy Workshop, a three-day team-training workshop on preparation, presentation, and defense of contested depreciation issues, sponsored by Gilbert Associates, Inc., October, 1979.

Corporate Economics Course, Employee Education Program, Northern States Power Company. (1968 - 1979)

Perspectives of Top Financial Executives, Course No. 5-300, University of Minnesota, September 1978.

Depreciation Programs for public utility commissions, companies, and consultants, jointly sponsored by Western Michigan University and Michigan Technological University, 1973.

**Professional Associations**

Advisory Committee to the Institute for Study of Regulation, sponsored by the American University and The University of Missouri-Columbia.

American Economic Association.

American Gas Association - Edison Electric Institute Depreciation Accounting Committee.

Board of Directors, Iowa State Regulatory Conference.

Edison Electric Institute, Energy Analysis Division, Economic Advisory Committee, 1976-1980.

Financial Management Association.

The Institute of Electrical and Electronics Engineers, Inc., Power Engineering Society, Engineering and Planning Economics Working Group.

Midwest Finance Association.

Society of Depreciation Professionals (Founding Member and Chairman, Policy Committee).

**Moderator**

Depreciation Open Forum, Iowa State University Regulatory Conference, May 1991.

The Quantification of Risk and Uncertainty in Engineering Economic Studies, Iowa State University Regulatory Conference, May 1989.

Plant Replacement Decisions with Added Revenue from New Service Offerings, Iowa State University Regulatory Conference, May 1988.

Economic Depreciation, Iowa State University Regulatory Conference, May 1987.

Opposing Views on the Use of Customer Discount Rates in Revenue Requirement Comparisons, Iowa State University Regulatory Conference, May 1986.

Cost of Capital Consequences of Depreciation Policy, Iowa State University Regulatory Conference, May 1985.

Concepts of Economic Depreciation, Iowa State University Regulatory Conference, May 1984.

Ratemaking Treatment of Large Capacity Additions, Iowa State University Regulatory Conference, May 1983.

The Economics of Excess Capacity, Iowa State University Regulatory Conference, May 1982.

New Developments in Engineering Economics, Iowa State University Regulatory Conference, May 1980.

Training in Engineering Economy, Iowa State University Regulatory Conference, May 1979.

The Real Time Problem of Capital Recovery, Missouri Public Service Commission, Regulatory Information Systems Conference, September 1974.

**Speaker**

Depreciation Training Seminar, Kansas Gas Service, October 2018.

Depreciation Workshop, Oklahoma Corporation Commission, Public Utility Division, March 2015.

Depreciation Workshop, ONE Gas, Inc. January 2015.

Depreciation Training Seminar, Florida Public Service Commission, March 2013.

Depreciation and Obsolescence (Isness and Oughtness), Ninety–Fifth Annual Arizona Tax Conference, August 2012.

Group Depreciation Practices of Regulated Utilities (IAS 16 Property, Plant and Equipment), Hydro One Networks, Inc., November 2008.

Economics, Finance and Engineering Valuation. Florida Gulf Coast University, April 2007.

Depreciation Studies for Regulated Utilities, Hydro One Networks, Inc., April 2006.

Depreciation Studies for Cooperatives and Small Utilities. TELERGEE CFO and Controllers Conference, November, 2004.

Finding the “D” in RCNLD (Valuation Applications of Depreciation), Society of Depreciation Professionals Annual Meeting, September 2001.

Capital Asset and Depreciation Accounting, City of Edmonton Value Engineering Workshop, April 2001.

A Valuation View of Economic Depreciation, Society of Depreciation Professionals Annual Meeting, October 1999.

Capital Recovery in a Changing Regulatory Environment, Pennsylvania Electric Association Financial-Accounting Conference, May 1999.

Depreciation Theory and Practice, Southern Natural Gas Company Accounting and Regulatory Seminar, March 1999.

Depreciation Theory Applied to Special Franchise Property, New York Office of Real Property Services, March 1999.

Capital Recovery in a Changing Regulatory Environment, PowerPlan Consultants Annual Client Forum, November 1998.

Economic Depreciation, AGA Accounting Services Committee and EEI Property Accounting and Valuation Committee, May 1998.

Discontinuation of Application of FASB Statement No. 71, Southern Natural Gas Company Accounting Seminar, April 1998.

Forecasting in Depreciation, Society of Depreciation Professionals Annual Meeting, September 1997.

Economic Depreciation In Response to Competitive Market Pricing, 1997 TELUS Depreciation Conference, June 1997.

Valuation of Special Franchise Property, City of New York, Department of Finance Valuation Seminar, March 1997.

Depreciation Implications of FAS Exposure Draft 158-B, 1996 TLG Decommissioning Conference, October 1996.

Why Economic Depreciation?, American Gas Association Depreciation Accounting Committee Meeting, August 1995.

The Theory of Economic Depreciation, Society of Depreciation Professionals Annual Meeting, November 1994.

Vintage Depreciation Issues, G & T Accounting and Finance Association Conference, June 1994.

Pricing and Depreciation Strategies for Segmented Markets (Regulated and Competitive), Iowa State Regulatory Conference, May 1990.

Principles and Practices of Depreciation Accounting, Canadian Electrical Association and Nova Scotia Power Electric Utility Regulatory Seminar, December 1989.

Principles and Practices of Depreciation Accounting, Duke Power Accounting Seminar, September 1989.

The Theory and Practice of Depreciation Accounting Under Public Utility Regulation, GTE Capital Recovery Managers Conference, February 1989.

Valuation Methods for Regulated Utilities, GTE Capital Recovery Managers Conference, January 1988.

Depreciation Principles and Practices for REA Borrowers, NRECA 1985 National Accounting and Finance Conference, September 1985.

Depreciation Principles and Practices for REA Borrowers, Kentucky Association of Electric Cooperatives, Inc., Summer Accountants Association Meeting, June 1985.

Considerations in Conducting a Depreciation Study, NRECA 1984 National Accounting and Finance Conference, October 1984.

Software for Conducting Depreciation Studies on a Personal Computer, United States Independent Telephone Association, September 1984.

Depreciation—An Assessment of Current Practices, NRECA 1983 National Accounting and Finance Conference, September 1983

Depreciation—An Assessment of Current Practices, REA National Field Conference, September 1983.

An Overview of Depreciation Systems, Iowa State Commerce Commission, October 1982.

Depreciation Practices for Gas Utilities, Regulatory Committee of the Canadian Gas Association, September 1981.

Practice, Theory, and Needed Research on Capital Investment Decisions in the Energy Supply Industry, workshop, sponsored by Michigan State University and the Electric Power Research Institute, November 1977.

Depreciation Concepts Under Regulation, Public Utilities Conference, sponsored by The University of Texas at Dallas, July 1976.

Electric Utility Economics, Mid-Continent Area Power Pool, May 1974.

**Honors and Awards**

The Society of Sigma Xi.

Professional Achievement Citation in Engineering, Iowa State University, 1993.

February 2021

# Fiscal 2021 Depreciation Rate Study

New Jersey Natural Gas

foster associates

# CONTENTS

**DISTRIBUTION**

381.00 – METERS



*February 2021*

# EXECUTIVE SUMMARY

## INTRODUCTION

This report presents findings and recommendations developed in a fiscal 2021 depreciation study conducted by Foster Associates Consultants, LLC (Foster Associates) for gas plant owned and operated by New Jersey Natural Gas Company (NJNG). Work on the study began in January 2021 and progressed through mid–February, at which time the project was completed.

Foster Associates is a public utility economics consulting firm offering economic research and consulting services on issues and problems arising from governmental regulation of business. Areas of specialization supported by the firm's Fort Myers Florida office include property life forecasting, technological forecasting, depreciation estimation, and valuation of industrial property.

Foster Associates has undertaken numerous depreciation engagements for both public and privately owned business entities including detailed statistical life studies, analyses of required net salvage rates, and the selection of depreciation systems that will most nearly achieve the goals of depreciation accounting under the constraints of either government regulation or competitive market pricing. Foster Associates is widely recognized for industry leadership in the development of depreciation systems, life analysis techniques and computer software for conducting depreciation and valuation studies.

Depreciation rates currently used by NJNG were approved by the New Jersey Board of Public Utilities (BPU) pursuant to a Stipulation in Docket No. GR19030420 (Order dated November 13, 2019). The Stipulation approved revenue requirements derived from a composite depreciation rate of 2.78 percent composed of an investment rate of 1.90 percent and a net salvage rate of 0.88 percent.[1] Settled rates were obtained by adjusting projection lives and future net salvage rates (as shown in Table 1 below) to achieve a rate of 2.78 percent.

| | | Filed Parameters | | | Settlement Parameters | | |
|---|---|---|---|---|---|---|---|
| Account | Description | P-Life/ AYFR | Curve Shape | Fut. Sal. | P-Life/ AYFR | Curve Shape | Fut. Sal. |
| A | | B | C | G | H | I | M |
| **TRANSMISSION PLANT** | | | | | | | |
| 367.00 | Mains | 63.00 | S4 | -60.0 | 70.00 | S4 | -60.0 |
| **DISTRIBUTION PLANT** | | | | | | | |
| 376.00 | Mains - Steel | 65.00 | S1.5 | -60.0 | 77.00 | S1.5 | -93.0 |
| 376.26 | Mains - Plastic | 50.00 | S4 | -60.0 | 70.00 | S4 | -60.0 |
| 380.01 | Services - Steel | 65.00 | L0 | -60.0 | 70.00 | L0 | -60.0 |
| 380.21 | Services - Plastic | 45.00 | S3 | -60.0 | 70.00 | S3 | -60.0 |

**Table 1. Filed vs Settled Parameters**

[1] A composite rate of 3.67 percent composed of an investment rate of 2.50 percent and a net salvage rate of 1.17 percent was recommended in the F2019 Depreciation Rate Study based on September 30, 2018 plant and depreciation reserve balances.

The principal findings and recommendations of the F2021 Depreciation Rate Study are summarized in the Statements section of this report. Statement A provides a comparative summary of current and proposed annual depreciation rates for each rate category. Statement B provides a comparison of current and proposed annual depreciation accruals. Statement C provides a comparison of recorded, computed, and redistributed depreciation reserves. Statement D provides a summary of the investment and net salvage components of rebalanced reserves. Statement E provides a summary of the components used to obtain a weighted–average net salvage rate for each plant account. Statement F provides a comparative summary of current and proposed parameters and statistics including projection life, projection curve, average service life, and average remaining life.

## SCOPE OF STUDY

The principal activities undertaken in the course of the current study included:

- Collection of plant and net salvage data.
- Reconciliation of data to the official records of the Company.
- Discussions with NJNG plant accounting and operations personnel.
- Estimation of projection lives and retirement dispersion patterns.
- Analysis of gross salvage and cost of removal.
- Analysis and redistribution of recorded depreciation reserves.
- Development of recommended accrual rates for each rate category.

## DEPRECIATION SYSTEM

A depreciation rate is formed by combining the elements of a depreciation system. A depreciation system is composed of a method, a procedure and a technique. A depreciation method (*e.g.*, straight–line) describes the component of the system that determines the acceleration or deceleration of depreciation accruals in relation to either time or use. A depreciation procedure (*e.g.*, vintage group) identifies the level of grouping or sub–grouping of assets within a plant category. The level of grouping specifies the weighting used to obtain composite life statistics for an account. A depreciation technique (*e.g.*, remaining–life) describes the life statistic used in the system.

With the exception of selected general support asset categories for which amortization accounting has been approved, NJNG is currently using a depreciation system composed of the straight–line method, vintage group procedure and remaining–life technique. This system was proposed and adopted in a 1987 study to more nearly achieve the goals of depreciation accounting. Prior to the 1987 study, NJNG had been using a system composed of the straight–line method, broad group procedure and remaining–life technique. Additionally, a composite accrual rate was used for each function *(i.e.,* Production, Storage, Transmission, Distribution and General) and a single depreciation reserve was maintained for all plant

categories. Accrual rates were developed for each primary account in the 1987 study and the recorded depreciation reserve was disaggregated into primary account reserves.

Amortization accounting is used for general plant categories in which the unit cost of plant items is small in relation to the number of units classified in the account. Plant is "retired" (*i.e.,* credited to plant and charged to the reserve) as each vintage achieves an age equal to the amortization period. Any realized net salvage for amortizable accounts is netted against current–year vintage additions.

Depreciation theory provides that the cost of an asset (or group of assets) should be allocated to operations over an estimate of the economic life of the asset in proportion to the consumption of service potential. It is the opinion of Foster Associates that the objectives of depreciation accounting are being achieved using the currently approved vintage–group procedure, which distinguishes service lives among vintages, and the remaining–life technique, which provides cost apportionment over the estimated weighted–average remaining life of each rate category. It is also the opinion of Foster Associates that amortization accounting remains appropriate for the approved amortization categories.

## PROPOSED DEPRECIATION RATES

Table 2 below provides a summary of the changes in annual rates and accruals resulting from adoption of the parameters and depreciation rates recommended in the F2021 study for gas storage and processing, transmission, distribution and general plant categories.

| | Accrual Rates | | | F2021 Annualized Accrual | | |
|---|---|---|---|---|---|---|
| Function | Current | Proposed | Difference | Current | Proposed | Difference |
| A | B | C | D=C-B | E | F | G=F-E |
| *Storage* | 1.65% | 1.73% | 0.08% | $ 1,318,988 | $ 1,378,052 | $ 59,064 |
| *Transmission* | 2.60% | 3.07% | 0.47% | 8,497,947 | 10,056,101 | 1,558,154 |
| *Distribution* | 2.71% | 3.43% | 0.72% | 58,435,412 | 74,085,316 | 15,649,904 |
| *General* | 5.44% | 6.03% | 0.59% | 7,714,166 | 8,552,720 | 838,554 |
| **Total** | 2.81% | 3.47% | 0.66% | $ 75,966,513 | $ 94,072,189 | $ 18,105,676 |

**Table 2. Depreciation Rates and Accruals**

Foster Associates is recommending primary account depreciation rates equivalent to a composite rate of 3.47 percent. Depreciation expense is currently accrued at rates that composite to 2.81 percent. The recommended change in the composite depreciation rate is, therefore, an increase of 0.66 percentage points.

A continued application of current rates would provide annualized depreciation expense of $75,966,513 compared with an annualized expense of $94,072,189 using the rates developed in this study. The proposed F2021 expense increase is $18,105,676. Of this increase, $787,154 represents amortization of a $309,075,494 reserve deficiency. The remaining portion of the increase is attributable to adjusted service lives and net salvage parameters.

Of the 32 property accounts included in the study, Foster Associates is recommending rate reductions for 4 accounts, rate increases for 18 accounts and no change for 10 accounts.

# COMPANY PROFILE

## GENERAL

New Jersey Natural Gas (NJNG) is the principal subsidiary of New Jersey Resources (NJR), a New Jersey corporation formed in 1982 pursuant to a corporate reorganization. NJR subsidiaries and businesses include:

1. NJNG, a local natural gas distribution company;
2. NJR Clean Energy Ventures, an affiliate engaged in unregulated capital investments in clean energy projects, including commercial and residential solar projects and onshore wind investments.
3. NJR Energy Services, an affiliate that maintains and transacts around a portfolio of physical assets consisting of natural gas storage and transportation contracts;
4. NJR Retail Holdings, an affiliate that consolidates NJR's unregulated retail operations including heating, ventilation and cooling service repair and contract services;
5. NJR Capital Services, an affiliate that consolidates NJR's unregulated energy–related and real estate investments; and
6. NJR Services, an unregulated company that provides shared administrative services including corporate communications, financial and administrative, internal audit, legal, human resources and technology for NJR and all subsidiaries of NJR.

## GAS UTILITY OPERATIONS

NJNG provides regulated natural gas service to approximately 558,000 customers. Its service territory encompasses 1,516 square miles, covering 105 municipalities with an estimated population of 1.5 million people.

NJNG added 8,349 and 9,711 new customers and added natural gas heat and other services to another 260 and 218 existing customers in fiscal 2020 and 2019, respectively. NJNG's new customer annual growth rate of approximately 1.7 percent is expected to continue with projected additions in the range of approximately 28,000 to 30,000 new customers over the next three fiscal years. This anticipated customer growth represents approximately $6.3 million in new annual utility gross margin, as calculated under NJNG's Conservation Incentive Program Tariff.

## GAS UTILITY PROPERTIES

As of September 30, 2020, NJNG owned approximately 7,392 miles of distribution main, 7,630 miles of service main, 221 miles of transmission main and 566,249 meters. Mains are primarily located under public roads. Where mains are located under private property, NJNG has obtained easements for the owners of record.

Additionally, NJNG owns and operates two LNG storage plants in Stafford

Township, Ocean County, and Howell Township, Monmouth County. The two LNG plants have an aggregate estimated maximum capacity of 170,000 Dths per day and 1 Bcf of total capacity. These facilities are used for peaking natural gas supply and for emergencies. NJNG Liquefaction facility is also located on the Howell Township property and allows NJNG to convert natural gas into LNG to fill NJNG's existing LNG storage tanks.

NJNG owns four service centers located in Rockaway Township, Morris County; Atlantic Highlands and Wall Township, Monmouth County; and Lakewood, Ocean County. These service centers house storerooms, garages, gas distribution and administrative offices. NJNG leases its headquarters and customer service facilities in Wall Township, Monmouth County, a customer service office in Asbury Park, Monmouth County, and a service center in Manahawkin, Ocean County. These customer service offices support customer contact, marketing, economic development and other functions.

## GAS SUPPLY

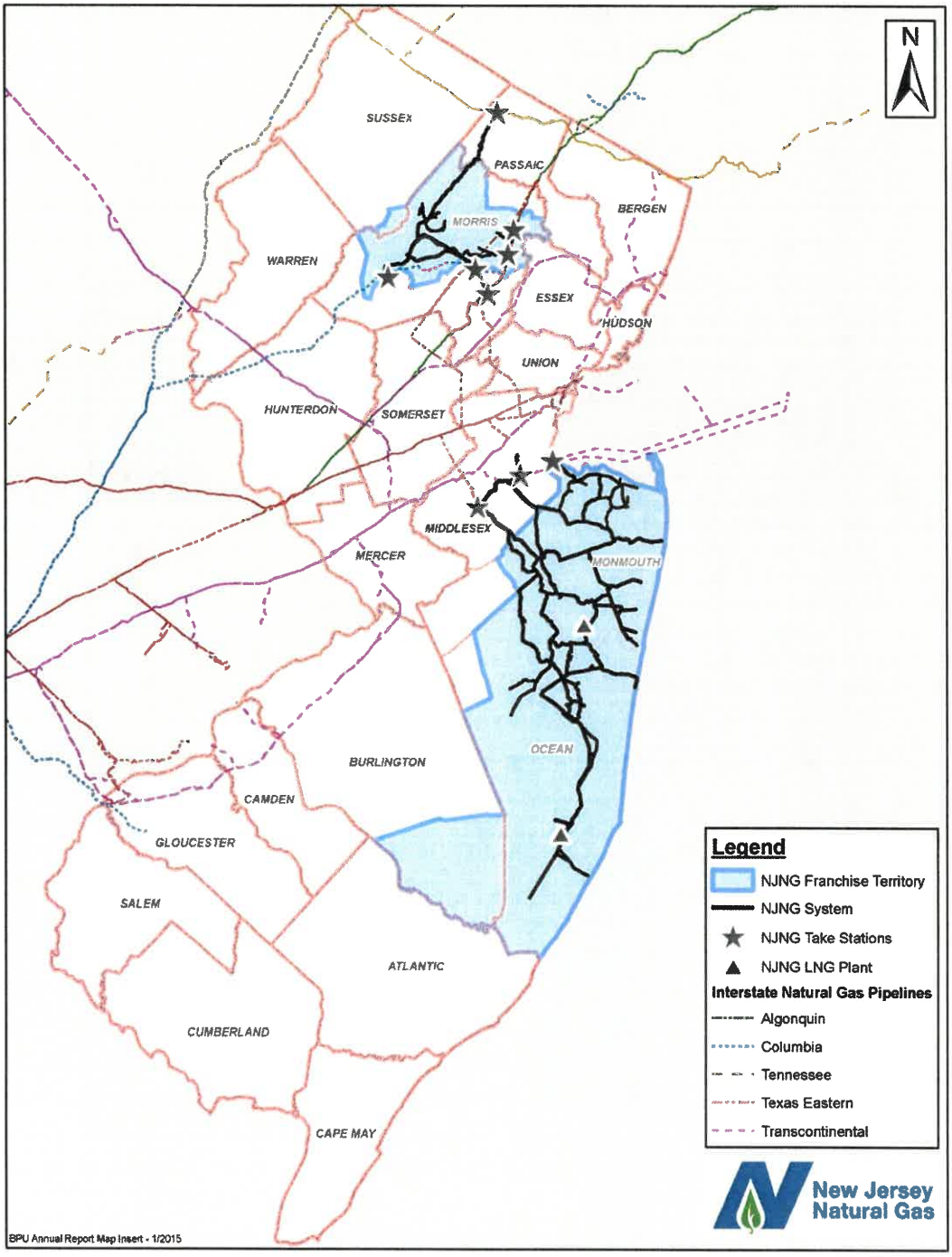
NJNG's gas supply portfolio consists of long–term (over seven months), winter–term (for the five winter months) and short–term contracts. In fiscal 2020, NJNG purchased gas from approximately 65 suppliers under contract ranging from one day to one year and purchased over 10 percent of its natural gas from one supplier.

In order to take delivery of firm natural gas supplies, NJNG maintains agreements for firm transportation and storage capacity with several interstate pipeline companies. NJNG receives natural gas at ten city gate stations located in Middlesex, Morris and Passaic counties in New Jersey.

## SERVICE TERRITORY

NJNG's service territory covers New Jersey's Monmouth and Ocean counties and parts of Burlington, Morris, Middlesex, and Sussex counties. It is primarily suburban, highlighted by approximately 100 miles of New Jersey seacoast. It is in close proximity to New York City, Philadelphia and the metropolitan areas of northern New Jersey and is accessible through a network of major roadways and mass transportation.

# SERVICE AREA MAP



# STUDY PROCEDURE

## INTRODUCTION

The purpose of a depreciation study is to analyze the mortality characteristics, net salvage rates and the adequacy of depreciation accruals and recorded depreciation reserve for each rate category. This study provides the foundation and documentation for recommended changes in the depreciation rates used by NJNG for its gas operations. The proposed rates are subject to approval by the New Jersey Board of Public Utilities.

## SCOPE

Steps involved in conducting a depreciation study can be grouped into five major tasks:

- Data Collection;
- Life Analysis and Estimation;
- Net Salvage Analysis;
- Depreciation Reserve Analysis; and
- Development of Accrual Rates.

The scope of the F2021 study for NJNG included a consideration of each of these tasks as described below.

## DATA COLLECTION

The minimum database required to conduct a statistical life study consists of a history of vintage–year additions and unaged activity–year retirements, transfers and adjustments. These data must be appropriately adjusted for transfers, sales and other plant activity that would otherwise bias the measured service life of normal retirements. The age distribution of surviving plant for unaged data can be estimated by distributing plant in service at the beginning of the study year to prior vintages in proportion to the theoretical amount surviving from a projection or survivor curve identified in the life study. The statistical methods of life analysis used to examine unaged plant data are known as *semi–actuarial techniques*.

A far more extensive database is required to apply statistical methods of life analysis known as *actuarial techniques*. Plant data used in an actuarial life study most often include age distributions of surviving plant at the beginning of a study year and the vintage year, activity year, and dollar amounts associated with normal retirements, reimbursed retirements, sales, abnormal retirements, transfers, corrections, and extraordinary adjustments over a series of prior activity years. An actuarial database may include age distributions of surviving plant at the beginning of the earliest activity year, rather than at the beginning of the study year. Plant additions, however, must be included in a database containing an opening age distribution to derive aged survivors at the beginning of the study year. All activity year transactions with vintage year identification are coded and stored in a database. These data are processed by a computer program and transaction summary

reports are created in a format reconcilable to a company's official plant records. The availability of such detailed information is dependent upon an accounting system that supports aged property records. The Continuing Property Record (CPR) system used by NJNG provides aged transactions for all plant accounts.

Service–life studies conducted in the F2021 study were based upon plant accounting transactions recorded over the fiscal period 1961–2020. Data used in the study were assembled and coded by NJNG plant accounting personnel. Transaction codes for plant additions, for example, were used to distinguish normal additions from acquisitions, purchases, reimbursements and adjustments. Similar transaction codes were used to distinguish normal retirements from sales, reimbursements, abnormal retirements and adjustments. Transaction codes were also assigned to transfers, capital leases, gross salvage, cost of removal and other accounting activity used in conducting the depreciation study.

The data base for NJNG was initially constructed for a fiscal 1993 study with accrual rates based on September 30, 1992 plant and depreciation reserve balances. The database for the 1993 study was constructed from a reverse calculation of historical arrangements over the period 1961-1991 for each plant account. Age distributions of plant exposed to retirement at the beginning of each activity year were obtained by adding (or subtracting) transaction amounts to the coded age distributions of surviving plant at September 30, 1991. Plant additions for each activity year and age distributions of surviving plant at the beginning of 1961 were subsequently coded and added to the database. Coded age distributions of surviving plant at the end of fiscal 1991 were subsequently removed from the database. The conversion of the database from a reverse construction of the historical arrangement to a forward construction was made to facilitate appending fiscal 1992 and subsequent activity–year transactions to the data without removing or adjusting prior coded transactions.

The database used in the current study was assembled by appending transactions over the period October 1, 2018 through September 30, 2020 to the database used in conducting the F2019 study[2]. Reserve transactions recorded over the period fiscal 1972–2020 were used in the analysis of future net salvage rates.

The accuracy and completeness of the assembled data base was examined for fiscal activity years 2019 through 2020 by comparing the beginning plant balance, additions, retirements, transfers and adjustments, and the ending plant balance derived for each activity year to the official plant records of the Company. The ac-

[2] Fiscal–year reporting of plant activity was adopted by NJNG in 1988 coincident by the conversion from a manual fixed asset accounting system to a McCormick & Dodge mechanized system. The M&D system was replaced in 1993 by a JD Edwards system that was replaced in 2003 by Information Intellect's IntelliPlant system. Fixed asset accounting is currently maintained in a PowerPlan system installed in 2008 and initialized with September 2008 age distributions.

curacy of activity years prior to fiscal 2019 was verified in the fiscal 2019 and prior studies.

## LIFE ANALYSIS AND ESTIMATION

Life analysis and life estimation are terms used to describe a two–step procedure for estimating the mortality characteristics of a plant category. The first step (*i.e.*, life analysis) is largely mechanical and primarily concerned with history. Statistical techniques are used in this step to obtain a mathematical description of the forces of retirement acting upon a plant category and an estimate of the *projection life* of the account. Mathematical expressions used to describe these life characteristics are known as *survival functions* or *survivor curves*.

The second step (*i.e.*, life estimation) is concerned with predicting the expected remaining life of property units still exposed to forces of retirement. It is a process of blending the results of a life analysis with informed judgment (including expectations about the future) to obtain an appropriate projection life and curve descriptive of the parent population from which a plant account is viewed as a random sample. The amount of weight given to a life analysis will depend upon the extent to which past retirement experience is considered descriptive of the future.

Analytical methods used in a life analysis are broadly classified as actuarial and semi–actuarial techniques. Actuarial techniques can be applied to plant accounting records that reveal the age of a plant asset at the time of its retirement from service. Stated differently, each property unit must be identifiable by date of installation and age at retirement. Semi–actuarial techniques can be used to derive service life and dispersion estimates when age identification of retirements is not maintained or readily available. Age identification of retirements was available for all plant accounts included in the F2021 study.

An actuarial life analysis program designed and developed by Foster Associates was used in the F2021 study. The first step in an actuarial analysis involves a systematic treatment of the available data for the purpose of constructing an observed life table. A complete life table contains the life history of a group of property units installed during the same accounting period and various probability relationships derived from the data. A life table is arranged by age–intervals (usually defined as one year) and shows the number of units (or dollars) entering and leaving each age–interval and probability relationships associated with this activity. A life table minimally contains the age of each survivor and the age of each retirement from a group of units installed in a given accounting year.

A life table can be constructed in any one of at least five methods. The annual–rate or retirement–rate method was used in the F2021 study. The mechanics of the annual–rate method require the calculation of a series of ratios obtained by dividing the number of units (or dollars) surviving at the beginning of an age interval into the number of units (or dollars) retired during the same interval. This ratio—

called a "retirement ratio"—is an estimator of the hazard rate or conditional probability of retirement during an age interval. The cumulative proportion surviving is obtained by multiplying the retirement ratio for each age interval by the proportion of the original group surviving at the beginning of that age interval and subtracting this product from the proportion surviving at the beginning of the same interval. The annual–rate method is applied to multiple groups or vintages by combining the retirements and/or survivors of like ages for each vintage included in the analysis.

The second step in an actuarial analysis involves graduating or smoothing the observed life table and fitting the smoothed series to a family of survival functions. The functions used in the F2021 study are the Iowa–type curves which are mathematically described by the Pearson frequency curve family. Observed life tables were smoothed by a weighted least–squares procedure in which first, second and third degree orthogonal polynomials were fitted to the observed retirement ratios. The resulting function was expressed as a survivorship function and numerically integrated to obtain an estimate of the projection life. The observed proportions surviving were then fitted by a weighted least–squares procedure to the Iowa–curve family (using the projection life derived from the polynomial hazard function) to obtain a mathematical description or classification of the dispersion characteristics of the data.

The set of computer programs used in the NJNG study provides multiple rolling–band, shrinking–band and progressive–band analyses of an account. Observation bands are defined in terms of a "retirement era" that restricts the analysis to the retirement activity of all vintages represented by survivors at the beginning of a selected era. In a rolling–band analysis, a year of retirement experience is added to each successive retirement band and the earliest year from the preceding band is dropped. A shrinking–band analysis begins with the total retirement experience available and the earliest year from the preceding band is dropped for each successive band. A progressive–band analysis adds a year of retirement activity to a previous band without dropping earlier years from the analysis. Rolling, shrinking and progressive band analyses are used to detect the emergence of trends in the behavior of the dispersion and projection life.

Options available in the actuarial life analysis program designed and developed by Foster Associates include the width and location of both placement and observation bands; the interval of years included in a selected band analysis; the estimator of the hazard rate (actuarial, conditional proportion retired, or maximum likelihood); the elements to include on the diagonal of a weight matrix (exposures, inverse of age, inverse of variance, or unweighted); and the age at which an observed life table is truncated. The program also provides both tabular and graphics output to aid in the analysis.

While actuarial and semi–actuarial statistical methods are well suited to an analy-

sis of plant categories containing a large number of homogeneous units (*e.g.*, meters and services), retirement dispersion is also exhibited in plant categories composed of major items of plant that will most likely be retired as a single unit. Property units retired from an integrated system prior to the retirement of the entire facility are viewed as interim retirements that will be replaced in order to maintain the integrity of the system. Additionally, plant facilities may be added to the existing system (*i.e.*, interim additions) in order to expand or enhance its productive capacity without extending the service life of the existing system. A proper depreciation rate can be developed for an integrated system using a life–span method with interim retirements described by an appropriate survivor curve. Plant accounts classified in storage and processing and transmission structures were treated as life–span categories in the F2021 study.

## NET SALVAGE ANALYSIS

Depreciation rates designed to achieve the goals and objectives of depreciation accounting will include a parameter for future net salvage and a variable for average net salvage reflecting both realized and future net salvage rates.

Estimates of net salvage rates applicable to future retirements are most often derived from an analysis of gross salvage and cost of removal realized in the past. An analysis of past experience (including an examination of trends over time) provides a basis for estimating future salvage and cost of removal. However, consideration should be given to events that may cause deviations from net salvage realized in the past. Factors that should be considered include the age of plant retirements; the portion of retirements likely to be reused; changes in the method of removing plant; the type of plant to be retired in the future; inflation expectations; the shape of the projection life curve; and economic conditions that may warrant greater or lesser weight to be given to the net salvage rates observed in the past.

Special consideration should also be given to the treatment of insurance proceeds and other forms of third–party reimbursements credited to the depreciation reserve. A properly conducted net salvage study will exclude such activity from the estimate of future parameters and include the activity in the computation of realized and average net salvage rates.

Five–year moving averages of the ratio of realized salvage, reimbursements and cost of removal to the associated retirements were used in the F2021 study to a) estimate realized net salvage rates; b) detect the emergence of historical trends; and c) establish a basis for estimating future net salvage rates.

However, at the request of NJNG, future net salvage rates for transmission and distribution mains and distribution services were adjusted to produce a Company total accrual for net salvage approximately equal to the most recent five–year average of net salvage realized from all plant accounts. Using a future net salvage rate of –90 percent applied to Accounts 367.00, 376.00, 376.26, 380.01 and

380.21 produces an annualized net salvage accrual of $37,528,335 compared with a realized five–year average of $36,736,121.

Average net salvage rates were estimated using direct dollar weighting of historical retirements with historical net salvage rates, and future retirements (*i.e.*, surviving plant) with the estimated future net salvage rates. The computation of the estimated average net salvage rates is shown in Statement E.

## DEPRECIATION RESERVE ANALYSIS

The purpose of a depreciation reserve analysis is to compare the current level of recorded reserves with the level required to achieve the goals or objectives of depreciation accounting if the amount and timing of future retirements and net salvage are realized as predicted. The difference between a required (or theoretical) depreciation reserve and a recorded reserve provides a measurement of the expected excess or shortfall that will remain in the depreciation reserve if corrective action is not taken to gradually extinguish the reserve imbalance.

Unlike a recorded reserve which represents the net amount of depreciation expense charged to previous periods of operations, a theoretical reserve is a measure of the implied reserve requirement at the beginning of a study year if the timing of future retirements and net salvage is in exact conformance with a survivor curve chosen to predict the probable life of plant units still exposed to the forces of retirement. Stated differently, a theoretical depreciation reserve is the difference between the recorded cost of plant currently in service and the sum of depreciation expense and net salvage that will be charged in the future if retirements are distributed over time according to a specified retirement frequency distribution.

The survivor curve used in the calculation of a theoretical depreciation reserve is intended to describe forces of retirement that will be operative in the future. However, retirements caused by forces such as accidents, physical deterioration and changing technology seldom, if ever, remain stable over time. It is unlikely, therefore, that a probability or retirement frequency distribution can be identified that will accurately describe the age of plant retirements over the complete life cycle of a vintage. It is for this reason that depreciation rates should be reviewed periodically and adjusted for observed or anticipated changes in the parameters chosen to describe the underlying forces of mortality.

Although reserve records are commonly maintained by various account classifications, the sum of all reserves is the most important indicator of the adequacy (or inadequacy) of recorded depreciation reserves. If statistical life studies have not been conducted or retirement dispersion has been ignored in setting depreciation rates, it is likely that some accounts will be over–depreciated and other accounts will be under–depreciated relative to a calculated theoretical reserve. Differences between theoretical and recorded reserves will also arise as a normal occurrence when service lives, dispersion patterns and net salvage estimates are adjusted in

the course of depreciation reviews. Differences can also arise from plant accounting activity such as transfers and adjustments that may require an identification of reserves at a level lower than maintained in the accounting system. It is appropriate, therefore, and consistent with group depreciation theory to periodically redistribute or rebalance recorded reserves among the various primary accounts based upon the most recent estimates of retirement dispersion and net salvage rates.

It is the opinion of Foster Associates that a redistribution of recorded reserves is again appropriate for NJNG. Offsetting reserve imbalances attributable to both the passage of time and parameter adjustments recommended in the current study should be realigned among primary accounts to reduce offsetting imbalances and increase depreciation rate stability.

A redistribution of recorded reserves for depreciable plant categories was achieved by multiplying the calculated reserve for each primary account within a function by the ratio of the function total recorded reserves to the function total calculated reserve. The sum of redistributed reserves within a function is, therefore, equal to the function total recorded depreciation reserve before redistribution. Depreciation reserves for amortizable categories were redistributed by setting recorded reserves for the amortization accounts equal to the theoretical reserves derived from the proposed amortization periods and distributing the residual imbalances to the remaining depreciable accounts within the general function.

Statement C provides a comparison of the computed, recorded and rebalanced reserves at September 30, 2020. The recorded reserve was $564,660,311 or 20.8 percent of the depreciable plant investment. The corresponding computed reserve is $873,735,805 or 32.2 percent of the depreciable plant investment. A proportionate amount of the measured reserve imbalance of $309,075,494 will be amortized over the composite weighted–average remaining life of each rate category using the remaining life depreciation rates recommended in this study.

## DEVELOPMENT OF ACCRUAL RATES

The goal or objective of depreciation accounting is cost allocation over the economic life of an asset in proportion to the consumption of service potential. Ideally, the cost of an asset—which represents the cost of obtaining a bundle of service units—should be allocated to future periods of operation in proportion to the amount of service potential expended during an accounting interval. The service potential of an asset is the present value of future net revenue (*i.e.*, revenue less expenses exclusive of depreciation and other non–cash expenses) or cash inflows attributable to the use of that asset alone.

Cost allocation in proportion to the consumption of service potential is often approximated by the use of depreciation methods employing time rather than net revenue as the apportionment base. Examples of time–based methods include sinking–fund, straight–line, declining balance, and sum–of–the–years' digits. The

advantage of using a time–based method is that it does not require an estimate of the remaining amount of service potential an asset will provide or the amount of potential actually consumed during an accounting interval. Using a time–based allocation method, however, does not change the goal of depreciation accounting. If it is reasonable to predict that the net revenue pattern of an asset will either decrease or increase over time, then an accelerated or decelerated time–based method should be used to approximate the rate at which service potential is consumed.

The time period over which the cost of an asset will be allocated to operations is determined by the combination of a procedure and a technique. A depreciation procedure describes the level of grouping or sub–grouping of assets within a plant category. The broad group, vintage group, equal–life group, and item (or unit) are a few of the more widely used procedures. A depreciation technique describes the life statistic used in a depreciation system. Whole life and remaining life (or expectancy) are the most common techniques.

Depreciation rates recommended in the F2021 study were developed using the currently approved system composed of the straight–line method, vintage group procedure and remaining–life technique. This formulation of the accrual rate is equivalent to a straight–line method, vintage group procedure, whole–life technique with amortization of reserve imbalances over the estimated remaining life of each rate category. It is the opinion of Foster Associates that this system will remain appropriate for NJNG, provided depreciation studies are conducted periodically and parameters are routinely adjusted to reflect changing operating conditions.

It is also the opinion of Foster Associates that amortization accounting currently approved for selected general support asset accounts is consistent with the goals and objectives of depreciation accounting and remains appropriate for these plant categories.

The treatment of amortization accounts in the current study was designed to produce annualized accruals equivalent to applying a rate equal to the reciprocal of an amortization period to plant balances after F2021 retirements have been recorded. Amortization rates shown in Statement A (Column G) have been applied to fiscal year–end 2020 plant balances to derive F2021 annualized accruals. Applying a reciprocally–derived rate to plant balances prior to posting retirements would overstate F2021 annualized amortization expense.

# STATEMENTS

## INTRODUCTION

This section provides a comparative summary of depreciation rates, annual depreciation accruals, recorded and computed depreciation reserves, and current and proposed service life and net salvage statistics recommended for NJNG. The content of these statements is briefly described below.

- Statement A provides a comparative summary of current and proposed annual depreciation rates using the vintage group procedure, remaining–life technique.
- Statement B provides a comparison of current and proposed annualized F2021 depreciation accruals derived from the depreciation rates contained in Statement A.
- Statement C provides a comparison of recorded, computed and redistributed reserves for each rate category on September 30, 2020.
- Statement D provides a summary of the investment and net salvage components of rebalanced reserves.
- Statement E provides a summary of the components used to obtain a weighted average net salvage rate for each rate category.
- Statement F provides a comparative summary of current and proposed parameters and statistics including projection life, projection curve, average service life, average remaining life and average and future net salvage rates.

Current depreciation accruals shown on Statement B are the product of the plant investment (Column B) and current depreciation rates (Column D) shown on Statement A. These are the effective rates used by the NJNG for the mix of investments recorded on September 30, 2020. Similarly, proposed depreciation accruals shown on Statements B are the product of the plant investment and proposed depreciation rates (Column G) shown on Statement A. Proposed remaining life accrual rates (Statement A) are given by:

$$\text{Accrual Rate} = \frac{1.0 - \text{Reserve Ratio} - \text{Future Net Salvage Rate}}{\text{Remaining Life}}.$$

The above formulation of a remaining–life accrual rate is equivalent to the sum of a whole–life rate and an amortization of reserve imbalances over the estimated remaining life of a plant category. The equivalent formulation is given by:

$$\text{Accrual Rate} = \frac{1.0 - \text{Average Net Salvage}}{\text{Average Life}} + \frac{\text{Computed Reserve} - \text{Recorded Reserve}}{\text{Remaining Life}}$$

where Average Net Salvage, Computed Reserve and Recorded Reserve are expressed in percent.

**NEW JERSEY NATURAL GAS**

Statement A

Comparison of Current and Proposed Accrual Rates
Filed: VG Procedure / RL Technique
Settled VG Procedure / RL Technique

| Account Description | Current | | | Proposed | | |
|---|---|---|---|---|---|---|
| | Investment | Net Salvage | Total | Investment | Net Salvage | Total |
| A | B | C | D=B+C | E | F | G=E+F |
| **STORAGE AND PROCESSING PLANT** | | | | | | |
| 361.00 Structures and Improvements | 1.31% | 0.12% | 1.43% | 1.44% | 0.14% | 1.58% |
| 362.00 Gas Holders | 0.94% | 0.38% | 1.32% | 1.02% | 0.41% | 1.43% |
| 363.20 Vaporizing Equipment | 2.30% | -1.14% | 1.16% | 2.33% | -1.15% | 1.18% |
| 363.30 Compressor Equipment | 1.85% | 0.09% | 1.94% | 1.96% | 0.10% | 2.06% |
| 363.40 Measuring and Regulating Equipment | 2.64% | 0.14% | 2.78% | 2.63% | 0.13% | 2.76% |
| 363.50 Other Equipment | -3.93% | -0.21% | -4.14% | -3.16% | -0.18% | -3.34% |
| **Total Storage and Processing Plant** | 1.81% | -0.16% | 1.65% | 1.88% | -0.16% | 1.73% |
| **TRANSMISSION PLANT** | | | | | | |
| 366.00 Structures and Improvements | 3.13% | 0.30% | 3.43% | 3.54% | 0.35% | 3.89% |
| 367.00 Mains | 1.49% | 0.88% | 2.37% | 1.51% | 1.37% | 2.88% |
| 369.00 Measuring and Regulating Equipment | 2.03% | 1.52% | 3.55% | 2.28% | 1.60% | 3.88% |
| **Total Transmission Plant** | 1.60% | 1.00% | 2.60% | 1.66% | 1.41% | 3.07% |
| **DISTRIBUTION PLANT** | | | | | | |
| 375.01 Structures and Improvements | 1.77% | 0.07% | 1.84% | 1.64% | 0.07% | 1.71% |
| 376.00 Mains - Steel | 1.49% | 1.34% | 2.83% | 1.55% | 1.56% | 3.11% |
| 376.26 Mains - Plastic | 1.53% | 0.91% | 2.44% | 1.66% | 1.52% | 3.18% |
| 378.00 Meas. and Reg. Station Equip. - General | 3.22% | 2.49% | 5.71% | 2.99% | 2.29% | 5.28% |
| 380.01 Services - Steel | 1.60% | 0.79% | 2.39% | 1.90% | 2.41% | 4.31% |
| 380.21 Services - Plastic | 1.57% | 0.92% | 2.49% | 1.90% | 1.77% | 3.67% |
| 381.00 Meters | 3.16% | 0.07% | 3.23% | 2.95% | 0.05% | 3.00% |
| 382.00 Meter Installations | 2.96% | 1.55% | 4.51% | 2.98% | 1.64% | 4.62% |
| 383.00 House Regulators | | | | | | |
| 384.00 House Regulator Installations | | | | | | |
| 385.00 Meas. and Reg. Equipment - Industrial | 3.42% | 0.35% | 3.77% | 3.70% | 0.37% | 4.07% |
| 387.00 Other Equipment | 7.87% | 1.15% | 9.02% | 8.46% | 1.26% | 9.72% |
| **Total Distribution Plant** | 1.72% | 0.99% | 2.71% | 1.87% | 1.56% | 3.43% |
| **GENERAL PLANT** | | | | | | |
| **Depreciable** | | | | | | |
| 390.02 Leasehold Improvements | 2.48% | -1.00% | 1.48% | 2.91% | -0.52% | 2.39% |
| 392.00 Transportation Equipment | 4.57% | -1.48% | 3.09% | 6.18% | -1.35% | 4.83% |
| 396.00 Power Operated Equipment | 0.19% | | 0.19% | 2.84% | | 2.84% |
| **Total Depreciable** | 3.86% | -1.30% | 2.56% | 5.17% | -1.08% | 4.09% |
| **Amortizable** | | | | | | |
| 391.01 Furniture, Fixtures and Equipment | 3.95% | | 3.95% | ← 25 Year Amortization → | | 3.95% |
| 391.02 Information Systems | 8.93% | | 8.93% | ← 10 Year Amortization → | | 8.93% |
| 391.03 Data Handling Equipment | 5.57% | | 5.57% | ← 10 Year Amortization → | | 5.57% |
| 391.04 Computer Software | 8.10% | | 8.10% | ← 10 Year Amortization → | | 8.10% |
| 393.00 Stores Equipment | 2.86% | | 2.86% | ← 35 Year Amortization → | | 2.86% |
| 394.00 Tools, Shop and Garage Equipment | 5.00% | | 5.00% | ← 20 Year Amortization → | | 5.00% |
| 395.00 Laboratory Equipment | 2.86% | | 2.86% | ← 35 Year Amortization → | | 2.86% |
| 397.00 Communication Equipment | 5.00% | | 5.00% | ← 20 Year Amortization → | | 5.00% |
| **Total Amortizable** | 7.25% | | 7.25% | | | 7.25% |
| **Total General Plant** | 5.94% | -0.50% | 5.44% | 6.45% | -0.42% | 6.03% |
| **TOTAL UTILITY** | 1.93% | 0.88% | 2.81% | 2.09% | 1.38% | 3.47% |

**NEW JERSEY NATURAL GAS** Statement B

Comparison of Current and Proposed Accruals
Filed: VG Procedure / RL Technique
Proposed: VG Procedure / RL Technique

| Account Description | 09/30/20 Investment | Current Investment | Current Net Salvage | Current Total | Proposed Investment | Proposed Net Salvage | Proposed Total | Difference |
|---|---|---|---|---|---|---|---|---|
| A | B | C | D | E=C+D | F | G | H=F+G | I=H-E |
| **STORAGE AND PROCESSING PLANT** | | | | | | | | |
| 361.00 Structures and Improvements | $ 3,570,737 | $ 46,777 | $ 4,285 | $ 51,062 | $ 51,419 | $ 4,999 | $ 56,418 | $ 5,356 |
| 362.00 Gas Holders | 10,544,240 | 99,116 | 40,068 | 139,184 | 107,551 | 43,231 | 150,782 | 11,598 |
| 363.20 Vaporizing Equipment | 18,772,932 | 431,777 | (214,011) | 217,766 | 437,409 | (215,889) | 221,520 | 3,754 |
| 363.30 Compressor Equipment | 3,377,445 | 62,483 | 3,040 | 65,523 | 66,198 | 3,377 | 69,575 | 4,052 |
| 363.40 Measuring and Regulating Equipment | 38,220,620 | 1,009,024 | 53,509 | 1,062,533 | 1,005,202 | 49,687 | 1,054,889 | (7,644) |
| 363.50 Other Equipment | 5,243,487 | (206,069) | (11,011) | (217,080) | (165,694) | (9,438) | (175,132) | 41,948 |
| **Total Storage and Processing Plant** | $ 79,729,461 | $ 1,443,108 | $ (124,120) | $ 1,318,988 | $ 1,502,085 | $ (124,033) | $ 1,378,052 | $ 59,064 |
| **TRANSMISSION PLANT** | | | | | | | | |
| 366.00 Structures and Improvements | $ 930,111 | $ 29,112 | $ 2,790 | $ 31,902 | $ 32,926 | $ 3,255 | $ 36,181 | $ 4,279 |
| 367.00 Mains | 264,727,536 | 3,944,440 | 2,329,602 | 6,274,042 | 3,997,386 | 3,626,767 | 7,624,153 | 1,350,111 |
| 369.00 Measuring and Regulating Equipment | 61,746,576 | 1,253,455 | 938,548 | 2,192,003 | 1,407,822 | 987,945 | 2,395,767 | 203,764 |
| **Total Transmission Plant** | $ 327,404,223 | $ 5,227,007 | $ 3,270,940 | $ 8,497,947 | $ 5,438,134 | $ 4,617,967 | $ 10,056,101 | $ 1,558,154 |
| **DISTRIBUTION PLANT** | | | | | | | | |
| 375.01 Structures and Improvements | $ 21,399,669 | $ 378,774 | $ 14,980 | $ 393,754 | $ 350,955 | $ 14,980 | $ 365,935 | $ (27,819) |
| 376.00 Mains - Steel | 336,166,610 | 5,008,882 | 4,504,633 | 9,513,515 | 5,210,582 | 5,244,199 | 10,454,781 | 941,266 |
| 376.26 Mains - Plastic | 836,871,861 | 12,804,139 | 7,615,534 | 20,419,673 | 13,892,073 | 12,720,452 | 26,612,525 | 6,192,852 |
| 378.00 Meas. and Reg. Station Equip. - General | 36,939,628 | 1,189,456 | 919,797 | 2,109,253 | 1,104,495 | 845,917 | 1,950,412 | (158,841) |
| 380.01 Services - Steel | 39,247,131 | 627,954 | 310,052 | 938,006 | 745,695 | 945,856 | 1,691,551 | 753,545 |
| 380.21 Services - Plastic | 683,484,769 | 10,730,711 | 6,288,060 | 17,018,771 | 12,986,211 | 12,097,680 | 25,083,891 | 8,065,120 |
| 381.00 Meters | 102,424,673 | 3,236,620 | 71,697 | 3,308,317 | 3,021,528 | 51,212 | 3,072,740 | (235,577) |
| 382.00 Meter Installations | 103,387,253 | 3,060,263 | 1,602,502 | 4,662,765 | 3,080,940 | 1,695,551 | 4,776,491 | 113,726 |
| 383.00 House Regulators | | | | | | | | |
| 384.00 House Regulator Installations | | | | | | | | |
| 385.00 Meas. and Reg. Equipment - Industrial | 1,276,841 | 43,668 | 4,469 | 48,137 | 47,243 | 4,724 | 51,967 | 3,830 |
| 387.00 Other Equipment | 257,438 | 20,260 | 2,961 | 23,221 | 21,779 | 3,244 | 25,023 | 1,802 |
| **Total Distribution Plant** | $ 2,161,455,873 | $ 37,100,727 | $ 21,334,685 | $ 58,435,412 | $ 40,461,501 | $ 33,623,815 | $ 74,085,316 | $ 15,649,904 |
| **GENERAL PLANT** | | | | | | | | |
| **Depreciable** | | | | | | | | |
| 390.02 Leasehold Improvements | $ 15,216,888 | $ 377,379 | $ (152,169) | $ 225,210 | $ 442,811 | $ (79,128) | $ 363,683 | $ 138,473 |
| 392.00 Transportation Equipment | 37,798,982 | 1,727,413 | (559,425) | 1,167,988 | 2,335,977 | (510,286) | 1,825,691 | 657,703 |
| 396.00 Power Operated Equipment | 1,599,147 | 3,038 | | 3,038 | 45,416 | | 45,416 | 42,378 |
| **Total Depreciable** | $ 54,615,017 | $ 2,107,830 | $ (711,594) | $ 1,396,236 | $ 2,824,204 | $ (589,414) | $ 2,234,790 | $ 838,554 |
| **Amortizable** | | | | | | | | |
| 391.01 Furniture, Fixtures and Equipment | $ 5,166,171 | $ 203,918 | $ - | $ 203,918 | $ 203,918 | $ - | $ 203,918 | $ - |
| 391.02 Information Systems | 19,033,205 | 1,700,511 | | 1,700,511 | 1,700,511 | | 1,700,511 | |
| 391.03 Data Handling Equipment | 1,172,788 | 65,313 | | 65,313 | 65,313 | | 65,313 | |
| 391.04 Computer Software | 40,975,871 | 3,317,241 | | 3,317,241 | 3,317,241 | | 3,317,241 | |
| 393.00 Stores Equipment | 232,386 | 6,640 | | 6,640 | 6,640 | | 6,640 | |
| 394.00 Tools, Shop and Garage Equipment | 19,934,686 | 995,964 | | 995,964 | 995,964 | | 995,964 | |
| 395.00 Laboratory Equipment | 258,817 | 7,395 | | 7,395 | 7,395 | | 7,395 | |
| 397.00 Communication Equipment | 418,956 | 20,948 | | 20,948 | 20,948 | | 20,948 | |
| **Total Amortizable** | $ 87,192,880 | $ 6,317,930 | $ - | $ 6,317,930 | $ 6,317,930 | $ - | $ 6,317,930 | $ - |
| **Total General Plant** | $ 141,807,897 | $ 8,425,760 | $ (711,594) | $ 7,714,166 | $ 9,142,134 | $ (589,414) | $ 8,552,720 | $ 838,554 |
| **TOTAL UTILITY** | $ 2,710,397,454 | $ 52,196,602 | $ 23,769,911 | $ 75,966,513 | $ 56,543,854 | $ 37,528,335 | $ 94,072,189 | $ 18,105,676 |

**NEW JERSEY NATURAL GAS**
Depreciation Reserve Summary
Vintage Group Procedure
September 30, 2020

Statement C

| Account Description | Plant Investment | Recorded Reserve Amount | Recorded Reserve Ratio | Computed Reserve Amount | Computed Reserve Ratio | Redistributed Reserve Amount | Redistributed Reserve Ratio |
|---|---|---|---|---|---|---|---|
| A | B | C | D=C/B | E | F=E/B | G | H=G/B |
| **STORAGE AND PROCESSING PLANT** | | | | | | | |
| 361.00 Structures and Improvements | $ 3,570,737 | $ 2,056,111 | 57.58% | $ 1,110,197 | 31.09% | $ 1,417,493 | 39.70% |
| 362.00 Gas Holders | 10,544,240 | 12,381,588 | 117.43% | 6,320,150 | 59.94% | 8,069,526 | 76.53% |
| 363.20 Vaporizing Equipment | 18,772,932 | 8,690,212 | 46.29% | 3,544,520 | 18.88% | 4,525,619 | 24.11% |
| 363.30 Compressor Equipment | 3,377,445 | 1,566,209 | 46.37% | 1,830,052 | 54.18% | 2,336,598 | 69.18% |
| 363.40 Measuring and Regulating Equipment | 38,220,620 | 4,410,112 | 11.54% | 8,453,991 | 22.12% | 10,794,000 | 28.24% |
| 363.50 Other Equipment | 5,243,487 | 4,305,481 | 82.11% | 4,907,979 | 93.60% | 6,266,475 | 119.51% |
| **Total Storage and Processing Plant** | $ 79,729,461 | $ 33,409,712 | 41.90% | $ 26,166,889 | 32.82% | $ 33,409,712 | 41.90% |
| **TRANSMISSION PLANT** | | | | | | | |
| 366.00 Structures and Improvements | $ 930,111 | $ 752,052 | 80.86% | $ 678,544 | 72.95% | $ 543,012 | 58.38% |
| 367.00 Mains | 264,727,536 | 84,061,472 | 31.75% | 104,999,551 | 39.66% | 84,027,073 | 31.74% |
| 369.00 Measuring and Regulating Equipment | 61,746,576 | 16,155,715 | 26.16% | 20,492,251 | 33.19% | 16,399,154 | 26.56% |
| **Total Transmission Plant** | $ 327,404,223 | $ 100,969,239 | 30.84% | $ 126,170,345 | 38.54% | $ 100,969,239 | 30.84% |
| **DISTRIBUTION PLANT** | | | | | | | |
| 375.01 Structures and Improvements | $ 21,399,669 | $ 10,310,269 | 48.18% | $ 5,860,386 | 27.39% | $3,178,759 | 14.85% |
| 376.00 Mains - Steel | 336,166,610 | 28,143,950 | 8.37% | 113,148,586 | 33.66% | 61,373,449 | 18.26% |
| 376.26 Mains - Plastic | 836,871,861 | 176,109,266 | 21.04% | 225,366,245 | 26.93% | 122,241,948 | 14.61% |
| 378.00 Meas. and Reg. Station Equip. - General | 36,939,628 | 11,521,589 | 31.19% | 11,480,059 | 31.08% | 6,226,952 | 16.86% |
| 380.01 Services - Steel | 39,247,131 | (52,568,397) | -133.94% | 6,731,431 | 17.15% | 3,651,226 | 9.30% |
| 380.21 Services - Plastic | 683,484,769 | 165,808,842 | 24.26% | 256,755,936 | 37.57% | 139,268,176 | 20.38% |
| 381.00 Meters | 102,424,673 | 15,369,422 | 15.01% | 19,017,260 | 18.57% | 10,315,240 | 10.07% |
| 382.00 Meter Installations | 103,387,253 | 6,225,110 | 6.02% | 29,761,848 | 28.79% | 16,143,262 | 15.61% |
| 383.00 House Regulators | | 660,964 | | | | | |
| 384.00 House Regulator Installations | | 20 | | | | | |
| 385.00 Meas. and Reg. Equipment - Industrial | 1,276,841 | 1,048,574 | 82.12% | 775,213 | 60.71% | 420,487 | 32.93% |
| 387.00 Other Equipment | 257,438 | 287,061 | 111.51% | 179,147 | 69.59% | 97,172 | 37.75% |
| **Total Distribution Plant** | $ 2,161,455,873 | $ 362,916,670 | 16.79% | $ 669,076,110 | 30.95% | $ 362,916,670 | 16.79% |

**NEW JERSEY NATURAL GAS**
Depreciation Reserve Summary
Vintage Group Procedure
September 30, 2020

Statement C

| Account Description | Plant Investment | Recorded Reserve Amount | Recorded Reserve Ratio | Computed Reserve Amount | Computed Reserve Ratio | Redistributed Reserve Amount | Redistributed Reserve Ratio |
|---|---|---|---|---|---|---|---|
| A | B | C | D=C/B | E | F=E/B | G | H=G/B |
| **GENERAL PLANT** | | | | | | | |
| **Depreciable** | | | | | | | |
| 390.02 Leasehold Improvements | $ 15,216,888 | $ 7,073,824 | 46.49% | $ 3,020,444 | 19.85% | $ 5,862,626 | 38.53% |
| 392.00 Transportation Equipment | 37,798,982 | 12,045,106 | 31.87% | 12,597,171 | 33.33% | 24,450,878 | 64.69% |
| 396.00 Power Operated Equipment | 1,599,147 | 402,031 | 25.14% | 368,063 | 23.02% | 714,403 | 44.67% |
| **Total Depreciable** | $ 54,615,017 | $ 19,520,961 | 35.74% | $ 15,985,678 | 29.27% | $ 31,027,907 | 56.81% |
| **Amortizable** | | | | | | | |
| 391.01 Furniture, Fixtures and Equipment | $ 5,166,171 | $ 827,262 | 16.01% | $ 1,432,740 | 27.73% | $ 1,432,740 | 27.73% |
| 391.02 Information Systems | 19,033,205 | 7,367,166 | 38.71% | 9,304,207 | 48.88% | 9,304,207 | 48.88% |
| 391.03 Data Handling Equipment | 1,172,788 | 1,420,246 | 121.10% | 950,770 | 81.07% | 950,770 | 81.07% |
| 391.04 Computer Software | 40,975,871 | 33,971,854 | 82.91% | 18,180,167 | 44.37% | 18,180,167 | 44.37% |
| 393.00 Stores Equipment | 232,386 | 154,048 | 66.29% | 176,677 | 76.03% | 176,677 | 76.03% |
| 394.00 Tools, Shop and Garage Equipment | 19,934,686 | 2,996,462 | 15.03% | 5,777,604 | 28.98% | 5,777,604 | 28.98% |
| 395.00 Laboratory Equipment | 258,817 | 463,670 | 179.15% | 180,959 | 69.92% | 180,959 | 69.92% |
| 397.00 Communication Equipment | 418,956 | 643,020 | 153.48% | 333,659 | 79.64% | 333,659 | 79.64% |
| **Total Amortizable** | $ 87,192,880 | $ 47,843,728 | 54.87% | $ 36,336,783 | 41.67% | $ 36,336,783 | 41.67% |
| **Total General Plant** | $ 141,807,897 | $ 67,364,690 | 47.50% | $ 52,322,461 | 36.90% | $ 67,364,690 | 47.50% |
| **TOTAL UTILITY** | $ 2,710,397,454 | $ 564,660,311 | 20.83% | $ 873,735,805 | 32.24% | $ 564,660,311 | 20.83% |

**NEW JERSEY NATURAL GAS**
Depreciation Reserve Components
Redistributed Reserve
September 30, 2020

Statement D

| Account Description | Plant Investment | Investment Reserve Amount | Investment Reserve Ratio | Net Salvage Reserve Amount | Net Salvage Reserve Ratio | Total Rebalanced Reserve Amount | Total Rebalanced Reserve Ratio |
|---|---|---|---|---|---|---|---|
| A | B | C | D=C/B | E | F=E/B | G=C+E | H=G/B |
| **STORAGE AND PROCESSING PLANT** | | | | | | | |
| 361.00 Structures and Improvements | $ 3,570,737 | $ 1,276,694 | 35.75% | $ 140,799 | 3.94% | $ 1,417,493 | 39.70% |
| 362.00 Gas Holders | 10,544,240 | 5,780,410 | 54.82% | 2,289,117 | 21.71% | 8,069,526 | 76.53% |
| 363.20 Vaporizing Equipment | 18,772,932 | 9,169,635 | 48.84% | (4,644,016) | -24.74% | 4,525,619 | 24.11% |
| 363.30 Compressor Equipment | 3,377,445 | 2,223,342 | 65.83% | 113,256 | 3.35% | 2,336,598 | 69.18% |
| 363.40 Measuring and Regulating Equipment | 38,220,620 | 10,316,651 | 26.99% | 477,349 | 1.25% | 10,794,000 | 28.24% |
| 363.50 Other Equipment | 5,243,487 | 5,964,594 | 113.75% | 301,881 | 5.76% | 6,266,475 | 119.51% |
| **Total Storage and Processing Plant** | $ 79,729,461 | $ 34,731,326 | 43.56% | $ (1,321,614) | -1.66% | $ 33,409,712 | 41.90% |
| **TRANSMISSION PLANT** | | | | | | | |
| 366.00 Structures and Improvements | $ 930,111 | $ 493,191 | 53.02% | $ 49,821 | 5.36% | $ 543,012 | 58.38% |
| 367.00 Mains | 264,727,536 | 46,057,235 | 17.40% | 37,969,838 | 14.34% | 84,027,073 | 31.74% |
| 369.00 Measuring and Regulating Equipment | 61,746,576 | 9,669,940 | 15.66% | 6,729,214 | 10.90% | 16,399,154 | 26.56% |
| **Total Transmission Plant** | $ 327,404,223 | $ 56,220,365 | 17.17% | $ 44,748,874 | 13.67% | $ 100,969,239 | 30.84% |
| **DISTRIBUTION PLANT** | | | | | | | |
| 375.01 Structures and Improvements | $ 21,399,669 | $ 2,886,188 | 13.49% | $ 292,572 | 1.37% | $ 3,178,759 | 14.85% |
| 376.00 Mains - Steel | 336,166,610 | 47,871,990 | 14.24% | 13,501,458 | 4.02% | 61,373,449 | 18.26% |
| 376.26 Mains - Plastic | 836,871,861 | 68,997,594 | 8.24% | 53,244,354 | 6.36% | 122,241,948 | 14.61% |
| 378.00 Meas. and Reg. Station Equip. - General | 36,939,628 | 3,845,079 | 10.41% | 2,381,872 | 6.45% | 6,226,952 | 16.86% |
| 380.01 Services - Steel | 39,247,131 | 7,980,302 | 20.33% | (4,329,076) | -11.03% | 3,651,226 | 9.30% |
| 380.21 Services - Plastic | 683,484,769 | 84,738,774 | 12.40% | 54,529,401 | 7.98% | 139,268,176 | 20.38% |
| 381.00 Meters | 102,424,673 | 11,802,868 | 11.52% | (1,487,628) | -1.45% | 10,315,240 | 10.07% |
| 382.00 Meter Installations | 103,387,253 | 13,541,289 | 13.10% | 2,601,973 | 2.52% | 16,143,262 | 15.61% |
| 383.00 House Regulators | | | | | | | |
| 384.00 House Regulator Installations | | | | | | | |
| 385.00 Meas. and Reg. Equipment - Industrial | 1,276,841 | 383,385 | 30.03% | 37,102 | 2.91% | 420,487 | 32.93% |
| 387.00 Other Equipment | 257,438 | 84,353 | 32.77% | 12,819 | 4.98% | 97,172 | 37.75% |
| **Total Distribution Plant** | $ 2,161,455,873 | $ 242,131,824 | 11.20% | $ 120,784,847 | 5.59% | $ 362,916,670 | 16.79% |

**NEW JERSEY NATURAL GAS**
Depreciation Reserve Components
Redistributed Reserve
September 30, 2020

Statement D

| Account Description | Plant Investment | Investment Reserve Amount | Investment Reserve Ratio | Net Salvage Reserve Amount | Net Salvage Reserve Ratio | Total Rebalanced Reserve Amount | Total Rebalanced Reserve Ratio |
|---|---|---|---|---|---|---|---|
| A | B | C | D=C/B | E | F=E/B | G=C+E | H=G/B |
| **GENERAL PLANT** | | | | | | | |
| **Depreciable** | | | | | | | |
| 390.02 Leasehold Improvements | $ 15,216,888 | $ 3,832,037 | 25.18% | $ 2,030,589 | 13.34% | $ 5,862,626 | 38.53% |
| 392.00 Transportation Equipment | 37,798,982 | 23,147,490 | 61.24% | 1,303,388 | 3.45% | 24,450,878 | 64.69% |
| 396.00 Power Operated Equipment | 1,599,147 | 714,403 | 44.67% | | | 714,403 | 44.67% |
| **Total Depreciable** | $ 54,615,017 | $ 27,693,930 | 50.71% | $ 3,333,977 | 6.10% | $ 31,027,907 | 56.81% |
| **Amortizable** | | | | | | | |
| 391.01 Furniture, Fixtures and Equipment | $ 5,166,171 | $ 1,432,740 | 27.73% | $ - | | $ 1,432,740 | 27.73% |
| 391.02 Information Systems | 19,033,205 | 9,304,207 | 48.88% | | | 9,304,207 | 48.88% |
| 391.03 Data Handling Equipment | 1,172,788 | 950,770 | 81.07% | | | 950,770 | 81.07% |
| 391.04 Computer Software | 40,975,871 | 18,180,167 | 44.37% | | | 18,180,167 | 44.37% |
| 393.00 Stores Equipment | 232,386 | 176,677 | 76.03% | | | 176,677 | 76.03% |
| 394.00 Tools, Shop and Garage Equipment | 19,934,686 | 5,777,604 | 28.98% | | | 5,777,604 | 28.98% |
| 395.00 Laboratory Equipment | 258,817 | 180,959 | 69.92% | | | 180,959 | 69.92% |
| 397.00 Communication Equipment | 418,956 | 333,659 | 79.64% | | | 333,659 | 79.64% |
| **Total Amortizable** | $ 87,192,880 | $ 36,336,783 | 41.67% | $ - | | $ 36,336,783 | 41.67% |
| **Total General Plant** | $ 141,807,897 | $ 64,030,713 | 45.15% | $ 3,333,977 | 2.35% | $ 67,364,690 | 47.50% |
| **TOTAL UTILITY** | $ 2,710,397,454 | $ 397,114,227 | 14.65% | $ 167,546,084 | 6.18% | $ 564,660,311 | 20.83% |

**NEW JERSEY NATURAL GAS**
Average Net Salvage

Statement E

| Account Description | Plant Investment | | | Salvage Rate | | Net Salvage | | | Average Rate |
|---|---|---|---|---|---|---|---|---|---|
| | Additions | Retirements | Survivors | Realized | Future | Realized | Future | Total | |
| A | B | C | D=B-C | E | F | G=E*C | H=F*D | I=G+H | J=I/B |
| **STORAGE AND PROCESSING PLANT** | | | | | | | | | |
| 361.00 Structures and Improvements | $ 3,724,540 | $ 153,803 | $ 3,570,737 | | -10.0% | $ - | $ (357,074) | $ (357,074) | -9.6% |
| 362.00 Gas Holders | 11,665,038 | 1,120,798 | 10,544,240 | -42.9% | -40.0% | (480,822) | (4,217,696) | (4,698,518) | -40.3% |
| 363.20 Vaporizing Equipment | 18,908,364 | 135,432 | 18,772,932 | | 50.0% | | 9,386,466 | 9,386,466 | 49.6% |
| 363.30 Compressor Equipment | 3,433,327 | 55,882 | 3,377,445 | | -5.0% | | (168,872) | (168,872) | -4.9% |
| 363.40 Measuring and Regulating Equipment | 38,337,743 | 117,123 | 38,220,620 | -46.7% | -5.0% | (54,696) | (1,911,031) | (1,965,727) | -5.1% |
| 363.50 Other Equipment | 5,853,619 | 610,132 | 5,243,487 | | -5.0% | | (262,174) | (262,174) | -4.5% |
| **Total Storage and Processing Plant** | $ 81,922,631 | $ 2,193,170 | $ 79,729,461 | -24.4% | 3.1% | $ (535,519) | $ 2,469,619 | $ 1,934,100 | 2.4% |
| **TRANSMISSION PLANT** | | | | | | | | | |
| 366.00 Structures and Improvements | $ 948,644 | $ 18,533 | $ 930,111 | | -10.0% | $ - | $ (93,011) | $ (93,011) | -9.8% |
| 367.00 Mains | 269,619,314 | 4,891,778 | 264,727,536 | -205.5% | -90.0% | (10,052,604) | (238,254,782) | (248,307,386) | -92.1% |
| 369.00 Measuring and Regulating Equipment | 67,224,132 | 5,477,556 | 61,746,576 | -71.5% | -70.0% | (3,916,453) | (43,222,603) | (47,139,056) | -70.1% |
| **Total Transmission Plant** | $ 337,792,090 | $ 10,387,867 | $ 327,404,223 | -134.5% | -86.0% | $ (13,969,056) | $ (281,570,397) | $ (295,539,453) | -87.5% |
| **DISTRIBUTION PLANT** | | | | | | | | | |
| 375.01 Structures and Improvements | $ 22,837,684 | $ 1,438,015 | $ 21,399,669 | 21.9% | -5.0% | $ 314,925 | $ (1,069,983) | $ (755,058) | -3.3% |
| 376.00 Mains - Steel | 358,577,081 | 22,410,471 | 336,166,610 | -442.3% | -90.0% | (99,121,513) | (302,549,949) | (401,671,462) | -112.0% |
| 376.26 Mains - Plastic | 842,603,239 | 5,731,378 | 836,871,861 | -431.0% | -90.0% | (24,702,239) | (753,184,675) | (777,886,914) | -92.3% |
| 378.00 Meas. and Reg. Station Equip. - General | 46,557,444 | 9,617,816 | 36,939,628 | -90.2% | -75.0% | (8,675,270) | (27,704,721) | (36,379,991) | -78.1% |
| 380.01 Services - Steel | 62,803,818 | 23,556,687 | 39,247,131 | -320.5% | -90.0% | (75,499,182) | (35,322,418) | (110,821,600) | -176.5% |
| 380.21 Services - Plastic | 712,561,333 | 29,076,564 | 683,484,769 | -277.0% | -90.0% | (80,542,082) | (615,136,292) | (695,678,374) | -97.6% |
| 381.00 Meters | 120,690,514 | 18,265,841 | 102,424,673 | -22.6% | | (4,128,080) | | (4,128,080) | -3.4% |
| 382.00 Meter Installations | 125,599,260 | 22,212,007 | 103,387,253 | -105.6% | -50.0% | (23,455,879) | (51,693,627) | (75,149,506) | -59.8% |
| 383.00 House Regulators | | | | | | | | | |
| 384.00 House Regulator Installations | | | | | | | | | |
| 385.00 Meas. and Reg. Equipment - Industrial | 1,372,914 | 96,073 | 1,276,841 | -15.5% | -10.0% | (14,891) | (127,684) | (142,575) | -10.4% |
| 387.00 Other Equipment | 591,869 | 334,431 | 257,438 | -14.4% | -15.0% | (48,158) | (38,616) | (86,774) | -14.7% |
| **Total Distribution Plant** | $ 2,294,195,156 | $ 132,739,283 | $ 2,161,455,873 | -238.0% | -82.7% | $ (315,872,370) | $ (1,786,827,965) | $ (2,102,700,335) | -91.7% |
| **GENERAL PLANT** | | | | | | | | | |
| **Depreciable** | | | | | | | | | |
| 390.02 Leasehold Improvements | $ 17,510,667 | $ 2,293,779 | $ 15,216,888 | 60.6% | | $ 1,390,030 | $ - | $ 1,390,030 | 7.9% |
| 392.00 Transportation Equipment | 58,022,584 | 20,223,602 | 37,798,982 | 19.0% | 5.0% | 3,842,484 | 1,889,949 | 5,732,433 | 9.9% |
| 396.00 Power Operated Equipment | 1,606,046 | 6,899 | 1,599,147 | | | | | | |
| **Total Depreciable** | $ 77,139,297 | $ 22,524,280 | $ 54,615,017 | 23.2% | 3.5% | $ 5,232,514 | $ 1,889,949 | $ 7,122,464 | 9.2% |
| **Amortizable** | | | | | | | | | |
| 391.01 Furniture, Fixtures and Equipment | $ 9,571,024 | $ 4,404,853 | $ 5,166,171 | | | $ - | $ - | $ - | |
| 391.02 Information Systems | 35,025,754 | 15,992,549 | 19,033,205 | | | | | | |
| 391.03 Data Handling Equipment | 3,186,439 | 2,013,651 | 1,172,788 | | | | | | |
| 391.04 Computer Software | 77,744,753 | 36,768,882 | 40,975,871 | | | | | | |
| 393.00 Stores Equipment | 315,258 | 82,872 | 232,386 | | | | | | |
| 394.00 Tools, Shop and Garage Equipment | 28,020,027 | 8,085,341 | 19,934,686 | | | | | | |
| 395.00 Laboratory Equipment | 327,665 | 68,848 | 258,817 | | | | | | |
| 397.00 Communication Equipment | 2,999,775 | 2,580,819 | 418,956 | | | | | | |
| **Total Amortizable** | $ 157,190,695 | $ 69,997,815 | $ 87,192,880 | | | $ - | $ - | $ - | |
| **Total General Plant** | $ 234,329,992 | $ 92,522,095 | $ 141,807,897 | 5.7% | 1.3% | $ 5,232,514 | $ 1,889,949 | $ 7,122,464 | 3.0% |
| **TOTAL UTILITY** | $ 2,948,239,869 | $ 237,842,415 | $ 2,710,397,454 | -136.7% | -76.2% | $ (325,144,431) | $ (2,064,038,794) | $ (2,389,183,224) | -81.0% |

**NEW JERSEY NATURAL GAS**
Current and Proposed Parameters
Vintage Group Procedure

Statement F

| Account Description | Current Parameters P-Life/ AYFR | Curve Shape | VG ASL | Rem. Life | Avg. Sal. | Fut. Sal. | Proposed Parameters P-Life/ AYFR | Curve Shape | VG ASL | Rem. Life | Avg. Sal. | Fut. Sal. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | B | C | D | E | F | G | H | I | J | K | L | M |
| **STORAGE AND PROCESSING PLANT** | | | | | | | | | | | | |
| 361.00 Structures and Improvements | 2068 | 200-SC | 64.53 | 46.27 | -9.5 | -10.0 | 2068 | 200-SC | 61.85 | 44.53 | -9.6 | -10.0 |
| 362.00 Gas Holders | 2068 | 200-SC | 77.90 | 46.13 | -40.3 | -40.0 | 2068 | 200-SC | 77.79 | 44.39 | -40.3 | -40.0 |
| 363.20 Vaporizing Equipment | 2068 | 35-R5 | 35.22 | 23.61 | 49.6 | 50.0 | 2068 | 35-R5 | 35.55 | 21.95 | 49.6 | 50.0 |
| 363.30 Compressor Equipment | 2068 | 35-R5 | 35.73 | 19.06 | -4.9 | -5.0 | 2068 | 35-R5 | 35.94 | 17.41 | -4.9 | -5.0 |
| 363.40 Measuring and Regulating Equipment | 2068 | 35-R5 | 35.13 | 29.61 | -5.1 | -5.0 | 2068 | 35-R5 | 35.24 | 27.79 | -5.1 | -5.0 |
| 363.50 Other Equipment | 2068 | 35-R5 | 37.50 | 5.09 | -4.5 | -5.0 | 2068 | 35-R5 | 39.88 | 4.35 | -4.5 | -5.0 |
| **Total Storage and Processing Plant** | | | | | | | | | 39.25 | 25.86 | 2.4 | 3.1 |
| **TRANSMISSION PLANT** | | | | | | | | | | | | |
| 366.00 Structures and Improvements | 2034 | 200-SC | 39.18 | 15.18 | -9.8 | -10.0 | 2034 | 200-SC | 39.30 | 13.26 | -9.8 | -10.0 |
| 367.00 Mains | 70.00 | S4 | 69.92 | 53.94 | -58.9 | -60.0 | 70.00 | R3 | 70.10 | 54.86 | -92.1 | -90.0 |
| 369.00 Measuring and Regulating Equipment | 50.00 | L0 | 50.24 | 43.51 | -74.5 | -75.0 | 46.00 | L1 | 45.99 | 36.99 | -70.1 | -70.0 |
| **Total Transmission Plant** | | | | | | | | | 63.66 | 50.00 | -87.5 | -86.0 |
| **DISTRIBUTION PLANT** | | | | | | | | | | | | |
| 375.01 Structures and Improvements | 65.00 | L1.5 | 65.39 | 46.76 | -3.0 | -5.0 | 70.00 | L1.5 | 70.30 | 52.82 | -3.3 | -5.0 |
| 376.00 Mains - Steel | 77.00 | S1.5 | 77.09 | 55.88 | -87.6 | -93.0 | 75.00 | S2 | 74.96 | 55.28 | -112.0 | -90.0 |
| 376.26 Mains - Plastic | 70.00 | S4 | 69.96 | 59.50 | -59.6 | -60.0 | 65.00 | S2 | 65.00 | 55.12 | -92.3 | -90.0 |
| 378.00 Meas. and Reg. Station Equip. - General | 35.00 | L0.5 | 35.23 | 26.13 | -78.8 | -75.0 | 37.00 | L0.5 | 37.05 | 29.94 | -78.1 | -75.0 |
| 380.01 Services - Steel | 70.00 | L0 | 72.26 | 51.31 | -38.7 | -60.0 | 65.00 | R0.5 | 67.01 | 41.89 | -176.5 | -90.0 |
| 380.21 Services - Plastic | 70.00 | S3 | 69.85 | 56.17 | -58.0 | -60.0 | 60.00 | S3 | 59.85 | 46.17 | -97.6 | -90.0 |
| 381.00 Meters | 35.00 | L2 | 35.07 | 27.40 | -3.8 | | 38.00 | L1.5 | 38.08 | 29.99 | -3.4 | |
| 382.00 Meter Installations | 38.00 | L1.5 | 38.22 | 28.54 | -54.4 | -50.0 | 38.00 | L1 | 38.39 | 29.12 | -59.8 | -50.0 |
| 383.00 House Regulators | | | | | | | | | | | | |
| 384.00 House Regulator Installations | | | | | | | | | | | | |
| 385.00 Meas. and Reg. Equipment - Industrial | 40.00 | L2 | 41.92 | 19.78 | -10.4 | -10.0 | 40.00 | L2 | 42.38 | 18.92 | -10.4 | -10.0 |
| 387.00 Other Equipment | 15.00 | L0 | 19.07 | 8.33 | -14.1 | -15.0 | 15.00 | L0 | 20.08 | 7.95 | -14.7 | -15.0 |
| **Total Distribution Plant** | | | | | | | | | 59.89 | 47.52 | -91.7 | -82.7 |

**NEW JERSEY NATURAL GAS**
Current and Proposed Parameters
Vintage Group Procedure

Statement F

| Account Description | Current Parameters P-Life/ AYFR | Curve Shape | VG ASL | Rem. Life | Avg. Sal. | Fut. Sal. | Proposed Parameters P-Life/ AYFR | Curve Shape | VG ASL | Rem. Life | Avg. Sal. | Fut. Sal. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | B | C | D | E | F | G | H | I | J | K | L | M |
| **GENERAL PLANT** | | | | | | | | | | | | |
| **Depreciable** | | | | | | | | | | | | |
| 390.02 Leasehold Improvements | 30.00 | SC | 29.18 | 25.11 | 10.9 | | 30.00 | SC | 29.52 | 25.69 | 7.9 | |
| 392.00 Transportation Equipment | 12.00 | L1 | 12.04 | 9.52 | 14.6 | 10.0 | 9.00 | L1.5 | 9.16 | 6.27 | 9.9 | 5.0 |
| 396.00 Power Operated Equipment | 25.00 | S4 | 25.53 | 16.36 | | | 25.00 | S4 | 25.33 | 19.50 | | |
| **Total Depreciable** | | | | | | | | | 11.61 | 8.58 | 9.2 | 3.5 |
| **Amortizable** | | | | | | | | | | | | |
| 391.01 Furniture, Fixtures and Equipment | 25.00 | SQ | 25.00 | 17.33 | | | 25.00 | SQ | 25.00 | 18.22 | | |
| 391.02 Information Systems | 10.00 | SQ | 10.00 | 5.23 | | | 10.00 | SQ | 10.00 | 5.28 | | |
| 391.03 Data Handling Equipment | 10.00 | SQ | 10.00 | 3.54 | 0.1 | | 10.00 | SQ | 10.00 | 2.51 | | |
| 391.04 Computer Software | 10.00 | SQ | 10.00 | 4.24 | | | 10.00 | SQ | 10.00 | 6.55 | | |
| 393.00 Stores Equipment | 35.00 | SQ | 35.00 | 10.39 | | | 35.00 | SQ | 35.00 | 8.39 | | |
| 394.00 Tools, Shop and Garage Equipment | 20.00 | SQ | 20.00 | 16.05 | | | 20.00 | SQ | 20.00 | 14.20 | | |
| 395.00 Laboratory Equipment | 35.00 | SQ | 35.00 | 12.53 | | | 35.00 | SQ | 35.00 | 10.53 | | |
| 397.00 Communication Equipment | 20.00 | SQ | 20.00 | 4.78 | | | 20.00 | SQ | 20.00 | 4.07 | | |
| **Total Amortizable** | | | | | | | | | 11.85 | 7.52 | | |
| **Total General Plant** | | | | | | | | | 11.76 | 7.93 | 3.0 | 1.3 |
| **TOTAL UTILITY** | | | | | | | | | 48.99 | 38.32 | -81.0 | -76.2 |

# ANALYSIS

## INTRODUCTION

This section provides an explanation of the supporting schedules developed in the F2021 depreciation study to estimate appropriate projection curves, projection lives and net salvage statistics for each rate category. The form and content of the schedules developed for an account depend upon the method of analysis adopted for the category.

This section also includes an example of the supporting schedules developed for Account 381.00 – Meters. Documentation for all other plant accounts is contained in the study work papers. Supporting schedules developed in the NJNG study include:

Schedule A – Generation Arrangement;

Schedule B – Age Distribution;

Schedule C – Plant History;

Schedule D – Actuarial Life Analysis;

Schedule E – Graphics Analysis; and

Schedule F – Net Salvage History.

The format and content of these schedules are briefly described below.

### SCHEDULE A – GENERATION ARRANGEMENT

The purpose of this schedule is to obtain appropriate weighted–average life statistics for a rate category. A weighted–average remaining–life is the sum of Column H divided by the sum of Column I. A weighted average life is the sum of Column C divided by the sum of Column I.

It should be noted that the generation arrangement does not include parameters for net salvage. Computed Net Plant (Column C) and Accruals (Column I) must be adjusted for net salvage to obtain a correct measurement of theoretical reserves and annualized depreciation accruals.

Table 3 below provides a description of each column in the generation arrangement.

| Column | Title | Description |
|---|---|---|
| A | Vintage | Vintage or placement year of surviving plant. |
| B | Age | Age of surviving plant at beginning of study year. |
| C | Surviving Plant | Actual dollar amount of surviving plant. |
| D | Average Life | Estimated average life of each vintage. This statistic is the sum of the realized life and the unrealized life, which is the product of the remaining life (Column E) and the theoretical proportion surviving. |
| E | Remaining Life | Estimated remaining life of each vintage. |
| F | Net Plant Ratio | Theoretical net plant ratio of each vintage. |
| G | Allocation Factor | A pivotal ratio which determines the amortization period of the difference between the recorded and computed reserve. |
| H | Computed Net Plant | Plant in service less theoretical reserve for each vintage. |
| I | Accrual | Ratio of computed net plant (Column H) and remaining life (Column E). |

**Table 3. Generation Arrangement**

### SCHEDULE B – AGE DISTRIBUTION

This schedule provides the age distribution and realized life of surviving plant shown in Column C of the Generation Arrangement (Schedule A). The format of the schedule depends upon the availability of either aged or unaged data. Derived additions for vintage years older than the earliest activity year in an account for unaged data are obtained from the age distribution of surviving plant at the beginning of the earliest activity year. The amount surviving from these vintages is shown in Column D. The realized life (Column G) is derived from the dollar years of service provided by a vintage over the period of years the vintage has been in service. Plant additions for vintages older than the earliest activity year in an account are represented by the opening balances shown in Column D.

The computed proportion surviving (Column D) for unaged is derived from a computed mortality analysis. The average service life displayed in the title block is the life statistic derived for the most recent activity year, given the derived age distribution at the start of the year and the specified retirement dispersion. The realized life (Column F) is obtained by finding the slope of an SC retirement dispersion, which connects the computed survivors of a vintage (Column E) to the recorded vintage addition (Column B). The realized life is the area bounded by the SC dispersion, the computed proportion surviving and the age of the vintage.

### SCHEDULE C – PLANT HISTORY

An Unadjusted Plant History schedule provides a summary of recorded plant data extracted from the continuing property records maintained by the Company. Activity year total amounts shown on this schedule for aged data are obtained from a historical arrangement of the database in which all plant accounting transactions are identified by vintage and activity year. Activity year totals for unaged data are

obtained from a transaction file without vintage identification. Information displayed in the unadjusted plant history is consistent with regulated investments reported internally by the Company.

An Adjusted Plant History schedule provides a summary of recorded plant data extracted from the continuing property records maintained by the Company with sales, transfers, and adjustments appropriately aged for depreciation study purposes. Activity year total amounts shown on this schedule for aged data are obtained from a historical arrangement of the data base in which all plant accounting transactions are identified by vintage and activity year. Ageing of adjusting transactions is achieved using transaction codes that identify an adjusting year associated with the dollar amount of a transaction. Adjusting transactions processed in the adjusted plant history are not aged in the Company's records or in the unadjusted plant history.

### SCHEDULE D – ACTUARIAL LIFE ANALYSIS

These schedules provide a summary of the dispersion and life indications obtained from an actuarial life analysis for a specified placement band. The observation band (Column A) is specified to produce a rolling–band, shrinking–band, or progressive–band analysis depending upon the movement of the end points of the band. The degree of censoring (or point of truncation) of the observed life table is shown in Column B for each observation band. The estimated average service life, best fitting Iowa dispersion, and a statistical measure of the goodness of fit are shown for each degree polynomial (First, Second, and Third) fitted to the estimated hazard rates. Options available in the analysis include the width and location of both the placement and observation bands; the interval of years included in a selected rolling, shrinking, or progressive band analysis; the estimator of the hazard rate (actuarial, conditional proportion retired, or maximum likelihood); the elements to include on the diagonal of a weight matrix (exposures, inverse of age, inverse of variance, or unweighted); and the age at which an observed life table is truncated.

Estimated projection lives (Columns C, F, and I) are flagged with an asterisk if negative hazard rates are indicated by the fitted polynomial. All negative hazard rates are set equal to zero in the calculation of the graduated survivor curve. The Conformance Index (Columns E, H, and K) is the square root of the mean sum–of–squared differences between observed proportions surviving and the best fitting Iowa curve. A Conformance Index of zero would indicate a perfect fit.

### SCHEDULE E – GRAPHICS ANALYSIS

This schedule provides a graphics plot of a) the observed proportion surviving for a selected placement and observation band; b) the statistically best fitting Iowa dispersion and derived average service life; and c) the projection curve and projection life selected to describe future forces of mortality.

The graphics analysis also provides a plot of the observed hazard rates and graduated hazard function for a selected placement and observation band. The estimator of the hazard rates and weighting used in fitting orthogonal polynomials to the observed data are displayed in the title block of the displayed graph.

### SCHEDULE F – NET SALVAGE HISTORY

An Unadjusted Net Salvage History contains recorded activity–year retirements, salvage, cost of removal and other depreciation reserve activity appropriately recognized in the computation of average net salvage rates. This schedule provides a moving–average analysis of the ratio of realized net salvage (Column I) to the associated retirements (Column B). The schedule also provides a moving–average analysis of the components of unadjusted net salvage related to retirements. The ratio of gross salvage to retirements is shown in Column D and the ratio of cost of removal to retirements is shown in Column G.

An Adjusted Net Salvage History contains recorded activity–year total retirements, salvage, cost of removal and other depreciation reserve activity appropriately adjusted in the estimation of future net salvage rates. The moving–average adjusted net salvage analysis and component analysis are displayed in columns corresponding to an unadjusted net salvage analysis.

**Schedule A**
**Page 1 of 2**

## NEW JERSEY NATURAL GAS COMPANY

**Distribution Plant**
**Account: 381.00 Meters**

**Dispersion: 38 - L1.5**
**Procedure: Vintage Group**

**Generation Arrangement**

| | September 30, 2020 | | | | Net | | | |
|---|---|---|---|---|---|---|---|---|
| Vintage | Age | Surviving Plant | Avg. Life | Rem. Life | Plant Ratio | Alloc. Factor | Computed Net Plant | Accrual |
| A | B | C | D | E | F | G | H=C*F*G | I=H/E |
| 2020 | 0.5 | 77,294 | 38.00 | 37.51 | 0.9872 | 1.0000 | 76,307 | 2,034 |
| 2019 | 1.5 | 10,823,334 | 38.00 | 36.55 | 0.9619 | 1.0000 | 10,410,559 | 284,817 |
| 2018 | 2.5 | 5,293,274 | 38.00 | 35.60 | 0.9368 | 1.0000 | 4,958,812 | 139,285 |
| 2017 | 3.5 | 24,546,716 | 38.01 | 34.67 | 0.9121 | 1.0000 | 22,389,789 | 645,850 |
| 2016 | 4.5 | 4,788,940 | 38.01 | 33.75 | 0.8879 | 1.0000 | 4,251,961 | 125,983 |
| 2015 | 5.5 | 1,312,950 | 38.02 | 32.85 | 0.8641 | 1.0000 | 1,134,512 | 34,532 |
| 2014 | 6.5 | 6,485,167 | 38.03 | 31.98 | 0.8408 | 1.0000 | 5,452,694 | 170,513 |
| 2013 | 7.5 | 863,371 | 37.39 | 31.13 | 0.8324 | 1.0000 | 718,682 | 23,090 |
| 2012 | 8.5 | 2,179,573 | 37.87 | 30.30 | 0.8000 | 1.0000 | 1,743,740 | 57,556 |
| 2011 | 9.5 | 2,446,471 | 37.70 | 29.49 | 0.7821 | 1.0000 | 1,913,441 | 64,885 |
| 2010 | 10.5 | 2,323,620 | 37.60 | 28.71 | 0.7635 | 1.0000 | 1,774,038 | 61,796 |
| 2009 | 11.5 | 15,790,320 | 38.10 | 27.95 | 0.7336 | 1.0000 | 11,583,966 | 414,460 |
| 2008 | 12.5 | 2,011,423 | 37.93 | 27.21 | 0.7174 | 1.0000 | 1,443,082 | 53,028 |
| 2007 | 13.5 | 2,552,287 | 37.66 | 26.50 | 0.7038 | 1.0000 | 1,796,256 | 67,777 |
| 2006 | 14.5 | 1,163,712 | 36.48 | 25.82 | 0.7077 | 1.0000 | 823,540 | 31,901 |
| 2005 | 15.5 | 699,446 | 36.19 | 25.16 | 0.6951 | 1.0000 | 486,204 | 19,327 |
| 2004 | 16.5 | 935,089 | 37.90 | 24.53 | 0.6472 | 1.0000 | 605,208 | 24,674 |
| 2003 | 17.5 | 983,100 | 38.38 | 23.93 | 0.6235 | 1.0000 | 613,011 | 25,618 |
| 2002 | 18.5 | 840,815 | 37.58 | 23.36 | 0.6217 | 1.0000 | 522,735 | 22,376 |
| 2001 | 19.5 | 1,052,070 | 37.69 | 22.83 | 0.6056 | 1.0000 | 637,184 | 27,916 |
| 2000 | 20.5 | 435,139 | 36.15 | 22.32 | 0.6173 | 1.0000 | 268,630 | 12,037 |
| 1999 | 21.5 | 1,159,457 | 37.63 | 21.84 | 0.5804 | 1.0000 | 672,918 | 30,812 |
| 1998 | 22.5 | 1,024,668 | 37.28 | 21.39 | 0.5736 | 1.0000 | 587,729 | 27,482 |
| 1997 | 23.5 | 1,070,092 | 37.58 | 20.96 | 0.5576 | 1.0000 | 596,709 | 28,476 |
| 1996 | 24.5 | 788,382 | 38.20 | 20.55 | 0.5378 | 1.0000 | 424,012 | 20,637 |
| 1995 | 25.5 | 1,021,650 | 37.67 | 20.16 | 0.5351 | 1.0000 | 546,703 | 27,123 |
| 1994 | 26.5 | 1,157,462 | 37.87 | 19.79 | 0.5225 | 1.0000 | 604,722 | 30,565 |
| 1993 | 27.5 | 783,536 | 36.76 | 19.43 | 0.5286 | 1.0000 | 414,140 | 21,314 |
| 1992 | 28.5 | 621,404 | 36.63 | 19.09 | 0.5212 | 1.0000 | 323,897 | 16,966 |
| 1991 | 29.5 | 731,659 | 38.94 | 18.76 | 0.4819 | 1.0000 | 352,572 | 18,790 |
| 1990 | 30.5 | 742,464 | 37.57 | 18.45 | 0.4910 | 1.0000 | 364,563 | 19,761 |
| 1989 | 31.5 | 737,681 | 38.53 | 18.14 | 0.4709 | 1.0000 | 347,346 | 19,144 |
| 1988 | 32.5 | 307,254 | 36.06 | 17.85 | 0.4949 | 1.0000 | 152,073 | 8,521 |
| 1987 | 33.5 | 674,354 | 38.68 | 17.56 | 0.4539 | 1.0000 | 306,071 | 17,432 |
| 1986 | 34.5 | 502,158 | 36.44 | 17.28 | 0.4741 | 1.0000 | 238,062 | 13,781 |
| 1985 | 35.5 | 58,597 | 34.84 | 17.00 | 0.4879 | 1.0000 | 28,588 | 1,682 |
| 1984 | 36.5 | 599,780 | 40.35 | 16.72 | 0.4144 | 1.0000 | 248,560 | 14,863 |

**Schedule A**
**Page 2 of 2**

## NEW JERSEY NATURAL GAS COMPANY

**Distribution Plant**
**Account: 381.00 Meters**

**Dispersion: 38 - L1.5**
**Procedure: Vintage Group**

**Generation Arrangement**

| | September 30, 2020 | | | | Net | | | |
|---|---|---|---|---|---|---|---|---|
| Vintage | Age | Surviving Plant | Avg. Life | Rem. Life | Plant Ratio | Alloc. Factor | Computed Net Plant | Accrual |
| A | B | C | D | E | F | G | H=C*F*G | I=H/E |
| 1983 | 37.5 | (96,355) | 30.19 | 16.45 | 0.5449 | 1.0000 | (52,505) | (3,191) |
| 1982 | 38.5 | 252,472 | 40.98 | 16.18 | 0.3949 | 1.0000 | 99,711 | 6,161 |
| 1981 | 39.5 | 340,604 | 42.32 | 15.92 | 0.3761 | 1.0000 | 128,095 | 8,047 |
| 1979 | 41.5 | 177,850 | 43.15 | 15.39 | 0.3567 | 1.0000 | 63,433 | 4,122 |
| 1977 | 43.5 | 68,525 | 40.64 | 14.86 | 0.3657 | 1.0000 | 25,059 | 1,686 |
| 1976 | 44.5 | 76,773 | 41.97 | 14.60 | 0.3479 | 1.0000 | 26,709 | 1,829 |
| 1974 | 46.5 | 65,076 | 39.96 | 14.08 | 0.3524 | 1.0000 | 22,933 | 1,629 |
| 1973 | 47.5 | 134,818 | 44.81 | 13.82 | 0.3084 | 1.0000 | 41,582 | 3,008 |
| 1972 | 48.5 | 104,084 | 42.98 | 13.56 | 0.3156 | 1.0000 | 32,846 | 2,422 |
| 1971 | 49.5 | 171,728 | 42.32 | 13.31 | 0.3145 | 1.0000 | 54,001 | 4,058 |
| 1970 | 50.5 | 155,329 | 43.39 | 13.05 | 0.3008 | 1.0000 | 46,722 | 3,579 |
| 1969 | 51.5 | 324,555 | 46.54 | 12.80 | 0.2750 | 1.0000 | 89,250 | 6,973 |
| 1967 | 53.5 | 232,971 | 48.87 | 12.30 | 0.2517 | 1.0000 | 58,629 | 4,767 |
| 1966 | 54.5 | 147,614 | 46.89 | 12.05 | 0.2570 | 1.0000 | 37,944 | 3,148 |
| 1965 | 55.5 | 176,374 | 46.56 | 11.81 | 0.2536 | 1.0000 | 44,736 | 3,788 |
| 1964 | 56.5 | 362,498 | 48.89 | 11.57 | 0.2366 | 1.0000 | 85,764 | 7,415 |
| 1961 | 59.5 | 74,584 | 45.87 | 10.86 | 0.2367 | 1.0000 | 17,655 | 1,626 |
| 1960 | 60.5 | 14,082 | 42.33 | 10.63 | 0.2511 | 1.0000 | 3,536 | 333 |
| 1958 | 62.5 | 56,384 | 45.93 | 10.18 | 0.2216 | 1.0000 | 12,494 | 1,228 |
| Total | 10.5 | $102,424,673 | 38.08 | 29.99 | 0.7874 | 1.0000 | $80,651,613 | $2,689,431 |

**Schedule B**
**Page 1 of 4**

## NEW JERSEY NATURAL GAS COMPANY

**Distribution Plant**

**Account: 381.00 Meters**

**Age Distribution**

| Vintage | Age as of 09/30/2020 | Derived Additions | 1961 Opening Balance | Experience to 09/30/2020 | | |
|---|---|---|---|---|---|---|
| | | | | Amount Surviving | Proportion Surviving | Realized Life |
| A | B | C | D | E | F=E/(C+D) | G |
| 2020 | 0.5 | 77,294 | | 77,294 | 1.0000 | 0.5000 |
| 2019 | 1.5 | 10,823,334 | | 10,823,334 | 1.0000 | 1.5000 |
| 2018 | 2.5 | 5,293,274 | | 5,293,274 | 1.0000 | 2.5000 |
| 2017 | 3.5 | 24,546,716 | | 24,546,716 | 1.0000 | 3.5000 |
| 2016 | 4.5 | 4,788,940 | | 4,788,940 | 1.0000 | 4.5000 |
| 2015 | 5.5 | 1,312,950 | | 1,312,950 | 1.0000 | 5.5000 |
| 2014 | 6.5 | 6,485,167 | | 6,485,167 | 1.0000 | 6.5000 |
| 2013 | 7.5 | 960,537 | | 863,371 | 0.8988 | 6.8425 |
| 2012 | 8.5 | 2,239,941 | | 2,179,573 | 0.9730 | 8.2979 |
| 2011 | 9.5 | 2,581,717 | | 2,446,471 | 0.9476 | 9.1071 |
| 2010 | 10.5 | 2,519,350 | | 2,323,620 | 0.9223 | 9.9701 |
| 2009 | 11.5 | 15,964,635 | | 15,790,320 | 0.9891 | 11.4253 |
| 2008 | 12.5 | 2,102,722 | | 2,011,423 | 0.9566 | 12.2082 |
| 2007 | 13.5 | 2,803,100 | | 2,552,287 | 0.9105 | 12.8736 |
| 2006 | 14.5 | 1,778,267 | | 1,163,712 | 0.6544 | 12.6251 |
| 2005 | 15.5 | 1,312,210 | | 699,446 | 0.5330 | 13.2543 |
| 2004 | 16.5 | 1,021,306 | | 935,089 | 0.9156 | 15.8663 |
| 2003 | 17.5 | 1,016,764 | | 983,100 | 0.9669 | 17.2351 |
| 2002 | 18.5 | 998,184 | | 840,815 | 0.8423 | 17.3126 |
| 2001 | 19.5 | 1,255,003 | | 1,052,070 | 0.8383 | 18.2815 |
| 2000 | 20.5 | 1,202,125 | | 435,139 | 0.3620 | 17.5867 |
| 1999 | 21.5 | 1,419,768 | | 1,159,457 | 0.8167 | 19.8868 |
| 1998 | 22.5 | 1,331,323 | | 1,024,668 | 0.7697 | 20.3441 |
| 1997 | 23.5 | 1,376,520 | | 1,070,092 | 0.7774 | 21.4204 |
| 1996 | 24.5 | 979,203 | | 788,382 | 0.8051 | 22.8034 |
| 1995 | 25.5 | 1,392,763 | | 1,021,650 | 0.7335 | 23.0069 |
| 1994 | 26.5 | 1,656,010 | | 1,157,462 | 0.6989 | 23.9254 |
| 1993 | 27.5 | 1,306,581 | | 783,536 | 0.5997 | 23.5105 |
| 1992 | 28.5 | 1,089,454 | | 621,404 | 0.5704 | 24.0452 |
| 1991 | 29.5 | 1,007,863 | | 731,659 | 0.7260 | 27.0055 |
| 1990 | 30.5 | 1,577,854 | | 742,464 | 0.4706 | 26.2635 |
| 1989 | 31.5 | 1,160,206 | | 737,681 | 0.6358 | 27.8259 |
| 1988 | 32.5 | 1,004,339 | | 307,254 | 0.3059 | 25.9313 |
| 1987 | 33.5 | 1,135,053 | | 674,354 | 0.5941 | 29.1133 |
| 1986 | 34.5 | 1,316,537 | | 502,158 | 0.3814 | 27.4021 |
| 1985 | 35.5 | 484,755 | | 58,597 | 0.1209 | 26.3136 |
| 1984 | 36.5 | 921,067 | | 599,780 | 0.6512 | 32.3188 |
| 1983 | 37.5 | 252,218 | | (96,355) | -0.3820 | 22.6281 |

**Schedule B**
**Page 2 of 4**

## NEW JERSEY NATURAL GAS COMPANY

**Distribution Plant**

**Account: . 381.00 Meters**

**Age Distribution**

| Vintage | Age as of 09/30/2020 | Derived Additions | 1961 Opening Balance | Experience to 09/30/2020 Amount Surviving | Proportion Surviving | Realized Life |
|---|---|---|---|---|---|---|
| A | B | C | D | E | F=E/(C+D) | G |
| 1982 | 38.5 | 431,566 | | 252,472 | 0.5850 | 33.8638 |
| 1981 | 39.5 | 528,482 | | 340,604 | 0.6445 | 35.6401 |
| 1980 | 40.5 | 295,813 | | | 0.0000 | 27.9617 |
| 1979 | 41.5 | 261,528 | | 177,850 | 0.6800 | 37.2630 |
| 1978 | 42.5 | 54,551 | | | 0.0000 | 30.3360 |
| 1977 | 43.5 | 154,169 | | 68,525 | 0.4445 | 35.4894 |
| 1976 | 44.5 | 164,729 | | 76,773 | 0.4661 | 37.1559 |
| 1975 | 45.5 | 102,906 | | | 0.0000 | 32.2181 |
| 1974 | 46.5 | 171,247 | | 65,076 | 0.3800 | 35.7674 |
| 1973 | 47.5 | 267,310 | | 134,818 | 0.5044 | 40.9157 |
| 1972 | 48.5 | 308,812 | | 104,084 | 0.3370 | 39.3575 |
| 1971 | 49.5 | 574,611 | | 171,728 | 0.2989 | 38.9556 |
| 1970 | 50.5 | 530,346 | | 155,329 | 0.2929 | 40.2766 |
| 1969 | 51.5 | 730,704 | | 324,555 | 0.4442 | 43.6582 |
| 1968 | 52.5 | 375,235 | | | 0.0000 | 40.1264 |
| 1967 | 53.5 | 478,188 | | 232,971 | 0.4872 | 46.4130 |
| 1966 | 54.5 | 468,117 | | 147,614 | 0.3153 | 44.6204 |
| 1965 | 55.5 | 512,921 | | 176,374 | 0.3439 | 44.4725 |
| 1964 | 56.5 | 820,146 | | 362,498 | 0.4420 | 46.9760 |
| 1963 | 57.5 | 123,362 | | | 0.0000 | 40.6072 |
| 1962 | 58.5 | 225,712 | | | 0.0000 | 34.5241 |
| 1961 | 59.5 | 208,869 | | 74,584 | 0.3571 | 44.4072 |
| 1960 | 60.5 | | 176,978 | 14,082 | 0.0796 | 40.9925 |
| 1959 | 61.5 | | 179,333 | | 0.0000 | 39.0053 |
| 1958 | 62.5 | | 214,505 | 56,384 | 0.2629 | 44.8255 |
| 1957 | 63.5 | | 181,331 | | 0.0000 | 40.5634 |
| 1956 | 64.5 | | 196,407 | | 0.0000 | 39.6085 |
| 1955 | 65.5 | | 154,587 | | 0.0000 | 37.8992 |
| 1954 | 66.5 | | 189,891 | | 0.0000 | 31.2456 |
| 1953 | 67.5 | | 90,450 | | 0.0000 | 45.1825 |
| 1952 | 68.5 | | 73,712 | | 0.0000 | 28.1096 |
| 1951 | 69.5 | | 58,576 | | 0.0000 | 20.6672 |
| 1950 | 70.5 | | 17,431 | | 0.0000 | 26.0111 |
| 1949 | 71.5 | | 41,965 | | 0.0000 | 22.6506 |
| 1948 | 72.5 | | 85,090 | | 0.0000 | 22.8666 |
| 1947 | 73.5 | | 71,342 | | 0.0000 | 23.4712 |
| 1946 | 74.5 | | 36,140 | | 0.0000 | 25.0387 |
| 1945 | 75.5 | | 21,295 | | 0.0000 | 24.7894 |

**Schedule B**
**Page 3 of 4**

## NEW JERSEY NATURAL GAS COMPANY

**Distribution Plant**

**Account: 381.00 Meters**

**Age Distribution**

| Vintage | Age as of 09/30/2020 | Derived Additions | 1961 Opening Balance | Experience to 09/30/2020 Amount Surviving | Proportion Surviving | Realized Life |
|---|---|---|---|---|---|---|
| A | B | C | D | E | F=E/(C+D) | G |
| 1944 | 76.5 | | 16,020 | | 0.0000 | 26.1206 |
| 1943 | 77.5 | | 553 | | 0.0000 | 34.1899 |
| 1942 | 78.5 | | 18,943 | | 0.0000 | 29.8748 |
| 1941 | 79.5 | | 36,130 | | 0.0000 | 30.7579 |
| 1940 | 80.5 | | 12,215 | | 0.0000 | 31.4364 |
| 1939 | 81.5 | | 17,189 | | 0.0000 | 33.1732 |
| 1938 | 82.5 | | 28,680 | | 0.0000 | 34.1101 |
| 1937 | 83.5 | | 24,100 | | 0.0000 | 34.3889 |
| 1936 | 84.5 | | 25,740 | | 0.0000 | 35.9391 |
| 1935 | 85.5 | | 9,550 | | 0.0000 | 35.1873 |
| 1934 | 86.5 | | 6,240 | | 0.0000 | 36.4016 |
| 1933 | 87.5 | | 14,163 | | 0.0000 | 38.6412 |
| 1932 | 88.5 | | 3,554 | | 0.0000 | 39.6616 |
| 1931 | 89.5 | | 31,445 | | 0.0000 | 43.1266 |
| 1930 | 90.5 | | 35,017 | | 0.0000 | 43.8229 |
| 1929 | 91.5 | | 55,968 | | 0.0000 | 45.6275 |
| 1928 | 92.5 | | 29,199 | | 0.0000 | 42.9426 |
| 1927 | 93.5 | | 39,507 | | 0.0000 | 47.6959 |
| 1926 | 94.5 | | 41,437 | | 0.0000 | 46.2478 |
| 1925 | 95.5 | | 13,539 | | 0.0000 | 48.2565 |
| 1924 | 96.5 | | 11,050 | | 0.0000 | 52.3906 |
| 1923 | 97.5 | | 9,293 | | 0.0000 | 50.0948 |
| 1922 | 98.5 | | 12,054 | | 0.0000 | 52.1448 |
| 1921 | 99.5 | | 4,854 | | 0.0000 | 46.7748 |
| 1920 | 100.5 | | 11,278 | | 0.0000 | 52.3478 |
| 1919 | 101.5 | | 2,498 | | 0.0000 | 51.0300 |
| 1918 | 102.5 | | 803 | | 0.0000 | 47.1968 |
| 1917 | 103.5 | | 2,525 | | 0.0000 | 47.6903 |
| 1916 | 104.5 | | 1,098 | | 0.0000 | 45.6585 |
| 1915 | 105.5 | | 1,703 | | 0.0000 | 46.4269 |
| 1914 | 106.5 | | 260 | | 0.0000 | 49.8000 |
| 1913 | 107.5 | | 19 | | 0.0000 | 51.0000 |
| 1912 | 108.5 | | 26 | | 0.0000 | 52.6538 |
| 1910 | 110.5 | | 97 | | 0.0000 | 54.8041 |
| 1906 | 114.5 | | 9 | | 0.0000 | 58.0000 |
| 1904 | 116.5 | | 28 | | 0.0000 | 60.0000 |
| 1901 | 119.5 | | 35,948 | | 0.0000 | 97.4707 |

**Schedule B**
**Page 4 of 4**

## NEW JERSEY NATURAL GAS COMPANY

**Distribution Plant**

**Account: 381.00 Meters**

**Age Distribution**

| Vintage | Age as of 09/30/2020 | Derived Additions | 1961 Opening Balance | Experience to 09/30/2020 | | |
|---|---|---|---|---|---|---|
| | | | | Amount Surviving | Proportion Surviving | Realized Life |
| A | B | C | D | E | F=E/(C+D) | G |
| 1900 | 120.5 | | 64,372 | | 0.0000 | 81.1026 |
| Total | 10.5 | $118,284,374 | $2,406,140 | $102,424,673 | 0.8487 | |

**Schedule C**
**Page 1 of 2**

## NEW JERSEY NATURAL GAS COMPANY

**Distribution Plant**

**Account: 381.00 Meters**

**Unadjusted Plant History**

| Year | Beginning Balance | Additions | Retirements | Sales, Transfers & Adjustments | Ending Balance |
|---|---|---|---|---|---|
| A | B | C | D | E | F=B+C-D+E |
| 1967 | 5,114,395 | 517,188 | 48,892 | | 5,582,691 |
| 1968 | 5,582,691 | 593,724 | 25,533 | | 6,150,882 |
| 1969 | 6,150,882 | 630,196 | 38,719 | | 6,742,359 |
| 1970 | 6,742,359 | 589,929 | 58,301 | | 7,273,987 |
| 1971 | 7,273,987 | 624,786 | 141,434 | | 7,757,339 |
| 1972 | 7,757,339 | 369,567 | 91,213 | | 8,035,693 |
| 1973 | 8,035,693 | 275,551 | 102,091 | | 8,209,153 |
| 1974 | 8,209,153 | 211,540 | 70,854 | | 8,349,839 |
| 1975 | 8,349,839 | 213,984 | 100,292 | | 8,463,531 |
| 1976 | 8,463,531 | 106,988 | 86,547 | | 8,483,972 |
| 1977 | 8,483,972 | 175,972 | 62,042 | | 8,597,902 |
| 1978 | 8,597,902 | 130,831 | 33,197 | | 8,695,536 |
| 1979 | 8,695,536 | 337,608 | 58,390 | | 8,974,754 |
| 1980 | 8,974,754 | 295,955 | 15,002 | (30) | 9,255,677 |
| 1981 | 9,255,677 | 606,181 | 12,187 | | 9,849,671 |
| 1982 | 9,849,671 | 473,005 | 10,735 | | 10,311,941 |
| 1983 | 10,311,941 | 2,893,019 | 1,939,111 | | 11,265,849 |
| 1984 | 11,265,849 | 921,067 | 9,072 | (1,676,873) | 10,500,971 |
| 1985 | 10,500,971 | 486,842 | 10,506 | | 10,977,307 |
| 1986 | 10,977,307 | 1,316,538 | 20,841 | | 12,273,004 |
| 1987 | 12,273,004 | 1,196,934 | 17,860 | | 13,452,078 |
| 1988 | 13,452,078 | 1,108,335 | 35,046 | (98,586) | 14,426,781 |
| 1989 | 14,426,781 | 1,160,206 | 97,703 | | 15,489,284 |
| 1990 | 15,489,284 | 1,577,854 | 160,814 | | 16,906,324 |
| 1991 | 16,906,324 | 1,007,863 | 87,569 | (59,949) | 17,766,669 |
| 1992 | 17,766,669 | 1,089,454 | 100,867 | | 18,755,256 |
| 1993 | 18,755,256 | 1,306,581 | 91,188 | | 19,970,649 |
| 1994 | 19,970,649 | 1,656,010 | 149,013 | | 21,477,646 |
| 1995 | 21,477,646 | 1,392,763 | 232,608 | | 22,637,800 |
| 1996 | 22,637,800 | 979,203 | 104,260 | | 23,512,744 |
| 1997 | 23,512,744 | 1,376,520 | 74,347 | | 24,814,918 |
| 1998 | 24,814,918 | 1,331,323 | 188,768 | | 25,957,472 |
| 1999 | 25,957,472 | 1,419,768 | 361,755 | | 27,015,485 |
| 2000 | 27,015,485 | 1,202,125 | 152,669 | | 28,064,941 |
| 2001 | 28,064,941 | 1,255,003 | 179,703 | | 29,140,241 |
| 2002 | 29,140,241 | 998,184 | 177,846 | | 29,960,578 |
| 2003 | 29,960,578 | 1,016,764 | 259,994 | | 30,717,349 |
| 2004 | 30,717,349 | 1,021,306 | 246,750 | | 31,491,905 |
| 2005 | 31,491,905 | 1,312,210 | 500,688 | | 32,303,427 |
| 2006 | 32,303,427 | 1,778,267 | 625,098 | 4 | 33,456,599 |

**Schedule C**
**Page 2 of 2**

## NEW JERSEY NATURAL GAS COMPANY

**Distribution Plant**

**Account: 381.00 Meters**

**Unadjusted Plant History**

| Year | Beginning Balance | Additions | Retirements | Sales, Transfers & Adjustments | Ending Balance |
|---|---|---|---|---|---|
| A | B | C | D | E | F=B+C-D+E |
| 2007 | 33,456,599 | 2,803,100 | 1,147,383 | | 35,112,317 |
| 2008 | 35,112,317 | 2,102,722 | 1,159,126 | | 36,055,912 |
| 2009 | 36,055,912 | 15,964,635 | 992,855 | | 51,027,692 |
| 2010 | 51,027,692 | 2,519,350 | 830,082 | | 52,716,960 |
| 2011 | 52,716,960 | 2,581,717 | 1,018,412 | | 54,280,265 |
| 2012 | 54,280,265 | 2,239,941 | | | 56,520,206 |
| 2013 | 56,520,206 | 960,537 | 4,458,710 | | 53,022,034 |
| 2014 | 53,022,034 | 6,485,167 | 1,670,024 | | 57,837,176 |
| 2015 | 57,837,176 | 1,312,950 | 616,941 | | 58,533,185 |
| 2016 | 58,533,185 | 4,788,940 | | | 63,322,125 |
| 2017 | 63,322,125 | 15,383,768 | 1,638,070 | 9,162,948 | 86,230,771 |
| 2018 | 86,230,771 | 5,293,274 | | | 91,524,045 |
| 2019 | 91,524,045 | 10,823,334 | | | 102,347,379 |
| 2020 | 102,347,379 | 77,294 | | | 102,424,673 |

**Schedule C**
**Page 1 of 2**

## NEW JERSEY NATURAL GAS COMPANY

**Distribution Plant**

**Account: 381.00 Meters**

**Adjusted Plant History**

| Year | Beginning Balance | Additions | Retirements | Sales, Transfers & Adjustments | Ending Balance |
|---|---|---|---|---|---|
| A | B | C | D | E | F=B+C-D+E |
| 1967 | 5,109,010 | 517,188 | 48,892 | | 5,577,305 |
| 1968 | 5,577,305 | 423,658 | 25,533 | | 5,975,430 |
| 1969 | 5,975,430 | 800,338 | 38,719 | | 6,737,049 |
| 1970 | 6,737,049 | 589,986 | 58,301 | | 7,268,735 |
| 1971 | 7,268,735 | 624,735 | 141,434 | | 7,752,035 |
| 1972 | 7,752,035 | 351,915 | 91,213 | | 8,012,738 |
| 1973 | 8,012,738 | 293,146 | 102,091 | | 8,203,793 |
| 1974 | 8,203,793 | 211,540 | 70,854 | | 8,344,479 |
| 1975 | 8,344,479 | 135,127 | 100,292 | | 8,379,314 |
| 1976 | 8,379,314 | 185,845 | 86,547 | | 8,478,612 |
| 1977 | 8,478,612 | 175,972 | 62,042 | | 8,592,542 |
| 1978 | 8,592,542 | 80,831 | 33,335 | | 8,640,038 |
| 1979 | 8,640,038 | 337,608 | 58,425 | | 8,919,221 |
| 1980 | 8,919,221 | 345,925 | 14,967 | | 9,250,179 |
| 1981 | 9,250,179 | 599,007 | 12,187 | | 9,836,999 |
| 1982 | 9,836,999 | 483,305 | 10,735 | | 10,309,569 |
| 1983 | 10,309,569 | 269,203 | 9,420 | (1,082,090) | 9,487,262 |
| 1984 | 9,487,262 | 1,017,422 | 9,072 | | 10,495,612 |
| 1985 | 10,495,612 | 486,842 | 10,506 | | 10,971,948 |
| 1986 | 10,971,948 | 1,316,537 | 20,841 | | 12,267,645 |
| 1987 | 12,267,645 | 1,196,934 | 17,860 | | 13,446,719 |
| 1988 | 13,446,719 | 1,004,339 | 29,638 | 5,365 | 14,426,785 |
| 1989 | 14,426,785 | 1,160,206 | 97,703 | | 15,489,287 |
| 1990 | 15,489,287 | 1,577,854 | 160,814 | | 16,906,328 |
| 1991 | 16,906,328 | 1,007,863 | 87,569 | (59,949) | 17,766,673 |
| 1992 | 17,766,673 | 1,089,454 | 100,867 | | 18,755,260 |
| 1993 | 18,755,260 | 1,306,581 | 91,188 | | 19,970,653 |
| 1994 | 19,970,653 | 1,656,010 | 149,013 | | 21,477,650 |
| 1995 | 21,477,650 | 1,392,763 | 232,608 | | 22,637,804 |
| 1996 | 22,637,804 | 979,203 | 104,260 | | 23,512,748 |
| 1997 | 23,512,748 | 1,376,520 | 74,347 | | 24,814,921 |
| 1998 | 24,814,921 | 1,331,323 | 188,768 | | 25,957,476 |
| 1999 | 25,957,476 | 1,419,768 | 361,755 | | 27,015,489 |
| 2000 | 27,015,489 | 1,202,125 | 152,669 | | 28,064,945 |
| 2001 | 28,064,945 | 1,255,003 | 179,703 | | 29,140,244 |
| 2002 | 29,140,244 | 998,184 | 177,846 | | 29,960,582 |
| 2003 | 29,960,582 | 1,016,764 | 259,994 | | 30,717,353 |
| 2004 | 30,717,353 | 1,021,306 | 246,750 | | 31,491,908 |
| 2005 | 31,491,908 | 1,312,210 | 500,688 | | 32,303,431 |
| 2006 | 32,303,431 | 1,778,267 | 625,098 | | 33,456,599 |

**Schedule C**
**Page 2 of 2**

## NEW JERSEY NATURAL GAS COMPANY

**Distribution Plant**

**Account: 381.00 Meters**

**Adjusted Plant History**

| Year | Beginning Balance | Additions | Retirements | Sales, Transfers & Adjustments | Ending Balance |
|---|---|---|---|---|---|
| A | B | C | D | E | F=B+C-D+E |
| 2007 | 33,456,599 | 2,803,100 | 1,147,383 | | 35,112,316 |
| 2008 | 35,112,316 | 2,102,722 | 1,149,903 | | 36,065,135 |
| 2009 | 36,065,135 | 15,964,635 | 992,855 | | 51,036,915 |
| 2010 | 51,036,915 | 2,519,350 | 819,096 | | 52,737,169 |
| 2011 | 52,737,169 | 2,581,717 | 1,005,749 | | 54,313,137 |
| 2012 | 54,313,137 | 2,239,941 | | | 56,553,078 |
| 2013 | 56,553,078 | 960,537 | 4,304,758 | | 53,208,857 |
| 2014 | 53,208,857 | 6,485,167 | 1,560,119 | | 58,133,905 |
| 2015 | 58,133,905 | 1,312,950 | 591,027 | | 58,855,829 |
| 2016 | 58,855,829 | 4,788,940 | | | 63,644,769 |
| 2017 | 63,644,769 | 15,383,768 | 1,637,582 | 9,162,948 | 86,553,903 |
| 2018 | 86,553,903 | 5,293,274 | | (323,132) | 91,524,045 |
| 2019 | 91,524,045 | 10,823,334 | | | 102,347,379 |
| 2020 | 102,347,379 | 77,294 | | | 102,424,673 |

**Schedule D**
**Page 1 of 2**

## NEW JERSEY NATURAL GAS COMPANY

**Distribution Plant**

**Account: 381.00 Meters**

T-Cut: None
Placement Band: 1910-2020
Hazard Function: Proportion Retired
Weighting: Exposures

**Rolling Band Life Analysis**

| Observation Band | Censoring | First Degree | | | Second Degree | | | Third Degree | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Average Life | Disper-sion | Conf. Index | Average Life | Disper-sion | Conf. Index | Average Life | Disper-sion | Conf. Index |
| A | B | C | D | E | F | G | H | I | J | K |
| 1967-1971 | 1.5 | 31.5 | L2 * | 8.92 | 32.0 | L2 * | 9.83 | 42.3 | O3 * | 5.14 |
| 1968-1972 | 1.9 | 30.4 | L2 * | 10.08 | 31.0 | S1 * | 11.06 | 36.7 | L2 * | 5.68 |
| 1969-1973 | 1.1 | 28.7 | L2 * | 10.62 | 29.5 | S1 * | 11.57 | 30.6 | L3 * | 5.65 |
| 1970-1974 | 0.0 | 28.2 | L2 * | 11.43 | 29.1 | S1.5 * | 12.42 | 28.3 | L3 * | 6.46 |
| 1971-1975 | 0.0 | 27.2 | L2 * | 11.95 | 28.5 | S1.5 * | 12.91 | 26.1 | S2 * | 7.55 |
| 1972-1976 | 0.0 | 27.6 | L2 * | 13.43 | 29.2 | S2 * | 14.24 | 25.8 | R2.5 * | 9.35 |
| 1973-1977 | 0.0 | 28.1 | S1.5 * | 14.40 | 29.9 | S2 * | 15.03 | 26.2 | R2.5 * | 10.86 |
| 1974-1978 | 0.0 | 29.9 | S1.5 * | 16.32 | 31.1 | S3 * | 16.67 | 27.3 | R2.5 * | 12.48 |
| 1975-1979 | 0.0 | 31.1 | L3 * | 17.14 | 31.6 | S3 * | 16.79 | 27.7 | R2.5 * | 12.82 |
| 1976-1980 | 0.0 | 35.7 | L2 * | 21.37 | 34.4 | S3 * | 19.23 | 31.3 | R2.5 * | 15.06 |
| 1977-1981 | 0.0 | 43.8 | L2 * | 22.64 | 39.4 | S2 * | 17.23 | 38.0 | L3 * | 13.98 |
| 1978-1982 | 7.4 | 57.3 | L2 * | 21.62 | 50.3 | S1.5 * | 18.47 | 90.6 | O4 * | 14.49 |
| 1979-1983 | 0.0 | 63.8 | L2 * | 22.27 | 52.7 | S2 * | 17.78 | 87.8 | O4 * | 15.56 |
| 1980-1984 | 27.1 | 87.4 | L1.5 * | 26.51 | 62.1 | S2 * | 21.31 | 90.9 | O3 * | 20.38 |
| 1981-1985 | 45.6 | 97.9 | L1.5 * | 16.64 | 66.9 | S2 * | 11.59 | 117.7 | SC * | 10.81 |
| 1982-1986 | 43.4 | 96.6 | L1.5 * | 18.29 | 65.9 | S2 * | 12.57 | 116.1 | O3 * | 11.89 |
| 1983-1987 | 34.4 | 97.9 | L1.5 * | 24.85 | 66.7 | S2 * | 19.01 | 125.1 | SC * | 18.47 |
| 1984-1988 | 62.5 | 93.0 | L1.5 * | 4.83 | 65.5 | S2 * | 4.08 | 129.4 | SC * | 2.79 |
| 1985-1989 | 42.3 | 69.4 | L1.5 * | 4.66 | 53.6 | S2 * | 8.17 | 87.9 | O3 * | 7.13 |
| 1986-1990 | 26.4 | 54.5 | L2 * | 5.40 | 46.3 | S2 * | 10.03 | 61.6 | O3 * | 9.08 |
| 1987-1991 | 24.4 | 52.2 | L2 * | 4.66 | 45.3 | S2 * | 10.79 | 56.6 | L2 * | 10.06 |
| 1988-1992 | 20.9 | 49.7 | L2 * | 4.98 | 44.3 | S2 * | 11.27 | 52.1 | L2 * | 10.65 |
| 1989-1993 | 17.2 | 48.6 | L2 * | 5.05 | 44.0 | S2 * | 9.30 | 50.0 | L3 * | 8.36 |
| 1990-1994 | 8.2 | 47.9 | L2 * | 5.74 | 43.9 | S2 * | 7.77 | 47.0 | L3 * | 6.64 |
| 1991-1995 | 3.0 | 46.5 | L2 * | 7.66 | 43.2 | S2 * | 7.14 | 43.9 | L3 * | 6.11 |
| 1992-1996 | 0.1 | 47.1 | L2 * | 6.01 | 43.8 | S2 * | 8.50 | 44.3 | L3 * | 7.63 |
| 1993-1997 | 0.0 | 49.1 | L2 * | 5.26 | 45.3 | S2 * | 9.59 | 46.0 | L3 * | 8.65 |
| 1994-1998 | 1.7 | 47.1 | L2 * | 5.81 | 44.3 | S2 * | 6.28 | 44.9 | L3 * | 5.34 |
| 1995-1999 | 4.0 | 43.1 | L2 * | 6.09 | 42.0 | S2 * | 5.47 | 42.6 | L3 * | 4.57 |
| 1996-2000 | 7.6 | 45.7 | L2 * | 5.75 | 44.0 | S2 * | 6.14 | 46.9 | L3 * | 4.74 |
| 1997-2001 | 14.7 | 45.4 | L2 * | 5.45 | 43.9 | S2 * | 8.16 | 46.7 | L3 * | 6.62 |
| 1998-2002 | 10.7 | 44.5 | L2 * | 5.86 | 43.4 | S2 * | 8.32 | 45.7 | L3 * | 6.91 |
| 1999-2003 | 2.8 | 44.7 | L2 * | 4.96 | 43.7 | S1.5 * | 7.19 | 44.5 | L3 * | 6.20 |
| 2000-2004 | 12.6 | 48.8 | L2 * | 5.25 | 46.5 | S1.5 | 8.56 | 46.9 | S1.5 | 7.78 |
| 2001-2005 | 7.3 | 45.5 | L1.5 * | 4.79 | 44.3 | S1 * | 6.96 | 44.7 | S1 | 6.38 |
| 2002-2006 | 11.5 | 42.7 | L1.5 * | 5.01 | 42.4 | L1.5 * | 5.44 | 44.7 | L1.5 * | 4.77 |
| 2003-2007 | 6.6 | 36.4 | L1.5 * | 4.77 | 37.3 | L1.5 * | 3.57 | 44.1 | L0.5 * | 3.06 |
| 2004-2008 | 3.9 | 32.8 | L1.5 * | 4.55 | 36.1 | L1 * | 2.81 | 40.7 | O2 * | 2.50 |

**Schedule D**
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## NEW JERSEY NATURAL GAS COMPANY

**Distribution Plant**

**Account: 381.00 Meters**

T-Cut: None
Placement Band: 1910-2020
Hazard Function: Proportion Retired
Weighting: Exposures

**Rolling Band Life Analysis**

| Observation Band | Censoring | First Degree | | | Second Degree | | | Third Degree | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Average Life | Disper-sion | Conf. Index | Average Life | Disper-sion | Conf. Index | Average Life | Disper-sion | Conf. Index |
| A | B | C | D | E | F | G | H | I | J | K |
| 2005-2009 | 2.7 | 30.4 | L1 * | 3.85 | 33.2 | L1 * | 2.23 | 36.3 | L0.5 * | 1.81 |
| 2006-2010 | 0.0 | 29.7 | L1.5 * | 3.00 | 30.5 | L1 * | 2.15 | 34.2 | L1.5 * | 1.85 |
| 2007-2011 | 0.9 | 28.9 | L1.5 * | 3.31 | 28.7 | L1.5 * | 2.92 | 32.6 | L1.5 * | 2.40 |
| 2008-2012 | 5.4 | 33.1 | L1.5 * | 3.80 | 33.9 | L1 * | 2.79 | 41.7 | O3 * | 1.53 |
| 2009-2013 | 0.0 | 25.7 | L1 * | 2.28 | 25.2 | L1 * | 2.19 | 26.5 | L1.5 * | 1.67 |
| 2010-2014 | 0.0 | 25.1 | L1 | 2.23 | 24.6 | L1 * | 2.17 | 25.4 | L1.5 * | 1.79 |
| 2011-2015 | 0.1 | 25.9 | L1 | 2.16 | 25.5 | L1 * | 1.64 | 26.7 | L1.5 * | 1.43 |
| 2012-2016 | 0.2 | 28.5 | L1 | 2.33 | 28.7 | L1 * | 1.48 | 30.9 | L1 * | 1.38 |
| 2013-2017 | 0.2 | 26.0 | L0.5 | 4.60 | 28.1 | L1 * | 2.80 | 27.8 | L1 * | 2.75 |
| 2014-2018 | 0.8 | 42.6 | L0.5 | 10.84 | 83.5 | O4 * | 10.09 | 44.3 | L0 * | 5.58 |
| 2015-2019 | 53.8 | 62.7 | L0.5 | 15.46 | 128.5 | SC * | 4.09 | 66.8 | R0.5 * | 5.40 |
| 2016-2020 | 76.3 | 79.5 | L0.5 | 17.62 | 148.7 | SC * | 4.36 | 74.8 | R1.5 * | 9.36 |

**Schedule D**
**Page 1 of 1**

## NEW JERSEY NATURAL GAS COMPANY

**Distribution Plant**

**Account: 381.00 Meters**

T-Cut: None
Placement Band: 1910-2020
Hazard Function: Proportion Retired
Weighting: Exposures

**Shrinking Band Life Analysis**

| Observation Band | Censoring | First Degree | | | Second Degree | | | Third Degree | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Average Life | Disper-sion | Conf. Index | Average Life | Disper-sion | Conf. Index | Average Life | Disper-sion | Conf. Index |
| A | B | C | D | E | F | G | H | I | J | K |
| 1967-2020 | 0.7 | 38.2 | L1.5 * | 2.83 | 38.4 | L1.5 * | 2.49 | 49.6 | O3 * | 2.70 |
| 1969-2020 | 0.7 | 38.2 | L1.5 * | 2.82 | 38.4 | L1.5 * | 2.48 | 49.5 | O3 * | 2.69 |
| 1971-2020 | 0.7 | 38.2 | L1.5 * | 2.81 | 38.4 | L1.5 * | 2.47 | 49.5 | O3 * | 2.67 |
| 1973-2020 | 0.7 | 38.4 | L1.5 * | 2.80 | 38.6 | L1.5 * | 2.44 | 49.6 | O3 * | 2.66 |
| 1975-2020 | 0.7 | 38.5 | L1.5 * | 2.81 | 38.7 | L1.5 * | 2.42 | 49.7 | O3 * | 2.66 |
| 1977-2020 | 0.7 | 38.6 | L1.5 * | 2.88 | 38.9 | L1 * | 2.39 | 50.2 | O3 * | 2.75 |
| 1979-2020 | 0.7 | 38.6 | L1.5 * | 2.94 | 38.9 | L1 * | 2.37 | 50.4 | O3 * | 2.80 |
| 1981-2020 | 0.7 | 38.4 | L1.5 * | 2.96 | 38.9 | L1 * | 2.34 | 50.1 | O3 * | 2.76 |
| 1983-2020 | 0.7 | 38.2 | L1.5 * | 2.98 | 38.7 | L1 * | 2.27 | 49.7 | O3 * | 2.72 |
| 1985-2020 | 0.7 | 38.0 | L1.5 * | 3.02 | 38.6 | L1 * | 2.20 | 49.4 | O3 * | 2.71 |
| 1987-2020 | 0.7 | 37.7 | L1.5 * | 3.05 | 38.4 | L1 * | 2.12 | 49.1 | O3 * | 2.70 |
| 1989-2020 | 0.7 | 37.4 | L1.5 * | 3.09 | 38.2 | L1 * | 2.05 | 48.8 | O3 * | 2.73 |
| 1991-2020 | 0.7 | 37.2 | L1.5 * | 3.29 | 38.4 | L1 * | 2.12 | 48.7 | O3 * | 2.78 |
| 1993-2020 | 0.7 | 36.9 | L1.5 * | 3.46 | 38.5 | L1 * | 2.16 | 48.7 | O3 * | 2.86 |
| 1995-2020 | 0.7 | 36.6 | L1.5 * | 3.78 | 38.7 | L1 * | 2.33 | 48.8 | O3 * | 2.95 |
| 1997-2020 | 0.8 | 36.3 | L1 * | 4.17 | 39.2 | L0.5 * | 2.54 | 48.9 | O3 * | 3.02 |
| 1999-2020 | 0.8 | 35.8 | L1 * | 4.19 | 39.3 | L0.5 * | 2.45 | 48.4 | O3 * | 3.02 |
| 2001-2020 | 0.8 | 35.5 | L1 * | 4.24 | 40.2 | L0.5 * | 2.36 | 48.1 | O3 * | 3.06 |
| 2003-2020 | 0.8 | 34.8 | L1 | 4.30 | 40.3 | L0.5 * | 2.31 | 47.4 | O3 * | 3.00 |
| 2005-2020 | 0.8 | 34.1 | L1 | 4.46 | 40.4 | O2 * | 2.34 | 46.4 | O3 * | 2.92 |
| 2007-2020 | 0.7 | 33.8 | L1 | 4.13 | 39.8 | O2 * | 2.13 | 45.6 | O3 * | 2.94 |
| 2009-2020 | 1.0 | 35.2 | L1 | 4.61 | 43.0 | O3 * | 2.46 | 49.0 | O4 * | 3.33 |
| 2011-2020 | 1.2 | 36.3 | L1 | 5.14 | 48.2 | O3 * | 3.01 | 52.9 | O4 * | 3.95 |
| 2013-2020 | 0.6 | 35.4 | L1 | 5.47 | 47.6 | O3 * | 3.54 | 50.5 | O4 * | 4.04 |
| 2015-2020 | 60.4 | 70.8 | L0.5 | 14.51 | 140.0 | SC * | 3.47 | 72.9 | R1 * | 4.38 |
| 2017-2020 | 71.4 | 71.3 | L0.5 | 19.17 | 140.2 | SC * | 4.66 | 71.0 | R1 * | 9.30 |
| 2019-2020 | 100.0 | | | | No Retirements | | | | | |

**Schedule D**
**Page 1 of 1**

## NEW JERSEY NATURAL GAS COMPANY

**Distribution Plant**

**Account: 381.00 Meters**

T-Cut: None
Placement Band: 1910-2020
Hazard Function: Proportion Retired
Weighting: Exposures

**Progressing Band Life Analysis**

| Observation Band | Censoring | First Degree | | | Second Degree | | | Third Degree | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Average Life | Disper-sion | Conf. Index | Average Life | Disper-sion | Conf. Index | Average Life | Disper-sion | Conf. Index |
| A | B | C | D | E | F | G | H | I | J | K |
| 1967-1968 | 8.3 | 36.3 | L1.5 * | 5.95 | 36.3 | L2 * | 6.36 | 63.6 | O4 * | 4.34 |
| 1967-1970 | 0.0 | 34.9 | L2 * | 7.70 | 35.1 | L2 * | 8.53 | 54.4 | O4 * | 4.27 |
| 1967-1972 | 2.1 | 30.6 | L2 * | 9.49 | 31.1 | S1 * | 10.42 | 38.0 | L1.5 * | 5.37 |
| 1967-1974 | 0.0 | 30.1 | L2 * | 10.28 | 30.8 | S1 * | 11.32 | 34.3 | L2 * | 5.97 |
| 1967-1976 | 0.0 | 29.1 | L2 * | 10.92 | 30.4 | S1.5 * | 12.03 | 30.0 | L3 * | 7.24 |
| 1967-1978 | 0.0 | 30.3 | L2 * | 11.12 | 31.5 | S2 * | 11.80 | 30.4 | L3 * | 7.47 |
| 1967-1980 | 0.0 | 32.2 | L2 * | 10.94 | 32.8 | S2 * | 10.78 | 31.8 | L3 * | 6.52 |
| 1967-1982 | 0.5 | 35.0 | L2 * | 10.76 | 34.7 | S2 * | 9.11 | 34.0 | L3 * | 5.32 |
| 1967-1984 | 2.0 | 37.9 | L2 * | 11.32 | 36.5 | S2 * | 8.04 | 35.9 | L3 * | 4.96 |
| 1967-1986 | 3.7 | 41.0 | L2 * | 12.23 | 38.3 | S2 * | 7.35 | 38.0 | L3 * | 5.01 |
| 1967-1988 | 5.3 | 44.2 | L2 * | 12.63 | 40.2 | S2 * | 6.18 | 40.2 | L3 * | 4.57 |
| 1967-1990 | 4.2 | 44.0 | L2 * | 11.92 | 40.2 | S2 * | 5.56 | 40.7 | L3 * | 3.94 |
| 1967-1992 | 4.5 | 45.2 | L2 * | 11.59 | 41.1 | S2 * | 4.96 | 41.8 | L3 * | 3.70 |
| 1967-1994 | 2.5 | 45.8 | L2 * | 11.19 | 41.7 | S2 * | 4.61 | 42.2 | L3 * | 3.67 |
| 1967-1996 | 0.0 | 45.6 | L2 * | 10.45 | 41.8 | S2 * | 4.34 | 42.1 | L3 * | 3.56 |
| 1967-1998 | 0.7 | 46.3 | L2 * | 9.59 | 42.6 | S2 * | 3.91 | 43.2 | L3 * | 3.21 |
| 1967-2000 | 3.1 | 45.2 | L2 * | 8.05 | 42.3 | S2 * | 3.56 | 43.3 | L3 * | 2.75 |
| 1967-2002 | 3.8 | 45.8 | L2 * | 6.94 | 43.0 | S2 * | 3.30 | 44.1 | L3 * | 2.39 |
| 1967-2004 | 3.8 | 46.0 | L2 * | 6.16 | 43.4 | S2 * | 3.11 | 44.4 | L3 * | 2.19 |
| 1967-2006 | 4.5 | 44.7 | L2 * | 4.48 | 42.9 | S1.5 * | 2.77 | 45.2 | L3 * | 1.67 |
| 1967-2008 | 2.8 | 41.0 | L2 * | 2.75 | 40.2 | S1 * | 2.30 | 42.8 | L2 * | 1.37 |
| 1967-2010 | 0.0 | 39.5 | L1.5 * | 2.26 | 39.0 | S1 * | 2.05 | 41.5 | L2 * | 1.24 |
| 1967-2012 | 4.3 | 39.6 | L1.5 * | 2.14 | 39.3 | L2 * | 2.51 | 45.2 | L2 * | 0.94 |
| 1967-2014 | 0.1 | 34.8 | L1.5 * | 1.55 | 34.7 | L1.5 * | 1.48 | 35.7 | L2 * | 1.19 |
| 1967-2016 | 0.2 | 35.8 | L1.5 * | 1.70 | 35.8 | L1.5 * | 1.87 | 38.8 | L1.5 * | 1.27 |
| 1967-2018 | 0.5 | 36.4 | L1.5 * | 2.15 | 36.4 | L1.5 * | 2.02 | 42.5 | L1.5 * | 1.63 |
| 1967-2020 | 0.7 | 38.2 | L1.5 * | 2.83 | 38.4 | L1.5 * | 2.49 | 49.6 | O3 * | 2.70 |

**Schedule E**

## NEW JERSEY NATURAL GAS COMPANY

**Distribution Plant**

**Account: 381.00 Meters**

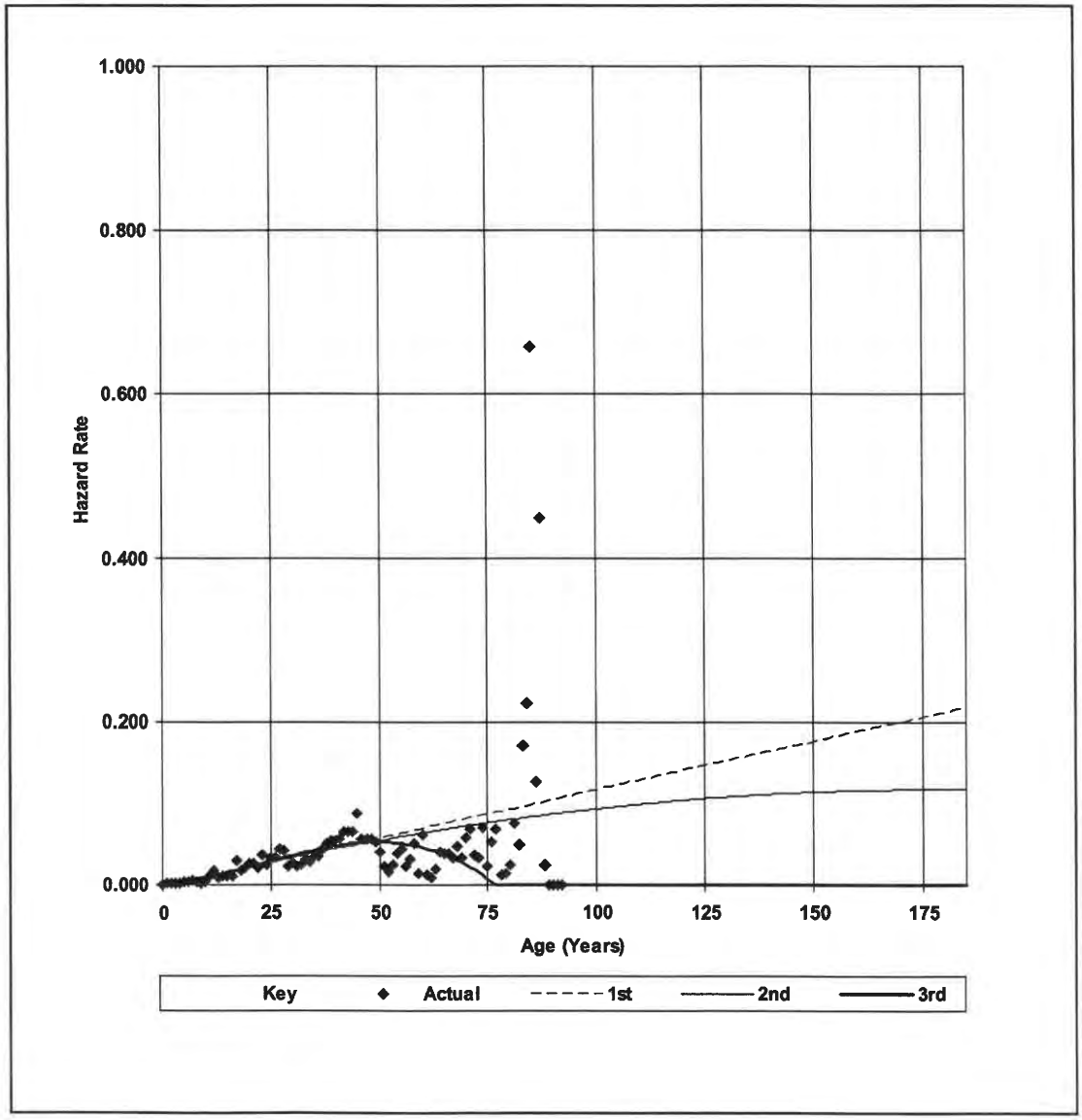
**T-Cut: None**

**Placement Band: 1910-2020 Observation Band: 1966-2020**

**Hazard Function: Proportion Retired**

**Weighting: Exposures**

**Polynomial Hazard Functions** **1st: 38.2-L1.5 2nd: 38.4-L1.5 3rd: 49.6-O3**



Schedule E
Page 1 of 1

## NEW JERSEY NATURAL GAS COMPANY

**Distribution Plant**

**Account: 381.00 Meters**

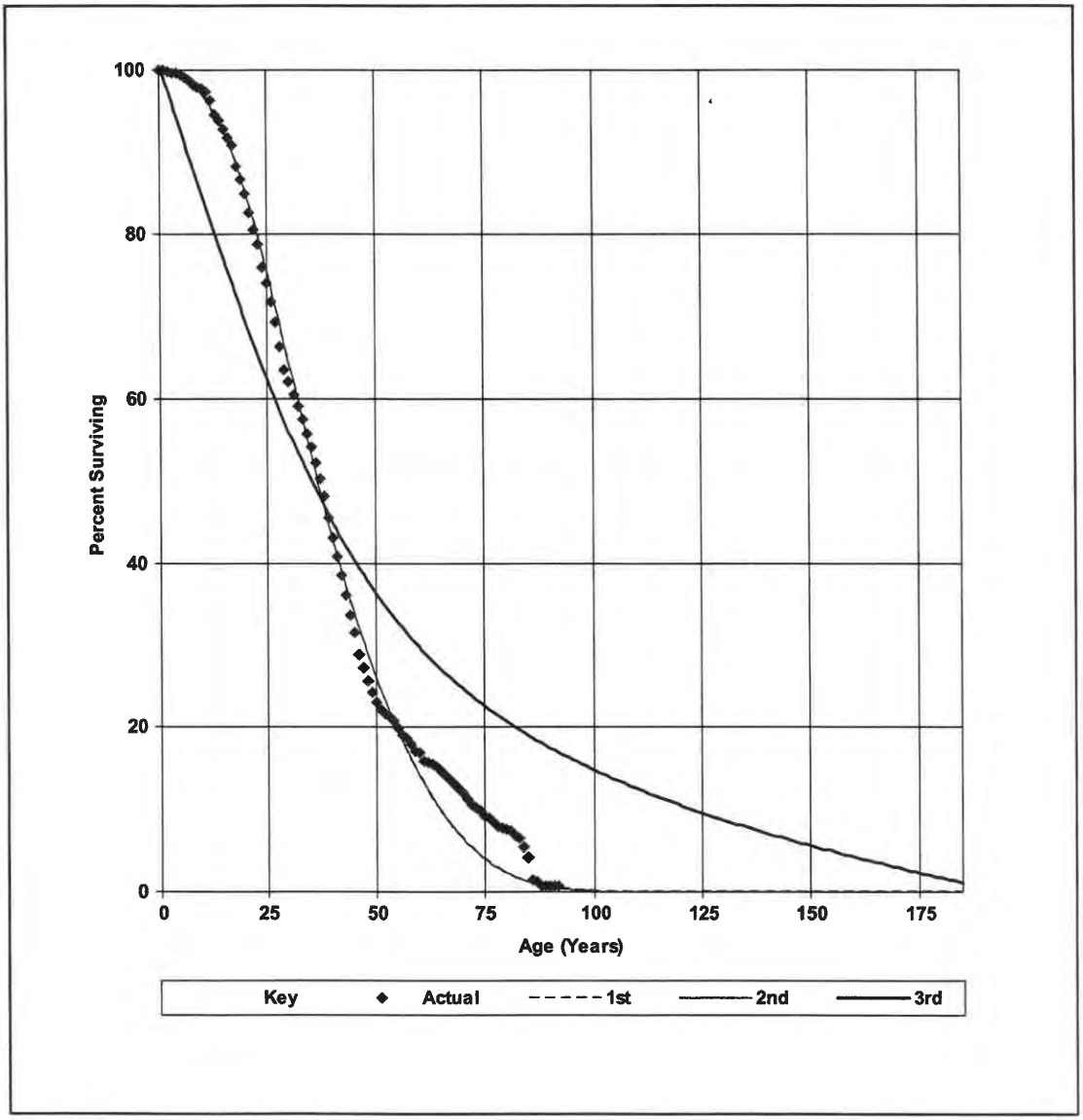
**T-Cut: None**

**Placement Band: 1910-2020 Observation Band: 1967-2020**

**Hazard Function: Proportion Retired**

**Weighting: Exposures**

**Survivorship Functions** **1st: 38.2-L1.5 2nd: 38.4-L1.5 3rd: 49.6-O3**



Schedule E

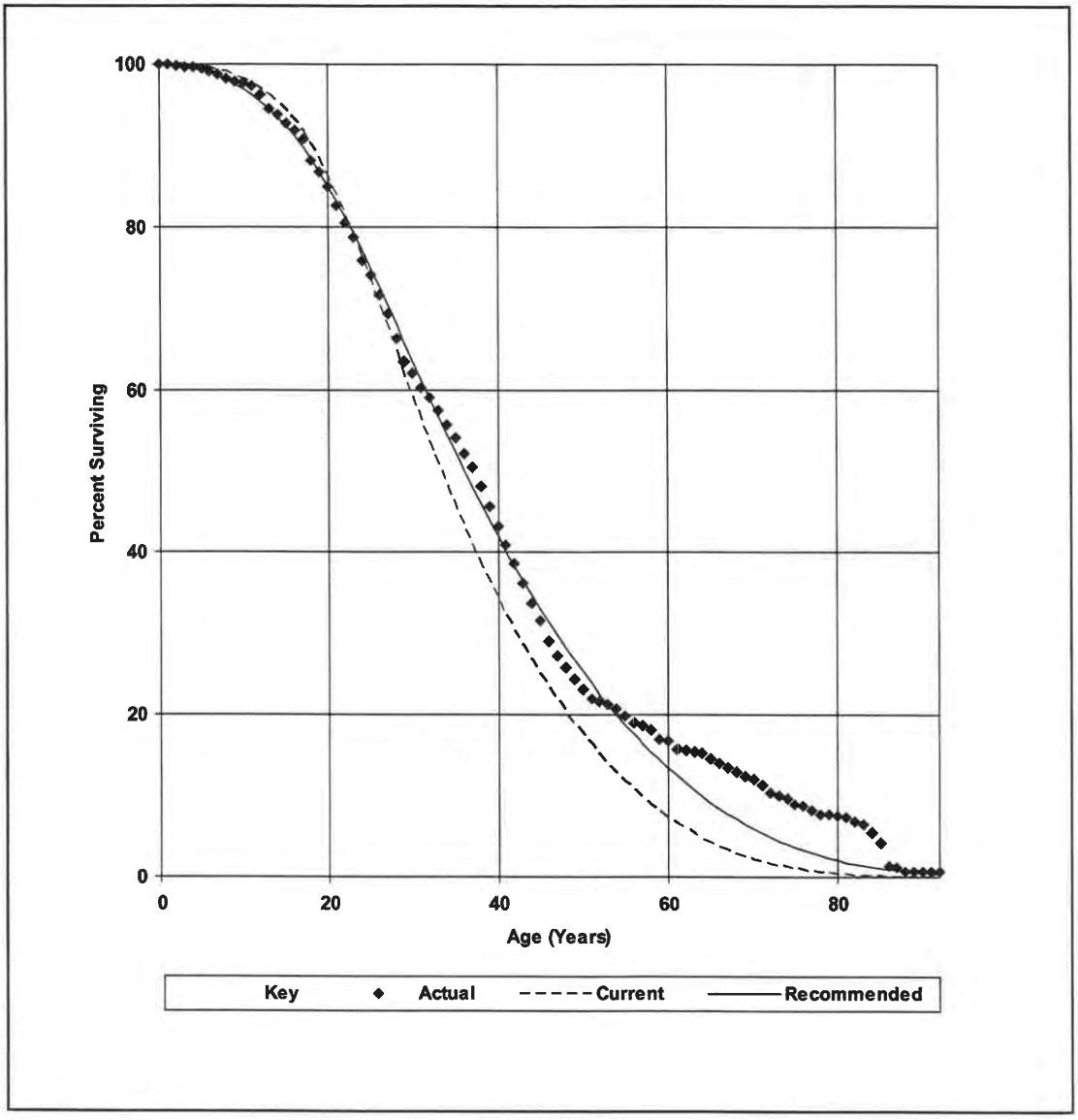
## NEW JERSEY NATURAL GAS COMPANY

**Distribution Plant**

**Account: 381.00 Meters**

T-Cut: None
Placement Band: 1910-2020
Observation Band: 1967-2020

**Projection Life Curves** Current: 35.0-L2 Proposed: 38.0-L1.5



**Schedule F**
**Page 1 of 2**

## NEW JERSEY NATURAL GAS COMPANY

**Distribution Plant**

**Account: 381.00 Meters**

**Unadjusted Net Salvage History**

| | | Gross Salvage | | | Cost of Retiring | | | Net Salvage | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Year | Retirements | Amount | Pct. | 5-Yr Avg. | Amount | Pct. | 5-Yr Avg. | Amount | Pct. | 5-Yr Avg. |
| A | B | C | D=C/B | E | F | G=F/B | H | I=C-F | J=I/B | K |
| 1972 | 91,213 | 5,797 | 6.4 | | 49,020 | 53.7 | | (43,223) | -47.4 | |
| 1973 | 102,091 | 25,359 | 24.8 | | 22,234 | 21.8 | | 3,125 | 3.1 | |
| 1974 | 70,854 | 35,840 | 50.6 | | 46,609 | 65.8 | | (10,769) | -15.2 | |
| 1975 | 100,292 | 19,365 | 19.3 | | 18,282 | 18.2 | | 1,083 | 1.1 | |
| 1976 | 86,547 | 59,959 | 69.3 | 32.4 | 78,566 | 90.8 | 47.6 | (18,607) | -21.5 | -15.2 |
| 1977 | 62,042 | 64,418 | 103.8 | 48.6 | 24,642 | 39.7 | 45.1 | 39,776 | 64.1 | 3.5 |
| 1978 | 33,197 | 44,609 | 134.4 | 63.5 | 14,197 | 42.8 | 51.7 | 30,412 | 91.6 | 11.9 |
| 1979 | 58,390 | 4,535 | 7.8 | 56.7 | 9,310 | 15.9 | 42.6 | (4,775) | -8.2 | 14.1 |
| 1980 | 15,002 | | 0.0 | 68.0 | 1,279 | 8.5 | 50.2 | (1,279) | -8.5 | 17.8 |
| 1981 | 12,187 | | 0.0 | 62.8 | 11,506 | 94.4 | 33.7 | (11,506) | -94.4 | 29.1 |
| 1982 | 10,735 | | 0.0 | 37.9 | | 0.0 | 28.0 | | 0.0 | 9.9 |
| 1983 | 1,939,111 | | 0.0 | 0.2 | | 0.0 | 1.1 | | 0.0 | -0.9 |
| 1984 | 9,072 | | 0.0 | 0.0 | | 0.0 | 0.6 | | 0.0 | -0.6 |
| 1985 | 10,506 | | 0.0 | 0.0 | | 0.0 | 0.6 | | 0.0 | -0.6 |
| 1986 | 20,841 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 |
| 1987 | 17,860 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 |
| 1988 | 35,046 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 |
| 1989 | 97,703 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 |
| 1990 | 160,814 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 |
| 1991 | 87,569 | 1,886 | 2.2 | 0.5 | | 0.0 | 0.0 | 1,886 | 2.2 | 0.5 |
| 1992 | 100,867 | 798 | 0.8 | 0.6 | | 0.0 | 0.0 | 798 | 0.8 | 0.6 |
| 1993 | 91,188 | | 0.0 | 0.5 | | 0.0 | 0.0 | | 0.0 | 0.5 |
| 1994 | 149,013 | | 0.0 | 0.5 | | 0.0 | 0.0 | | 0.0 | 0.5 |
| 1995 | 232,608 | 481 | 0.2 | 0.5 | | 0.0 | 0.0 | 481 | 0.2 | 0.5 |
| 1996 | 104,260 | | 0.0 | 0.2 | | 0.0 | 0.0 | | 0.0 | 0.2 |
| 1997 | 74,347 | | 0.0 | 0.1 | | 0.0 | 0.0 | | 0.0 | 0.1 |
| 1998 | 188,768 | | 0.0 | 0.1 | | 0.0 | 0.0 | | 0.0 | 0.1 |
| 1999 | 361,755 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 |
| 2000 | 152,669 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 |
| 2001 | 179,703 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 |
| 2002 | 177,846 | | 0.0 | 0.0 | 2,339 | 1.3 | 0.2 | (2,339) | -1.3 | -0.2 |
| 2003 | 259,994 | | 0.0 | 0.0 | | 0.0 | 0.2 | | 0.0 | -0.2 |
| 2004 | 246,750 | | 0.0 | 0.0 | | 0.0 | 0.2 | | 0.0 | -0.2 |
| 2005 | 500,688 | | 0.0 | 0.0 | | 0.0 | 0.2 | | 0.0 | -0.2 |
| 2006 | 625,098 | | 0.0 | 0.0 | | 0.0 | 0.1 | | 0.0 | -0.1 |
| 2007 | 1,147,383 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 |
| 2008 | 1,159,126 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 |
| 2009 | 992,855 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 |
| 2010 | 830,082 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 |
| 2011 | 1,018,412 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 |
| 2012 | | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 |

**Schedule F**
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## NEW JERSEY NATURAL GAS COMPANY

**Distribution Plant**

**Account: 381.00 Meters**

**Unadjusted Net Salvage History**

| | | Gross Salvage | | | Cost of Retiring | | | Net Salvage | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Year | Retirements | Amount | Pct. | 5-Yr Avg. | Amount | Pct. | 5-Yr Avg. | Amount | Pct. | 5-Yr Avg. |
| A | B | C | D=C/B | E | F | G=F/B | H | I=C-F | J=I/B | K |
| 2013 | 4,458,710 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 |
| 2014 | 1,670,024 | | 0.0 | 0.0 | 185,884 | 11.1 | 2.3 | (185,884) | -11.1 | -2.3 |
| 2015 | 616,941 | | 0.0 | 0.0 | | 0.0 | 2.4 | | 0.0 | -2.4 |
| 2016 | | | 0.0 | 0.0 | | 0.0 | 2.8 | | 0.0 | -2.8 |
| 2017 | 1,638,070 | | 0.0 | 0.0 | 4,316,898 | 263.5 | 53.7 | (4,316,898) | -263.5 | -53.7 |
| 2018 | | | 0.0 | 0.0 | | 0.0 | 114.7 | | 0.0 | -114.7 |
| 2019 | | | 0.0 | 0.0 | | 0.0 | 191.4 | | 0.0 | -191.4 |
| 2020 | | | 0.0 | 0.0 | | 0.0 | 263.5 | | 0.0 | -263.5 |
| Total | 19,998,229 | 263,047 | 1.3 | | 4,780,766 | 23.9 | | (4,517,719) | -22.6 | |

**Schedule F**
**Page 1 of 2**

## NEW JERSEY NATURAL GAS COMPANY

**Distribution Plant**

**Account: 381.00 Meters**

**Adjusted Net Salvage History**

| | | Gross Salvage | | | Cost of Retiring | | | Net Salvage | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Year | Retirements | Amount | Pct. | 5-Yr Avg. | Amount | Pct. | 5-Yr Avg. | Amount | Pct. | 5-Yr Avg. |
| A | B | C | D=C/B | E | F | G=F/B | H | I=C-F | J=I/B | K |
| 1972 | 91,213 | 5,797 | 6.4 | | 49,020 | 53.7 | | (43,223) | -47.4 | |
| 1973 | 102,091 | 25,359 | 24.8 | | 22,234 | 21.8 | | 3,125 | 3.1 | |
| 1974 | 70,854 | 35,840 | 50.6 | | 46,609 | 65.8 | | (10,769) | -15.2 | |
| 1975 | 100,292 | 19,365 | 19.3 | | 18,282 | 18.2 | | 1,083 | 1.1 | |
| 1976 | 86,547 | 59,959 | 69.3 | 32.4 | 78,566 | 90.8 | 47.6 | (18,607) | -21.5 | -15.2 |
| 1977 | 62,042 | 64,418 | 103.8 | 48.6 | 24,642 | 39.7 | 45.1 | 39,776 | 64.1 | 3.5 |
| 1978 | 33,335 | 44,609 | 133.8 | 63.5 | 14,197 | 42.6 | 51.6 | 30,412 | 91.2 | 11.9 |
| 1979 | 58,425 | 4,535 | 7.8 | 56.6 | 9,310 | 15.9 | 42.6 | (4,775) | -8.2 | 14.1 |
| 1980 | 14,967 | | 0.0 | 68.0 | 1,279 | 8.5 | 50.1 | (1,279) | -8.5 | 17.8 |
| 1981 | 12,187 | | 0.0 | 62.8 | 11,506 | 94.4 | 33.7 | (11,506) | -94.4 | 29.1 |
| 1982 | 10,735 | | 0.0 | 37.9 | | 0.0 | 28.0 | | 0.0 | 9.9 |
| 1983 | 9,420 | | 0.0 | 4.3 | | 0.0 | 20.9 | | 0.0 | -16.6 |
| 1984 | 9,072 | | 0.0 | 0.0 | | 0.0 | 22.7 | | 0.0 | -22.7 |
| 1985 | 10,506 | | 0.0 | 0.0 | | 0.0 | 22.2 | | 0.0 | -22.2 |
| 1986 | 20,841 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 |
| 1987 | 17,860 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 |
| 1988 | 29,638 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 |
| 1989 | 97,703 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 |
| 1990 | 160,814 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 |
| 1991 | 87,569 | 1,886 | 2.2 | 0.5 | | 0.0 | 0.0 | 1,886 | 2.2 | 0.5 |
| 1992 | 100,867 | 798 | 0.8 | 0.6 | | 0.0 | 0.0 | 798 | 0.8 | 0.6 |
| 1993 | 91,188 | | 0.0 | 0.5 | | 0.0 | 0.0 | | 0.0 | 0.5 |
| 1994 | 149,013 | | 0.0 | 0.5 | | 0.0 | 0.0 | | 0.0 | 0.5 |
| 1995 | 232,608 | 481 | 0.2 | 0.5 | | 0.0 | 0.0 | 481 | 0.2 | 0.5 |
| 1996 | 104,260 | | 0.0 | 0.2 | | 0.0 | 0.0 | | 0.0 | 0.2 |
| 1997 | 74,347 | | 0.0 | 0.1 | | 0.0 | 0.0 | | 0.0 | 0.1 |
| 1998 | 188,768 | | 0.0 | 0.1 | | 0.0 | 0.0 | | 0.0 | 0.1 |
| 1999 | 361,755 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 |
| 2000 | 152,669 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 |
| 2001 | 179,703 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 |
| 2002 | 177,846 | | 0.0 | 0.0 | 2,339 | 1.3 | 0.2 | (2,339) | -1.3 | -0.2 |
| 2003 | 259,994 | | 0.0 | 0.0 | | 0.0 | 0.2 | | 0.0 | -0.2 |
| 2004 | 246,750 | | 0.0 | 0.0 | | 0.0 | 0.2 | | 0.0 | -0.2 |
| 2005 | 500,688 | | 0.0 | 0.0 | | 0.0 | 0.2 | | 0.0 | -0.2 |
| 2006 | 625,098 | | 0.0 | 0.0 | | 0.0 | 0.1 | | 0.0 | -0.1 |
| 2007 | 1,147,383 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 |
| 2008 | 1,149,903 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 |
| 2009 | 992,855 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 |
| 2010 | 819,096 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 |
| 2011 | 1,005,749 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 |
| 2012 | | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 |

**Schedule F**
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## NEW JERSEY NATURAL GAS COMPANY

**Distribution Plant**

**Account: 381.00 Meters**

**Adjusted Net Salvage History**

| | | Gross Salvage | | | Cost of Retiring | | | Net Salvage | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Year | Retirements | Amount | Pct. | 5-Yr Avg. | Amount | Pct. | 5-Yr Avg. | Amount | Pct. | 5-Yr Avg. |
| A | B | C | D=C/B | E | F | G=F/B | H | I=C-F | J=I/B | K |
| 2013 | 4,304,758 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 |
| 2014 | 1,560,119 | | 0.0 | 0.0 | 185,884 | 11.9 | 2.4 | (185,884) | -11.9 | -2.4 |
| 2015 | 591,027 | | 0.0 | 0.0 | | 0.0 | 2.5 | | 0.0 | -2.5 |
| 2016 | | | 0.0 | 0.0 | | 0.0 | 2.9 | | 0.0 | -2.9 |
| 2017 | 1,637,582 | | 0.0 | 0.0 | 4,316,898 | 263.6 | 55.6 | (4,316,898) | -263.6 | -55.6 |
| 2018 | | | 0.0 | 0.0 | | 0.0 | 118.8 | | 0.0 | -118.8 |
| 2019 | | | 0.0 | 0.0 | | 0.0 | 193.7 | | 0.0 | -193.7 |
| 2020 | | | 0.0 | 0.0 | | 0.0 | 263.6 | | 0.0 | -263.6 |
| Total | 17,740,136 | 263,047 | 1.5 | | 4,780,766 | 26.9 | | (4,517,719) | -25.5 | |

**NEW JERSEY NATURAL GAS COMPANY**

**PREPARED DIRECT TESTIMONY**
**OF**
**DANIEL P. YARDLEY**

**Q. Please state your name, affiliation and business address.**

A. My name is Daniel P. Yardley. I am Principal, Yardley Associates and my business address is 2409 Providence Hills Drive, Matthews, North Carolina 28105.

**Q. On whose behalf are you testifying?**

A. I am testifying on behalf New Jersey Natural Gas Company ("NJNG" or the "Company").

**Q. Please provide a brief outline of your professional and educational background.**

A. I have been employed as a consultant to the natural gas industry for the past 30 years. During this period, I have directed or participated in numerous consulting assignments on behalf of local distribution companies ("LDCs"). A number of these assignments involved the development of gas distribution company cost allocation, pricing, service unbundling, revenue decoupling and other tariff analyses. In addition to this work, I have performed interstate pipeline cost of service and rate design analyses, gas supply planning analyses, and financial evaluation analyses. I received a Bachelor of Science Degree in Electrical Engineering from the Massachusetts Institute of Technology in 1988.

**Q. Have you previously testified before the New Jersey Board of Public Utilities and other regulatory bodies concerning rate and regulatory matters?**

A. Yes. Over the last 20 years, I have testified before the New Jersey Board of Public Utilities (the "BPU") on various ratemaking and regulatory matters including rate

unbundling, cost allocation, rate design, revenue decoupling, cost recovery mechanisms and tariff design. My testimony in various proceedings has been presented on behalf of NJNG, Elizabethtown Gas Company and South Jersey Gas Company. I have also testified in proceedings before several other state public utility commissions and before the Federal Energy Regulatory Commission and the Canada Energy Regulator on a variety of rate and regulatory topics. A summary of my previous expert testimony is provided as Attachment A to my direct testimony.

**Q. What is the purpose of your direct testimony?**

A. I have been asked by NJNG to evaluate the manner in which it recovers its base distribution revenue requirements from customers and to propose changes that are consistent with the nature of the services that it provides as well as important rate design objectives. In this regard, my testimony addresses two topics. First, I will review important public policy and industry developments that are guiding important changes in the way regulatory agencies and LDCs are approaching rate design matters. Second, I will support the derivation of specific rates and charges for distribution services that fairly apportion the Company's revenue requirement among customer classes. The new charges are based on appropriate rate design considerations including the results of an allocated cost of service study ("ACOSS") performed in a consistent manner with other elements of the Company's filing.

**Q. Please summarize your findings.**

A. The three principal conclusions of my testimony are as follows:

(1) **Existing monthly fixed customer charges for the majority of NJNG's customers are substantially below cost-based levels:** The customer charges for residential customers are less than 20 percent of corresponding customer-related costs. Similarly, customer charges for small general service customers are less than 55 percent of customer-related costs. The below-cost customer charges result in

intra-class subsidies as substantial customer-related costs are recovered through volumetric charges applied to customer use. This shifts a disproportionate share of customer-related costs to larger use customers within a class.

(2) **Class-differentiated base revenue changes are appropriate based upon the results of the ACOSS:** The results of the ACOSS demonstrate that the earned rates of return for service to residential, small general service and firm transportation service customers are below the rates of return for all other classes of customers. Applying a larger proportion of the revenue increase to these rate classes is reasonable, as it promotes fairness among the base rates for the various customers that NJNG serves.

(3) **The proposed class-specific base revenue requirements reasonably apportion the Company's proposed revenue increase among rate classes:** By applying a larger proportion of the revenue increase to rate classes with below-average rates of return, the proposed class-specific revenue requirements promote fairness. At the same time, no revenue decreases are proposed for rate classes that reflect above-average rates of return in order to balance fairness with rate moderation concerns.

**Q. Are you sponsoring any exhibits that accompany your prepared direct testimony?**

A. Yes. I am sponsoring the following three exhibits, which will be explained later in my testimony:

| | |
|---|---|
| Schedule DPY-1: | Allocated Cost of Service Study; |
| Schedule DPY-2: | Allocation of Proposed Revenue Adjustments to Customer Classes; and |
| Schedule DPY-3: | Existing and Proposed Rates and Revenues. |

## *RATE DESIGN POLICY BACKGROUND*

**Q. How does rate design affect the achievement of energy policy objectives?**

A. From a public policy perspective, rate design is a critically important tool for achieving specific energy policy goals that influence the quality of life for New Jersey's citizens and the State's competitive position. Policy goals affected by rate design include end-use fuel mix, energy efficiency and the resulting environmental and cost impacts of

energy consumption. Therefore, the form of a utility's rate structure is an important building block that can contribute to achieving important energy policy goals.

The nexus between rate design and energy policy objectives has been receiving increased attention throughout the U.S., due in large part to the prevalence of usage-based rate designs. Usage-based rate designs recover a substantial portion of LDC fixed-cost revenue requirements through volumetric charges applied to the amount of natural gas consumed by customers. The inherent operating incentives under this form of rate structure are for the LDC to add new customers and to promote increased consumption by its existing customers. The incentive to increase consumption by current customers is at odds with other public policy goals that favor energy conservation and reductions in customer energy bills. LDCs such as NJNG are promoting increased energy efficiency to their customers. Rate design is a necessary element that enables LDCs to fully embrace the energy efficiency imperative while also meeting fiduciary responsibilities to shareholders, regulators and customers alike.

**Q. Why are usage-based rate designs prevalent among LDCs?**

A. The traditional approach to rate design found in many jurisdictions today reflects historical industry drivers and market conditions. The U.S. natural gas delivery system underwent a period of broad expansion that lasted for decades following World War II. This expansion, enabled by advances in metallurgical technologies and welding techniques, brought the benefits of reliable, affordable and clean-burning natural gas to millions of households and businesses throughout the U.S., including New Jersey. Public policy promoted the expansion of natural gas infrastructure and additional penetration of natural gas into more homes and for additional end-uses. This public policy was reflected

in throughput-based rate designs as expanding systems and growing loads allowed an LDC's fixed costs to be spread over greater levels of billing units, lowering average costs to consumers. Traditional usage-based rate designs were appropriate under the circumstances in which they were developed. However, the present imperative to promote increased energy efficiency in order to lower customer bills and reduce carbon emissions calls for a reordering of priorities.

**Q. Does the Conservation Incentive Program ("CIP") represent a rate design approach that addresses the throughput incentive associated with usage-based rate designs?**

A. Yes. A fundamental tenet of the CIP Tariff, which was first approved by the BPU in 2006, is alignment of the financial interests of NJNG with those of its customers with respect to reductions in total energy costs to customers. In particular, the base revenue impacts of any customer savings from energy efficiency and conservation do not contribute negatively to the Company's financial performance. The CIP Tariff mitigates fixed cost recovery concerns that would otherwise be present when customers reduce consumption. Customers that lower their consumption realize substantial savings as gas supply commodity costs are avoided altogether. The CIP and other similar programs adopted in other jurisdictions are recognized as supporting important local and national policy goals to lower energy use and reduce the associated environmental impacts.

Given the aggressive goals established by the Clean Energy Act ("CEA") and the interest in ensuring utilities are motivated to maximize energy savings for their customers, it is more important than ever to establish and maintain regulatory structures that do not penalize utilities for promoting energy reduction strategies to their customers. The June 10, 2020 BPU Order supporting the implementation of the CEA properly recognized this

fact and supported the continuation of our CIP structure.[1] In March of 2021, the BPU approved NJNG's expanded energy efficiency programs (BPU Docket Nos. QO19010040 and GO20090622), including an agreement to continue NJNG's CIP as previously structured.

**Q. Please comment on the relationship between NJNG's CIP and the appropriate rate design in this proceeding.**

A. The CIP represents an appropriate means of separating NJNG's margin revenue recoveries from customer usage. The CIP is essential to aligning the interests of NJNG and its customers with respect to energy consumption. Removing the link between throughput and margins through the CIP allows NJNG to fully support increased energy efficiency and conservation, encouraging customers to reduce their gas bills and lower the environmental impacts of their gas consumption.

Moreover, the CIP is layered over the existing rate design, which provides important flexibility in terms of the design of base rates. While increases to fixed charges are appropriate, the CIP enables the ongoing recovery of a portion of fixed costs through variable charges and is an integral component of NJNG's overall rate structure.

## *NJNG DISTRIBUTION RATE DESIGN*

**Q. Please describe the specific rate design goals for NJNG that guided the development of the rate design you are recommending.**

A. The rate design approach I am recommending seeks to achieve the following five goals:

[1] *See In re the Implementation of P.L. 2018, c. 17 Regarding the Establishment of Energy Efficiency and Peak Demand Reduction Programs*, BPU Docket Nos. QO19010040, QO19060748, and QO17091004, Order dated June 10, 2020.

**(1)** **Fairness** – Fairness is accomplished through pricing services based on the underlying cost. Fairness is important in many respects including, (i) between the Company and its customers, (ii) across rate classes served by NJNG, and (iii) among customers taking service under a common service classification.

**(2)** **Not Discriminatory** – Avoiding undue discrimination requires rates that do not grant an unreasonable preference or subject an unreasonable disadvantage to any customer or group of customers.

**(3)** **Rate Moderation** – Moderation allows for the implementation of price changes over time to ensure that customers are not exposed to dramatic price changes all at once.

**(4)** **Revenue Stability** – Revenue stability means that NJNG's base rate revenues are more predictable in view of future uncertainties. As customer usage patterns have become less certain, improved revenue stability through rate design takes on greater importance as a way of mitigating the increased risks to customers and the Company associated with such unpredictable consumption patterns.

**(5)** **Energy Efficiency** – Energy efficiency as a goal is the promotion of consumption decisions that support energy efficiency goals.

**Q. Please describe the Company's existing service classifications.**

A. NJNG's existing service classifications are segregated by sector, nature of service (firm or interruptible), customer size and by end-use in some cases. Over 98 percent of the Company's customers are served under either the Residential Service ("RS") or General Service Small ("GSS") service classifications. These service classifications provide service to small customers, with average annual use of approximately 950 annual therms for the RS service classification and 1,250 annual therms for the GSS service classification. The

RS and GSS service classifications provide customers with the opportunity to purchase gas supply from NJNG by paying the applicable Basic Gas Supply Service ("BGSS") rate or from a third-party supplier. The price paid for distribution service is not affected by a customer's choice of its gas supplier.

General service customers whose annual use is greater than or equal to 5,000 therms take service under the General Service Large ("GSL") service classification. The GSL service classification provides customers with the option of purchasing BGSS or third-party gas supply, similar to the RS and GSS service classifications. Larger customers also have the option of taking service under the Firm Transportation ("FT") service classification, which incorporates daily balancing requirements that are more stringent than for the GSL service classification. The FT service classification is utilized by some of the Company's largest customers. The average annual consumption for GSL customers is approximately 17,000 therms and over 200,000 therms for FT customers.

NJNG also provides service under service classifications applicable to specific end-uses. Customers utilizing fuel cells, microturbines or other distributed generation technologies are eligible to take service pursuant to either NJNG's Distributed Generation Residential ("DGR") or Distributed Generation Commercial ("DGC") service classifications. Customers refueling natural gas vehicles or operating natural gas vehicle refueling stations are eligible to take service pursuant to either NJNG's Natural Gas Vehicle ("NGV") or Compressed Natural Gas ("CNG") service classifications.

**Q. Does NJNG provide service to any off-tariff customers?**

A. Yes. A limited number of large electric generation customers receive service under long-term contracts rather than the Company's tariff. Each contract service customer committed to pay rates over a multi-year period that result in an appropriate revenue stream

to support the Company's associated investment in facilities to provide service. The rates and charges under each long-term contract reflect the unique attributes of the specific customer including the nature of the load and investment requirements. All off-tariff services are approved by the BPU before service to the customer begins.

**Q. What rates and charges are incorporated into the RS and GSS service classifications?**

A. The existing rate design for these service classifications is similar and includes two types of margin rate charges that are intended to recover NJNG's non-gas revenue requirements or cost of service: a fixed monthly customer charge and a volumetric charge or charges applicable to monthly volumes. Fixed monthly customer charges are applied per customer per month and volumetric charges are applied to each customer's monthly usage. Under this rate structure, all customers pay a minimum monthly amount to NJNG equal to the fixed customer charge, regardless of their monthly usage. The rate design also results in customers paying higher amounts as their consumption increases due to the per-therm volumetric charge. The volumetric charge is considered a variable charge because all of the associated revenues are linked to customer usage or throughput.

For RS service, the current fixed monthly customer charge is $9.51 and the volumetric charge is $0.4690 per therm. The monthly fixed charge for GSS service is $32.68 and the corresponding volumetric charge is $0.4153 per therm. GSS customers that utilize natural gas for air conditioning and pool heating pay a discounted volumetric charge of $0.0900 per therm during the summer months of May through September. All NJNG retail charges included in this testimony exclude the New Jersey Sales and Use Tax ("SUT"). The SUT rate of 6.625 percent applies to all of NJNG's retail charges and is included in the rates in the Company's proposed Tariff, attached to the Direct Testimony of Tina M. Trebino as Schedule TMT-1.

**Q. Please describe the rates incorporated in NJNG's larger customer service classifications, GSL and FT.**

A. The margin rates applicable to the GSL and FT service classifications incorporate a demand charge in addition to a monthly fixed charge and volumetric charges. The demand charge is an important means of recovering fixed peak-related costs from customers in an equitable manner. The margin rates for the GSL rate class are a monthly fixed charge of $75.77 and a monthly demand charge of $2.4688 per therm of highest monthly average daily usage ("HMAD"). A volumetric charge of $0.2711 per therm applies to all use, except for air conditioning and pool heating use by customers which reflects a volumetric charge of $0.0900 per therm during the summer months of May through September. The margin rates for the FT rate class are a monthly fixed charge of $254.42 and a monthly demand charge of $1.8592 per therm of maximum daily demand and a volumetric charge of $0.0748 per therm.

**Q. Please describe the rates for NJNG's distributed generation service classifications.**

A. DGR customers pay the same monthly customer charge as RS customers of $9.51. In addition, DGR customers pay a seasonally-differentiated volumetric charge of $0.1685 per therm during the winter months of November through April and $0.1185 per therm during the summer months of May through October. Presently there are no customers on the DGR service classification. DGC customers pay a monthly customer charge of $77.31 and a monthly demand charge of $1.8238 per therm of peak demand. Additionally, DGC customers pay a seasonally-differentiated volumetric charge of $0.0616 per therm during the winter and $0.0310 per therm during the summer.

**Q. Please describe the existing rates and service for NJNG's natural gas vehicle service classifications.**

A. The Company has two service classifications for natural gas vehicle refueling. First, the CNG service classification provided for the construction of Company owned stations operated by customers at customer locations and includes firm service for compressed natural gas delivery service at the three stations constructed. The CNG service classification reflects a monthly charge of $77.70 and a volumetric charge of $0.2050 per therm. The CNG service classification also incorporates a charge of $0.2000 per therm to offset the costs of providing compression. Second, the NGV service classification includes service for fueling natural gas vehicles at Company owned and operated re-fueling facilities and at customer owned and operated re-fueling facilities. The NGV service classification reflects the same monthly charge of $77.70 and a volumetric charge of $0.2050 per therm as the CNG service classification.

**Q. Did you perform an ACOSS to support your rate design recommendations?**

A. Yes. I believe that an ACOSS provides an important means of assessing the reasonableness of existing prices and to guide the development of price changes. In particular, the ACOSS that I performed for NJNG examines all of the Company's common costs reflected in its base rate petition, and through appropriate cost assignments and allocations, establishes measures of investments, expenses and income by customer class. The ACOSS is an important tool because many of the Company's costs are common and are incurred to serve many classes of customers collectively.

The ACOSS calculates the total investment and operating costs incurred to serve each customer class, thereby establishing class-specific total revenue requirements. The class-specific revenue requirements are compared to class revenues in order to establish

class income and rate of return on investment. The class-specific rates of return are used to guide the apportionment of the revenue requirements among all of NJNG's customer classes in conjunction with the development of proposed rates. The ACOSS also determines the classification of costs among demand, customer and volumetric components. The classification of costs within a rate classification is used to guide the development of the form of billing rates for that class. Although the ACOSS is not the only factor relied upon to design rates, it is an invaluable guide to ensuring that the process is fair and reasonable.

**Q. Please describe the general costing methodology that is incorporated in the NJNG ACOSS.**

A. The most significant consideration in the development of an ACOSS is the methodological approach to allocating fixed demand costs. Various approaches may be employed to allocate fixed demand costs including ones that are based on system design, system utilization or a blending of system design and system utilization. The ACOSS performed for NJNG reflects a system design approach to the allocation of fixed demand costs that closely follows principles of cost causation. A full description of the NJNG ACOSS and detailed results are presented in Schedule DPY-1.

**Q. Please summarize the results of the ACOSS.**

A. The primary results from the ACOSS are the rate of return by class and the unit customer and demand-related costs. The results of the ACOSS indicate that the rate of return for the residential heating, and residential non-heating classes are negative at present rates. The rate of return for all other classes is above the system-average, to varying degrees, indicating that these other classes are subsidizing the prices for residential customers. A summary of the rate of return by class is provided in Table 1.

**Table 1**

**Rate of Return by Class**

| | ACOSS Rate of Return | Unitized |
|---|---|---|
| Residential Heating | 0.2% | 0.1 |
| Residential Non-Heating | (8.1%) | (3.4) |
| GSS | 4.8% | 2.0 |
| GSL | 25.6% | 10.7 |
| FT | 4.0% | 1.7 |
| DGC | 20.1% | 8.4 |
| NGV / CNG | 88.1% | 36.9 |
| Overall | 2.4% | 1.0 |

With respect to unit costs, the ACOSS indicates that the system-wide average customer cost is $56 per month, and the cost generally varies with the size of the customer. The lowest average customer cost of $54 per month is indicated for the residential non-heating class and the highest is $261 per month for the FT class. A comparison of existing customer charges to customer-related costs is presented in Table 2.

**Table 2**

**Comparison of Existing Customer Charges and Customer-Related Costs**

| | Existing Customer Charge | Customer-Related Cost | Difference |
|---|---|---|---|
| Residential Heating | $9.51 | $54.55 | $45.04 |
| Residential Non-Heating | $9.51 | $53.63 | $44.12 |
| GSS | $32.68 | $62.95 | $30.27 |
| GSL | $75.77 | $121.50 | $45.73 |
| FT | $254.42 | $260.75 | $6.33 |
| DGC | $77.31 | $146.35 | $69.04 |
| NGV / CNG | $77.70 | $240.05 | $162.35 |

The significant variance between monthly customer-related costs and customer charges is taken into consideration when designing the intra-class rate design.

**Q. Did you perform an alternative ACOSS?**

A. Yes, I performed an alternative ACOSS related to the classification and allocation of distribution mains costs among NJNG's customer classes. NJNG's investment in distribution mains is the single largest plant investment on its books and represents approximately 45 percent of net plant investment. It is appropriate to allocate a portion of the costs of distribution mains on the basis of the number of customers recognizing that distribution mains are designed to deliver supplies in reasonable proximity to customers in order to minimize the length of pipe used to serve all customers in an overall efficient fashion. The primary ACOSS reflects this system design criterion through the use of a minimum size study. Prior to determining the appropriate allocation of the proposed change in base revenue requirements, I performed an alternative ACOSS that does not allocate a

portion of distribution mains costs on the basis of the number of customers in each class. The results of the alternative ACOSS are presented in Table 3.

**Table 3**

**Rate of Return by Class**
**Alternative ACOSS**

| | ACOSS Rate of Return | Unitized |
|---|---|---|
| Residential Heating | 0.7% | 0.3 |
| Residential Non-Heating | (8.7%) | (3.7) |
| GSS | 4.5% | 1.9 |
| GSL | 14.2% | 6.0 |
| FT | (0.9%) | (0.4) |
| DGC | 8.2% | 3.4 |
| NGV / CNG | 52.0% | 21.8 |
| Overall | 2.4% | 1.0 |

**Q. What steps did you employ to develop the specific rates you are proposing?**

A. First, I determined the class-by-class revenue requirements, which reflect the results of the ACOSS and other rate design principles. Next, I evaluated the existing level of customer charges and proposed increases that take into account the customer-related costs for each class. Last, I established the appropriate variable distribution rates to recover the remaining portion of class revenue requirements.

**Q. How did you develop the class-by-class revenue requirements to be reflected in new base rates?**

A. I first calculated the level of existing base revenues from each customer class taking into account CIP revenues. This calculation is provided in Schedule DPY-2, Column (D).

Next, I determined the proportion of the overall base revenue increase that should be recovered from each class taking into consideration the results of the ACOSS and other rate design considerations. The ACOSS and the alternative ACOSS both indicate that three rate classes would require a base rate decrease in order to bring their rates of return in line with the overall rate of return. These are the GSL, DGC and NGV rate classes. However, I am not proposing to lower rates for any class of customers in order to mitigate the base revenue increase that remaining classes bear.

In order to establish the proportion of revenue increase assigned to each customer class, I segregated rate classes into two groups based on the ACOSS results. The first group is comprised of rate classes whose existing rates already produce a unitized return that is above the requested return of 7.53% without any revenue increase. Since the rates of return for these rate classes are already somewhat above the requested return, I am proposing an increase that is only one-half of the overall base revenue change, which mitigates the increase to the other rate classes. I am proposing to allocate the remaining revenue increase to the residential RS, GSS and FT rate classes. The resulting base revenues by rate class for proposed rates are reflected in Schedule DPY-2, Column (F).

**Q. Why is the level of the customer charge important?**

A. The level of the customer charge is important for a variety of reasons that relate to the Company's rate design goals I described earlier. First, the customer charge provides customers with an important price signal concerning the impact of connecting to NJNG's distribution system. Second, recovering customer-related costs through customer charges contributes to intra-class fairness. To the extent that a portion of customer-related costs are recovered through volumetric charges, intra-class subsidies will be created as larger use

customers pay a disproportionate share of customer-related costs. Within the residential class, the level of the customer charge affects the price signal to existing non-heating customers contemplating a conversion to natural gas heating. Third, the customer charge provides revenue stability as fixed costs that are incurred to serve customers are recovered through a fixed charge.

**Q. Please describe your proposed changes to the Company's monthly customer charges as well as any applicable demand charges.**

A. I am proposing changes to the customer charges applicable to all service classifications. While it is desirable to recover a greater proportion of the class revenue requirement increase through the customer charge, I am limiting the increase to the RS customer charge in order to reduce the impacts to residential non-heating customers. For the RS class, the proposed customer charge is $11.35 per month. A sizeable increase is needed to bring the charge closer to the cost-based level indicated by the ACOSS and to address the very low rate of return for residential non-heating customers. The higher RS customer charge reduces the increases needed to volumetric charges in order to recover the class-specific revenue requirements. Even with the increase to the residential customer charge, 83% of the target revenue requirements of the class are recovered through the volumetric charge under the proposed RS rates.

I am proposing to increase the customer charge for the GSS class to $41.50, for the GSL class to $98.00 and for the FT class to $365.00. For the GSL and FT rate classes, I am proposing to increase the monthly demand charge to $3.20 and $2.65 respectively. For the DGC rate class, I am proposing to increase the monthly customer charge to $98.00 and the monthly demand charge to $2.30 per therm. These increases to fixed customer and

demand charges are also supported by the results of the ACOSS and reduce the required increase to volumetric charges to yield class margin revenues.

**Q. Please explain the changes you recommend to the rates and terms of service for the NGV and CNG rate classes.**

A. The distribution service and underlying costs of serving customers on these two classes is comparable given both are designed to meet natural gas vehicle refueling needs. For instance, unlike the majority of the Company's customers, vehicle refueling is not subject to weather variances. Therefore, I am recommending that the rates for distribution service continue to be equal for the NGV and CNG service classifications. The remaining distinction between the NGV and CNG service classifications is that the CNG service will continue to be subject to a $0.2000 per therm charge, attributable to the cost of providing compression, that is not applicable to the NGV service classification.

**Q. Have you prepared a summary of the proposed rate changes?**

A. Yes. The existing and proposed rates and resulting revenues for each class are presented in Schedule DPY-3. In addition to the proposed fixed customer and demand charges noted earlier, Schedule DPY-3 indicates the volumetric charges for each rate class necessary to yield the target base revenues by class.

The rates and revenues shown in columns (f) and (g) of Schedule DPY-3 reflect the proposed revenue allocation among rate classes. Schedule DPY-3 also provides a proof of revenues demonstrating that the proposed charges yield the requested revenue requirements based on the Company's forecasts of sales and customers.

**Q. Please comment on the impact of the proposed rate changes on NJNG's recovery of its overall costs of providing service to customers.**

The estimated return on rate base investment by class at existing and proposed rates is provided in Table 4.

**Table 4**

**Estimated Return on Rate Base Investment**

| Service Classification | Existing Rates | Proposed Rates |
|---|---|---|
| Residential Heating | 0.2% | 5.1% |
| Residential Non-Heating | (8.1%) | (7.7%) |
| GSS | 4.8% | 11.7% |
| GSL | 25.6% | 32.9% |
| FT | 4.0% | 10.6% |
| DGC | 20.1% | 25.0% |
| NGV / CNG | 88.1% | 105.8% |
| Overall | 2.4% | 7.5% |

While the proposed rates do not entirely eliminate existing subsidies, improvement in intra-class revenue responsibility is achieved through the increases to fixed charges. In my view, the proposed rates in this proceeding result from a fair and reasonable rate design approach given revenue changes applied in recent base rate proceedings and the continuation of NJNG's CIP.

**Q. Did you examine the impact of the proposed rate changes on the rate of return by class under the alternative ACOSS as well?**

Yes. Table 5 provides the estimated rates of return by class based upon the alternative ACOSS.

**Table 5**

**Estimated Return on Rate Base Investment**

| Service Classification | Existing Rates | Proposed Rates |
|---|---|---|
| Residential Heating | 0.7% | 6.0% |
| Residential Non-Heating | (8.7%) | (6.7%) |
| GSS | 4.5% | 11.1% |
| GSL | 14.2% | 18.3% |
| FT | (0.9%) | 1.8% |
| DGC | 8.2% | 10.1% |
| NGV / CNG | 52.0% | 62.1% |
| Overall | 2.4% | 7.5% |

**Q. Does this conclude your prepared direct testimony?**

A. Yes, it does.

# Prior Testimony of
# Daniel P. Yardley

| Jurisdiction | Sponsor | Year | Topics | Docket |
|---|---|---|---|---|
| **Federal Energy Regulatory Commission** | Northern Distributor Group | 1992 | Cost of Service and Cost Allocation | RP92-1 |
| | Northern Distributor Group | 1995 | Cost of Service and Rate Design | RP95-185 |
| | Atlanta Gas Light, et al. | 2001 | Storage Cost Allocation | RP01-245 |
| | Bay State Gas and Northern Utilities | 2002 | Rate Design | RP02-13 |
| **Florida** | Peoples Gas System | 2008 | Cost Allocation and Rate Design | Docket No. 080318-GU |
| | Peoples Gas System | 2020 | Cost Allocation and Rate Design | Docket No. 20200051-GU |
| **Massachusetts** | Bay State Gas | 1998 | Capacity Assignment | D.T.E. 98-32 |
| | Bay State Gas | 2001 | Contract Approval | D.T.E. 00-99 |
| | Bay State Gas | 2006 | Declining Use Rate Adjustment | D.T.E. 06-77 |
| | Bay State Gas | 2007 | Declining Use Rate Adjustment | D.P.U. 07-89 |
| | Bay State Gas | 2009 | Revenue Decoupling | D.P.U. 09-30 |
| **Illinois** | Nicor Gas | 2017 | Cost Allocation and Rate Design | Docket No. 17-00124 |
| | Nicor Gas | 2018 | Revenue Decoupling, Cost Allocation and Rate Design | Docket No. 18-1775 |
| | Nicor Gas | 2020 | Transportation Service Cost Recovery | Docket No. 20-0606 |
| | Nicor Gas | 2021 | Cost Allocation and Rate Design | Docket No. 20-0606 |
| **New Hampshire** | Northern Utilities | 2005 | Jurisdictional Gas Cost Allocation | DG05-080 |
| **Canada Energy Regulator** | Alberta Northeast Gas, Ltd. | 2012 | TransCanada Pipeline Service Restructuring and Tolls | RH-3-2011 |
| | Alberta Northeast Gas, Ltd. | 2013 | TransCanada Pipeline Shipper Renewal Rights | RH-1-2013 |
| | Alberta Northeast Gas, Ltd. | 2014 | TransCanada Pipeline Service Service and Toll Design | RH-1-2014 |
| **New Jersey** | New Jersey Natural Gas | 1999 | Rate Unbundling | Docket No. GO99030123 |
| | Elizabethtown Gas, *et al.* | 1999 | Customer Account Services | Docket No. EX99090676 |
| | Elizabethtown Gas | 2002 | Cost Allocation and Rate Design | Docket No. GR02040245 |
| | South Jersey Gas Company | 2003 | Cost Allocation and Rate Design | Docket No. GR03080683 |
| | South Jersey Gas Company | 2004 | Capacity Charge | Docket No. GR04060400 |
| | New Jersey Natural Gas | 2005 | Revenue Decoupling | Docket No. GR0512020 |

# Prior Testimony of
# Daniel P. Yardley

| Jurisdiction | Sponsor | Year | Topics | Docket |
|---|---|---|---|---|
| **New Jersey cont.** | South Jersey Gas Company | 2005 | Revenue Decoupling | Docket No. GR0512019 |
| | South Jersey Gas Company | 2007 | Annual Decoupling Adjustment | Docket No. GR07060354 |
| | New Jersey Natural Gas | 2007 | Cost Allocation and Rate Design | Docket No. GR07110889 |
| | South Jersey Gas Company | 2008 | Annual Decoupling Adjustment | Docket No. GR08050367 |
| | Elizabethtown Gas | 2009 | Revenue Decoupling, Cost Allocation and Rate Design | Docket No. GR09030195 |
| | South Jersey Gas Company | 2009 | Annual Decoupling Adjustment | Docket No. GR09060340 |
| | South Jersey Gas Company | 2009 | Cost Allocation and Rate Design | Docket No. GR10010035 |
| | New Jersey Natural Gas | 2010 | Energy Efficiency Cost Recovery | Docket No. GR10030225 |
| | South Jersey Gas Company | 2011 | Annual Decoupling Adjustment | Docket No. GR11060337 |
| | New Jersey Natural Gas | 2011 | Energy Efficiency Cost Recovery | Docket No. GR11070425 |
| | South Jersey Gas Company | 2012 | Annual Decoupling Adjustment | Docket No. GR12060475 |
| | New Jersey Natural Gas | 2012 | Energy Efficiency Cost Recovery | Docket No. GR12070640 |
| | New Jersey Natural Gas and South Jersey Gas Company | 2013 | Revenue Decoupling | Docket No. GR13030185 |
| | South Jersey Gas Company | 2013 | Annual Decoupling Adjustment | Docket No. GR13050434 |
| | South Jersey Gas Company | 2013 | Cost Allocation and Rate Design | Docket No. GR13111137 |
| | South Jersey Gas Company | 2014 | Annual Decoupling Adjustment | Docket No. GR14050510 |
| | New Jersey Natural Gas | 2014 | Energy Efficiency Cost Recovery | Docket No. GO14121412 |
| | South Jersey Gas Company | 2015 | Annual Decoupling Adjustment | Docket No. GR15060642 |
| | Elizabethtown Gas | 2015 | Infrastructure Cost Recovery | Docket No. GR15091090 |
| | New Jersey Natural Gas | 2015 | Cost Allocation and Rate Design | Docket No. GR15111304 |
| | South Jersey Gas Company | 2016 | Annual Decoupling Adjustment | Docket No. GR16060483 |
| | Elizabethtown Gas | 2016 | Cost Allocation and Rate Design | Docket No. GR16090826 |
| | South Jersey Gas Company | 2017 | Cost Allocation and Rate Design | Docket No. GR17010071 |
| | South Jersey Gas Company | 2017 | Annual Decoupling Adjustment | Docket No. GR17060586 |

# Prior Testimony of
# Daniel P. Yardley

| Jurisdiction | Sponsor | Year | Topics | Docket |
|---|---|---|---|---|
| **New Jersey cont.** | South Jersey Gas Company | 2018 | Annual Decoupling Adjustment | Docket No. GR17060586 |
| | New Jersey Natural Gas | 2019 | Cost Allocation and Rate Design | Docket No. GR19030420 |
| | Elizabethtown Gas | 2019 | Cost Allocation and Rate Design | Docket No. GR19040486 |
| | South Jersey Gas Company | 2019 | Annual Decoupling Adjustment | Docket No. GR19050679 |
| | South Jersey Gas Company | 2020 | Cost Allocation and Rate Design | Docket No. GR20030243 |
| | South Jersey Gas Company | 2020 | Annual Decoupling Adjustment | Docket No. GR20060383 |
| **New Mexico** | New Mexico Gas Company | 2018 | Rate Design, Weather Normalization Adjustment and Infrastructu | Case No. 18-00038-UT |
| | New Mexico Gas Company | 2019 | Cost Allocation, Rate Design and Infrastructure Cost Recovery | Case No. 19-00317-UT |
| | New Mexico Gas Company | 2020 | Weather Normalization Adjustment | Advice Notice No. 81 |
| **North Carolina** | Piedmont Natural Gas Company | 2013 | Cost Allocation and Rate Design | Docket No. G-9, Sub. 631 |
| | Piedmont Natural Gas Company | 2019 | Cost Allocation and Rate Design | Docket No. G-9, Sub. 743 |
| **Rhode Island** | Providence Gas Company | 1996 | Cost Allocation and Rate Design | Docket No. 2076 |
| **Tennessee** | Chattanooga Gas Company | 2009 | Revenue Decoupling, Cost Allocation and Rate Design | Docket No. 09-00183 |
| | Piedmont Natural Gas Company | 2011 | Cost Allocation and Rate Design | Docket No. 11-00144 |
| | Chattanooga Gas Company | 2018 | Cost Allocation and Rate Design | Docket No. 18-00017 |
| **Wisconsin** | Wisconsin Power and Light | 2001 | Cost Allocation and Rate Design | Docket No. 6680-UR-111 |

# NEW JERSEY NATURAL GAS COMPANY
# ALLOCATED COST OF SERVICE STUDY

## I. PURPOSE AND GUIDING PRINCIPLES

New Jersey Natural Gas Company ("NJNG") is proposing to change existing rates in connection with a proposed increase in base rate revenue requirements. An allocated cost of service study ("ACOSS") assesses the reasonableness of existing prices, and guides the development of price changes. In particular, the ACOSS examines all of a utility's common costs, and through appropriate cost assignments and allocations, establishes measures of investments, expenses and income by customer class. An ACOSS is necessary to determine the cost responsibility for each customer class because many of the Company's costs are common and are incurred to serve many classes of customers collectively.

The ACOSS calculates the total investment and operating costs incurred to serve each customer class, establishing class-specific total revenue requirements. The class-specific revenue requirements are compared to class revenues in order to establish class income and rate of return on investment. The class-specific rates of return are used to guide the apportionment of the base rate increase among all of NJNG's customer classes in conjunction with the development of proposed rates. The ACOSS also determines the classification of costs among demand, customer and commodity components. The classification of costs within a rate classification is used to guide the development of the form of billing rates for that class. Although the ACOSS is not the only factor relied upon to design rates, it is an invaluable guide to ensuring that the process is fair and reasonable.

The primary principle that guides the ACOSS process is that of cost causation. Each step in the development of the ACOSS is consistent with the factors that drive or contribute to the incurrence of costs on the NJNG system. For example, the principle of cost causation requires that the costs

incurred by the Company for billing be apportioned to classes on the basis of the number of bills issued or customers in each class.

## II. SPECIFICATION OF NJNG ACOSS

### *A. Overview*

The ACOSS follows a three-part process, which consists of the functionalization, classification and allocation of NJNG's total cost of service. First, cost functionalization involves the segregation of costs into categories based on the function that each cost is incurred to provide. In the ACOSS, the functions are production, transmission, storage and distribution – the direct functions associated with costs incurred by the Company. Second, cost classification further separates costs according to the primary cost causative forces exhibited on NJNG's system. The cost classifications used in the ACOSS relate to fixed costs required to serve peak requirements (demand-related), fixed costs associated with providing customers with access to and active status on the system (customer-related), and variable costs associated with system throughput (commodity-related). Finally, cost allocation takes each classification of cost for each function and apportions that cost to each of the Company's customer classes. Cost allocation utilizes a variety of factors to apportion the various types of costs among classes in a manner that is consistent with principles of cost responsibility.

### *B. Customer Classes*

The ACOSS includes eight customer classes, which are: Residential Heating, Residential Non-Heating, General Service Small ("GSS"), General Service Large ("GSL"), Firm Transportation ("FT"), Distributed Generation Commercial ("DGC") and Natural Gas Vehicle ("CNG / "NGV").

The Residential Heating and Residential Non-Heating customers are served under the same rate schedule, Residential Service ("RS"); however, the two types of customers are studied separately to guide the design of the customer and delivery rates that apply to RS customers. This approach provides for the evaluation of the cost of serving subsets of customers with disparate characteristics served under a common rate schedule. Residential Non-Heating customers are much smaller than Residential Heating customers and also have a much higher load factor, both of which have important implications for designing rates that are revealed by separating the groups in the ACOSS.

***B. Data Sources***

The primary data sources fall in two general categories: data related to the establishment of the total cost of service, and data used as the basis for allocating the total cost of service among customer classes. The total cost of service or revenue requirement data utilized in the ACOSS are taken from schedules supporting NJNG's base rate application in this proceeding. The Company's forecasts of sales, customers and revenues by class supporting the application as adjusted for pro forma changes are used as allocation bases for several categories of costs. The remaining allocation data are derived from special studies of facility or operating costs. All of the data utilized in the ACOSS correspond to a common time period of September 2020 through August 2021. This is NJNG's test year, which is the period for which rates are to be determined.

***C. Cost Functionalization***

The functionalization of costs refers to the segregation of costs among the primary functions provided by gas utilities to their retail customers. The chart of accounts prescribed by the New Jersey Board of Public Utilities separates the majority of costs into the following four functions:

- *Production:* The production function includes costs associated with the upstream commodity gas supply, interstate pipeline transportation capacity necessary to deliver the supply to NJNG's system, and upstream storage facilities. Additionally, the costs of any production facilities and the administrative costs associated with procuring natural gas and transportation are categorized as production-related.

- *Storage:* The storage function includes costs associated with on-system facilities that are able to receive injected supplies or delivered liquid natural gas for later withdrawals.

- *Transmission:* The transmission function includes costs associated with large diameter, high pressure facilities that deliver gas to smaller distribution facilities. Transmission facilities include transmission mains and compressors.

- *Distribution:* The distribution function includes costs associated with delivering supplies within areas that are close in proximity to gas loads, such as distribution mains. The costs associated with connecting customers to the distribution system are also considered distribution-related, which include

costs associated with services, meters and regulators.

The majority of NJNG's non-gas supply costs are associated with the distribution function. Costs that do not directly fall into one of these primary functions, such as administrative and general expenses, are functionalized on the same basis as other related costs.

***D. Cost Classification***

Classification is the apportionment of costs among demand, customer and commodity categories. Each of NJNG's rate base and expense accounts is classified consistent with the manner in which the associated costs are incurred. Costs that are associated with serving peak requirements on the system are classified as demand-related, e.g., costs associated with transmission accounts. Costs that are associated with providing customers access to and active status on the distribution system are classified as customer-related. Customer-related costs are incurred regardless of the amount of gas a customer consumes in any given period and include the costs of services, meters and regulators, and meter reading and billing expenses. Costs that are associated with the quantity of gas purchased or transported are classified as commodity-related. Examples of commodity-related costs are purchased gas costs. Demand and customer-related costs are considered fixed, while commodity-related costs are variable. Some categories of costs vary with more than one of the classifications described previously.

Lastly, some categories of costs are appropriately classified based on how other related costs are classified. For example, distribution operations supervision and engineering expenses are classified based on the classification of all other distribution operations accounts.

The classification of distribution mains reflects the distinct cost causative factors that drive the Company's investments in these facilities. The first factor is the coincident peak demand on the system. Distribution mains are designed to deliver the maximum quantities that are required during a peak period from NJNG's transmission pipelines or interstate pipeline interconnects to the interconnection with each individual customer service. The second factor is the number of customers on the system. Distribution mains are also designed to deliver supplies in reasonable proximity to customers in order to minimize the length of pipe used to serve all customers in an overall efficient fashion.

The breakdown of distribution mains investment costs between the demand and

customer-related components is determined through a minimum-size study. The premise underlying this study is that the size of distribution main installed in a given location is most affected by the peak load that will be served by the main, and that the length of distribution main is most affected by the number of customers that are served. The validity of this premise is supported by the system design criteria taken into consideration by the Company's distribution engineering staff.

The minimum size study evaluates the cost of replacing the existing distribution mains of the system under two different sets of assumptions. The first determines the cost of replacing existing distribution mains with the same type, diameter and lengths of pipe as is currently installed. The second determines the replacement cost assuming that the entire system is replaced with two-inch diameter plastic pipe, which is the smallest, least-expensive size and type of pipe presently being installed. The customer component of distribution mains is equal to the ratio of the replacement cost using the smallest size pipe to the replacement cost using the installed sizes of pipe. Based on the results of this study, 59.5% of NJNG's distribution mains investment is classified as customer-related.

***E. Cost Allocation***

Cost allocation is the apportionment of individual elements of the Company's classified cost of service among rate classes based on each class' responsibility for the cost being incurred. Cost allocation follows cost causation principles and requires the development of numerous allocation factors that reflect the different types of costs included in NJNG's overall revenue requirements. Considerable effort is required to yield the set of allocation factors underlying the ACOSS.

The ACOSS follows system-design criteria in order to allocate costs on the basis of cost causation. The demand allocator used in the ACOSS is the coincident design day demand factor. Under this method, the allocation of demand costs reflects the manner in which the Company designs, plans and constructs its system to satisfy firm demands. Off-peak loads do not increase the Company's demand-related investments, and therefore, are not factored into the demand allocator in a system-design ACOSS.

The other allocation factors used in the ACOSS may be grouped into three categories as follows: (i) class summary statistics reflected in the base rate filing, such as the number of customers and throughput by class; (ii) special studies that examine the

costs associated with a specific type of investment or expense; and (iii) internal allocation factors, which are composite factors determined on the basis of how related cost items are allocated. All of the various factors must be developed assuming a consistent time period for the ACOSS to be accurate.

Seven special studies were performed related to significant capital investment and operations and maintenance ("O&M") expense accounts. The studies are as follows:

- *Meter Investment Study:* The meter investment study establishes the aggregate investment in meters and associated regulators based on the type and replacement cost of various meters installed to serve each class.
- *Meter Installation Investment Study:* The meter investment study establishes the aggregate investment in meter installations based on the type and replacement cost of various meters installed to serve each class.
- *Service Investment Study:* NJNG's investment in distribution services is the largest investment on its books after the Company's investment in mains. The services investment study establishes the aggregate investment in services based on the type and length of various services installed to serve each class.
- *Cash Working Capital Study:* The cash working capital study examines the components of NJNG's proposed cash working capital allowance. A composite allocator is derived from the allocation of each component within the ACOSS.
- *Customer Deposits Study:* The customer deposits study assesses the customer deposits by rate class.
- *Labor Expense Study:* A study of the Company's payroll expense examines components of the Company's payroll costs. The labor study is used as the basis for allocating costs that vary with direct payroll costs, such as pensions and benefits costs.
- *Write-offs Study:* The write-offs study examines historical write-offs by customer class.

Together, these special studies are utilized to allocate a substantial portion of the Company's total revenue requirements to customer classes.

Gas costs recovered through Basic Gas Supply Service ("BGSS") charges and costs recovered through other tariff riders represent a significant proportion of the Company's overall O&M expense. Costs

associated with the BGSS and other tariff riders are allocated among NJNG's rate classes on the basis of the associated rider revenues. The Company does not necessarily incur all gas costs on this basis as a portion of gas costs result from fixed interstate pipeline demand charges. However, given that all customers are allowed to choose an alternate gas supplier, it is important that the application of the ACOSS results to the design of distribution prices not be affected by variances in the allocation of gas costs among sales service classifications.

## III. RESULTS

Detailed ACOSS results are provided in Schedule DPY-1, Attachment I. The first two pages of the attached results provide an income statement by class at existing and proposed rates, respectively. Pages three, four and five contain summaries of allocated rate base, O&M expense and total revenue requirements by classification and rate class. Lastly, page six provides a detailed analysis of the components of monthly customer-related costs.

The ACOSS demonstrates that the rates of return at present rates for the Residential Heating, Residential Non-Heating, General Service Small and Firm Transportation customers are less than the proposed rate of return of 7.53%. The rates of return for the General Service Large, Distributed Generation and Natural Gas Vehicle classes are above the system-average rate of return. These results indicate the class-differentiated increases in base revenue requirements are appropriate.

Monthly customer costs are derived from the costs that are classified as customer-related and the apportionment of these costs to NJNG's various customer classes. The system-wide average monthly customer cost is $56, and the cost generally varies with the size of the customer. The lowest average customer cost of $54 per month is associated with serving the Residential Non-Heating class.

## New Jersey Natural Gas Company
## Income and Rate of Return at Present Rates

| | Total System | Residential Heating | Residential Non-Heating | General Service GSS | General Service GSL | Firm Transportation | Distributed Generation | CNG / NGV |
|---|---|---|---|---|---|---|---|---|
| **REVENUES** | | | | | | | | |
| Margin Revenues | $ 397,259,561 | $ 289,090,722 | $ 2,869,358 | $ 28,877,077 | $ 68,281,464 | $ 6,705,967 | $ 1,013,935 | $ 421,038 |
| Other Revenues | 301,180,443 | 236,838,675 | 1,331,035 | 16,297,629 | 43,892,815 | 1,955,010 | 497,645 | 367,633 |
| **Total** | **$ 698,440,003** | **$ 525,929,397** | **$ 4,200,394** | **$ 45,174,706** | **$ 112,174,279** | **$ 8,660,977** | **$ 1,511,580** | **$ 788,670** |
| **OPERATING EXPENSES** | | | | | | | | |
| Operations and Maintenance | $ 453,931,703 | $368,834,967 | $5,011,002 | $26,293,461 | $48,923,086 | $3,929,940 | $606,225 | $333,022 |
| Depreciation and Amortization | 116,075,006 | 95,472,426 | 1,889,312 | 7,460,983 | 9,084,536 | 1,983,357 | 164,086 | 20,306 |
| Taxes Other Than Income Taxes | 49,368,518 | 39,227,022 | 318,108 | 2,726,599 | 6,624,382 | 342,974 | 76,260 | 53,172 |
| **Total** | **$ 619,375,227** | **$ 503,534,414** | **$ 7,218,423** | **$ 36,481,043** | **$ 64,632,004** | **$ 6,256,272** | **$ 846,571** | **$ 406,500** |
| **OPERATING INCOME BEFORE TAXES** | **$ 79,064,776** | **$ 22,394,982** | **$ (3,018,029)** | **$ 8,693,663** | **$ 47,542,275** | **$ 2,404,705** | **$ 665,009** | **$ 382,171** |
| **INCOME TAXES** | | | | | | | | |
| Federal Income Taxes | $ (10,479,087) | $ (8,677,797) | $ (173,605) | $ (672,418) | $ (782,946) | $ (157,155) | $ (13,236) | $ (1,930) |
| State Income Taxes | (4,935,206) | (4,086,875) | (81,760) | (316,680) | (368,734) | (74,013) | (6,234) | (909) |
| Deferred Income Taxes | 17,307,591 | 14,332,524 | 286,731 | 1,110,587 | 1,293,138 | 259,562 | 21,861 | 3,187 |
| **Total** | **$ 1,893,298** | **$ 1,567,852** | **$ 31,366** | **$ 121,488** | **$ 141,458** | **$ 28,394** | **$ 2,391** | **$ 349** |
| **RATEMAKING ADJUSTMENTS** | **$ (22,447,581)** | **($16,304,661)** | **($44,931)** | **($1,437,551)** | **($3,582,478)** | **($987,372)** | **($81,084)** | **($9,504)** |
| **NET INCOME** | **$ 54,723,897** | **$ 4,522,469** | **$ (3,094,326)** | **$ 7,134,623** | **$ 43,818,339** | **$ 1,388,939** | **$ 581,534** | **$ 372,318** |
| | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - |
| **ADJUSTED NET INCOME** | **$ 54,723,897** | **$ 4,522,469** | **$ (3,094,326)** | **$ 7,134,623** | **$ 43,818,339** | **$ 1,388,939** | **$ 581,534** | **$ 372,318** |
| **RATE BASE** | **$ 2,294,083,177** | **$1,899,744,571** | **$38,005,539** | **$147,205,856** | **$171,402,665** | **$34,404,367** | **$2,897,692** | **$422,488** |
| **RATE OF RETURN AT PRESENT RATE** | **2.39%** | **0.24%** | **-8.14%** | **4.85%** | **25.56%** | **4.04%** | **20.07%** | **88.13%** |

## New Jersey Natural Gas Company
## Income and Rate of Return at Proposed Rates

| | Total System | Residential Heating | Residential Non-Heating | General Service GSS | General Service GSL | Firm Transportation | Distributed Generation | CNG / NGV |
|---|---|---|---|---|---|---|---|---|
| **REVENUES** | | | | | | | | |
| Margin Revenues | $ 562,923,960 | $ 421,042,532 | $ 3,826,513 | $ 42,091,737 | $ 84,552,593 | $ 9,687,966 | $ 1,217,215 | $ 505,403 |
| BGSS and Rider Revenues | 301,180,443 | 236,838,675 | 1,331,035 | 16,297,629 | 43,892,815 | 1,955,010 | 497,645 | 367,633 |
| **Total** | **$ 864,104,403** | **$ 657,881,208** | **$ 5,157,549** | **$ 58,389,366** | **$ 128,445,408** | **$ 11,642,976** | **$ 1,714,860** | **$ 873,035** |
| **OPERATING EXPENSES** | | | | | | | | |
| Operations and Maintenance | $ 455,114,099 | $369,747,808 | $5,018,326 | $26,363,904 | $49,097,769 | $3,943,464 | $608,580 | $334,249 |
| Depreciation and Amortization | 116,075,006 | 95,472,426 | 1,889,312 | 7,460,983 | 9,084,536 | 1,983,357 | 164,086 | 20,306 |
| Taxes Other Than Income Taxes | 49,794,096 | 39,579,446 | 325,158 | 2,753,908 | 6,656,179 | 349,357 | 76,798 | 53,250 |
| **Total** | **$ 620,983,201** | **$ 504,799,679** | **$ 7,232,796** | **$ 36,578,795** | **$ 64,838,484** | **$ 6,276,178** | **$ 849,464** | **$ 407,805** |
| **OPERATING INCOME BEFORE TAXES** | **$ 243,121,202** | **$ 153,081,528** | **$ (2,075,248)** | **$ 21,810,571** | **$ 63,606,924** | **$ 5,366,799** | **$ 865,396** | **$ 465,231** |
| **INCOME TAXES** | | | | | | | | |
| Federal Income Taxes | $ 20,868,176 | $ 17,281,067 | $ 345,718 | $ 1,339,061 | $ 1,559,168 | $ 312,960 | $ 26,359 | $ 3,843 |
| State Income Taxes | 9,829,917 | 8,140,216 | 162,850 | 630,762 | 734,443 | 147,419 | 12,416 | 1,810 |
| Deferred Income Taxes | 17,307,591 | 14,332,524 | 286,731 | 1,110,587 | 1,293,138 | 259,562 | 21,861 | 3,187 |
| **Total** | **$ 48,005,684** | **$ 39,753,806** | **$ 795,299** | **$ 3,080,410** | **$ 3,586,750** | **$ 719,941** | **$ 60,637** | **$ 8,841** |
| **RATEMAKING ADJUSTMENTS** | **$ (22,447,581)** | **($16,304,661)** | **($44,931)** | **($1,437,551)** | **($3,582,478)** | **($987,372)** | **($81,084)** | **($9,504)** |
| **NET INCOME** | **$ 172,667,937** | **$ 97,023,061** | **$ (2,915,477)** | **$ 17,292,610** | **$ 56,437,696** | **$ 3,659,485** | **$ 723,676** | **$ 446,886** |
| **RATE BASE** | **$ 2,294,083,177** | **$1,899,744,571** | **$38,005,539** | **$147,205,856** | **$171,402,665** | **$34,404,367** | **$2,897,692** | **$422,488** |
| **RATE OF RETURN AT PROPOSED RATE** | **7.53%** | **5.11%** | **-7.67%** | **11.75%** | **32.93%** | **10.64%** | **24.97%** | **105.77%** |

## New Jersey Natural Gas Company
## Rate Base

| | Total System | Residential Heating | Residential Non-Heating | General Service GSS | General Service GSL | Firm Transportation | Distributed Generation | CNG / NGV |
|---|---|---|---|---|---|---|---|---|
| **I. PLANT IN SERVICE** | | | | | | | | |
| Demand | $ 1,063,397,728 | $ 768,336,288 | $ 1,550,531 | $68,130,972 | $173,134,550 | $47,856,066 | $3,928,984 | $460,337 |
| Customer | 1,984,673,031 | 1,747,733,464 | 49,520,453 | 128,129,698 | 57,596,242 | 1,497,641 | 150,204 | 45,330 |
| Commodity | 1,565,513 | 1,231,404 | 7,016 | 84,795 | 227,581 | 10,230 | 2,584 | 1,903 |
| | $ 3,049,636,272 | $2,517,301,156 | $51,078,001 | $196,345,464 | $230,958,374 | $49,363,936 | $4,081,772 | $507,569 |
| **II. ACCUMULATED RESERVE FOR DEPRECIATION** | | | | | | | | |
| Demand | $ 235,817,392 | $ 170,385,123 | $ 343,847 | $15,108,613 | $38,393,989 | $10,612,453 | $871,283 | $102,084 |
| Customer | 345,647,352 | 303,941,139 | 8,596,878 | 22,251,984 | 10,514,694 | 307,588 | 26,656 | 8,414 |
| Commodity | 629,713 | 495,321 | 2,822 | 34,108 | 91,543 | 4,115 | 1,039 | 765 |
| | $ 582,094,457 | $474,821,583 | $8,943,547 | $37,394,705 | $49,000,225 | $10,924,157 | $898,978 | $111,263 |
| **III. NET PLANT IN SERVICE** | | | | | | | | |
| Demand | $ 827,580,337 | $ 597,951,165 | $ 1,206,685 | $53,022,359 | $134,740,561 | $37,243,612 | $3,057,701 | $358,253 |
| Customer | 1,639,025,679 | 1,443,792,325 | 40,923,576 | 105,877,714 | 47,081,548 | 1,190,053 | 123,548 | 36,916 |
| Commodity | 935,799 | 736,083 | 4,194 | 50,687 | 136,039 | 6,115 | 1,544 | 1,137 |
| | $ 2,467,541,815 | $2,042,479,573 | $42,134,454 | $158,950,760 | $181,958,148 | $38,439,780 | $3,182,794 | $396,307 |
| **IV. RATE BASE ADDITIONS** | | | | | | | | |
| Demand | $ 140,536,184 | $ 114,209,061 | $ 688,263 | $8,608,382 | $15,067,960 | $1,696,838 | $183,972 | $81,707 |
| Customer | 108,045,240 | 92,016,696 | 2,144,519 | 6,820,814 | 6,359,406 | 608,137 | 69,429 | 26,239 |
| Commodity | 64,070 | 51,513 | 606 | 3,703 | 7,560 | 542 | 92 | 55 |
| | $ 248,645,494 | $206,277,270 | $2,833,388 | $15,432,899 | $21,434,926 | $2,305,517 | $253,493 | $108,001 |
| **V. RATE BASE DEDUCTIONS** | | | | | | | | |
| Demand | $ (150,448,381) | $ (110,584,697) | $ (296,931) | ($9,605,856) | ($23,353,251) | ($6,034,523) | ($503,736) | ($69,386) |
| Customer | (271,500,367) | (238,305,312) | (6,664,626) | (17,563,457) | (8,614,759) | (305,363) | (34,603) | (12,248) |
| Commodity | (155,383) | (122,262) | (746) | (8,489) | (22,400) | (1,045) | (256) | (186) |
| | $ (422,104,131) | ($349,012,271) | ($6,962,303) | ($27,177,803) | ($31,990,409) | ($6,340,930) | ($538,595) | ($81,820) |
| **VI. TOTAL RATE BASE** | | | | | | | | |
| Demand | **$ 817,668,140** | **$ 601,575,529** | **$ 1,598,016** | **$52,024,884** | **$126,455,271** | **$32,905,927** | **$2,737,937** | **$370,575** |
| Customer | **1,475,570,551** | **1,297,503,708** | **36,403,469** | **95,135,071** | **44,826,195** | **1,492,827** | **158,375** | **50,907** |
| Commodity | **844,486** | **665,334** | **4,054** | **45,901** | **121,199** | **5,612** | **1,381** | **1,006** |
| | **$ 2,294,083,177** | **$1,899,744,571** | **$38,005,539** | **$147,205,856** | **$171,402,665** | **$34,404,367** | **$2,897,692** | **$422,488** |

## New Jersey Natural Gas Company
## O&M Expense

| | Total System | Residential Heating | Residential Non-Heating | General Service GSS | General Service GSL | Firm Transportation | Distributed Generation | CNG / NGV |
|---|---|---|---|---|---|---|---|---|
| **I. PRODUCTION EXPENSE** | | | | | | | | |
| Demand | $ 32,119 | $ 23,207 | $ 47 | $2,058 | $5,229 | $1,445 | $119 | $14 |
| Customer | - | - | - | - | - | - | - | - |
| Commodity | 221,688,894 | 174,376,497 | 993,536 | 12,007,570 | 32,227,323 | 1,448,685 | 365,858 | 269,424 |
| | $ 221,721,012 | $174,399,704 | $993,583 | $12,009,628 | $32,232,552 | $1,450,130 | $365,976 | $269,438 |
| **II. STORAGE EXPENSE** | | | | | | | | |
| Demand | $ 3,221,638 | $ 2,327,727 | $ 4,697 | $ 206,408 | $ 524,524 | $ 144,984 | $ 11,903 | $ 1,395 |
| Customer | - | - | - | - | - | - | - | - |
| Commodity | - | - | - | - | - | - | - | - |
| | $ 3,221,638 | $2,327,727 | $4,697 | $206,408 | $524,524 | $144,984 | $11,903 | $1,395 |
| **III. TRANSMISSION EXPENSE** | | | | | | | | |
| Demand | $ 7,477,420 | $ 5,402,653 | $ 10,903 | $ 479,072 | $ 1,217,420 | $ 336,507 | $ 27,627 | $ 3,237 |
| Customer | - | - | - | - | - | - | - | - |
| Commodity | - | - | - | - | - | - | - | - |
| | $ 7,477,420 | $5,402,653 | $10,903 | $479,072 | $1,217,420 | $336,507 | $27,627 | $3,237 |
| **IV. DISTRIBUTION EXPENSE** | | | | | | | | |
| Demand | $ 14,136,013 | $ 10,213,681 | $ 20,611 | $905,682 | $2,301,525 | $636,165 | $52,229 | $6,119 |
| Customer | 39,075,346 | 34,057,150 | 956,593 | 2,579,123 | 1,426,456 | 51,353 | 3,453 | 1,218 |
| Commodity | - | - | - | - | - | - | - | - |
| | $ 53,211,359 | $44,270,831 | $977,204 | $3,484,806 | $3,727,981 | $687,518 | $55,682 | $7,338 |
| **V. CUSTOMER ACCOUNTS EXPENSE** | | | | | | | | |
| Demand | $ 2,286,110 | $ 1,764,937 | $ 14,159 | $ 136,199 | $ 337,742 | $ 26,146 | $ 4,554 | $ 2,372 |
| Customer | 31,888,347 | 28,273,803 | 739,968 | 1,812,160 | 995,278 | 53,262 | 9,348 | 4,528 |
| Commodity | 2,361 | 1,823 | 15 | 141 | 349 | 27 | 5 | 2 |
| | $ 34,176,818 | $30,040,563 | $754,141 | $1,948,500 | $1,333,369 | $79,436 | $13,907 | $6,902 |
| **VI. CUSTOMER SERVICE AND SALES EXPENSE** | | | | | | | | |
| Demand | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - |
| Customer | 3,759,331 | 3,397,243 | 96,738 | 212,101 | 52,239 | 823 | 153 | 34 |
| Commodity | 27,461,171 | 21,600,463 | 123,072 | 1,487,408 | 3,992,081 | 179,452 | 45,320 | 33,374 |
| | $ 31,220,502 | $ 24,997,707 | $ 219,810 | $ 1,699,509 | $ 4,044,320 | $ 180,275 | $ 45,473 | $ 33,408 |
| **VII. ADMINISTRATIVE AND GENERAL EXPENSE** | | | | | | | | |
| Demand | $ 22,243,067 | $ 16,122,372 | $ 34,355 | $1,423,377 | $3,589,846 | $982,568 | $80,841 | $9,708 |
| Customer | 81,141,876 | 71,635,318 | 2,020,492 | 5,074,667 | 2,325,944 | 77,467 | 6,015 | 1,973 |
| Commodity | 700,408 | 550,934 | 3,140 | 37,938 | 101,812 | 4,577 | 1,156 | 851 |
| | $ 104,085,351 | $88,308,623 | $2,057,987 | $6,535,982 | $6,017,602 | $1,064,613 | $88,012 | $12,531 |
| **VIII. TOTAL O&M EXPENSE** | | | | | | | | |
| Demand | **$ 49,396,366** | **$ 35,854,577** | **$ 84,772** | **$ 3,152,796** | **$ 7,976,287** | **$ 2,127,816** | **$ 177,273** | **$ 22,844** |
| Customer | **155,864,899** | **137,363,513** | **3,813,791** | **9,678,051** | **4,799,916** | **182,906** | **18,969** | **7,753** |
| Commodity | **249,852,834** | **196,529,717** | **1,119,763** | **13,533,057** | **36,321,565** | **1,632,742** | **412,338** | **303,652** |
| | **$ 455,114,099** | **$ 369,747,808** | **$ 5,018,326** | **$ 26,363,904** | **$ 49,097,769** | **$ 3,943,464** | **$ 608,580** | **$ 334,249** |

## New Jersey Natural Gas Company
## Total Revenue Requirements

| | Total System | Residential Heating | Residential Non-Heating | General Service GSS | General Service GSL | Firm Transportation | Distributed Generation | CNG / NGV |
|---|---|---|---|---|---|---|---|---|
| **I. O&M EXPENSE** | | | | | | | | |
| Demand | $ 49,396,366 | $ 35,854,577 | $ 84,772 | $ 3,152,796 | $ 7,976,287 | $ 2,127,816 | $ 177,273 | $ 22,844 |
| Customer | 155,864,899 | 137,363,513 | 3,813,791 | 9,678,051 | 4,799,916 | 182,906 | 18,969 | 7,753 |
| Commodity | 249,852,834 | 196,529,717 | 1,119,763 | 13,533,057 | 36,321,565 | 1,632,742 | 412,338 | 303,652 |
| | $ 455,114,099 | $ 369,747,808 | $ 5,018,326 | $ 26,363,904 | $ 49,097,769 | $ 3,943,464 | $ 608,580 | $ 334,249 |
| **II. DEPRECIATION** | | | | | | | | |
| Demand | $ 42,890,144 | $ 30,989,406 | $ 62,538 | $ 2,747,934 | $ 6,983,050 | $ 1,930,181 | $ 158,468 | $ 18,567 |
| Customer | 73,091,772 | 64,409,797 | 1,826,357 | 4,708,007 | 2,087,953 | 52,568 | 5,464 | 1,626 |
| Commodity | 93,090 | 73,223 | 417 | 5,042 | 13,533 | 608 | 154 | 113 |
| | $ 116,075,006 | $ 95,472,426 | $ 1,889,312 | $ 7,460,983 | $ 9,084,536 | $ 1,983,357 | $ 164,086 | $ 20,306 |
| **III. TAXES OTHER THAN INCOME** | | | | | | | | |
| Demand | $ 1,373,366 | $ 991,696 | $ 1,980 | $ 88,011 | $ 223,973 | $ 62,023 | $ 5,090 | $ 594 |
| Customer | 5,192,615 | 4,585,292 | 129,444 | 324,487 | 148,055 | 4,849 | 368 | 120 |
| Commodity | 43,228,114 | 34,002,457 | 193,734 | 2,341,410 | 6,284,151 | 282,486 | 71,340 | 52,536 |
| | $ 49,794,096 | $39,579,446 | $325,158 | $2,753,908 | $6,656,179 | $349,357 | $76,798 | $53,250 |
| **IV. DEFERRED INCOME TAXES** | | | | | | | | |
| Demand | $ 6,168,855 | $ 4,538,555 | $ 12,056 | $ 392,499 | $ 954,035 | $ 248,257 | $ 20,656 | $ 2,796 |
| Customer | 11,132,365 | 9,788,949 | 274,644 | 717,742 | 338,189 | 11,263 | 1,195 | 384 |
| Commodity | 6,371 | 5,020 | 31 | 346 | 914 | 42 | 10 | 8 |
| | $ 17,307,591 | $14,332,524 | $286,731 | $1,110,587 | $1,293,138 | $259,562 | $21,861 | $3,187 |
| **V. RATEMAKING ADJUSTMENTS** | | | | | | | | |
| Demand | $ 21,936,916 | $ 15,850,060 | $ 31,986 | $ 1,405,480 | $ 3,571,613 | $ 987,230 | $ 81,052 | $ 9,496 |
| Customer | 510,665 | 454,601 | 12,945 | 32,071 | 10,866 | 142 | 32 | 8 |
| Commodity | - | - | - | - | - | - | - | - |
| | $ 22,447,581 | $16,304,661 | $44,931 | $1,437,551 | $3,582,478 | $987,372 | $81,084 | $9,504 |
| **VI. RETURN** | | | | | | | | |
| Demand | $ 61,543,312 | $ 45,278,700 | $ 120,278 | $ 3,915,750 | $ 9,517,891 | $ 2,476,726 | $ 206,076 | $ 27,892 |
| Customer | 111,061,559 | 97,659,028 | 2,739,975 | 7,160,518 | 3,373,927 | 112,360 | 11,920 | 3,832 |
| Commodity | 63,562 | 50,078 | 305 | 3,455 | 9,122 | 422 | 104 | 76 |
| | $ 172,668,433 | $142,987,805 | $2,860,558 | $11,079,722 | $12,900,940 | $2,589,509 | $218,100 | $31,799 |
| **VII. INCOME TAXES** | | | | | | | | |
| Demand | $ 10,941,562 | $ 8,049,936 | $ 21,384 | $ 696,167 | $ 1,692,151 | $ 440,328 | $ 36,637 | $ 4,959 |
| Customer | 19,745,231 | 17,362,444 | 487,130 | 1,273,042 | 599,838 | 19,976 | 2,119 | 681 |
| Commodity | 11,300 | 8,903 | 54 | 614 | 1,622 | 75 | 18 | 13 |
| | $ 30,698,093 | $25,421,282 | $508,568 | $1,969,824 | $2,293,611 | $460,379 | $38,775 | $5,653 |
| **VIII. TOTAL REVENUE REQUIREMENTS** | | | | | | | | |
| Demand | **$ 194,250,520** | **$ 141,552,930** | **$ 334,993** | **$ 12,398,636** | **$ 30,919,001** | **$ 8,272,561** | **$ 685,253** | **$ 87,148** |
| Customer | **376,599,107** | **331,623,624** | **9,284,286** | **23,893,919** | **11,358,744** | **384,064** | **40,067** | **14,403** |
| Commodity | **293,255,272** | **230,669,398** | **1,314,304** | **15,883,924** | **42,630,907** | **1,916,375** | **483,965** | **356,398** |
| | **$ 864,104,899** | **$703,845,951** | **$10,933,583** | **$52,176,479** | **$84,908,652** | **$10,573,000** | **$1,209,284** | **$457,949** |

## New Jersey Natural Gas Company
## Monthly Customer Cost Detail

| | Total System | Residential Heating | Residential Non-Heating | General Service GSS | General Service GSL | Firm Transportation | Distributed Generation | CNG / NGV |
|---|---|---|---|---|---|---|---|---|
| **I. AVERAGE CUSTOMER COSTS** | | | | 24.73 | | | | |
| Customer-Related Revenue Req. | $ 376,599,107 | $ 331,623,624 | $ 9,284,286 | $ 23,893,919 | $ 11,358,744 | $ 384,064 | $ 40,067 | $ 14,403 |
| Average Customers | 560,631 | 506,633 | 14,427 | 31,631 | 7,790 | 123 | 23 | 5 |
| **Average Monthly Customer Cost** | **$ 55.98** | **$ 54.55** | **$ 53.63** | **$ 62.95** | **$ 121.50** | **$ 260.75** | **$ 146.35** | **$ 240.05** |
| **II. MONTHLY CUSTOMER COST DETAIL** | | | | | | | | |
| O&M Expense | | | | | | | | |
| Mains and Services Expense | $ 1.94 | $ 1.90 | $ 1.90 | $ 2.18 | $ 3.07 | $ 2.52 | $ 3.08 | $ 3.50 |
| Meter & Regulator Expense | 0.73 | 0.60 | 0.53 | 1.27 | 7.13 | 23.27 | 5.01 | 10.72 |
| Meter Reading Expense | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 |
| Customer Records and Collections | 2.58 | 2.58 | 2.58 | 2.58 | 2.58 | 2.58 | 2.58 | 2.58 |
| Uncollectible Accounts | 0.61 | 0.52 | 0.15 | 0.65 | 6.52 | 32.03 | 30.02 | 71.34 |
| All Other O&M | 16.33 | 16.01 | 15.88 | 17.84 | 31.07 | 62.79 | 27.62 | 40.09 |
| Total O&M | $ 23.17 | $ 22.59 | $ 22.03 | $ 25.50 | $ 51.34 | $ 124.18 | $ 69.29 | $ 129.21 |
| Depreciation | | | | | | | | |
| Mains | $ 3.75 | $ 3.75 | $ 3.75 | $ 3.75 | $ 3.75 | $ 3.75 | $ 3.75 | $ 3.75 |
| Services | 4.22 | 4.09 | 4.09 | 5.20 | 8.80 | 6.56 | 8.84 | 10.53 |
| Meters and Meter Installations | 1.25 | 1.14 | 1.11 | 1.62 | 6.34 | 18.19 | 4.43 | 8.43 |
| Regulators | - | - | - | - | - | - | - | - |
| All Other Depreciation | 1.64 | 1.61 | 1.59 | 1.83 | 3.44 | 7.19 | 2.93 | 4.39 |
| Total Depreciation | $ 10.86 | $ 10.59 | $ 10.55 | $ 12.40 | $ 22.33 | $ 35.69 | $ 19.96 | $ 27.10 |
| Taxes Other Than Income Taxes | $ 0.77 | $ 0.75 | $ 0.75 | $ 0.85 | $ 1.58 | $ 3.29 | $ 1.34 | $ 2.00 |
| Deferred Income Taxes | $ 1.65 | $ 1.61 | $ 1.59 | $ 1.89 | $ 3.62 | $ 7.65 | $ 4.36 | $ 6.40 |
| Ratemaking Adjustments | $ 0.08 | $ 0.07 | $ 0.07 | $ 0.08 | $ 0.12 | $ 0.10 | $ 0.12 | $ 0.13 |
| Rate Base-Related (Return and Income Taxes) | | | | | | | | |
| Mains | $ 8.75 | $ 8.75 | $ 8.75 | $ 8.75 | $ 8.75 | $ 8.75 | $ 8.75 | $ 8.75 |
| Services | 8.71 | 8.44 | 8.44 | 10.72 | 18.15 | 13.54 | 18.25 | 21.72 |
| Meters and Meter Installations | 2.36 | 2.12 | 2.04 | 3.27 | 13.99 | 41.73 | 9.79 | 19.30 |
| Regulators | 0.01 | 0.01 | 0.01 | 0.02 | 0.11 | 0.37 | 0.08 | 0.17 |
| All Other Rate Base-Related | (0.39) | (0.41) | (0.60) | (0.54) | 1.51 | 25.46 | 14.42 | 25.27 |
| Total Rate Base-Related | $ 19.44 | $ 18.92 | $ 18.64 | $ 22.22 | $ 42.51 | $ 89.85 | $ 51.28 | $ 75.21 |
| **Total Average Monthly Customer Cost** | **$ 55.98** | **$ 54.55** | **$ 53.63** | **$ 62.95** | **$ 121.50** | **$ 260.75** | **$ 146.35** | **$ 240.05** |

**New Jersey Natural Gas Company**
**Allocation of Proposed Revenue Adjustments to Base Rates**
(In Thousands of Dollars)

| Description | Current Base Revenue | CIP Revenue | Current Base and CIP Revenue | Proposed Base Revenue Increase | Proposed Base Revenues |
|---|---|---|---|---|---|
| ( A ) | ( B ) | ( C ) | ( D ) | ( E ) | ( F ) |
| **Rate Schedule:** | | | | | |
| Residential Service | 291,960 | 2,155 | 294,115 | 130,749 | 424,864 |
| General Service - Small | 28,877 | 261 | 29,138 | 12,953 | 42,092 |
| General Service - Large | 68,281 | 2,158 | 70,439 | 14,119 | 84,558 |
| Firm Transportation Service | 6,706 | - | 6,706 | 2,981 | 9,687 |
| Distributed Generation Service - Commercial | 1,014 | - | 1,014 | 203 | 1,217 |
| NGV / CNG Service | 421 | - | 421 | 84 | 505 |
| **Total** | 397,260 | 4,574 | 401,834 | 161,091 | 562,924 |

**New Jersey Natural Gas Company**
**Base Rates and Revenues at Present and Proposed Rates**

| Component (a) | Amount (b) | Units (c) | Present Rates Rate (d) | Present Rates Revenue (e) | Proposed Rates Rate (f) | Proposed Rates Revenue (g) |
|---|---|---|---|---|---|---|
| | | | **RS** | | **RS** | |
| Residential Service | | | | | | |
| Customer Charge | 6,252,711 | Bills | $ 9.51 | $ 59,463,284 | $ 11.35 | $ 70,968,273 |
| Volumetric Charge | 495,728,775 | Therms | 0.4690 | 232,496,796 | 0.7139 | 353,900,773 |
| CIP Revenues | | | | 2,155,093 | | - |
| **Total Base Revenues** | | | | **$ 294,115,173** | | **$ 424,869,046** |
| | | | **GSS** | | **GSS** | |
| General Service Small (less than 5,000 Annual Therms) | | | | | | |
| Customer Charge | 379,569 | Bills | $ 32.68 | $ 12,404,302 | $ 41.50 | $ 15,752,097 |
| Volumetric Charge | 39,654,339 | Therms | 0.4153 | 16,468,447 | 0.6641 | 26,334,447 |
| Volumetric Charge - A/C | 48,081 | Therms | 0.0900 | 4,327 | 0.1080 | 5,193 |
| CIP Revenues | | | | 261,249 | | |
| **Total Base Revenues** | | | | **$ 29,138,326** | | **$ 42,091,737** |
| | | | **GSL** | | **GSL** | |
| General Service Large (5,000 + Annual Therms) | | | | | | |
| Customer Charge | 93,485 | Bills | $ 75.77 | $ 7,083,327 | $ 98.00 | $ 9,161,490 |
| Demand Charge | 10,438,349 | Therms | 2.4688 | 25,770,197 | 3.2000 | 33,402,718 |
| Volumetric Charge | 130,632,283 | Therms | 0.2711 | 35,414,412 | 0.3213 | 41,972,153 |
| Volumetric Charge - A/C | 150,309 | Therms | 0.0900 | 13,528 | 0.1080 | 16,233 |
| CIP Revenues | | | | 2,157,815 | | |
| **Total Base Revenues** | | | | **$ 70,439,279** | | **$ 84,552,593** |
| | | | **FT** | | **FT** | |
| Firm Transportation Service* | | | | | | |
| Customer Charge | 1,473 | Bills | $ 254.42 | $ 374,745 | $ 365.00 | $ 537,623 |
| Demand Charge | 2,426,187 | Therms | 1.8592 | 4,510,767 | 2.6500 | 6,429,396 |
| Volumetric Charge | 24,337,630 | Therms | 0.0748 | 1,820,455 | 0.1118 | 2,720,947 |
| **Total Base Revenues** | | | | **$ 6,705,967** | | **$ 9,687,966** |

**New Jersey Natural Gas Company**
**Base Rates and Revenues at Present and Proposed Rates**

| Component (a) | Amount (b) | Units (c) | Present Rates Rate (d) | Present Rates Revenue (e) | Proposed Rates Rate (f) | Proposed Rates Revenue (g) |
|---|---|---|---|---|---|---|
| | | | **DGC** | | **DGC** | |
| Distributed Generation - Commercial* | | | | | | |
| Customer Charge | 274 | Bills | $ 77.31 | $ 21,165 | $ 98.00 | $ 26,829 |
| Demand Charge | 378,249 | Therms | 1.8238 | 689,850 | 2.3000 | 869,972 |
| Volumetric Charge - Winter | 3,335,561 | Therms | 0.0616 | 205,471 | 0.0643 | 214,477 |
| Volumetric Charge - Summer | 3,143,518 | Therms | 0.0310 | 97,449 | 0.0337 | 105,937 |
| **Total Base Revenues** | | | | **$ 1,013,935** | | **$ 1,217,215** |
| | | | **NGV / CNG** | | **NGV / CNG** | |
| Natural Gas Vehicle / Compressed Natural Gas Service | | | | | | |
| Customer Charge | 60 | Bills | $ 77.70 | $ 4,662 | $ 98.00 | $ 5,880 |
| Volumetric Charge | 1,365,305 | Therms | 0.2050 | 279,887 | 0.2659 | 363,035 |
| CNG Charge | 682,441 | Therms | 0.2000 | 136,488 | 0.2000 | 136,488 |
| **Total Base Revenues** | | | | **$ 421,038** | | **$ 505,403** |
| ***TOTAL SYSTEM BASE DISTRIBUTION REVENUES*** | | | | **$ 401,833,718** | | **$ 562,923,960** |

| | |
|---|---|
| **Increase** | **161,090,242** |
| **TARGET Increase** | **161,090,738** |
| **Difference** | **($496)** |

**NEW JERSEY NATURAL GAS COMPANY**

**DIRECT TESTIMONY OF TINA M. TREBINO**
**DIRECTOR, RATES AND TARIFF**

## I. Introduction

**Q. PLEASE STATE YOUR NAME, AFFILIATION AND BUSINESS ADDRESS.**

A. My name is Tina M. Trebino and I am Director, Rates and Tariff for New Jersey Natural Gas Company (the "Company" or "NJNG"). My business address is 1415 Wyckoff Road, Wall, New Jersey 07719.

**Q. PLEASE DESCRIBE YOUR EDUCATION AND BUSINESS EXPERIENCE.**

A. I received a Bachelor of Science degree in Accounting with a minor in Mathematics from the University of Richmond in 1993. Furthermore, I am a Certified Public Accountant licensed in the Commonwealth of Virginia.

I was employed by the Virginia State Corporation Commission as an auditor within the Public Utility Accounting Department from July 1993 to May 1996.

In May 1996, I accepted a position as a Rate and Regulatory Analyst with NJNG in the Energy Services Department and held that position until January 1997 when I assumed the responsibilities as a Gas Planning Analyst, also in the Energy Services Department. In July 2002, I accepted the position of Senior Regulatory Affairs Analyst in the Regulatory Affairs Department of NJNG. In January 2007, I was promoted to Manager, Regulatory Affairs and in July 2014, I was promoted to my current position of Director, Rates and Tariff.

**Q. WHAT ARE YOUR RESPONSIBILITIES AS DIRECTOR OF RATES AND TARIFF?**

A. I am responsible for preparing and supporting Company rate and tariff matters submitted to the New Jersey Board of Public Utilities (the "Board" or "BPU"), including annual Basic Gas Supply Service ("BGSS") and Conservation Incentive Program ("CIP") filings. I am also involved in the daily operations of the Regulatory Affairs Department including rates, tariffs, U.S. Securities and Exchange Commission ("SEC") reporting and related matters.

**Q. HAVE YOU PREVIOUSLY TESTIFIED IN REGULATORY PROCEEDINGS?**

A. Yes. In addition to supporting and testifying in regulatory proceedings during my tenure with the Virginia State Corporation Commission, I have filed testimony on behalf of NJNG in several prior rate proceedings.

**Q. WHAT ARE YOUR RESPONSIBILITIES WITH RESPECT TO THIS PROCEEDING?**

A. By way of this testimony, I am addressing changes to the Company's Tariff other than the rate charges for service, which are being sponsored and supported by the Direct Testimony of Daniel P. Yardley, Exhibit P-8. I am supporting Exhibit P-9 - Schedule TMT-1, a clean version of the proposed Tariff, New Jersey Natural Gas Company Tariff – BPU No. 11 Gas. Also attached to this testimony are Schedule TMT-2 which is the proposed Tariff with red-lined changes to NJNG's current Tariff, and Schedule TMT-3, a summary of the substantive proposed tariff changes. Additionally, I will address changes to the Company's Balancing Charge, as shown in Schedule TMT-4 and the impact to customers, as shown in Schedule TMT-5.

**Q. WHAT CHANGES TO THE TARIFF IS THE COMPANY PROPOSING?**

A. The Company is proposing to modify a number of Tariff sheets within this base rate case proceeding. Many of these changes represent minor changes in language to reflect current operations and/or to provide clarifications and necessary updates. The proposed changes to the Tariff addressed in this testimony and the impact of the rates proposed by Mr. Yardley are presented in the following sections:

II. Installation of Automated Meter Reading Devices ("AMRs")
III. Review of Commercial Customer Usage
IV. Incremental Gas Service ("IGS") and Third Party Supplier ("TPS") Requirements
V. Conservation Incentive Program ("CIP")
VI. Balancing Charge
VII. Impact on Customers.

## II. Installation of Automated Meter Reading Devices ("AMRs")

**Q. PLEASE DESCRIBE THE COMPANY'S REQUIREMENTS FOR INSTALLATION OF AMRs.**

**A.** NJNG requires the installation of AMRs at the customer's expense for service under Firm Transportation ("FT"), Interruptible Service ("IS") and for commercial Natural Gas Vehicles ("NGV") service. NJNG does not require the installation of AMRs for Service Classifications Residential Service ("RS"), Distributed Generation Service – Residential ("DGR"), General Service – Small ("GSS"), General Service – Large ("GSL"), and residential NGV service. However, if a customer requests the installation of an AMR and it is deemed feasible by the Company, the AMR is installed at the customer's expense. The customer may reimburse the Company for the AMR expense, either in a lump sum payment or over a twelve-month period with the prime interest rate used to calculate carrying costs.

**Q. PLEASE DESCRIBE THE COMPANY'S PROPOSED MODIFICATIONS REGARDING THE INSTALLATION OF AMRs.**

A. The Company has included language to clarify the payment requirements for an installation of an AMR. Specifically, the Company has added language in Paragraph 6.10, Remote Meter Reading Equipment, of the Standard Terms and Conditions to clarify the customer's options for reimbursing the Company for the meter installation expense when a customer requests a remote meter reading device (Sheet No. 21). Additionally, the Company has added language in Service Classifications RS, DGR, GSS, GSL, and NGV for residential customers to clarify that AMR installation will be in accordance with Paragraph 6.10 of the Standard Terms and Conditions (Sheet Nos. 52, 54, 57, 59, 79). The Company has also modified language in Service Classifications FT, NGV for commercial customers, and IS, to clarify that the customer has the option to reimburse the Company for the AMR expense over a twelve-month period (Sheet Nos. 62, 79, 82).

## III. Review of Commercial Customer Usage

**Q. PLEASE DESCRIBE THE COMPANY'S PROPOSED MODIFICATIONS REGARDING THE REVIEW OF COMMERCIAL CUSTOMER USAGE.**

A. At least once a year, the Company reviews each GSS and GSL customer's usage to determine if they are in the appropriate rate class or should be switched (Sheet Nos. 56, 59). Additionally, the Company reviews and updates GSL customer demand charge billing determinants, or highest month average daily usage ("HMAD") (Sheet No. 59). For FT customers, a customer may request a decrease to its demand charge billing determinant, or Maximum Daily Quantity ("MDQ") when the customer has installed energy efficient equipment or significantly modified its operations resulting in decreased maximum daily usage (Sheet No. 62). NJNG has proposed language to clarify that any changes to the service classifications or demand charge billing determinants will be on a prospective basis.

## IV. Incremental Gas Service ("IGS") and Third Party Supplier ("TPS") Requirements

**Q. PLEASE DESCRIBE THE COMPANY'S PROPOSED MODIFICATIONS TO ITS PRICING FOR INCREMENTAL GAS SERVICE.**

A. During a gas service interruption, interruptible customers in need of natural gas may request IGS and the Company may provide IGS when the Company has the capability to deliver the customer's needed supply. Currently, the rates for the supply are the greater of the Company's Replacement Cost of Gas defined in the Tariff, the Monthly BGSS price applicable to Service Classification IS, and the highest price of the daily ranges that are published in Gas Daily for delivery in Texas Eastern Transmission, LLP ("Texas Eastern") Zone M-3 (Sheet No. 86). Due to the Southern Reliability Link ("SRL") coming into service and interconnecting with the interstate pipeline system of the Transcontinental Gas Pipe Line Company, LLC ("Transco"), as discussed in the Direct Testimony of John B. Wyckoff, Exhibit P-2, the Company proposes to include the highest price of the daily ranges that are published in Gas Daily for delivery in Transco Zone 6 NNY North as an additional possibility for IGS pricing. This change ensures that customers under Service Classification IGS will be charged for the highest market price for supply from Texas Eastern or Transco during the period when IGS service is provided, if applicable.

**Q. PLEASE DESCRIBE THE COMPANY'S PROPOSED MODIFICATIONS TO SERVICE CLASSIFICATION TPS.**

**A.** The Company is proposing changes to Service Classification TPS to reflect the SRL interconnect with Transco.

***Conditions Precedent (Current Sheet No. 87, New Sheet No. 88)***

The Company has modified the determination of the deposit amount a TPS is required to post to serve customers on the Company's system to incorporate Transco pricing.

***FT, DGC-FT, CNG, NGV Commercial, and IS Service (Current Sheet No. 89, New Sheet No. 90)***

Currently all TPS deliveries are to the Company's Texas Eastern meters. The Company proposes adding language to clarify that TPS agree to deliver gas to the Company's designated delivery meters for their customers. The Company also proposes language that the Company may offer a TPS the option to deliver a specified volume to a Transco meter and if the TPS accepts but fails to deliver, they will be subject to a penalty for the amount not delivered. This language will provide additional delivery options to TPS while protecting the Company's Basic Gas Supply Service ("BGSS") customers and allow for adequate gas supply planning.

***CNG and NGV Commercial Services (Current Sheet No. 93, New Sheet No. 94)***

The Company proposes modifying the determination of the penalty price to a TPS for a delivery shortfall during an Operational Flow Order ("OFO") to include Transco Zone 6 NNY North pricing. However, in a month that the Company does not allow deliveries on Transco, the determination of the penalty price will exclude Transco pricing.

***Unauthorized Use Charge (Current Sheet No. 95, New Sheet No. 96)***

The Company proposes modifying the determination of the Unauthorized Use Charge to include Transco Zone 6 NNY North pricing.

***Delivery Shortfall Charge (Current Sheet No. 95, New Sheet No. 97)***

The Company proposes modifying the determination of the Delivery Shortfall Charge to include Transco Zone 6 NNY North pricing. However, in a month that the Company does not allow deliveries on Transco, the determination of the penalty price will exclude Transco pricing.

## V. Conservation Incentive Program ("CIP")

**Q. PLEASE DESCRIBE THE COMPANY'S PROPOSED MODIFICATIONS TO THE CIP IN THE TARIFF.**

**A.** Rider "I" has been modified to update the baseline use per customer for each class based on test year billing determinants, the margin factors based on the proposed base rates, and the large customer adjustment based on the GSL baseline use per customer (Sheet Nos. 179-180). Degree days and weather consumption factors for the calculation of the CIP weather component have also been updated (Sheet No. 181). Additionally, the return on equity test language has been revised to reflect the proposed return on equity of 10.5 percent included in the schedules of James M. Corcoran (Sheet No. 182).

## VI. Balancing Charge

**Q. DOES THE COMPANY PROPOSE A CHANGE TO ITS BALANCING CHARGE RATE?**

**A.** While the Company does not propose a change to the current Balancing Charge rate, the Company does propose changes to the underlying information in the calculation of the Balancing Charge rate. The Balancing Charge has two components: (1) carrying charges on inventory costs, and (2) pipeline demand charges. In accordance with the Board's October 3, 2008 Order in BPU Docket No. GR07110889, the Balancing Charge related to inventory is to be updated in a base rate case and the pipeline demand charges component is to be updated in the Company's annual BGSS filings. Pursuant to the Board's November 13, 2019 Order in the Company's last rate case, BPU Docket No. GR19030420, the Balancing Charge related to inventory will remain fixed until new rates become effective in the Company's next base rate case, which is this proceeding. Schedule TMT-4 updates the Company's pre-tax Balancing Charge related to inventory for test year inventory

balances and the Company's proposed pre-tax rate of return of 9.86 percent included in Exhibit P-3, Schedule JMC-3. The inventory component will further be updated for 12 months of actual balances and both the inventory and demand charge components will be updated to include the volumes from the Company's 2022 BGSS filing to be submitted by June 1, 2021 ("2022 BGSS filing"). The demand charge component of the Balancing Charge will also include updated demand charges from the 2022 BGSS filing.

## VII. Impact on Customers

**Q. WHAT IS THE IMPACT OF THE PROPOSED RATES TO CUSTOMER BILLS?**

A. The impact of the rates proposed in Schedule DPY-3 and the Balancing Charge are included in Schedule TMT-5. The rates result in an overall increase of approximately 24.8 percent, or $28.07 per month for a typical residential heating sales customer using 100 therms of natural gas per month. The overall impact to a residential non-heat sales customer using 25 therms of natural gas per month is an increase of approximately 24.7 percent, or $8.48 per month. The overall impact to a GSS sales customer using 100 therms of natural gas per month is an increase of approximately 27.0 percent, or $35.93 per month. The total bill for GSL sales customers will increase by approximately 11.4 percent, or $162.78 per month for a customer using 1200 therms of natural gas each month.

**Q. DOES THIS CONCLUDE YOUR TESTIMONY AT THIS TIME?**

**A.** Yes. I reserve my right to supplement and/or amend my testimony in the future.

***NJNG TARIFF - BPU NO. 11 - GAS***

# *NEW JERSEY NATURAL GAS COMPANY*

## *TARIFF*

## *FOR GAS SERVICE*

## *BPU No. 11 - Gas*

## *APPLICABLE IN*

***All service areas of the Company***
***located in parts of***
***Middlesex, Monmouth, Ocean, Morris, Sussex and Burlington Counties***

***ISSUED BY: Mark G. Kahrer***
***Senior Vice President***
***Wall, New Jersey***

# *TABLE OF CONTENTS*

# TABLE OF CONTENTS (continued)

*NEW JERSEY NATURAL GAS COMPANY*

*BPU No. 11- Gas* *Original Sheet No. 4*

# *LIST OF COMMUNITIES SERVED*

## *BURLINGTON COUNTY*

Bass River Township
Washington Township

## *MIDDLESEX COUNTY*

Old Bridge Township (*)
Sayreville (*)

## *MONMOUTH COUNTY*

Aberdeen Township
Allenhurst Borough
Asbury Park, City of
Atlantic Highlands Borough
Avon-By-The-Sea Borough
Belmar Borough
Bradley Beach Borough
Brielle Borough
Colts Neck Township
Deal Borough
Eatontown Borough
Englishtown Borough
Fair Haven Borough
Farmingdale Borough
Freehold Borough
Freehold Township
Hazlet Township
Highlands Borough
Holmdel Township
Howell Township
Interlaken Borough
Keansburg Borough
Keyport Borough
Lake Como Borough
Little Silver Borough
Loch Arbour Village
Long Branch, City of
Manalapan Township
Manasquan Borough
Marlboro Township
Matawan Borough
Middletown Township
Monmouth Beach Borough
Neptune City Borough
Neptune Township
Oceanport Borough
Ocean Township
Red Bank Borough
Rumson Borough
Sea Bright Borough
Sea Girt Borough
Shrewsbury Borough
Shrewsbury Township
Spring Lake Borough
Spring Lake Heights Borough
Tinton Falls Borough
Union Beach Borough
Wall Township
West Long Branch Borough

## *MORRIS COUNTY*

Boonton, Town of
Boonton Township
Denville Township
Dover, Town of
Jefferson Township
Kinnelon Borough
Lincoln Park Borough
Mine Hill Township
Montville Township
Mountain Lakes Borough
Mount Arlington Borough
Mount Olive Township (*)
Netcong Borough
Parsippany-Troy Hills Township (*)
Randolph Township
Rockaway Borough
Rockaway Township
Roxbury Township
Washington Township (*)
Wharton Borough
Victory Gardens Borough

## *OCEAN COUNTY*

Barnegat Light Borough
Barnegat Township
Bay Head Borough
Beach Haven Borough
Beachwood Borough
Berkeley Township
Brick Township
Dover Township
Eagleswood Township
Harvey Cedars Borough
Island Heights Borough
Jackson Township
Lacey Township
Lakehurst Borough
Lakewood Township
Lavallette Borough
Little Egg Harbor Township
Long Beach Township
Manchester Township
Mantoloking Borough
Ocean Gate Borough
Ocean Township
Pine Beach Borough
Point Pleasant Borough
Point Pleasant Beach Borough
Seaside Heights Borough
Seaside Park Borough
Ship Bottom Borough
South Toms River Borough
Stafford Township
Surf City Borough
Toms River Township
Tuckerton Borough

## *SUSSEX COUNTY*

Hopatcong Borough
Stanhope Borough

(*) Partial Franchise

**NEW JERSEY NATURAL GAS COMPANY**

**BPU No. 11 - Gas** **Original Sheet No. 5**


*Date of Issue:*
*Issued by:* *Mark G. Kahrer, Senior Vice President*
*Wall, NJ 07719*

*Effective for service rendered on and after April 29, 2021*

*Filed pursuant to Order of the Board of Public Utilities entered in Docket No.*

# STANDARD TERMS AND CONDITIONS - INDEX

# *STANDARD TERMS AND CONDITIONS – INDEX (continued)*

# STANDARD TERMS AND CONDITIONS

## DEFINITIONS

A. "*Board*" means the Board of Public Utilities of the state of New Jersey. Customers can contact the Board Division of Customer Assistance by calling 1-609-341-9188 or 1-800-624-0241 and at their Web site, www.nj.gov/bpu/.

B. "*Company*" means New Jersey Natural Gas Company, or any legal successor.

C. "*Customer*" means a person that is an end user, a customer of record, or both, as these terms are defined in this section.

D. *"Customer of record"* means the person that applies for utility service and is identified in the account records of a public utility as the person responsible for payment of the public utility bill. A customer may or may not be an end user, as defined herein.

E. *"End user"* means a person who receives, uses, or consumes gas service. An end user may or may not be a customer of record, as defined in this section.

F. "*Month*" is used for billing purposes to designate a period of 26 to 34 days.

G. "*Year*" is used to designate a period of twelve consecutive "months".

H. "*MCF*" is used to designate one thousand (1,000) cubic feet of gas.

I. "*BTU*" (British Thermal Unit) is used to designate the amount of heat required to raise the temperature of one (1) pound of water @ 60°Fahrenheit, 1° Fahrenheit.

J. "*Therm*" is used to designate a unit of heating value equivalent to 100,000 BTUs.

K. "*FERC*" means the Federal Energy Regulatory Commission.

L. "*Tampering*" means the unauthorized connecting, disconnecting, or causing to be connected or disconnected, or in any other manner interfering with the operation of the Company's meters, pipes, conduits, other equipment or attachments, or as otherwise provided by this Tariff (see Sections 6.6, 6.13, and 6.15).

M. *"Point of Delivery"* shall be that point where the Company delivers metered gas (outlet of Company gas meter) to the Customer's installation unless otherwise specified in the service agreement. The gas supplied by Company becomes the property of the Customer at the Point of Delivery.

# STANDARD TERMS AND CONDITIONS

## DEFINITIONS (continued)

N. *"Customer Equipment"* shall mean all appliances, piping, vents, connectors, valves, fittings or any other gas utilization or distribution equipment at or on the Customer's side of the Point of Delivery with the exception of Company owned facilities, e.g., Compressed Natural Gas ("CNG") re-fueling facilities. Customer Equipment also includes equipment leased by the Customer from third parties.

O. *"Gas Service"* shall mean the provision of gas service to customers. The gas provided shall be a service and shall not constitute goods for any purpose.

***Main and Service Extension Related Terms***

P. **"***Extension***"** means the construction or installation of plant and/or facilities by the Company to convey service from existing or new plant and/or facilities to one or more new customers, and also means the plant and/or facilities themselves. This term includes all plant and/or facilities for transmission and/or distribution, whether located overhead or underground, on a public street or right of way, or on a private property or private right of way, including the pipe, conduit or other means of conveying service from existing plant and/or facilities to each unit or structure to be served. An extension begins at the existing infrastructure and ends at the meter, inclusive of the meter;

Q. **"***Distribution Revenue***"** means total annual revenue, inclusive of related Sales and Use Tax collected from a Customer, less the Basic Gas Supply Service and Balancing charges, inclusive of related Sales and Use Tax, assessed in accordance with the Tariff.

R. **"***Applicant***"** means a person that has applied to the appropriate regulated entity, as defined at N.J.A.C. 14:3-1 for construction of an extension, as defined at N.J.A.C. 14:3-8.2 and above.

S. **"***Cost***"** means, with respect to the cost of construction of an extension, actual and/or site-specific unitized expenses incurred for materials and labor (including both internal and external labor) employed in the actual design, construction, and/or installation of the extension, including overhead directly attributable to the work, as well as overrides or loading factors such as those for mapping and design. This term does not include expenses for clerical, dispatching, supervision, or general office functions. Costs shall be determined by the Company and shall include all costs inclusive of upgrades to existing infrastructure.

# *STANDARD TERMS & CONDITIONS*

## *1. GENERAL*

### *1.1 INTRODUCTION*

These Standard Terms and Conditions, filed as part of the Tariff of New Jersey Natural Gas Company (referred to as "the Company" or "Company"), set forth the terms and conditions under which service is rendered and will be supplied. They govern all classes of service, to the extent applicable, and are made a part of all agreements for the supply of gas service, unless specifically modified by the terms of a particular service classification, or by special terms written in and made a part of a contract for service.

Failure by the Company to enforce any provisions, terms or conditions set forth in this Tariff shall not be deemed a waiver of such provisions, terms or conditions.

### *1.2 APPLICATION OF TARIFF*

This Tariff applies to all persons, partnerships, corporations or others herein designated as Customers who are lawfully receiving gas service from the Company, under the prescribed service classification whether service is based upon contract, agreement, or accepted signed application. If any terms and conditions contained in this Tariff are in conflict with the New Jersey Administrative Code, the New Jersey Administrative Code shall prevail. The Tariff will not be construed to be in conflict with the New Jersey Administrative Code if the Tariff provides for a more liberal treatment of Customers than that provided for in the New Jersey Administrative Code.

### *1.3 FILING AND POSTING OF TARIFF*

A copy of this Tariff is filed with the Board of Public Utilities (referred to as "the Board" or "Board"), of the state of New Jersey. Copies are posted and open for inspection at the offices of the Company and on the Company's Web site at www.njng.com/regulatory/tariff.asp.

### *1.4 REVISION OF TARIFF*

This Tariff may be revised, amended, supplemented or otherwise changed from time to time in accordance with the rules of procedure determined by the Board.

### *1.5 STATEMENTS BY AGENTS*

No representative of the Company has authority to modify any provision contained in this Tariff or bind the Company by any promise or representation contrary thereto, and the Company shall not be bound thereby.

# STANDARD TERMS & CONDITIONS

## 2. OBTAINING SERVICE

### 2.1 APPLICATION FOR SERVICE

Application for gas service may be made in person at any customer service office of the Company, by mail, by telephone, by facsimile transmission or electronic mail, where available. The applicant shall state, at the time of making application for service, the conditions under which service will be required, and may be required to sign an agreement covering special circumstances for the supply of gas service. The applicant also may be required to supply proof of identification, in accordance with N.J.A.C. 14:3-3.2(e) and (h), as may be amended or superseded.

### 2.2 ACCOUNT OPENING CHARGE

The applicant shall be required to pay a $15.00 account opening charge each time service is turned on at a new or existing location. However, the Company may waive the account opening fee if a field visit is not required to establish service.

### 2.3 SERVICE INFORMATION FROM COMPANY

Upon receipt of application from the prospective Customer, the Company will advise the Customer of the type and character of gas service which will be furnished, the point at which service will be delivered and the location to be provided for the Company's metering and regulating equipment.

All customers shall be given a copy of the “Customer Bill of Rights” approved by the Board, effective at the time of service initiation. The copy shall be presented no later than at the time of the issuance of the customer’s first bill or 30 days after the initiation of service, whichever is later.

### 2.4 FORM OF APPLICATION

Standard applications or agreements to supply gas service shall be in accordance with the particular service classification. The Company, in its sole discretion, reserves the right to require contributions toward the investment required for such service and to establish such minimum charges and facilities charges as may be appropriate.

Additionally, the Company may require a special service agreement and/or charge when: 1) large or special investment is necessary to supply service, 2) special facilities are required to serve a Customer, or 3) the hourly capacity of the Company's facilities, necessary to serve the Customer's demand, may be out of proportion with the monthly or annual use of gas service for occasional, intermittent, or low load factor purposes.

When a Customer signs a main and/or service extension agreement, and subsequently does not install any or all of the indicated equipment within a reasonable time, not to exceed six (6) months, or does not purchase the volumes of gas included in the service agreement, the Company reserves the right to charge the Customer for the full cost of providing the main and/or service.

# STANDARD TERMS & CONDITIONS

## 2. OBTAINING SERVICE (continued)

### 2.5 SELECTION OF SERVICE CLASSIFICATION

Upon the request of a Customer, the Company will assist in the selection of the available rate most desirable to the Customer. Any advice given by the Company will be based on the Customer's oral or written statements as to the class of service desired and the manner in which it is intended to be used. However, by giving such advice, the Company assumes no responsibility related to the customer selection for class of service.

### 2.6 CHANGE OF SERVICE CLASSIFICATION

Within three months after service has begun, a Customer may request in writing to change the service classification or provision within a service classification under which they are billed. Subsequent to initial selection of a service classification, a Customer may request in writing a change to the service classification or provision within a service classification under which they are billed if their character or use of gas service has changed. Any change in schedule, if permitted, will be applicable to the next regular billing subsequent to such notification by the Customer.

### 2.7 DEPOSIT AND GUARANTEE

Before the Company renders service, a deposit or other guarantee satisfactory to the Company may be required as security for the payment of future and final bills from any new or existing Customer who has not established credit with the Company. A deposit also may be required from a Customer whose credit has become impaired. A new Customer, who provides the Company with a letter of reference from another utility or source acceptable to the Company, may have the deposit waived. The deposit shall be in accordance with the provisions set forth in N.J.A.C. 14:3-3.4, as may be amended or superseded.

If a Customer's service has been terminated for non-payment of bills, the Company may not condition restoration of service on payment of the deposit, unless the deposit has been included on prior bills, or notice has been provided to the Customer.

### 2.8 AMOUNT OF GUARANTEE DEPOSIT

The Company may require a deposit to guarantee payments of bills equivalent to the estimated gross bill for natural gas service for any single billing period plus an additional billing period.

### 2.9 INTEREST ON GUARANTEE DEPOSIT

The Company will credit simple interest at the applicable interest rate established annually by the Board on customer deposits provided such amount remains on deposit for not less than three (3) consecutive months.

Interest shall be payable annually and/or when the deposit is refunded or applied in accordance with N.J.A.C. 14:3-3.5, as may be amended or superseded.

# STANDARD TERMS & CONDITIONS

## 2. OBTAINING SERVICE (continued)

### 2.10 RETURN OF GUARANTEE DEPOSIT

The Company shall review residential Customer accounts at least once every year and non-residential Customer accounts at least once every two years. If the review indicates that a Customer has established good credit, the Company will apply the deposit, plus any interest, to the outstanding balance on the Customer's account and will send a refund check to the Customer for any amount over and above the outstanding balance. Upon termination of service, the Customer will receive the balance of the deposit, plus interest, less any unpaid charges in accordance with N.J.A.C. 14:3-3.5, as may be amended or superseded.

### 2.11 PERMITS

The Customer shall obtain or cause to be obtained all legally-required permits and/or certificates necessary to give the Company or its representatives access to the Customer's equipment and to enable its mains to be connected with the Customer's equipment. If the Company makes application for any permits and/or certificates, the Customer will be required to pay the application fee/charge, if any. The Company shall not be obliged to furnish service unless and until such permits and/or certificates have been delivered to the Company.

When the Customer is not the owner of the premises or the owner of the property lying between the premises and the Company's mains, the Customer may be required to obtain from the proper owner(s) the necessary consent to install and maintain all necessary equipment to supply gas at the Customer's premises.

### 2.12 TEMPORARY SERVICE

Temporary service is available, for a limited period, to any Customer who can be served from the Company's existing lines or facilities, when and where the Company is permitted to provide such service. The Customer shall pay the total cost of connecting and disconnecting the gas service, including any piping, metering equipment, or other facilities that may be necessary. The Company may require an advance payment covering the estimated cost of construction or gas supplied, or both.

# STANDARD TERMS & CONDITIONS

## 2. OBTAINING SERVICE (continued)

### 2.13 SERVICE TO FORMER CUSTOMERS

Service will not be supplied by the Company to former Customers until such time as any and all amounts or outstanding balances owed to the Company for previous service have been paid or otherwise discharged in accordance with N.J.A.C. 14:3-3A.9, as may be amended or superseded. Customers qualifying for Winter Termination Protection who have a prior outstanding balance due from their existing service location may have service restored upon the establishment of satisfactory payment arrangements. The Company may refuse to initiate service, or may discontinue service after proper notice and in accordance with N.J.A.C. 14:3-3A.2, as may be amended or superseded, to a residential applicant, or a member of the household then indebted to the Company for services provided by the Company at any location, if the Company reasonably determines that substantially the same household occupies the premises to be or being served. The Company may refuse to initiate service or may discontinue service after proper notice and in accordance with N.J.A.C. 14:3-3A.2, as may be amended or superseded, to a commercial applicant, or an officer, director, general or limited partner, business associate, or other agent, of an entity then indebted to the Company for services provided by the Company at any location, if the Company has reason to believe that substantially the same entity occupies the premises to be or being served.

# STANDARD TERMS & CONDITIONS

## 3. CHARACTERISTICS OF SERVICE

### 3.1 GENERAL

Gas service supplied by the Company in the entire territory served shall be straight natural gas, or any mixture of straight natural gas and substitute gas. The volume of gas to be delivered shall be measured in accordance with the published recommendation of the American Gas Association, as amended or superseded from time to time.

The basic unit of volume or one standard cubic foot shall be one cubic foot of gas at a temperature of 60° Fahrenheit (F) and an absolute pressure of 14.73 pounds per square inch. The average atmospheric pressure shall be assumed to be 14.73 pounds per square inch irrespective of variations in atmospheric pressure from time to time. The volume of gas measured, other than at the standard temperature and/or pressure shall be adjusted in accordance with Boyle's Law for measuring gas at varying pressures and the Charles Law for measuring gas at varying temperatures.

### 3.2 SINGLE POINT OF DELIVERY

The Company will furnish, install and maintain a single meter for each service classification under which a Customer receives service unless, in the sole and final judgment of the Company, the volume of the Customer's requirements, economic considerations, conditions on its distribution system, or other reasons make it desirable to install additional meters.

### 3.3 CONTINUITY OF SERVICE

The Company will use reasonable diligence to provide a regular and uninterrupted supply of service, but should the supply be suspended, curtailed or discontinued by the Company for any of the reasons set forth in Section 9 of these Standard Terms and Conditions, or should the supply of service be interrupted, curtailed, deficient, defective or fail by reason of any Act of God, accident, strike, legal process, governmental interference, or other cause whatsoever beyond its control, the Company shall not be liable for any loss or damage, direct or consequential, resulting from any such suspension, discontinuance, defect, interruption, curtailment, deficiency or failure.

### 3.4 UNUSUAL CONDITIONS

The Company reserves the right to place limitations on the amount and character of gas service it will supply; to refuse service to new Customers or existing Customers for additional load if unable to obtain sufficient supply for such service; to reject applications for service or additional service where such service is not available, or where such service might affect the supply of gas to other Customers; or for other good and sufficient reasons subject to the orders or rules of the Board.

# STANDARD TERMS & CONDITIONS

## 4. GAS DISTRIBUTION MAIN AND SERVICE EXTENSIONS

### 4.1 GENERAL PROVISIONS

The Company will construct, own, and maintain gas mains located on streets and highways and on rights-of-way acquired by the Company. The formulae for the extension of utility service set forth below shall not serve to prevent the parties hereto from exercising their rights under the N.J.S.A. 48:2-27 and the applicable New Jersey Administrative Code provisions.

Where it is necessary to provide additional facilities to serve the requirements of either existing customers or new applicants, the Company may require a deposit or a contribution in aid of construction according to the conditions specified below. The Company, in its sole discretion, will determine the appropriate amount of such deposit or contribution in aid of construction. The Extension cost for which the Company receives a deposit or a non-refundable contribution shall include the tax consequences incurred by the Company.

### 4.2 RESIDENTIAL AND FIRM COMMERCIAL CUSTOMER - MAIN EXTENSION AND SERVICE LINE CONNECTION

The Company will install facilities and make gas main extensions and service line connections to serve individual permanent residential customers and firm commercial customers without alternate fuel capacity and taking service under service classifications included in Rider "I" Conservation Incentive Program (CIP) free of charge where the Extension Cost does not exceed ten (10) times the annual distribution revenue at the baseline usage per customer volume for the Customer's respective CIP group and subject to the terms described in Paragraph 5.2. For residential customers, the Extension Cost shall not include the cost of the meter.

An applicant shall be required to provide an Extension Cost Deposit or a non-refundable contribution in aid of construction for the value of any Extension Cost that is greater than ten (10) times the annual distribution revenue at the baseline usage per customer volume for the Customer's respective CIP group; however, the Company shall waive a required deposit of $3,000 or less.

For customers taking service under firm service classifications not included in Rider "I" CIP, the Company will install facilities and make gas main extensions and service line connections to serve individual customers without alternate fuel capacity free of charge where the Extension Cost does not exceed ten (10) times the estimated annual distribution revenue, unless otherwise specified in the service classification. An applicant shall be required to provide an Extension Cost Deposit or a non-refundable contribution in aid of construction for the value of any Extension Cost that is greater than ten (10) times the estimated annual distribution revenue and subject to the terms described in Paragraph 5.2; however, the Company shall waive a required deposit of $3,000 or less.

# STANDARD TERMS & CONDITIONS

## 4. GAS DISTRIBUTION MAIN AND SERVICE EXTENSIONS (continued)

The Extension Cost Deposit, as defined above, shall remain, without interest, in the possession of the Company unless additional customers connect to the particular extension. At such time there will be refunded to the depositor, the annual baseline distribution revenue value for the additional connecting Customer based upon the ratio in effect when the deposit was made. Once a portion of the deposit has been refunded to the applicant, the calculation shall only be reviewed for subsequent additional customers connecting to the particular extension. No further calculation shall be performed when accumulated refunds are equal to the sum deposited and in no event shall refunds exceed the initial deposit.

All deposits not returned to the applicant within a period of ten (10) years after the Company first makes gas service available shall remain the property of the Company with no further obligation of refund. The Company and applicant may agree upon a satisfactory revenue guarantee in lieu of a deposit or contribution.

Where it is necessary to provide additional facilities to serve increased requirements of an existing Customer, the Company reserves the right to require the Customer to provide a non-refundable contribution in aid of construction or a deposit in an amount equal to the cost of such additional facilities. The deposit amount may be subject to refund as outlined earlier in this section except that refunds shall be a function of the incremental distribution revenue generated by the increased requirements over a predetermined base.

*NEW JERSEY NATURAL GAS COMPANY*

*BPU No. 11 - Gas* *Original Sheet No. 18*

# *STANDARD TERMS & CONDITIONS*

## *4. GAS DISTRIBUTION MAIN AND SERVICE EXTENSIONS (continued)*

### *4.3 LAND DEVELOPMENT - MAIN EXTENSION AND SERVICE LINE CONNECTIONS*

Where applications for extensions into newly developed tracts of land are made by individuals, partnerships, or corporations interested in the development and sale of land but not as ultimate residents, the Company shall require a deposit from the applicant covering the entire cost of installing the necessary mains, services and common distribution facilities to serve the tracts. However, if an individual, partnership, or corporation has contracted sales to ultimate residents, the Company may waive a required deposit for the value of any Extension Cost that is less than or equal to ten (10) times the annual distribution revenue at the baseline usage per customer volume for the ultimate residents' respective CIP group.

Such deposits are to be returned to the depositor, without interest, if during a ten-year period from the date of the original deposit, when and as new services abutting on such mains are completed, the prospective Customer's gas equipment is installed, and the dwellings are occupied by bona-fide owners or responsible tenants who have entered into an agreement for use of gas service. Upon such completion and occupation, there shall be returned to the depositor an amount equal to the product of residential customer ratio in effect in Paragraph 4.2 when the deposit was made and the annual baseline distribution revenue for each of the dwellings as described above but not in excess of the amount deposited. In no event shall more than the original deposit be returned to the depositor. All deposits not returned to the applicant within a period of ten (10) years after the Company first made gas service available to the tract of land shall remain the property of the Company with no further obligation of refund. The Company may agree upon a satisfactory revenue guarantee in lieu of a deposit or contribution.

### *4.4 ALTERNATE FUEL CUSTOMER - MAIN EXTENSION*

The Company reserves the right to require any alternate fuel customer to make a non-refundable contribution in aid of construction of an amount equal to the entire cost of the new facilities required to provide service. Where it is necessary to provide additional facilities to serve the increased requirements of any existing Customer, the Company reserves the right to require the Customer to provide a non-refundable contribution in aid of construction in an amount equal to the cost of such additional facilities and shall include the tax consequences incurred by the Company.

The Company is under no obligation to refund any of the contribution but the Company reserves the right in its sole judgment to do so where economics and revenue conditions warrant said action. In lieu of a contribution, the Company may agree upon a satisfactory revenue guarantee.

# STANDARD TERMS & CONDITIONS

## 5. SERVICE LINE CONNECTIONS

### 5.1 GENERAL PROVISIONS

Gas service will normally be supplied to each premise through a single service line, except where, in the judgment of the Company, it is deemed desirable to install more than one service line. The Company may also choose to install multiple meters on one service line providing service to several premises. If more than one service line is installed for the convenience of the Customer, each location will be considered as a separate Customer.

### 5.2 FIRM CUSTOMERS

The Company shall furnish and place, a service line in accordance with the terms described in Paragraph 4.2 above, measured at right angles from the nearest curb line to Customer's building, at the point of service entrance designated by the Company. Should the Customer request a service entrance at a location other than that designated by the Company, the Customer shall pay any additional cost associated with said change in point of service entrance and shall include the tax consequences incurred by the Company.

### 5.3 ALTERNATE FUEL CUSTOMERS

The Company shall provide a service line connection at the Customer's expense.

### 5.4 CHANGE IN EXISTING INSTALLATIONS

Any change in the existing service line, which may include installation of an Excess Flow Valve, and/or metering facilities requested by the Customer and approved by the Company shall be made at the Customer's expense and shall include the tax consequences incurred by the Company. If the change in the service line or metering facilities is to serve increased usage requirements, deposits or contributions in aid of construction shall be administered in accordance with Section 4 of these Standard Terms and Conditions.

# STANDARD TERMS AND CONDITIONS

## 6. METERING AND MEASURING EQUIPMENT

### 6.1 GENERAL

A suitable meter or meters will be installed, owned and maintained by the Company for the purpose of measuring the quantity of gas service delivered to the Customer. The type and make of metering equipment will be in accordance with the Company's specification which, from time to time, may be changed or altered. It is the sole obligation of the Company to furnish meters that provide adequate and accurate records for billing purposes in accordance with N.J.A.C. 14:3-4.1, as may be amended or superseded.
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### 6.2 METER LOCATION

The Customer shall provide on the premises, at a location satisfactory to the Company, proper space for metering and associated equipment. The meter location shall be kept free and clear of obstructions so that properly authorized representatives of the Company may gain easy access to the meter location for the purpose of operating valves, reading meters, or emergencies in accordance with N.J.A.C. 14:3-4.2, as may be amended or superseded.
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### 6.3 CHANGE OF METER LOCATION

Any change requested by the Customer in the point of location of the meter or service facilities, if approved by the Company, shall be made at the expense of the Customer and shall include the tax consequences incurred by the Company.

### 6.4 CUSTOMER'S RESPONSIBILITY

The Customer shall be responsible for the protection and safekeeping of the equipment and facilities of the Company while it is on the Customer's premises. The Customer shall permit access to the Company's equipment to duly authorized representatives of the Company or duly authorized governmental officials.

### 6.5 ACCESS TO CUSTOMER'S PREMISES

Properly identified and authorized representatives of the Company shall have free access to the Customer's premises at all reasonable times for the purpose of reading meters, for inspection and repairs, for investigation of emergencies or hazardous conditions, for removal of the Company's property or for any other purposes incident to the supply of gas service, in accordance with N.J.A.C. 14:3-3.6, as may be amended or superseded. The Customer is requested to contact the Company immediately if a question arises regarding the authority or credentials of any person claiming to represent the Company.

# STANDARD TERMS AND CONDITIONS

## 6. METERING AND MEASURING EQUIPMENT (continued)

### 6.6 AUTHORIZATION TO TURN ON GAS

No person other than a duly authorized employee or representative of the Company shall turn gas service on or into any new system of piping or into any old system of piping from which the use of gas has been discontinued. Disconnections, reconnections, or meter removals performed by persons other than authorized Company personnel are prohibited and shall constitute Tampering.

### 6.7 UNAUTHORIZED USE

The use of service in excess of 30 days without the Company's express authorization may be terminated by the Company without notice. The use of natural gas service, without notice to the Company, shall render the user liable for any amount reasonably determined by the Company to be due for gas service supplied to the premises since the last meter reading recorded and billed by the Company.

### 6.8 OWNERSHIP AND REMOVAL

All equipment supplied by the Company shall remain its exclusive property and the Company shall have the right to remove its equipment from the premises of the Customer at any time after termination of service.

### 6.9 PAYMENT FOR REPAIRS OR LOSS

The Customer shall pay the Company for any necessary repairs for damage to or any loss of the Company's property located on the Customer's premises, and for the reconnection of service interrupted by such damage or loss, when the damage or loss is caused by negligence or willful misconduct on the part of Customer, or the Customer's family members, employees or agents, or by the failure of the Customer or foregoing persons to comply with the Standard Terms and Conditions and applicable service classifications under which service is furnished. The reconnection charge shall be $45.00 per Customer interruption. This charge will be waived when the appropriate Company personnel are on site at the time of the repair and able to reconnect the Customer safely.

### 6.10 REMOTE METER READING EQUIPMENT

The Company, in its sole discretion and as a condition of service, may install at the Company's expense a remote meter reading device to monitor a Customer's gas consumption. When such device requires attachment to services including, but not limited to, telephone utilities, electric utilities, or a data plan, the Customer shall provide suitable connections.

When a remote meter reading device is requested by the Customer, it shall be installed at the Customer's expense if the installation is deemed feasible by the Company. The Customer may reimburse the Company for the remote meter reading device expense, either in a lump sum payment or over a twelve-month period with the prime interest rate used to calculate carrying costs. All equipment remains the sole property of the Company.

# STANDARD TERMS AND CONDITIONS

## 6. METERING AND MEASURING EQUIPMENT (continued)

### 6.11 SUB-METERING

Sub-metering, the practice in which the customer of record buys gas from the company and resells it through some metering device to tenants at a profit, is not permitted in any form. Gas service supplied by the Company shall not be resold by the Customer to others except where the Customer is another publicly regulated gas utility company, or where the natural gas is used for conversion to compressed natural gas, or when check-metering as defined below is being used by the Customer.

### 6.12 CHECK-METERING

Check-metering is defined as the practice in which a Customer, through the use of a gas check meter, monitors or evaluates his own consumption or the consumption of a tenant for accountability or conservation purposes.

Gas check meters are devices that measure the volume of gas being delivered to particular locations in a system after measurement by a utility-owned meter. Gas check meters provide the Customer the means to apportion among the end users the cost of gas service being supplied through the Company meter.

Check-metering is permitted in new or existing buildings or premises where the basic characteristic of service is industrial or commercial. Check-metering is not permitted in new or existing buildings or premises where the basic characteristic of service is residential, except for condominiums or cooperative housing, or where such buildings or premises are publicly financed or government owned or are charitable in nature, or where the gas use is restricted to cooking gas. Check-metering is not permitted for space heating in residential premises subject to the exceptions set forth above.

If the Customer charges the tenant for usage incurred by the tenant, reasonable administrative expenses may be included, but such charges shall not exceed the amount the Company would charge if the tenant was served and billed directly by the Company.

Prior to the installation of any gas check metering devices, the Customer is required to contact the Company in order to ascertain whether the affected premises are located within a utilization pressure area of the Company's distribution system and whether or not the installation of a check metering device will cause any significant pressure drop within the affected premises.

All gas-consuming devices in any tenant unit must be metered through a single gas check-meter.

The ownership of all check-metering devices is that of the Customer, along with all incidents in connection with said ownership, including accuracy of the meter reading and billing, liability arising from the presence of the equipment and the maintenance and repair of the equipment. Any additional costs which may result from and are attributable to the installation of check-metering devices shall be borne by the Customer.

# STANDARD TERMS AND CONDITIONS

## 6. METERING AND MEASURING EQUIPMENT (continued)

### 6.13 TAMPERING & OTHER DECEPTIVE PRACTICES

When it is established that Tampering has occurred and the Customer has caused or knowingly benefited from such Tampering, the Customer shall be required to bear all of the costs incurred by the Company including, but not limited to, the following: (a) investigations, (b) inspections, (c) costs related to administrative, civil or criminal proceedings, (d) attorneys' fees, (e) installation of any protective equipment deemed necessary by the Company, and (f) actual costs of damage to equipment.

Furthermore, when Tampering with Company facilities results in incorrect measurement, correctly measured service used without Company authorization or the omission of measurement of the service supplied, and the Customer has benefited from such Tampering, the Customer shall pay for such service as the Company may estimate from available information, to have been used on the premises.

If persons other than the Customer are identified as beneficiaries of service obtained at the Customer's premises by Tampering, or have created or contributed to the Tampering, the Company shall elect to hold such persons liable for all of the aforesaid costs incurred and the value of service (metered or unmetered) received. A "beneficiary" is any person who benefits from such Tampering.

The foregoing remedies against the Customer and other beneficiaries arising from Tampering shall also apply to gas service obtained by fraudulent means, imposture, theft of identity, impersonation, theft of service, theft by deception or other unlawful methods.

### 6.14 DIVERSION OF SERVICE

Diversion is an unauthorized connection to pipes by which the gas service registers on the Customer's meter, even if such service is being used by other than the Customer of record without his or her knowledge or cooperation. When a Customer alleges, or it is established, that service has been diverted outside of the Customer's premises, the Customer shall not be required to pay for such service without his or her consent. The definitions, procedures, investigations and determination of N.J.A.C. 14:3-7.8, as may be amended or superseded, shall apply.

### 6.15 SEALING OF METERS AND LOCKING DEVICES

For safety purposes, it is the practice of the Company to seal meters and regulators, and to install locking devices when needed. Removal of seals or locking devices by persons other than authorized Company personnel is prohibited and shall constitute Tampering.

# STANDARD TERMS AND CONDITIONS

## 6. METERING AND MEASURING EQUIPMENT (continued)

### 6.16 INABILITY TO ACCESS CUSTOMER LOCATION

If a Customer has requested that the Company perform work related to the installation of a meter set on Customer property and the Company is unable to complete that work due to the Customer not being available at the scheduled time or the required work not being completed by the Customer and/or contractor, the Customer shall be charged $45.00.

# STANDARD TERMS AND CONDITIONS

## 7. CUSTOMER'S INSTALLATION

### 7.1 INSTALLATION RULES

Customer's appliances, piping, and installation shall be made and maintained in accordance with the standards of the Fuel Gas Subcode of the Uniform Construction Code set forth in N.J.A.C. 5:23-3.22 as may be amended or superseded and such other regulations as may be determined from time to time by any governmental agency having jurisdiction over the Customer's installations.

### 7.2 ADEQUACY AND SAFETY OF INSTALLATION

The Company shall not be required to supply gas service until the Customer's installation has been approved by the authorities with jurisdiction. The Company also reserves the right to withhold its service, or to discontinue its service, whenever such installation or part thereof is deemed by the Company to be unsafe, inadequate, or unsuitable for receiving service, or interferes with or impairs the continuity or quality of service to the Customer or to others.

### 7.3 FINAL CONNECTION

In all cases, no final connection between the Company's equipment and the Customer's installation shall be made without final inspection from the Department of Community Affairs or its designee.

### 7.4 CHANGE IN CUSTOMER'S INSTALLATION

The Customer shall give immediate notice to the Company of any: 1) proposed additions in connected appliances or equipment, 2) change in demand or other conditions of use, or 3) change of purpose or location of the installation. Changes in service conditions shall not be made effective until the Customer notifies the Company and receives the Company's approval of same. Failure to give notice of additions or changes in load or location shall render Customer liable for any damages to the meters or other apparatus and equipment of the Company caused by the additional or changed installation.

### 7.5 COMPANY'S LIABILITY

The Company shall not be liable for any claim for damages resulting from the supply, use, care or handling of the gas or from the presence or operation of the Company’s structures, equipment, pipes, or devices, except for general or direct damages that follow from the Company's negligence, recklessness, or willful misconduct. The Company shall not be liable for special or consequential damages.

# STANDARD TERMS AND CONDITIONS

## 7. CUSTOMER'S INSTALLATION (continued)

All Customer Equipment shall be suitable for the use of natural gas and shall be installed, inspected, repaired and maintained solely by the Customer and solely at the Customer's expense in a manner approved by the public authorities having jurisdiction over the same, and in good and safe condition in accordance with all applicable codes. The Customer shall be solely responsible for the selection of the Customer Equipment and the Company shall have no duty or responsibility for the design, selection, installation, operation or repair of said Equipment. The Customer shall be responsible for the design of the venting and piping associated with the Customer Equipment downstream of the Point of Delivery. The Company does not, by inspection, non-rejection or any other way, give any warranty, express or implied, as to the adequacy, safety or other characteristics of the Customer Equipment. The Company shall not be liable for damages to the Customer Equipment or for injuries sustained by the Customer or others, due to the condition or character of the Customer Equipment. The Company shall not be responsible for the use, care or handling of the gas delivered to the Customer after it passes beyond the point at which the Company's service facilities connect to the Customer Equipment.

The Company may, but need not, conduct a limited inspection of the appliances, venting system and leak integrity of the Customer's piping and venting downstream of the Point of Delivery as a courtesy to the Customer at the time of the initiation of service or thereafter at the request of the Customer. In no event, however, shall the Company have any duty to inspect Customer Equipment or be responsible for any failure of the Customer Equipment or any harm arising from the operation of the Customer Equipment, even if, the Company undertakes, as a courtesy to the Customer, to conduct a limited inspection at the time of initiation of service or otherwise. The Customer shall, at all times, be solely responsible for the inspection, integrity and safety of all Customer Equipment.

## 7.6 BACK PRESSURE AND SUCTION

When the nature of the Customer's gas equipment is such that it may cause back pressure or suction in the piping system, meters, or other associated equipment of the Company, suitable protective devices subject to approval by the Company, shall be furnished, installed, and maintained by the Customer.

When the Customer uses an alternate fuel that is gas, a three-way valve (a check valve is not permissible) is required to be installed at the Customer's expense subject to the Company's approval.

## 7.7 LEAKAGE

The Customer shall give notice immediately of any escape of gas on or about the premises to the Company.

# STANDARD TERMS & CONDITIONS

## 8. METER READING AND BILLING

### 8.1 EVIDENCE OF CONSUMPTION

The quantities of service delivered to the Customer as recorded by the Company's meter or meters, subject to any necessary adjustments for pressure and temperature in accordance with Section 3.1 of this Tariff, shall be final and conclusive except when the metering equipment fails to register or is determined to be in error.

### 8.2 MONTHLY METER READING

The Company shall read meters on a monthly schedule. Nothing in this section shall be deemed to limit the applicability of Section 8.3 below.

### 8.3 ESTIMATED USAGE

Where the Company is unable to read the meter, the Company may estimate the amount of gas supplied and submit an estimated bill. An adjustment of the Customer's estimated use to actual use will be made after an actual meter reading is obtained in accordance with N.J.A.C. 14:3-7.2(e), as may be amended or superseded.

### 8.4 ADJUSTMENT FOR INACCURATE METER RECORDING

When it is determined that the Company's meter is inaccurate or defective, the use of gas service shall be determined by a test of the meter, or by registration of the meter set in its place during the period next following, or after due consideration of previous or subsequent properly measured deliveries. Whenever a meter is found to be registering fast by 2% or more, an adjustment of charges shall be made. When a meter is found to be registering slow by more than 2% due to progressive inaccuracy, an adjustment of charges may be made except for residential accounts, where no adjustment shall be made. An adjustment may be made on any account with a meter that is determined by a Company test of the meter to be defective or non-registering. A defective or non-registering meter is any meter not properly functioning due to a physical inability to meet original manufacturing standards. Any adjustment to the Customer's account resulting from the terms in this section will be billed or applied to the account in accordance with N.J.A.C. 14:3-4.6, as may be amended or superseded. If the adjustment results in a credit, such amount may be refunded upon request from the Customer. If the Customer does not request a refund, a bill credit will be applied to the Customer's account.

If a meter is found to be registering less than 100% of the service provided, the Company shall only adjust the charges retrospectively and/or require the Customer to repay the amount undercharged if: 1) the meter was tampered with; 2) the meter failed to register at all; or 3) the circumstances are such that the Customer should reasonably have known that the bill did not reflect the actual usage. In rebilling a Customer under this Section, the Company may perform a load analysis or degree day analysis.

# STANDARD TERMS & CONDITIONS

## 8. METER READING AND BILLING (continued)

### 8.5 THERM CONVERSION FACTOR

For billing purposes, the reading of the Customer's meter in cubic feet first will be converted to standard cubic feet, then converted to therms by multiplying the use in cubic feet by the weighted average of the BTU content of all gas purchased from all pipeline suppliers for the second preceding calendar month and divided by 100,000. Such calculation shall be to the closest 1/100 of a therm.

### 8.6 BILLING PERIOD

When the billing interval is substantially greater or less than one month, bills will be computed by prorating charges provided under the applicable Service Classification on the basis of the relationship between the time covered by the billing period and a full month.

### 8.7 PAYMENT OF BILLS

Bills normally will be rendered monthly and may be paid through the Company's authorized payment methods including, but not limited to, at any business office of the Company during its regular office hours, at any of its authorized payment locations during regular office hours of such agencies, on the Company's Web site at www.njng.com, authorized electronic payment remitters, auto-debit enrollment, by phone {1-800-221-0051}, or by mail.

### 8.8 PAYMENT OBLIGATION

Unless otherwise specified all bills are net and payable within at least fifteen (15) days from the date the bill is sent. Failure to make payment may be deemed sufficient reason for the Company to consider the Customer's account delinquent. The Company may discontinue service for nonpayment of bills provided it gives the Customer at least ten days written notice of its intention to discontinue. The notice of discontinuance shall not be served until the expiration of the said 15 day period. However, in cases of fraud, illegal use, or when it is clearly indicated that the Customer is preparing to leave, immediate payment of account may be required.

The Company shall apply the regulations set forth in N.J.A.C. 14:3-3A.2, as may be amended or superseded, and shall discontinue service for nonpayment only if one or both of the following criteria are met: 1) the Customer's arrearage is more than $100.00; 2) the Customer's account is more than three months in arrears.

# STANDARD TERMS & CONDITIONS

## 8. METER READING AND BILLING (continued)

### 8.9 LATE PAYMENT CHARGE

A late payment charge at the rate of 1.5% per monthly billing period shall be applied to all non-residential customers. The charge will be applied to all amounts previously billed including late payment charges and accounts payable that are not paid at the time the next monthly bill is prepared and shall not be applied sooner than twenty-five (25) days after a bill is rendered, in accordance with N.J.A.C. 14:3-7.1(e). Service to governmental entities will not be subject to a late payment charge. The amount of the late payment charge to be added to the unpaid balance shall be calculated by multiplying the unpaid balance by the late charge rate. When payment is received by the Company from a Customer who has an unpaid balance which includes charges for late payment, the Customer's payment shall be applied first to such late payment charges and then to the remainder of the unpaid balance.

### 8.10 FINAL BILL

A Customer intending to discontinue service must give the Company reasonable notice thereof. Within forty-eight (48) hours of said notice, the Company shall discontinue service or obtain a meter reading for the purpose of calculating a final bill, unless a holiday or weekend intervenes. Where such notice is not received by the utility, the Customer shall be liable for service until the final reading of the meter is taken. Notice to discontinue service will not relieve a Customer from any minimum or guaranteed payment under any contract or Service Classification.

### 8.11 RETURNED PAYMENT FEE

The Company will charge $10.00 to process Customer payments that are uncollectible and returned by the Company's bank.

### 8.12 FIELD COLLECTION CHARGE

A charge of $15.00 may be made when the Company makes a collection visit to the Customer or premises.

# STANDARD TERMS & CONDITIONS

## 9. DISCONTINUANCE OF SERVICE

### 9.1 COMPANY CAUSES

The Company shall, upon reasonable notice, when it reasonably can be given, have the right to suspend, curtail, or discontinue its service for any of the following reasons:

a. For the purpose of making repairs, changes, replacements, or improvements in any part of its system.

b. For compliance in good faith with any governmental order or directive, whether Federal, State, Municipal, or otherwise, even if such order or directive subsequently is held to be invalid.

c. In the event of an emergency threatening the integrity of its system if, in the Company's sole judgment, such action will prevent or lessen the emergency condition.

### 9.2 CUSTOMER ACTS OR OMISSIONS

The Company also shall have the right to suspend, curtail or discontinue its service for any of the following act(s) or omission(s) on the Customer's part:

a. Nonpayment of any bill due for service furnished at the present or any previous location, in accordance with N.J.A.C. 14:3-3A.1, as may be amended or superseded. However, nonpayment for business service shall not be a reason for discontinuance of residential service, except in cases of diversion of service pursuant to N.J.A.C. 14:3-7.8, as may be amended or superseded and service shall not be discontinued for nonpayment of appliance repair, installation charges, service contracts, and other services unrelated to gas service.

b. Tampering with any facility of the Company.

c. Fraudulent representation in relation to the use of gas service.

d. Customer moving from the premises unless that Customer requests that service be continued.

e. Delivering gas service to others without written approval of the Company except as permitted under Standard Terms and Conditions Sections 6.11 and 6.12 Sub-Metering and Check-Metering.

f. Failure to make or increase an advance payment or deposit when required by the Company.

g. Refusal to contract for service where a contract is required.

h. Connecting and operating equipment in such a manner as to produce disturbing effects on the service of the Company or other Customers.

# STANDARD TERMS & CONDITIONS

## 9. DISCONTINUANCE OF SERVICE (continued)

i. Where the conditions of the Customer's installation presents a hazard to life or property.

j. Failure of the Customer to repair any faulty equipment or lines.

k. Failure to comply with any of these Standard Terms and Conditions or with any of the terms of the service classification or contract under which gas service is furnished.

l. Failure to provide reasonable access to the premises, and to the Company's meter and other service facilities on the premises, for the purposes of meter installation, reading, testing, inspection, maintenance, removal, or replacement of meters or other service facilities.

Reasonable access means that premises shall not become obstructed or hazardous, and that the Customer shall not construct, pave over, or otherwise obstruct the Company's service line or other facilities. In the event reasonable access, as described here, is not complied with, the Company may, upon reasonable notice, discontinue service and remove its equipment from the Customer's premises.

Any costs of protecting or relocating such service line or facilities shall be borne by the Customer.

m. In the event a writ of execution is issued against a Customer, or in case the premises to which service is supplied is levied upon, or in the case of assignment or act of bankruptcy on the part of the Customer.

n. Service to a residential customer shall only be discontinued between the hours of 8:00 a.m. and 4:00 p.m. Monday through Thursday, unless there is a safety related emergency. There shall be no involuntary termination of service on Fridays, Saturdays, and Sundays or on the day before a holiday or on a holiday, absent such emergency.

### 9.3 CHARGES PAYABLE UPON TERMINATION

If gas service is terminated for any of the above reasons where the Customer is under written contract, the minimum charge for the unexpired portion of the term shall become due and payable immediately, provided, however, that if satisfactory arrangements are subsequently made by Customer for reconnection of the service, the immediate payment of the minimum charge for the unexpired portion of the contract term may be waived or modified as the circumstances indicate would be just and reasonable.

### 9.4 NON-WAIVER

Failure of the Company to exercise its rights to suspend, curtail or discontinue service, for any of the above reasons, shall not be deemed a waiver of the Company's rights.

# STANDARD TERMS & CONDITIONS

## 9. DISCONTINUANCE OF SERVICE (continued)

### 9.5 RESTORATION OF SERVICE

The Company shall not reconnect service to the Customer's premises, where service has been discontinued by reason of any act or default of the Customer, until such time as the Customer has rectified the condition or conditions causing discontinuance of service. Service shall not be reconnected until the Customer has met all financial requirements including satisfactory payment arrangements called for under these Standard Terms and Conditions and the applicable Service Classification, or if the Board so directs when a complaint involving such a matter is pending before the Board in accordance with N.J.A.C. 14:3-3A.9, as may be amended or superseded.

The Company shall treat the restoration of service and the turn-on of new accounts on a first come, first serve basis during periods outside of the winter moratorium. The Company shall give priority to the restoration of service during the winter moratorium.

### 9.6 RECONNECTION CHARGE

The Customer shall pay a reconnection charge of $45.00 for the restoration of service when service has been suspended for any of the reasons cited in Section 9.2, with the exception of 9.2.d, of these Standard Terms and Conditions.

# STANDARD TERMS & CONDITIONS

## 10. FOR CUSTOMERS PURCHASING GAS SUPPLY FROM A THIRD PARTY SUPPLIER

### 10.1 CONDITIONS PRECEDENT

The Customer shall designate a Third Party Supplier, formerly referred to as Marketer or Broker, who will act as the Customer's agent with the Company for purposes of receiving nominations, satisfying delivery obligations, daily and monthly balancing, selection of billing option and all related charges. The Third Party Supplier must be authorized by the Company and is subject to the service requirements of the Third Party Supplier Requirements ("TPS") Service Classification. The Customer is responsible for payment of any costs if additional facilities are necessary to provide service. The Company reserves the right to limit new customers served under this service, if it determines that service expansion is detrimental to existing firm customers.

### 10.2 RETURN TO FIRM SALES SERVICE

Customers shall be permitted to return to firm sales service in accordance with N.J.A.C. 14:4-2.6(f), as may be amended or suspended. Transport customers who terminate such service and who wish to return to firm sales service, will be viewed as new applicants for such firm sales service. Such service will be offered subject to the conditions contained in Section 3.4 of the Company's Standard Terms and Conditions in its Tariff.

### 10.3 WARRANTY

NJNG warrants that at the time of delivery to the Customer at the Delivery Point said gas quantities shall be free and clear of all liens, encumbrances and claims whatsoever which may result solely from NJNG's possession or transportation of gas hereunder and, further, that it will indemnify and hold the Customer harmless from all suits, actions, debts, accounts, damages, costs, losses, and expense arising from or out of adverse claims of any or all persons to said gas quantities, arising out of, relating to or resulting from such possession or transportation.

### 10.4 CONTRACT

Written application on Company's Standard Application Form may be required.

# STANDARD TERMS & CONDITIONS

## 10. FOR CUSTOMERS PURCHASING GAS SUPPLY FROM A THIRD PARTY SUPPLIER (continued)

### 10.5 REGULATORY APPROVALS

The Customer is responsible for securing approvals from all regulatory bodies having jurisdiction and making any filings or reports, as required, pertaining to the acquisition of the gas and/or the transportation of the gas from the Customer's source to the Company's designated delivery meters.

The Company reserves the right, in its sole reasonable judgment, to deny service hereunder if it determines that the underlying contracts or transportation agreements do not comply with all applicable Federal or State laws, rules or regulations, including those of all appropriate regulatory agencies; or if it determines that the requested transportation service is not operationally feasible.

### 10.6 CHANGE OF THIRD PARTY SUPPLIER

Customers shall be permitted to switch suppliers in accordance with N.J.A.C. 14:4-2.6(f), as may be amended or superseded.

# STANDARD TERMS & CONDITIONS

## 11. CONDITIONS UNDER WHICH RATE DISCOUNTS SHALL BE CONSIDERED

### 11.1 CUSTOMERS WITH ABILITY TO BYPASS

A Customer requesting a discount from NJNG's Tariff Rate for Gas Service due to the Customer's asserted ability to physically bypass the Company's distribution and/or transmission system facilities shall provide the following information to the Company:

a. A statement from the interstate natural gas pipeline that the proposed interconnection is operationally viable, that sufficient capacity is available and the pipeline would serve the party if requested;

b. Maps or flow diagrams for the bypass connection, which shall identify the route of the pipeline from the interconnection with the pipeline and the Customer's site, the size of the connecting pipeline from the interconnection with the pipeline and the Customer's site, the size of the connecting pipeline and any other appurtenant facilities required;

c. Engineering studies setting forth the estimated cost(s) to complete construction;

d. Status of all reliability and environmental permits required by State and Federal agencies; and

e. Other information that the Company deems appropriate in considering the Customer's request.

Each request will be evaluated on a case-by-case basis to determine whether a discount from NJNG's Tariff Rate for Gas Service would be just and reasonable. Any agreement between the Customer and the Company for a discount from NJNG's Tariff Rate for Gas Service is subject to Board approval.

### 11.2 CUSTOMERS WITH CIRCUMSTANCES OTHER THAN AN ASSERTED ABILITY TO PHYSICALLY BYPASS

A new Customer or existing Customer who requests a discount from NJNG's Tariff Rate for Gas Service due to circumstances other than the asserted ability to physically bypass the Company's distribution and/or transmission system facilities shall contact the Company in writing with its request. The new or existing Customer shall provide all of the information that the Company deems appropriate in considering the Customer's request. Each request will be evaluated on a case-by-case basis to determine whether a discount from NJNG's Tariff Rate for Gas Service would be just and reasonable. Any agreement between the Customer and the Company for a discount from NJNG's Tariff Rate for Gas Service is subject to Board approval.

## *RESERVED FOR FUTURE USE*

# SERVICE CLASSIFICATION - RS

## RESIDENTIAL SERVICE

### AVAILABILITY

This service is available to any residential Customer in the territory served by the Company using gas for any domestic purpose. This rate is applicable to individually-metered apartments and to rooming and boarding houses where the number of rental bedrooms is not more than twice the number of bedrooms used by the Customer.

Gas delivered under this schedule may not be used for other than domestic purposes except when such use is incidental to domestic use.

### CHARACTER OF SERVICE

Firm gas service where Customer may either purchase gas supply from the Company's Rider "A" for Basic Gas Supply Service ("BGSS") or from a Third Party Supplier.

### MONTHLY RATES

#### Customer Charge:

| | |
|---|---|
| Customer Charge per meter per month | $12.10 |

#### Delivery Charge:

**Residential Heating**

| | |
|---|---|
| Delivery Charge per therm | $0.9587 |

**Residential Non-Heating**

| | |
|---|---|
| Delivery Charge per therm | $0.8949 |

#### BGSS Charge:

| | |
|---|---|
| BGSS Charge per therm for Sales Customers | See "Rate Summaries" at the end of this Tariff |

These rates are inclusive of all applicable taxes and riders and are subject to adjustment for all other applicable riders, taxes, assessments or similar charges lawfully imposed by the Company. See Rate Summaries at the end of this Tariff for a summary of components incorporated in these rates.

# SERVICE CLASSIFICATION - RS

## RESIDENTIAL SERVICE (continued)

### MINIMUM MONTHLY CHARGE

The minimum monthly charge shall be the Customer Charge.

Where service is taken for less than one month, the minimum charge will be prorated.

### BALANCING CHARGE ADJUSTMENTS

The Balancing Charge is included in the Delivery Charge and is subject to adjustment in the Company's annual BGSS proceeding. All revenues derived from this Charge will be credited to the BGSS. See Rider "A" for the current Balancing Charge.

### SPECIAL PROVISIONS

I. *Applicable to All Customers Purchasing Gas Supply from a Third Party Supplier*

1. ***Metering***

   An Automated Meter Reading (AMR) device will not be required for this service.

   Should the Company decide to install an AMR or a Customer request an AMR, the installation shall be in accordance with Paragraph 6.10 of the Standard Terms and Conditions.

2. ***Additional Requirements***

   Service is subject to the terms and conditions of the Third Party Supplier Requirements section of this Tariff (Service Classification – TPS) and Section 10 of the Company's Standard Terms and Conditions.

### CONTRACT

Written application on Company's Standard Application Form may be required.

### TERMS AND CONDITIONS

Service is subject to the Company's Standard Terms and Conditions.

# *SERVICE CLASSIFICATION – DGR*

## *DISTRIBUTED GENERATION SERVICE - RESIDENTIAL*

### *AVAILABILITY*

This service is available to any residential customer using distributed generation technologies including, but not limited to, microturbines and fuel cells to generate electricity for domestic purposes.

### *CHARACTER OF SERVICE*

Firm gas service where Customer may either purchase gas supply from the Company's Rider "A" for Basic Gas Supply Service ("BGSS") or from a Third Party Supplier.

### *MONTHLY RATES*

***Customer Charge:***

| | |
|---|---|
| Customer Charge per meter per month | $12.10 |

***Delivery Charge:***

| | |
|---|---|
| November - April | $0.3468 |
| May - October | $0.2935 |

***BGSS Charge:***

| | |
|---|---|
| BGSS Charge per therm for Sales Customers | See "Rate Summaries" at the end of this Tariff |

These rates are inclusive of all applicable taxes and riders and are subject to adjustment for all other applicable riders, taxes, assessments or similar charges lawfully imposed by the Company. See Rate Summaries at the end of this Tariff for a summary of components incorporated in these rates.

### *MINIMUM MONTHLY CHARGE*

The minimum monthly charge shall be the Customer Charge. Where service is taken for less than one month, the minimum charge will be prorated.

### *BALANCING CHARGE ADJUSTMENTS*

The Balancing Charge is included in the Delivery Charge and is subject to adjustment in the Company's annual BGSS proceeding. All revenues derived from this Charge will be credited to the BGSS. See Rider "A" for the current Balancing Charge.

# SERVICE CLASSIFICATION - DGR

## DISTRIBUTED GENERATION SERVICE - RESIDENTIAL (continued)

## SPECIAL PROVISIONS

I. *Applicable to All Customers Under This Service Classification*

*1.* ***Metering***

All service rendered hereunder shall be metered separately from any other gas service provided to Customer at the Customer's location.

An Automated Meter Reading (AMR) device with daily meter reads will not be required for this service. However, upon prior notice to the Customer, the Company reserves the right to install an AMR at its own expense. Should the Company decide to install an AMR, the Customer shall furnish the necessary infrastructure to support the AMR, including, but not limited to, an electrical supply and phone line, or data plan, for the operation of the device, in an area acceptable to the Company.

Should the Customer request an AMR, the installation shall be in accordance with Paragraph 6.10 of the Standard Terms and Conditions.

II. *Applicable to All Customers Purchasing Gas Supply from a Third Party Supplier*

*1.* ***Additional Requirements***

Service is subject to the terms and conditions of the Third Party Supplier Requirements section of this Tariff (Service Classification – TPS) and Section 10 of the Company's Standard Terms and Conditions.

## TERMS AND CONDITIONS

Service is subject to the Standard Terms and Conditions of this Tariff.

*NEW JERSEY NATURAL GAS COMPANY*

*BPU No. 11 - Gas* *Original Sheet No. 55*

# *SERVICE CLASSIFICATION – GSS*

## *GENERAL SERVICE - SMALL*

### *AVAILABILITY*

This service is available to any Customer in the entire territory served by the Company who uses less than 5,000 therms annually and uses gas for all purposes other than residential service and interruptible service. Where the Customer uses the Cooling, Air Conditioning and Pool Heating service ("CAC") under Special Provision I.2, the Company may, upon application by the Customer, meter the space heating and CAC use separately. Street Lighting Service also will be supplied under this schedule (Special Provision II.1).

### *CHARACTER OF SERVICE*

Firm gas service where Customer may either purchase gas supply from the Company's Rider "A" for Basic Gas Supply Service ("BGSS") or from a Third Party Supplier.

### *MONTHLY RATES*

***Customer Charge:***

| | |
|---|---|
| Customer Charge per meter per month | $44.25 |

***Delivery Charge:***

| | |
|---|---|
| Delivery Charge per therm | $0.9152 |

***BGSS Charge:***

| | |
|---|---|
| BGSS Charge per therm for Sales Customers | See "Rate Summaries" at the end of this Tariff |

These rates are inclusive of all applicable taxes and riders and are subject to adjustment for all other applicable riders, taxes, assessments or similar charges lawfully imposed by the Company. See Rate Summaries at the end of this Tariff for a summary of components incorporated in these rates.

### *MINIMUM MONTHLY CHARGE*

The minimum monthly charge shall be the Customer Charge.

Where service is taken for less than one month, the minimum charge will be prorated.

### *BALANCING CHARGE ADJUSTMENTS*

The Balancing Charge is included in the Delivery Charge and is subject to adjustment in the Company's annual BGSS proceeding. All revenues derived from this Charge will be credited to the BGSS. See Rider "A" for the current Balancing Charge.

# *SERVICE CLASSIFICATION - GSS*

## *GENERAL SERVICE - SMALL (continued)*

## *SPECIAL PROVISIONS*

I. *Applicable to All Customers Under This Service Classification*

1. ***Annual Review***
The Company shall review, at least once a year, each GSS Customer's annual usage based on the most recent twelve (12) months of billing information to determine if the General Service – Large ("GSL") Service Classification is applicable to the Customer. If the Customer's normalized annual usage is greater than or equal to 5,500 therms, the customer will be switched to GSL prospectively.

2. ***Air Conditioning and Pool Heating***
Upon separate application, GSS Customers who have installed and are using gas air conditioning and/or pool heating equipment will be billed on the above Monthly Rates and will be billed a credit of ($0.6323) per therm for all monthly consumption of gas for services rendered between May 1 and September 30 of each year. This credit is the difference between the delivery charge for service rendered between May 1 and September 30 of each year under this Special Provision of $0.2829 per therm, which includes $0.1080 per therm margin, all appropriate riders, taxes, assessments and surcharges, and the delivery charge for Service Classification GSS.

Commercial Air Conditioning and Pool Heating ("CAC") customers will be separately metered, except, at the Company's sole discretion, existing Customers may use the same meter for their cooling, air conditioning or pool heating load and their space heating load as long as there is minimal base load during the period air conditioning rates are in effect.

Where a CAC Customer uses gas under this service classification in a direct-fired chiller/heater and the heating load is metered through the same meter as the cooling, air conditioning or pool heating load, and further, where the gas used for heating is billed separately, the GSS Customer Charge shall be waived, provided the Customer pays the Customer Charge under its heating service in all twelve (12) months of the year.

3. ***Veterans' Organization Service***
Pursuant to N.J.S.A 48:2-21.41, when natural gas service is delivered to a customer that is a Veterans' Organization, serving the needs of veterans of the armed forces, the customer may apply and be eligible for billing under this Special Provision.

*a.* Each customer shall be eligible for billing under this Special Provision upon submitting an Application for Veterans' Organization Service under this Service Classification and by qualifying as a "Veterans' Organization" as defined by N.J.S.A. 48:2-21.41 as "an organization dedicated to serving the needs of veterans of the armed forces that: is chartered under federal law, qualifies as a tax exempt organization under paragraph (19) of subsection (c) of section 501 of the federal Internal Revenue Code of 1986, 26 U.S.C. s.501 (c)(19), or that is organized as a corporation under the 'New Jersey Nonprofit Corporation Act,' N.J.S.15A:1-1 et seq." Under N.J.S.A. 48: 2-21.41, a qualified Veterans' Organization shall be charged the residential rate for service delivered to the property where the Veterans' Organization primarily operates, if the residential rate is lower than the commercial rate for service at that property.

# SERVICE CLASSIFICATION - GSS

## GENERAL SERVICE - SMALL (continued)

The Customer shall furnish satisfactory proof of eligibility of service under this Special Provision to the Company. Once proof of eligibility is determined by the Company, service under this Special Provision shall begin with the next billing cycle following receipt of the Application.

*b.* The Customer will continue to be billed on this Service Classification. At least once annually, the Company shall review eligible customers' Customer Charges and Delivery Charges under this Special Provision for all relevant periods. If the comparable Customer Charges and Delivery Charges under Service Classification Residential Service (RS) are lower than the charges under their current Service Classification, a credit in the amount of the difference will be applied to the Customer's next bill.

*4.* ***Metering***

An Automated Meter Reading (AMR) device will not be required for this service.

Should the Company decide to install an AMR or a Customer request an AMR, the installation shall be in accordance with Paragraph 6.10 of the Standard Terms and Conditions.

II. *Applicable to All Customers Purchasing Gas Supply Under Rider "A" BGSS*

*1.* ***Street Lighting Service***

Street Lighting Service is not subject to Rider "I" of this Tariff. The delivery charge per therm for Street Lighting Service is $0.8752 per therm.

III. *Applicable to All Customers Purchasing Gas Supply from a Third Party Supplier*

*1.* ***Additional Requirements***

Service is subject to the terms and conditions of the Third Party Supplier Requirements section of this Tariff (Service Classification – TPS) and Section 10 of the Company's Standard Terms and Conditions.

## TERMS AND CONDITIONS

Service is subject to the Company's Standard Terms and Conditions of this Tariff.

# *SERVICE CLASSIFICATION - GSL*

## *GENERAL SERVICE - LARGE*

### *AVAILABILITY*

This service is available to any Customer in the entire territory served by the Company who uses greater than or equal to 5,000 therms annually and uses gas for all purposes other than residential service and interruptible service. Where the Customer uses the Cooling, Air Conditioning and Pool Heating service ("CAC") under Special Provision I.4, the Company may, upon application by the Customer, meter the space heating and CAC use separately.

### *CHARACTER OF SERVICE*

Firm gas service where Customer may either purchase gas supply from the Company's Rider "A" for Basic Gas Supply Service ("BGSS") or from a Third Party Supplier.

### *MONTHLY RATES*

***Customer Charge:***

| | |
|---|---|
| Customer Charge per meter per month | $104.49 |

***Demand Charge:***

| | |
|---|---|
| Demand Charge per therm applied to HMAD | $3.41 |

***Delivery Charge:***

| | |
|---|---|
| Delivery Charge per therm | $0.5400 |

***BGSS Charge:***

| | |
|---|---|
| BGSS Charge per therm for Sales Customers | See "Rate Summaries" at the end of this Tariff |

These rates are inclusive of all applicable taxes and riders and are subject to adjustment for all other applicable riders, taxes, assessments or similar charges lawfully imposed by the Company. See Rate Summaries at the end of this Tariff for a summary of components incorporated in these rates.

### *MINIMUM MONTHLY CHARGE*

The minimum monthly charge shall be the Customer Charge and the Demand Charge.

Where service is taken for less than one month, the minimum charge will be prorated.

# SERVICE CLASSIFICATION - GSL

## GENERAL SERVICE - LARGE (continued)

### BALANCING CHARGE ADJUSTMENTS

The Balancing Charge is included in the Delivery Charge and is subject to adjustment in the Company's annual BGSS proceeding. All revenues derived from this Charge will be credited to the BGSS. See Rider "A" for the current Balancing Charge.

### SPECIAL PROVISIONS

I. *Applicable to All Customers in this Service Classification*

1. ***Determination of Demand***
The highest monthly average daily usage (HMAD) that occurs in any billing period will be used to calculate the Demand Charge. The HMAD shall be determined based upon the Customer's highest normalized average daily usage for a month in the most recent twenty-four (24) month period. Estimated data may be used when actual data is not available. At least once a year, the Company shall review and modify, if necessary, each GSL customer's HMAD based upon the most recent twenty-four (24) months of billing information. Any modification will be on a prospective basis. The Company reserves the right to determine the HMAD for any Customer by actually metering daily usage.

2. ***Metering***
An Automated Meter Reading (AMR) device with daily meter reads will not be required for this service. However, the Company reserves the right to install an AMR if it believes such a device will provide a more accurate HMAD than the Determination of Demand set forth above. Should the Company decide to install an AMR, the Customer shall furnish the necessary infrastructure to support the AMR, including, but not limited to, an electrical supply and phone line, or data plan, for the operation of the device, in an area acceptable to the Company.

Should the Customer request an AMR, the installation shall be in accordance with Paragraph 6.10 of the Standard Terms and Conditions.

3. ***Annual Review***
The Company shall review, at least once a year, each GSL customer's annual usage based on the most recent twelve (12) months of billing information to determine if the General Service - Small ("GSS") Service Classification is applicable to the Customer. If the Customer's normalized annual usage is less than or equal to 4,500 therms, the Customer will be switched to GSS prospectively.

4. ***Air Conditioning and Pool Heating***
Upon separate application, GSL Customers who have installed and are using gas air conditioning and/or pool heating equipment will be billed on the above Monthly Rates and will be billed a credit of ($0.2571) per therm for all monthly consumption of gas for services rendered between May 1 and September 30 of each year. This credit is the difference between the delivery charge for service rendered between May 1 and September 30 of each year under this Special Provision of $0.2829 per therm which includes $0.1080 per therm margin, all appropriate riders, taxes, assessments and surcharges, and the delivery charge for Service Classification GSL.

Commercial Air Conditioning and Pool Heating ("CAC") Customers will be separately metered, except, at the Company's sole discretion, existing Customers may use the same meter for their cooling, air conditioning or pool heating load and their space heating load as long as there is minimal base load during the period air conditioning rates are in effect.

# SERVICE CLASSIFICATION - GSL

## GENERAL SERVICE - LARGE (continued)

Where a CAC Customer uses gas under this service classification in a direct-fired chiller/heater and the heating load is metered through the same meter as the cooling, air conditioning or pool heating load, and further, where the gas used for heating is billed separately, the GSL Customer Charge shall be waived, provided the Customer pays the Customer Charge under its heating service in all twelve (12) months of the year.

5. ***Veterans' Organization Service***

Pursuant to N.J.S.A 48:2-21.41, when natural gas service is delivered to a customer that is a Veterans' Organization serving the needs of veterans of the armed forces, the customer may apply and be eligible for billing under this Special Provision.

*a.* Each customer shall be eligible for billing under this Special Provision upon submitting an Application for Veterans' Organization Service under this Service Classification and by qualifying as a "Veterans' Organization" as defined by N.J.S.A. 48:2-21.41 as "an organization dedicated to serving the needs of veterans of the armed forces that: is chartered under federal law, qualifies as a tax exempt organization under paragraph (19) of subsection (c) of section 501 of the federal Internal Revenue Code of 1986, 26 U.S.C. s.501 (c)(19), or that is organized as a corporation under the 'New Jersey Nonprofit Corporation Act,' N.J.S.15A:1-1 et seq." Under N.J.S.A. 48: 2-21.41, a qualified Veterans' Organization shall be charged the residential rate for service delivered to the property where the Veterans' Organization primarily operates, if the residential rate is lower than the commercial rate for service at that property.

The Customer shall furnish satisfactory proof of eligibility of service under this Special Provision to the Company, who will determine eligibility. Once proof of eligibility is determined by the Company, service under this Special Provision shall begin with the next billing cycle following receipt of the Application.

*b.* The Customer will continue to be billed on this Service Classification. At least once annually, the Company shall review eligible customers' Customer Charges, Demand Charges, and Delivery Charges under this Special Provision for all relevant periods. If the comparable Customer Charges and Delivery Charges under Service Classification Residential Service (RS) are lower than the charges under their current Service Classification, a credit in the amount of the difference will be applied to the Customer's next bill.

II. *Applicable to All Customers Purchasing Gas Supply from a Third Party Supplier*

1. ***Incremental Expenses***

The Customer shall reimburse the Company for any out-of-pocket expenses (including, but not limited to, legal and travel expenses) incurred in connection with the initiation and rendering of service under this service classification. The Company shall provide an estimate of such expenses prior to their incurrence**.**

2. ***Additional Requirements***

Service is subject to the terms and conditions of the Third Party Supplier Requirements section of this Tariff (Service Classification – TPS) and Section 10 of the Company's Standard Terms and Conditions.

## TERMS AND CONDITIONS

Service is subject to the Company's Standard Terms and Conditions of this Tariff.

# SERVICE CLASSIFICATION - FT

## FIRM TRANSPORTATION SERVICE

### AVAILABILITY

This service is available to any customer who would otherwise qualify for service under Service Classifications GSS, GSL, IS, or NGV. The Company may require the Customer to provide to the Company's satisfaction, proof of a firm gas supply having marketable title of gas with firm transportation capacity to the Company's distribution systems.

### MONTHLY RATES

**Customer Charge:**

| | |
|---|---|
| Customer Charge per meter per month | $389.18 |

**Demand Charge:**

| | |
|---|---|
| Demand Charge per therm applied to MDQ | $2.83 |

**Delivery Charge:**

| | |
|---|---|
| Delivery Charge per therm | $0.1837 |

These rates are inclusive of all applicable taxes and riders and are subject to adjustment for all other applicable riders, taxes, assessments or similar charges lawfully imposed by the Company. See Rate Summaries at the end of this Tariff for a summary of components incorporated in these rates.

### MINIMUM MONTHLY CHARGE

The minimum monthly charge shall be the Customer Charge and the Demand Charge.

Where service is taken for less than one month, the minimum charge will be prorated.

# SERVICE CLASSIFICATION - FT

## FIRM TRANSPORTATION SERVICE (continued)

## SPECIAL PROVISIONS

1. ***Determination of Demand***

The Maximum Daily Quantity (MDQ) will be initially set by determining the highest monthly average daily usage (HMAD) without normalization and multiplying that result by 1.30. The MDQ will be stated in therms.

The Company shall deliver to the Customer the gas quantity provided by the Customer up to the MDQ level. Should the Customer's usage exceed the MDQ, the MDQ will be deemed to have changed. The MDQ for service and billing purposes will remain at the highest actual daily volume served. The Customer may request a decrease to its MDQ when the Customer has installed energy efficient equipment or significantly modified its operations resulting in decreased maximum daily usage. Any decrease in the MDQ will be granted in the Company's sole judgment on a prospective basis.

2. ***Automated Meter Reading Device***

Metering shall include an automated meter reading device (AMR) with daily meter reads**,** which shall be furnished and installed by the Company at the Customer's expense. The Customer shall furnish the necessary infrastructure to support the AMR, including, but not limited to, an electrical supply and phone line, or data plan, for the operation of the device, in an area acceptable to the Company. The Company shall provide technical assistance in order to minimize the Customer's expense for such installation.

The Customer may reimburse the Company for the AMR expense, either in a lump sum payment when service is initiated or over a twelve-month period with the prime interest rate used to calculate carrying costs.

3. ***Incremental Expenses***

The Customer shall reimburse the Company for any out-of-pocket expenses (including, but not limited to, legal and travel expenses) incurred in connection with the initiation and rendering of service under this service classification. The Company shall provide an estimate of such expenses prior to their incurrence.

4. ***Customer Responsibility***

In the event the Customer designates a Third Party Supplier in accordance with Service Classification TPS, the Customer will remain responsible for a pro rata share of any Charges which such Third Party Supplier fails to pay to the Company including payments for Delivery Shortfall or for Monthly Imbalance.

# SERVICE CLASSIFICATION - FT

## FIRM TRANSPORTATION SERVICE (continued)

5. ***Inability to Secure Supply with a Third Party Supplier***

In the event that a new Customer cannot enroll with a Third Party Supplier prior to the commencement of service, or an existing Customer's Third Party Supplier ceases providing service to the Customer and the Customer is unable to secure supply from an alternate Third Party Supplier, Customers may elect to receive temporary supply service from the Company. The price for temporary service provided to the Customers shall be equal to the Monthly BGSS price in Rider "A".

If a Third Party Supplier has not submitted enrollment information for the Customer to the Company within thirty (30) days of a new Customer's commencement of service or an existing Customer's loss of its previous Third Party Supplier, the Customer will be switched to the appropriate sales service classification.

6. ***Additional Requirements***

Service is subject to the terms and conditions of the Third Party Supplier Requirements section of this Tariff (Service Classification – TPS) and Section 10 of the Company's Standard Terms and Conditions.

## TERMS AND CONDITIONS

Service is subject to the Standard Terms and Conditions of this Tariff.

# SERVICE CLASSIFICATION - DGC

## DISTRIBUTED GENERATION SERVICE - COMMERCIAL

### AVAILABILITY

This service is available to any commercial customer using distributed generation technologies including, but not limited to, microturbines and fuel cells.

### CONDITIONS PRECEDENT

If the Customer is served by a Third Party Supplier, the Third Party Supplier assumes the responsibility for all delivery requirements. The Company may require the Customer to provide, to the Company's satisfaction, proof of a firm gas supply having marketable title of gas with firm transportation capacity to the Company's distribution systems. The Customer is responsible for payment of any costs if additional facilities, exclusive of metering facilities, are necessary to provide service. The Company reserves the right to limit new customers served under this service, if it determines that service expansion is detrimental to existing firm customers. The Customer must demonstrate that qualifying electric generation equipment has been installed at its location.

### MONTHLY RATES

| | DGC-Balancing | DGC-FT |
|---|---|---|
| ***Customer Charge:*** | | |
| Customer Charge per meter per month | $104.49 | $104.49 |
| ***Demand Charge:*** | | |
| Demand Charge per therm applied to PBQ | $2.45 | $2.45 |
| ***Delivery Charge per therm:*** | | |
| November - April | $0.2357 | $0.1331 |
| May - October | $0.2030 | $0.1004 |
| ***BGSS Charge:*** | | |
| BGSS Charge per therm for Sales Customers | See "Rate Summaries" at the end of this Tariff | N/A |

The Delivery Charges for DGC-Balancing above include the Balancing Charge as reflected in Rider "A" of this Tariff for customers whose Third Party Supplier delivers gas on their behalf pursuant to paragraph (3) under Deliveries to Company's Designated Delivery Meters section of Service Classification TPS. For DGC-FT customers whose Third Party Supplier delivers gas on their behalf pursuant to paragraph (1) under Deliveries to Company's Designated Delivery Meters section of Service Classification TPS, the DGC-FT Delivery Charges above exclude the Balancing Charge reflected in Rider "A" of this Tariff.

These rates are inclusive of all applicable taxes and riders and are subject to adjustment for all other applicable riders, taxes, assessments or similar charges lawfully imposed by the Company. See Rate Summaries at the end of this Tariff for a summary of components incorporated in these rates.

# SERVICE CLASSIFICATION - DGC

## DISTRIBUTED GENERATION SERVICE - COMMERCIAL (continued)

### MINIMUM MONTHLY CHARGE

The minimum monthly charge shall be the sum of the Customer Charge and the Demand Charge.

Where service is taken for less than one month, the minimum charge will be prorated.

### SPECIAL PROVISIONS

I. *Applicable to All Customers in this Service Classification*

1. ***Determination of Demand***
The Peak Billing Quantity (PBQ) will be initially set based on the rated fuel requirements of the installed distributed generation equipment and the Customer's electric requirements. The Company shall deliver to the Customer the gas quantity provided by the Customer up to the PBQ level. Should the Customer's usage exceed the PBQ, the PBQ will be deemed to have changed. The PBQ for service and billing purposes will remain at the highest actual daily volume served.

2. ***Automated Meter Reading Device***
All service rendered hereunder shall be metered separately from any other gas service provided to the Customer at the Customer's location.

Metering shall include an automated meter reading device (AMR) with daily meter reads, which shall be furnished and installed by the Company. The Customer shall furnish the necessary infrastructure to support the AMR, including, but not limited to, an electrical supply and phone line, or data plan, for the operation of the device, in an area acceptable to the Company. The Company shall provide technical assistance in order to minimize the Customer's expense for such installation.

# SERVICE CLASSIFICATION - DGC

## DISTRIBUTED GENERATION SERVICE - COMMERCIAL (continued)

3. ***Incremental Expenses***

The Customer shall reimburse the Company for any out-of-pocket expenses (including, but not limited to, legal and travel expenses) incurred in connection with the initiation and rendering of service under this service classification. The Company shall provide an estimate of such expenses prior to their incurrence.

The Company's main and service extension policy set forth in Section 4 of the Standard Terms and Conditions shall apply to service rendered hereunder with the following exceptions: the Company will make gas main extensions and service line connections to serve individual firm DGC customers free of charge where the cost of such extension does not exceed three (3) times the estimated annual distribution revenue for equipment with an estimated life of less than 5 years; five (5) times the estimated annual distribution revenue for equipment with an estimated life between six (6) and ten (10) years; six (6) times the estimated annual distribution revenue for equipment with an estimated life between eleven (11) and sixteen (16) years. Equipment with an estimated life greater than sixteen (16) years will be subject to the ten (10) times policy set forth in Section 4 of the Standard Terms and Conditions.

Should the Customer take service under this classification for less than one (1) year, the Customer shall reimburse the Company for the cost of the extension.

II. *Applicable to All Customers Purchasing Gas Supply from a Third Party Supplier*

1. ***Customer Responsibility***

In the event the Customer designates a Third Party Supplier in accordance with Service Classification TPS, the Customer will remain responsible for a pro rata share of any Charges which such Third Party Supplier fails to pay to the Company including payments for Delivery Shortfall or for Monthly Imbalance.

2. ***Additional Requirements***

Service is subject to the terms and conditions of the Third Party Supplier Requirements section of this Tariff (Service Classification – TPS) and Section 10 of the Company's Standard Terms and Conditions.

## TERMS AND CONDITIONS

Service is subject to the Standard Terms and Conditions of this Tariff.

*NEW JERSEY NATURAL GAS COMPANY*

*BPU No. 11 - Gas* *Original Sheet No. 67*

# *SERVICE CLASSIFICATION - ED*

## *ECONOMIC DEVELOPMENT SERVICE*

### *AVAILABILITY*

Customers eligible to receive service under the following Service Classifications: General Service - Small ("GSS"), General Service - Large ("GSL"), or Firm Transportation Service ("FT").

### *CHARACTER OF SERVICE*

Firm gas sales and transportation service.

### *CONDITIONS PRECEDENT*

The Customer must meet the following conditions:

1. a. For new Customers, the building receiving service under this Tariff must be new or have been vacant for at least twelve months.

   b. Existing Customers must have been served for more than one year, and the space utilized for operations must have expanded by more than 5,000 square feet. Gas used in excess of the previous twelve months (base) usage will be subject to the Economic Development (ED) credit.

   c. An existing occupant (a) converts to natural gas and (b) expands space utilized for its operations by more than 5,000 square feet would be eligible for the credit. The Occupant must provide its energy usage for the previous twelve months (base) at the time of application for gas service. The Company will calculate the BTUs used by the Occupant in the base period and BTUs used in excess of the base period would be eligible for the ED credit.

2. The Customer must be adding at least two permanent full-time employees to a location in the Company's service territory. Relocation or consolidation of employees based at locations in the Company's service territory must net at least two new jobs in order to qualify for the ED credit. Employment growth will be confirmed by the Company and/or by affidavit from the Customer. The Company reserves the right, at its discretion, to periodically verify levels of employment. If after verification the required employment level has not been sustained, the Customer will no longer be eligible for the ED credit.

3. The Customer must apply for this service upon the initial application for gas service.

4. The Customer must execute a Service Agreement.

5. The building receiving service under this Tariff must be located within a community in our service territory with a ranking of 150 or less on the current Municipal Distress Index compiled by the New Jersey State Planning Commission.

# SERVICE CLASSIFICATION - ED

## ECONOMIC DEVELOPMENT SERVICE (continued)

### MONTHLY RATES

The monthly rates shall be the same as the applicable service classification except that: 1) GSS Customers will be credited $0.1200 per therm for all eligible gas use, and 2) GSL and FT Customers' Demand charges will be reduced by fifty (50) percent. These rates are inclusive of all applicable taxes and riders and are subject to adjustment for all other applicable riders, taxes, assessments or similar charges lawfully imposed by the Company.

### MINIMUM MONTHLY CHARGE

The minimum monthly charge for GSS Customers shall be the Customer Charge. The minimum monthly charge for GSL and FT Customers shall be the Customer Charge and the Demand Charge.

### SPECIAL PROVISIONS

1. **Extension of Facilities**
   The Company will extend facilities per Sections 4, and 5 of the Standard Terms and Conditions of this Tariff utilizing the margins that result from the above Monthly Rates.

2. **Tariff Availability**
   The Company reserves the right to offer this Tariff rate to customers located in areas of other communities, which demonstrate the characteristics warranting economic development to encourage such development and employment opportunities, if such offer meets public policy objectives of the state of New Jersey as administered by the State of New Jersey Department of Community Affairs or its successor.

### SERVICE LIMITATIONS

This service is not available to federal, state, county or local governments or governmental entities.

### CONTRACT

The maximum term of the service agreement shall be three years. A Customer's three year term of eligibility will commence no later than six months after the Service Agreement is executed.

### TERMS AND CONDITIONS

Service is subject to the Standard Terms and Conditions of this Tariff and the service agreement.

# SERVICE CLASSIFICATION - EGS

## ELECTRIC GENERATION SERVICE

### AVAILABILITY

This service is available to any existing or new customer who uses greater than or equal to 10,000 therms daily for the sole purpose of generating electricity.

### MONTHLY RATES

**Customer Charge:**

| | Without SUT | With SUT |
|---|---|---|
| Customer Charge per month | $877.26 | $935.38 |

**Demand Charge:**

| | Without SUT | With SUT |
|---|---|---|
| Demand Charge per therm applied to MDQ | $1.5132 | $1.6134 |

**Delivery Charge:**

| | Without SUT | With SUT |
|---|---|---|
| Delivery Charge per therm | $0.0651 | $0.0695 |

These rates are inclusive of all applicable taxes and riders and are subject to adjustment for all other applicable riders, applicable taxes, assessments or similar charges lawfully imposed by the Company. Natural gas used to generate electricity that is sold for resale by customers served under this Service Classification is exempt from Riders B, C, E and H and shall not be billed for such charges. In order to qualify for this exemption, a customer who uses natural gas to generate electricity for resale must complete an Annual Certification form, provided by the Company, to certify the percentage of natural gas used at the customer's New Jersey generation facilities during the previous calendar year to generate electricity that was sold for resale. For a new customer or a customer with less than twelve months of usage history, estimates supported by engineering and operational plans may be used to determine the percentage of natural gas used to generate electricity sold for resale.

See Rate Summaries at the end of this Tariff for a summary of components incorporated in these rates.

### MINIMUM MONTHLY CHARGE

The minimum monthly charge shall be the Customer Charge and the Demand Charge.

*NEW JERSEY NATURAL GAS COMPANY*

*BPU No. 11 - Gas* *Original Sheet No. 70*

# *SERVICE CLASSIFICATIONS - EGS*

## *ELECTRIC GENERATION SERVICE (continued)*

## *SPECIAL PROVISIONS*

1. ***Determination of Demand***
   The Maximum Daily Quantity (MDQ) will be: (1) initially determined by agreement between the Company and the Customer, (2) stated in therms, and (3) included in the Service Agreement.

2. ***Facilities***
   The Company shall install gas main extensions, service line connections, and facilities necessary to meet pressure and demand requirements at the Customer's location (collectively, the "Extension Cost") to serve the customer free of charge where the Extension Cost does not exceed ten (10) times the estimated annual distribution revenue. An applicant shall be required to provide a non-refundable contribution in aid of construction for the value of any Extension Cost that is greater than ten (10) times the annual distribution revenue. The Extension Cost for which the Company receives a contribution shall include the tax consequences incurred by the Company. The Company and applicant may agree upon a satisfactory revenue guarantee in lieu of a contribution.

   Where it is necessary to provide additional facilities to serve increased requirements of an existing Customer, the Company reserves the right to require the Customer to provide a non-refundable contribution in aid of construction in an amount equal to the cost of such additional facilities.

# SERVICE CLASSIFICATIONS - EGS

## ELECTRIC GENERATION SERVICE (continued)

3. ***Separately Metered***
Gas delivered hereunder will be separately metered and shall not be used interchangeably with gas supplied under any other service classification.

4. ***Automated Meter Reading Device***
Metering shall include an automated meter reading device (AMR) with daily meter reads**,** which shall be furnished and installed by the Company at the Customer's expense. The Customer shall furnish the necessary infrastructure to support the AMR, including, but not limited to, an electrical supply and phone line or data plan, for the operation of the device, in an area acceptable to the Company. The Company shall provide technical assistance in order to minimize the Customer's expense for such installation.

The customer may reimburse the Company for the AMR expense, either in a lump sum payment when service is initiated or over the life of the initial EGS agreement with the prime interest rate used to calculate carrying costs.

5. ***Incremental Expenses***
The Customer shall reimburse the Company for any out-of-pocket expenses (including, but not limited to, legal and travel expenses) incurred in connection with the initiation and rendering of service under this service classification. The Company shall provide an estimate of such expenses prior to their incurrence.

6. ***Nominations***
Customer's nominations for service under this Service Classification must be made on the Company's electronic bulletin board ("EBB") by the deadline specified on the Company's EBB on the day prior to gas flow for the next calendar day. Customer may request nomination changes after the deadline or during the intra-day through intra-day nominations no less frequently than is allowed under the then current North American Energy Standards Board ("NAESB") Nomination Standards. Customer shall have the right to request a new nomination, an Intra-day Nomination, for flow intra-day. The term "intra-day nomination" shall mean (i) a nomination received during a gas day for the same day of gas flow, and (ii) a nomination received after the Timely Nominations deadline for the following gas day. Customer shall notify the Company in writing of changes and the Company will enter and/or approve at the Company's sole discretion on the Company's EBB and the applicable interstate pipeline's EBB.

The Company reserves the right to reject nominations, in whole or in part, for deliveries in excess of Customer's estimated usage. This restriction will not apply to days with an Operational Flow Order ("OFO") in place and can be issued as a blanket for the entire system or for a single Third Party Supplier. The Company will provide written notice to a Third Party Supplier of the Company's rejection of the Third Party Supplier's deliveries prior to implementing the reductions on the affected pipeline.

*NEW JERSEY NATURAL GAS COMPANY*

*BPU No. 11 - Gas* *Original Sheet No. 72*

# *SERVICE CLASSIFICATIONS - EGS*

## *ELECTRIC GENERATION SERVICE (continued)*

7. ***Balancing***

It is the intent that Customer's actual daily takes under this Service Classification match the Customer's daily nominations, and that Customer's actual daily deliveries match Customer's actual daily takes. The Customer shall be allowed a daily tolerance for the difference between their actual daily delivery and their actual daily take equal to the greater of 500 Dth or 2% of the Customer's daily takes. On any day that the Company has issued an OFO and/or the applicable interstate pipeline has issued an OFO, Action Alert, Force Majeure, or similar restriction, the tolerance for any negative imbalances (Customer used more than was delivered) is 0 (zero). On any day that the applicable interstate pipeline has issued an OFO limiting positive imbalances (Customer used less than was delivered), the tolerance for any positive imbalances is 0. A cash-out for any differences above the daily tolerance shall be charged or credited to the Customer each month.

If the imbalance is negative (Customer used more gas than was delivered), the Customer will purchase gas from the Company at the rates below:

| ***Imbalance Level*** | ***Calculation*** |
|---|---|
| 0% - ≤ 5% | quantity * Highest price of daily ranges for delivery on the applicable pipeline at the zone of the Company's designated delivery meters, which are published in Platts Gas Daily in the table, "Daily Price Survey" ("Gas Daily High") |
| >5% - ≤ 10% | quantity >5% * Gas Daily High * 1.1 + level above |
| >10% - ≤ 15% | quantity >10% * Gas Daily High * 1.2 + levels above |
| >15% - ≤ 20% | quantity >15% * Gas Daily High * 1.3 + levels above |
| >20% - ≤ 25% | quantity >20% * Gas Daily High * 1.4 + levels above |
| >25% | quantity >25% * Gas Daily High * 1.5 + levels above |

# SERVICE CLASSIFICATIONS - EGS

## ELECTRIC GENERATION SERVICE (continued)

If the imbalance is positive (Customer delivered more gas than was used), the Company will purchase gas from the Customer at the rates below:

| Imbalance Level | Calculation |
|---|---|
| 0% - ≤ 5% | quantity * Lowest price of daily ranges for delivery on the applicable pipeline at the zone of the Company's designated delivery meters, which are published in Platts Gas Daily in the table, "Daily Price Survey" ("Gas Daily Low") |
| >5% - ≤ 10% | quantity >5% * Gas Daily Low * .90 + level above |
| >10% - ≤ 15% | quantity >10% * Gas Daily Low * .80 + levels above |
| >15% - ≤ 20% | quantity >15% * Gas Daily Low * .70 + levels above |
| >20% - ≤ 25% | quantity >20% * Gas Daily Low * .60 + levels above |
| >25% | quantity >25% * Gas Daily Low * .50 + levels above |

All revenues and purchases derived from imbalances will be credited to the BGSS.

8. ***Operational Flow Order ("OFO")***

The Company may issue an Operational Flow Order ("OFO") requiring delivery by the Customer of at least the volume of gas the Customer uses on the affected gas day ("OFO Required Volume").

A Customer who fails to deliver the OFO Required Volumes of gas may not be permitted to continue to operate on the system. In addition, the Customer will be billed at the applicable "Delivery Shortfall" charge in effect during the OFO period for the volume difference between the OFO required delivery and the actual delivered volume. There will be no penalties for delivering gas in excess of an OFO Required Volume.

9. ***Delivery Shortfall Charge***

In the event that the Customer fails to deliver the OFO Required Volume directed by the Company (a "Delivery Shortfall"), the Company shall bill the Customer and the Customer shall pay for the volume of the Delivery Shortfall at a rate equal to ten (10) times the highest price of daily ranges for delivery on the applicable pipeline in the zone of the Company's designated delivery meters, that are published in Platts Gas Daily on the table, "Daily Price Survey"; provided, however, the amount billed shall not be lower than the maximum penalty charge for unauthorized daily overruns as provided for in the FERC-approved gas tariffs of the interstate pipelines that deliver gas to the Company. In the event of a Delivery Shortfall, the Company shall have the right to recover *pro rata* from all under-delivering Customers and Third Party Suppliers served under Service Classification TPS any penalties or other charges or damages assessed on the Company because of such under-deliveries for the days the Customers, Third Party Suppliers under-delivered.

# SERVICE CLASSIFICATIONS - EGS

## ELECTRIC GENERATION SERVICE (continued)

Notwithstanding the above, if contemporaneously with a Delivery Shortfall, the applicable pipeline has declared a force majeure on its system curtailing primary, in-path transportation in the zone of the Company's designated delivery meter, the Company may waive the above charges and may bill the Customer for the Company's Replacement Cost of Gas (defined below) provided that the under-delivering Customer is able to demonstrate to the Company's reasonable satisfaction that the applicable pipeline transportation contract on which the Customer had scheduled deliveries to the Company during the period in which the OFO was in effect entitled the Customer to firm transportation rights through the point at which the force majeure was declared and that the applicable pipeline curtailed Customer's deliveries *pro rata* with deliveries to other similarly situated delivery meters on the contract. The Customer must notify the Company in writing of the anticipated Delivery Shortfall before the nomination deadline for the next North American Energy Standards Board ("NAESB") nomination cycle. If there are no additional cycles, they must notify the Company in writing before the gas day ends. "Company's Replacement Cost of Gas" means the highest of (1) the Company's LNG inventory and gasification costs during the time period of the applicable pipeline force majeure event adjusted for all appropriate taxes, assessments and surcharges, (2) the prevailing market price, as determined by the Company based on a published index or independent trading platform, for delivered gas to any NJNG citygate during the time period of the applicable pipeline force majeure event, and (3) the cost of gas purchased by the Company during the time period of the applicable pipeline force majeure event; plus any pipeline penalties or other charges or damages assessed on the Company.

10. ***Customer Responsibility***

In the event the Customer designates a Third Party Supplier in accordance with Service Classification TPS, the Customer will remain responsible for a *pro rata* share of any charges which such Third Party Supplier fails to pay to the Company including payments for Delivery Shortfall or for balancing.

11. ***Third Party Supplier Requirements***

In the event the Customer designates a Third Party Supplier, service to the Third Party Supplier is subject to the terms and conditions of the Third Party Supplier Requirements section of this Tariff (Service Classification – TPS) and Section 10 of the Company's Standard Terms and Conditions, except as modified within this Service Classification.

## PAYMENT

Unless otherwise specified, bills are due within ten days after the Company sends the bill and is subject to a late payment charge as set forth in Paragraph 8.9 of the Standard Terms and Conditions of this Tariff.

# *SERVICE CLASSIFICATIONS - EGS*

## *ELECTRIC GENERATION SERVICE (continued)*

### *CONTRACT*

A written service agreement on the Company's Standard Application Form shall be required for Electric Generation Customers. The service agreement will be in effect for a minimum term of 10 years and a maximum term of 20 years. The Tariff rates in effect at the beginning of a Customer's service agreement shall remain applicable to the Customer's service during the term of the agreement. If the agreement is renewed at the end of the term, the rates applicable to the Customer in the new service agreement shall be the rates effective at that time for this Service Classification.

### *CREDIT REQUIREMENTS*

If the customer is not deemed creditworthy by the Company, a parental guaranty, letter of credit, cash deposit or other security acceptable to Company will be required. The amount will equal six (6) months of demand charges and three (3) months of delivery charges.

### *TERMS AND CONDITIONS*

Service is subject to the Standard Terms and Conditions of this Tariff and the service agreement.

*NEW JERSEY NATURAL GAS COMPANY*

*BPU No. 11 - Gas* *Original Sheet No. 76*

# *SERVICE CLASSIFICATION - NGV*

## *NATURAL GAS VEHICLE SERVICE*

### *AVAILABILITY*

This service is available to any residential or commercial customer for the purpose of fueling natural gas vehicles at Company owned and operated compressed natural gas ("CNG") re-fueling facilities ("Company facilities") and at separately metered Customer owned and operated CNG re-fueling facilities ("Customer owned facilities").

### *CONDITIONS PRECEDENT*

The Customer must sign a service agreement which sets forth the vehicles to be served to be eligible for this service.

### *DEFINITION OF TERM USED HEREIN*

"GGE" is the Gasoline Gallon Equivalent for converting a price per therm of natural gas to a price per gallon of gasoline. The GGE shall be determined in accordance with local standards.

### *CHARACTER OF SERVICE*

Firm sales gas service where Customer who uses Company facilities purchases gas supply pursuant to the Company's Rider "A" for Basic Gas Supply Service ("BGSS"). Firm sales or transportation gas service where Customer who uses Customer owned facilities purchases gas supply pursuant to the Company's Rider "A" for BGSS or from a Third Party Supplier, respectively.

### *LICENSING, PERMITS AND LEGAL REQUIREMENTS*

Customers installing CNG re-fueling facilities on their premises must meet all applicable licensing, permitting and other legal requirements associated with owning and operating CNG refueling facilities. The failure of the customer to comply with this provision may result in the Company suspending or terminating gas service to such facilities without further liability.

### *MONTHLY RATES*

| | Gas Available at Company Facilities | Customer Owned Facilities |
|---|---|---|
| ***Customer Charge:*** | | |
| Residential Customer Charge per meter per month | N/A | $12.10 |
| Commercial Customer Charge per meter per month | N/A | $104.49 |
| ***Delivery Charge:*** | | |
| Delivery Charge per therm | $0.3480 ($0.435 per GGE) | $0.3480 ($0.435 per GGE) |

*Date of Issue:*
*Issued by:* *Mark G. Kahrer, Senior Vice President*
*Wall, NJ 07719*

*Effective for service rendered on and after April 29, 2021*

*Filed pursuant to Order of the Board of Public Utilities entered in Docket No.*

# *SERVICE CLASSIFICATION - NGV*

## *NATURAL GAS VEHICLE SERVICE (continued)*

| | Gas Available at Company Facilities | Customer Owned Facilities |
|---|---|---|
| ***Compression Charge:*** | | |
| Compression Charge per therm | $0.4958 ($0.620 per GGE) | N/A |

***BGSS Charge:***

Monthly BGSS Charge per therm for Sales Customers — See "Summary of Rate Components" at the end of this Tariff

These rates are inclusive of all applicable taxes and riders with the exception of the State of New Jersey Motor Vehicle fuel tax and Federal excise tax. These rates are subject to adjustment for all other applicable riders, taxes, assessments or similar charges lawfully imposed by the Company. See "Summary of Rate Components" at the end of this Tariff for a summary of components incorporated in these rates.

## *MINIMUM MONTHLY CHARGE*

The minimum monthly charge shall be the Customer Charge.

Where service is taken for less than one month, the minimum charge will be prorated.

## *SPECIAL PROVISIONS*

*I. Applicable to All Customers in this Service Classification*

1. ***Taxes, Assessments and Surcharges***
   The Customer shall pay all riders, taxes, assessments and surcharges that are lawfully imposed upon the Company in providing service under this classification.

# *SERVICE CLASSIFICATION - NGV*

## *NATURAL GAS VEHICLE SERVICE (continued)*

II. *Applicable to All Customers Who Use Customer Owned Facilities*

*1.* ***Facilities***

The Company shall install gas main extensions and service line connections at the Customer's location (collectively, the "Extension Cost") to serve the customer free of charge where the Extension Cost does not exceed ten (10) times the estimated annual distribution revenue. An applicant shall be required to provide an Extension Cost Deposit for the value of any Extension Cost that is greater than ten (10) times the annual distribution revenue. The Extension Cost for which the Company receives a deposit shall include the tax consequences incurred by the Company.

The Extension Cost Deposit, as defined above, shall remain, without interest, in the possession of the Company, subject to an annual review of the Customer's actual annual distribution revenue for up to ten years from when the Customer began receiving service. Annually, if the Customer's actual annual distribution revenue for the prior year is greater than the estimated annual distribution revenue used to determine the Extension Cost or greater than any prior year's actual distribution revenue, the Company shall provide a refund in the amount of the remaining years of the ten (10) years times the difference between that year's actual distribution revenue and the greater of the estimated annual distribution revenue used to determine the Extension Cost Deposit and the highest prior year's actual distribution revenue. No further calculation shall be performed when accumulated refunds are equal to the Extension Cost Deposit and in no event shall refunds exceed the initial deposit.

All deposits not returned to the applicant within a period of ten (10) years after the Company first makes gas service available shall remain the property of the Company with no further obligation of refund. The Company and applicant may agree upon a satisfactory revenue guarantee in lieu of a deposit or contribution.

Where it is necessary to provide additional facilities to serve increased requirements of an existing Customer, the Company reserves the right to require the Customer to contribute or deposit an amount equal to the cost of such additional facilities. This amount shall be subject to refund as outlined earlier in this section except that refunds shall be a function of the incremental distribution revenue generated by the increased requirements over a predetermined base.

*2.* ***Separately Metered***

Gas delivered hereunder will be separately metered and shall not be used interchangeably with gas supplied under any other service classification.

# SERVICE CLASSIFICATION - NGV

## NATURAL GAS VEHICLE SERVICE (continued)

3. ***Automated Meter Reading Device***

For Commercial customers, metering shall include an automated meter reading device (AMR)**,** which shall be furnished and installed by the Company at the Customer's expense. The Customer shall furnish an electrical supply and phone line or data plan, as needed, for the operation of the device, in an area acceptable to the Company. The Company shall provide technical assistance in order to minimize the Customer's expense for such installation.

The Customer may reimburse the Company for the AMR expense, either in a lump sum payment when service is initiated or over a twelve-month period with the prime interest rate used to calculate carrying costs. Payments made by the Customer shall not give the Customer ownership of the AMR equipment. The AMR equipment is and shall remain the sole property of the Company.

For Residential customers, an AMR device will not be required for this service. However, upon prior notice to the Customer, the Company reserves the right to install an AMR at its own expense. Should the Company decide to install the AMR, the Customer shall furnish an electrical supply and phone line or data plan, as needed, for the operation of the device, in an area acceptable to the Company. Should the Customer request an AMR, the installation shall be in accordance with Paragraph 6.10 of the Standard Terms and Conditions.

4. ***Maximum Quantities***

The maximum monthly and hourly quantities of gas to be delivered shall be specified in the service agreement and may be changed only with approval of the Company.

5. ***Incremental Expenses***

The Customer shall reimburse the Company for any out-of-pocket expenses (including, but not limited to, permitting, licensing, and legal expenses) incurred in connection with the initiation and rendering of service under this service classification. The Company shall provide an estimate of such expenses prior to their incurrence and may include these expenses as part of the Facilities cost referenced in Section I of this Service Classification.

6. ***Resale of Vehicle Fuel***

If the Customer provides natural gas for resale as a vehicle fuel, the Customer will be responsible for collecting and paying all applicable taxes on the gas compressed for resale and for the metering of such sale in accordance with all applicable standards and regulations.

## *III. Applicable to All Customers Purchasing Gas Supply from a Third Party Supplier*

1. ***Customer Responsibility***

The Company may require the Customer to provide, to the Company's satisfaction, proof of a firm gas supply having marketable title of gas with firm transportation capacity to the Company's distribution system. In the event the Customer designates a Third Party Supplier in accordance with Service Classification TPS, the Customer will remain responsible for a pro rata share of any Charges which such Third Party Supplier fails to pay to the Company including payments for Delivery Shortfall or for Monthly Imbalance.

# SERVICE CLASSIFICATION - NGV

## NATURAL GAS VEHICLE SERVICE (continued)

2. ***Additional Requirements***
   Service is subject to the terms and conditions of the Third Party Supplier Requirements section of this Tariff (Service Classification – TPS) and Section 10 of the Company's Standard Terms and Conditions.

### PAYMENT

Unless otherwise specified, bills are due within 10 days after the Company sends the bill and subject to a late payment charge as set forth in Paragraph 8.9 of the Standard Terms and Conditions of this Tariff.

### CONTRACT

A written service agreement shall be required for Natural Gas Vehicle Service Customers.

### TERMS AND CONDITIONS

Service is subject to the Standard Terms and Conditions of this Tariff and the service agreement.

# SERVICE CLASSIFICATION - IS

## INTERRUPTIBLE SERVICE

### AVAILABILITY

This service is applicable to Commercial and Industrial Customers whose minimum connected load is not less than 150 therms per hour, provided that gas is used only at locations where the Company has 1) adequate distribution facilities and 2) an adequate supply of natural gas. Customers will be required to specify that they have alternate fuel facilities installed in operating condition with an adequate fuel supply, as discussed in Special Provision 1.

### CHARACTER OF SERVICE

Interruptible gas sales and transportation service.

### MONTHLY RATES

**Customer Charge:**

| | |
|---|---|
| Customer Charge per meter per month | $572.98 |

**Delivery Charge:**

**Customers with Alternate Fuel**

| | |
|---|---|
| Delivery Charge per therm | $0.1172 |

**Customers without Alternate Fuel**

| | |
|---|---|
| Delivery Charge per therm | $0.3580 |

**BGSS Charge:**

| | |
|---|---|
| BGSS Charge per therm for Sales Customers | See "Rate Summaries" at the end of this Tariff |

These rates are inclusive of all applicable taxes and riders and are subject to adjustment for all other applicable riders, taxes, assessments or similar charges lawfully imposed by the Company. See Rate Summaries at the end of this Tariff for a summary of components incorporated in these rates.

### MINIMUM MONTHLY CHARGE

The minimum monthly charge applicable shall be the Customer Charge. Where service is taken for less than one month, the minimum charge will be prorated.

# SERVICE CLASSIFICATION - IS

## INTERRUPTIBLE SERVICE (continued)

## SPECIAL PROVISIONS

I. *Applicable to All Customers in this Service Classification*

1. ***Alternate Fuel Certification***

If the Customer desires to be categorized as a customer with alternate fuel then, as of November 1st of each year, the Customer must certify in a signed affidavit that the installation being served is physically and legally capable of using the fuel oil and the specific sulfur content as indicated or that it may legally and physically use propane at the Customer's end-use facility. The alternate fuel certification and related details will be held confidential except as same information shall be utilized by the Company for preparation of periodic reports to the Board. It is the Customer's full responsibility to have standby equipment installed and maintained in operating condition and a fuel supply adequate for its operation at all times. Adequate supply requirements for customers using No. 2 fuel oil, No. 4 fuel oil, jet fuel or kerosene are seven (7) days of alternate fuel either on hand or, if a customer's on-site storage capacity is less than seven (7) days, then full storage capacity plus additional firm contractual supply arrangements to equal seven (7) days. No customer is required to build additional storage. All customers that use non-distillate fuels as an alternate supply, or will agree to suspend operations during an interruption, are exempt from the alternate fuel requirement, but must file a certification with the Company indicating the alternate fuel used or their intention to discontinue operations.

If the Customer does not file a certification with the Company, the Customer will be served and billed as an Interruptible Customer without Alternate Fuel.

2. ***Separately Metered***

Gas delivered hereunder will be separately metered and shall not be used interchangeably with gas supplied under any other service classification.

3. ***Automated Meter Reading Device***

Metering shall include an automated meter reading device (AMR) with daily meter reads**,** which shall be furnished and installed by the Company at the Customer's expense. The Customer shall furnish the necessary infrastructure to support the AMR, including, but not limited to, an electrical supply and phone line or data plan for the operation of the device, in an area acceptable to the Company. The Company shall provide technical assistance in order to minimize the Customer's expense for such installation.

The Customer may reimburse the Company for the AMR expense, either in a lump sum payment when service is initiated or over a twelve-month period with the prime interest rate used to calculate carrying costs.

# SERVICE CLASSIFICATION - IS

## INTERRUPTIBLE SERVICE (continued)

4. ***Service Interruption***
The Customer agrees to discontinue the use of gas service at any time, and from time to time upon notice from the Company. The Company shall notify the Customer of the date and time of a service interruption by telephone and e-mail or fax. The Company's determination to discontinue service or to reinstate service following a discontinuance shall be conclusive.

5. ***Unauthorized Use***
In the event the Company notifies the Customer to discontinue the use of gas service at any time and the Customer fails to do so, the Company shall have the right to terminate service, to transfer the Customer to a firm service classification and/or to bill the Customer for usage occurring during the interruption period at the applicable "Unauthorized Use" charge in effect.

6. ***Incremental Gas Service***
During periods of gas service interruption, Customers in need of gas may request service under the Incremental Gas Service ("IGS") Classification.

II. *Applicable to All Customers Purchasing Gas Supply Under Rider "A" BGSS*

1. ***Maximum Quantities***
The maximum monthly and hourly quantities of gas to be delivered shall be specified in the service agreement and may be changed only with approval of the Company.

2. ***Service Nominations***
Upon request by the Company on any day, the Customer shall furnish an estimate of the amount of gas to be taken under this Service Classification during the next 24-hour period. The Customer must notify the Company in writing at least twenty-four (24) hours before it plans to discontinue the use of gas service.

# *SERVICE CLASSIFICATION - IS*

## *INTERRUPTIBLE SERVICE (continued)*

3. ***BGSS***
   Customers will be supplied under the Monthly BGSS service which will be applied to all therms billed each month. See "Rate Summaries" for the current price.

III. *Applicable to All Customers Purchasing Gas Supply from a Third Party Supplier*

1. ***Return to Sales Classification***
   Upon a Customer's election to return to sales service under the IS Service Classification, it shall be required to provide the Company with no less than 30 days' notice of the Customer's intention to return to sales service under Service Classification IS. The Company may accept less than thirty (30) days' notice if gas is available to serve the Customer.

2. ***Incremental Expenses***
   The Customer will reimburse the Company for any out-of-pocket expenses (including, but not limited to legal and travel expenses) incurred in connection with the initiation and rendering of service under this service classification. The Company shall provide an estimate of such expenses prior to their incurrence.

3. ***Service Charge Waiver***
   The Customer charge for IS sales service will be waived in months when a Customer uses IS transportation service to meet all its gas needs.

4. ***Customer Responsibility***
   In the event the Customer designates a Third Party Supplier in accordance with Service Classification TPS, the Customer will remain responsible for a pro rata share of any Charges which such Third Party Supplier fails to pay to the Company including payments for Unauthorized Use or for Monthly Imbalances.

5. ***Additional Requirements***
   Service is subject to the terms and conditions of the Third Party Supplier Requirements section of this Tariff (Service Classification – TPS) and Section 10 of the Company's Standard Terms and Conditions.

## *CONTRACT*

A written service agreement on the Company's Standard Application Form for a minimum one-year period may be required for IS Customers. Successive one-year terms will be in effect unless terminated by written notice at least two (2) months prior to the expiration of the service agreement. The Company reserves the right to require an updated written service agreement.

## *TERMS AND CONDITIONS*

Service is subject to the Standard Terms and Conditions of this Tariff and the service agreement.

# SERVICE CLASSIFICATION - IGS

## INCREMENTAL GAS SERVICE

### AVAILABILITY

This service is available when requested by a Customer, and when the Company has the capability to deliver incrementally purchased gas supplies. The service will be available for a limited term to Customers served under Service Classification IS.

### CONDITIONS PRECEDENT

The Customer shall request IGS and provide the expected time period of service and the estimated volume of sales. If IGS is available, the Company will authorize service under IGS. The request and authorization may be made by telephone and agreed to in writing (fax, e-mail, etc. are acceptable).

### CHARACTER OF SERVICE

Gas service will be provided only to the extent that gas supplies may be incrementally purchased and are offered for sale by the Company.

The Company reserves the right to curtail or interrupt this service immediately if, in the Company's sole discretion, continuance of this service would adversely affect service to other Customers.

### OFFERING OF SERVICE

This service will be offered to customer classes as follows:

#### Non-Firm

December through March - rates must be at least the level of otherwise applicable tariff rates.
April through November - rates may be below otherwise applicable tariff rates.

When rates are offered below otherwise applicable tariff rates, this service is offered only for volumes of gas that are incremental and which would not be used except for the existence of this offer.

# SERVICE CLASSIFICATION - IGS

## INCREMENTAL GAS SERVICE (continued)

### RATES

The rates for service will be set by the Company and will include a commodity charge equal to the highest of:

A. The "Company's Replacement Cost of Gas" (See Special Provision 5 of this Service Classification);
B. The Monthly BGSS price applicable to Service Classification IS;
C. The highest price of the daily ranges that are published in Platts Gas Daily on the table "Daily Price Survey" for delivery in Texas Eastern Zone M-3; and
D. The highest price of the daily ranges that are published in Platts Gas Daily on the table "Daily Price Survey" for delivery in Transco Zone 6 NNY North.

In addition, such rates shall include all applicable riders, taxes, assessments and surcharges that are lawfully imposed upon the Company in providing service under this classification. The Customer will continue to be charged the Customer Charge and Delivery Charge under Service Classification IS.

### SPECIAL PROVISIONS

1. ***Service Interruption***
   The Customer agrees to discontinue the use of gas service at any time, and from time to time upon notice from the Company. The Company shall notify the Customer of the date and time of a service interruption by telephone and e-mail or fax. The Company's determination to discontinue service or to reinstate service following a discontinuance shall be conclusive.

2. ***Unauthorized Use***
   In the event the Company notifies the Customer to discontinue the use of gas service at any time and the Customer fails to do so, the Company shall have the right to terminate service and/or to bill the Customer for usage occurring after the expiration of the period of notice specified in the service agreement at the applicable "Unauthorized Use" charge in effect.

3. ***Service Nominations***
   Upon request by the Company on any day, the Customer shall furnish an estimate of the amount of gas to be taken under this Service Classification during the next 24-hour period. The Customer must notify the Company in writing at least 24 hours before it plans to discontinue the use of gas service.

4. ***Required Purchases***
   When the Customer requests IGS service and the Company commits to an incremental purchase of gas, the Customer will be required to pay for the contracted gas service whether or not the Customer uses the gas.

# SERVICE CLASSIFICATION - IGS

## INCREMENTAL GAS SERVICE (continued)

5. ***Company's Replacement Cost of Gas***

"Company's Replacement Cost of Gas" means the highest of:

A. Company's LNG inventory and gasification costs adjusted for all appropriate taxes, assessments and surcharges;
B. The prevailing market price, as determined by the Company based on a published index or independent trading platform, for delivered gas to any NJNG citygate during the period of IGS service; and
C. The cost of gas purchased by the Company;

The Company's Replacement Cost of Gas shall also include any pipeline penalties or other charges or damages assessed on the Company.

## REPORTS

The Company will provide 48 hours' notice to the Board prior to any sales being made which would occur at rates that are less than the Customer's applicable Service Classification. The Company will submit a monthly report providing details of all IGS sales in any month sales are made.

# SERVICE CLASSIFICATION - TPS

## THIRD PARTY SUPPLIER REQUIREMENTS

### AVAILABILITY

This service classification is for Third Party Suppliers (formerly referred to as Marketers or Brokers) who have been engaged by transportation customers using RS, GSS, GSL, FT, DGC, CNG, NGV or IS Services to be responsible for delivering natural gas to the Company's designated delivery meters on behalf of those Customers. All Third Party Suppliers who wish to act on behalf of Customers will be required to be authorized by the Company. Pursuant to this authorization, the Third Party Suppliers will be required to sign a service agreement and post a deposit or letter of credit in order to have the Company accept its natural gas at the designated delivery meters**.**

### CONDITIONS PRECEDENT

The Third Party Supplier shall execute a service agreement with the Company.

The Third Party Supplier shall provide a written or electronic notification to the Company of the identity of Customer(s) on whose behalf they are acting.

The Third Party Supplier shall post an Initial Deposit, consisting of cash or letter of credit in the amount of $50,000 to serve RS customers and/or $25,000 to serve commercial customers including GSS, GSL, FT, DGC, CNG, NGV or IS customers. If the Third Party Supplier initially plans to serve only RS customers, the Initial Deposit shall be in the amount of $50,000 and if that Third Party Supplier later also serves commercial customers, an additional deposit of $25,000 shall be required for a total Initial Deposit of $75,000. If the Third Party Supplier initially plans to serve only commercial customers, the Initial Deposit shall be in the amount of $25,000 and if that Third Party Supplier later also serves RS customers, an additional deposit of $50,000 shall be required for a total Initial Deposit of $75,000. The total deposit provided by the Third Party Supplier shall be the greater of:

A. the Initial Deposit; or
B. an amount equal to the total of:
    i. at least three (3) times the estimated usage for one (1) day in January times the most current January's price for the higher of Texas Eastern Zone M-3 and Transco Zone 6 NNY North for any and all Customers on whose behalf the Third Party Supplier is acting;
    ii. for Customers using Billing Option 3, an additional amount equal to at least two (2) times the January delivery charges for each service classification for any and all Customers on whose behalf the Third Party Supplier is acting; and
    iii. the value of the Third Party Supplier's imbalance which is determined by multiplying the aggregate imbalance position for RS, GSS, GSL, DGC, and NGV residential customers on whose behalf the Third Party Supplier is acting by the midpoint price of daily ranges for the applicable delivery zone that are published in Platts Gas Daily on the table, "Daily Price Survey."

The deposit held from the Third Party Supplier will not bear interest. The Third Party Supplier shall agree the Company has the right to access and apply the cash deposit or letter of credit to any payment obligations which are deemed to be late or in arrears. In lieu of a cash deposit or letter of credit from a Third Party Supplier, the Company may, in its sole discretion, agree to accept a guaranty from such financially responsible parent or parent companies of the Third Party Supplier for the payment of any liabilities or obligations to be incurred by the Third Party Supplier. If any negative change in the financial condition of the guaranteeing party occurs, the Company reserves its right to request a deposit from the Third Party Supplier.

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# *SERVICE CLASSIFICATION - TPS*

## *THIRD PARTY SUPPLIERS REQUIREMENTS (continued)*

### *RATES*

| | | |
|---|---|---|
| Basic Service | $65.00 per month | includes administration of nominations, balancing, inquiry, customer enrollment changes and security review |

### *BILLING OPTIONS*

#### *Option 1 - Utility Consolidated Billing*

The Third Party Supplier will provide the Company with the billing parameters for the "commodity charge" to be included in the calculation of each Customer's bill and the Company will send the total bill to each customer. The Company will purchase the receivable from the Third Party Supplier and be solely responsible for the processing of payments, collections and basic customer inquiries. Each Third Party Supplier operating under this option will be required to execute an agreement summarizing the terms and conditions of their services. This option includes electronic summaries for each cycle. The following charges are applicable to Billing Option 1:

| | | |
|---|---|---|
| Billing Option 1 | $ 0.75 | per bill |

#### *Option 2 – Dual Billing*

The Company will provide a bill to the Customer for the transportation services provided on its distribution system. The Company will provide to the Third Party Supplier a summary of the usage and transportation charges for each customer during each billing period.

#### *Option 3 - Third Party Supplier Consolidated Billing*

The Third Party Supplier will send the total bill to each Customer and remit to the Company the transportation charges associated with the Customer. Third Party Supplier shall receive a total annual credit of $3.60 per customer for each FT, GSL, RS and GSS Customer billed according to this option. Such credit shall be applied monthly on a pro-rated basis.

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*BPU No. 11 - Gas* *Original Sheet No. 90*

# *SERVICE CLASSIFICATION - TPS*

## *THIRD PARTY SUPPLIERS REQUIREMENTS (continued)*

### *DELIVERIES TO COMPANY'S DESIGNATED DELIVERY METERS*

1. ***FT, DGC-FT, CNG, NGV Commercial, and IS Service***

The Third Party Supplier agrees to deliver gas to the Company's designated delivery meters for each Customer on whose behalf it is operating. The Company may offer a Third Party Supplier the option to deliver a specified volume to the Company's designated delivery meter on the Transcontinental Gas Pipeline. If the Third Party Supplier accepts the offer but fails to deliver the specified volume to the designated delivery meter on the Transcontinental Gas Pipeline, the Third Party Supplier will be billed at the applicable "Delivery Shortfall" charge in effect for the volume not delivered.

The Third Party Supplier shall use its best efforts to achieve a balance between its deliveries (net of Special Provision 3, Fuel Use and Unaccounted for Gas) and its aggregate customer requirements on a daily basis. The Company reserves the right to require a Third Party Supplier to balance deliveries and takes of transported gas. If the Third Party Supplier has an accumulated imbalance between deliveries and takes of transported gas, the Company reserves the right to reject the Third Party Supplier's requested deliveries in whole or in part.

If at any time during the month, the aggregate Third Party Supplier's account is out of balance by more than 30%, the Third Party Supplier may be required, upon 2 business days' prior notice from the Company, to initiate corrective action to balance its account within the following 5-day period. Third Party Suppliers who fail to adhere to this requirement and have a positive cumulative imbalance (in aggregate the Third Party Supplier delivered more gas than was used in aggregate by its Customers), will have their subsequent nominations, on days with no Operational Flow Orders or IS Daily Balancing restrictions, rejected until they are returned to at or below a 10% imbalance. Third Party Suppliers who fail to adhere to this requirement and have a negative cumulative imbalance (in aggregate the Customers used more gas than was delivered in aggregate by the Third Party Supplier), will be charged at the "Delivery Shortfall" charge for the volume required to bring them to a 10% imbalance. Third Party Suppliers who fail to take corrective action to balance their account may not be permitted to continue to operate on the system.

The Company reserves the right to reject nominations, in whole or in part, for a Third Party Supplier's deliveries in excess of its estimated aggregate customer requirements, plus Special Provision 3, Fuel Use and Unaccounted for Gas. This restriction will not apply to days with an Operational Flow Order or IS Daily Balancing in place and can be issued as a blanket for the entire system or for a single Third Party Supplier. The Company will provide written notice to a Third Party Supplier of the Company's rejection of the Third Party Supplier's deliveries prior to implementing the reductions on the affected pipeline.

*NEW JERSEY NATURAL GAS COMPANY*

*BPU No. 11 - Gas* *Original Sheet No. 91*

# *SERVICE CLASSIFICATION - TPS*

## *THIRD PARTY SUPPLIERS REQUIREMENTS (continued)*

2. ***IS Service***

The Company reserves the right to curtail IS Service at any time upon notice to the Customer(s) receiving the service. This requirement may be issued as a blanket for the entire system or for a single Third Party Supplier or Customer.

In the event the Company notifies a Customer to discontinue the use of IS service at any time, and the Customer fails to do so, the Company shall have the right to terminate service, to transfer the Customer to a firm service classification and/or to bill the Customer for usage occurring during the curtailment period at the applicable "Unauthorized Use" charge in effect.

3. ***RS, GSS, GSL, DGC-Balancing, and NGV Residential Service***

The Third Party Supplier agrees to deliver to the Company's designated delivery meters a volume of gas for each day of the month equal to the average daily usage for that month for each Customer on whose behalf it is operating as specified by the Company ("Daily Delivery Volume"). The Company will provide the Third Party Supplier with the Daily Delivery Volume by month in advance during the year.

If the Third Party Supplier fails to deliver the Daily Delivery Volume, the Third Party Supplier will be billed at the applicable "Delivery Shortfall" charge in effect.

In the event that, at any time, the sum of a Third Party Supplier's cumulative imbalances, for non-Force Majeure reasons and for the time period which the Company has not yet received payment (including period since last bill), are under-deliveries that exceed three (3) times the Daily Delivery Volume, the Company will notify the Third Party Supplier. If such under-deliveries exceed five (5) times the Daily Delivery Volume, the Third Party Supplier will have four (4) business days to post and maintain for a one (1) year period a cash deposit or letter of credit in an amount equal to two (2) times that otherwise required pursuant to the Conditions Precedent of this Service Classification. At the conclusion of the one (1) year period, if the Third Party Supplier has had no additional occurrence of under-deliveries, the Third Party Supplier's credit requirement will be reduced to the amount required in the Conditions Precedent of this Service Classification. If the Third Party Supplier has had an additional under-delivery event during the one (1) year period, the Third Party Supplier will maintain the cash deposit or letter of credit in an amount equal to two (2) times that otherwise required pursuant to the Conditions Precedent of this Service Classification for an additional one (1) year period. The Company has the right to remove the Third Party Supplier from the New Jersey Natural Gas system for continued non-performance.

# SERVICE CLASSIFICATION - TPS

## THIRD PARTY SUPPLIERS REQUIREMENTS (continued)

## SPECIAL PROVISIONS

1. **Monthly Imbalances**

   a. **FT, DGC-FT, CNG, NGV Commercial and IS Transportation Services**

The Third Party Supplier shall use its best efforts to achieve a balance between its Customers' deliveries and requirements on a daily basis. Monthly imbalances in the volumes of gas delivered for the aggregate Customers' accounts (net of Special Provision 3, Fuel Use and Unaccounted for Gas) and the volumes of gas used in the aggregate by the Customers, will be cashed-out each month so that no imbalances will be carried into the next month. The cashout will be charged to the Third Party Supplier each month. The Company will use the average weekly spot index price for New York City citygate, as published by *Natural Gas Week's "Major Market Prices"*.

If the imbalance is negative (in aggregate the Customers used more gas than was delivered in aggregate by the Third Party Supplier), the Third Party Supplier will purchase gas from the Company at the rates below:

| Imbalance Level | Calculation |
|---|---|
| 0% - ≤ 5% | quantity * Highest Weekly Index Price |
| >5% - ≤ 10% | quantity >5% * Highest Weekly * 1.1 + level above |
| >10% - ≤ 15% | quantity >10% * Highest Weekly * 1.2 + levels above |
| >15% - ≤ 20% | quantity >15% * Highest Weekly * 1.3 + levels above |
| >20% - ≤ 25% | quantity >20% * Highest Weekly * 1.4 + levels above |
| >25% | quantity >25% * Highest Weekly * 1.5 + levels above |

If the imbalance is positive (in aggregate the Third Party Supplier delivered more gas than was used in aggregate by its Customers), the Company will purchase gas from the Third Party Supplier at the rates below:

| Imbalance Level | Calculation |
|---|---|
| 0% - ≤ 5% | quantity * Lowest Weekly Index Price |
| >5% - ≤ 10% | quantity >5% * Lowest Weekly * .90 + level above |
| >10% - ≤ 15% | quantity >10% * Lowest Weekly * .80 + levels above |
| >15% - ≤ 20% | quantity >15% * Lowest Weekly * .70 + levels above |
| >20% - ≤ 25% | quantity >20% * Lowest Weekly * .60 + levels above |
| >25% | quantity >25% * Lowest Weekly * .50 + levels above |

All revenues and purchases derived from imbalances will be credited to the BGSS.

# SERVICE CLASSIFICATION - TPS

## THIRD PARTY SUPPLIERS REQUIREMENTS (continued)

## SPECIAL PROVISIONS (continued)

*b.* ***RS, GSS, GSL, DGC-Balancing , and NGV Residential Service***

For each Third Party Supplier, imbalances in the volumes of gas delivered for the Customer's account (net of Special Provision 3, Fuel Use and Unaccounted for Gas) and the volumes of gas used by the Customer, will be rolled over each month so that any imbalance will be carried into the next month. The Company will select the time period to net any imbalances with the monthly Daily Delivery Volume.

If the Third Party Supplier's account is out of balance by more than 30% of the total amount transported in the prior month, the Third Party Supplier may be required to modify its deliveries for the following month. In addition, the Company reserves the right to require additional volumes to be delivered for the following month for any volumes owed to the Company.

*2.* ***Daily Balancing***

*a.* ***FT and DGC-FT Services***

The Company may issue an Operational Flow Order (OFO) requiring delivery by the Third Party Supplier of at least the volume of gas the Customers, in aggregate, use on the affected gas day ("OFO Required Volume") plus Special Provision 3, Fuel Use and Unaccounted for Gas. An OFO may be issued as a blanket for the entire system or for a single Third Party Supplier or Customer.

Third Party Suppliers who fail to deliver the OFO Required Volumes of gas may not be permitted to continue to operate on the system. In addition, the Third Party Supplier will be billed at the applicable "Delivery Shortfall" charge in effect during the OFO period for the volume difference between the OFO Required Volume and the actual delivered volume.

There will be no daily or monthly penalties for delivering gas in excess of an OFO Required Volume. If the Third Party Supplier ends the month with a positive imbalance (in aggregate the Third Party Supplier delivered more gas than was used by its Customers), the portion of the imbalance related to overdeliveries on OFO days will be carried forward to the following month and be included in that month's cashout determination pursuant to Special Provision 1.a. of this Service Classification. If the Company issues additional OFOs in the month of the cashout determination, the Company, in its sole discretion, may waive the tiering of the cashout prices for positive imbalances greater than 5 percent initially incurred on OFO days.

# SERVICE CLASSIFICATION - TPS

## THIRD PARTY SUPPLIERS REQUIREMENTS (continued)

## SPECIAL PROVISIONS (continued)

*b.* ***CNG and NGV Commercial Services***

The Company may issue an Operational Flow Order (OFO) requiring delivery by the Third Party Supplier of at least the volume of gas the Customers, in aggregate, use on the affected gas day ("OFO Required Volume") plus Special Provision 3, Fuel Use and Unaccounted for Gas. An OFO may be issued as a blanket for the entire system or for a single Third Party Supplier or Customer.

Third Party Suppliers who fail to deliver the OFO Required Volumes of gas ("Delivery Shortfall") may not be permitted to continue to operate on the system. In addition, the Third Party Supplier will be billed at the highest of:

i. The "Company's Replacement Cost of Gas" (defined below);
ii. The highest price of daily ranges for delivery in Texas Eastern Zone M-3 that are published in Platts Gas Daily on the table, "Daily Price Survey" in effect during the OFO period for the volume difference between the OFO Required Volume and the actual delivered volume; and
iii. The highest price of daily ranges for delivery in Transco Zone 6 NNY North that are published in Platts Gas Daily on the table, "Daily Price Survey" in effect during the OFO period for the volume difference between the OFO Required Volume and the actual delivered volume.

However, in a month that the Company does not allow Third Party Suppliers to deliver to the Company on the Transcontinental Gas Pipeline, the Company shall bill the Third Party Supplier at the higher of:

i. The "Company's Replacement Cost of Gas" (defined below); and
ii. The highest price of daily ranges for delivery in Texas Eastern Zone M-3 that are published in Platts Gas Daily on the table, "Daily Price Survey" in effect during the OFO period for the volume difference between the OFO Required Volume and the actual delivered volume.

There will be no daily or monthly penalties for delivering gas in excess of an OFO Required Volume. If the Third Party Supplier ends the month with a positive imbalance (in aggregate the Third Party Supplier delivered more gas than was used by its Customers), the portion of the imbalance related to overdeliveries on OFO days will be carried forward to the following month and be included in that month's cashout determination pursuant to Special Provision 1.a. of this Service Classification. If the Company issues additional OFOs in the month of the cashout determination, the Company, in its sole discretion, may waive the tiering of the cashout prices for positive imbalances greater than 5 percent initially incurred on OFO days.

"Company's Replacement Cost of Gas" means the highest of:

i. The Company's LNG inventory and gasification costs adjusted for all appropriate taxes, assessments and surcharges;
ii. The prevailing market price, as determined by the Company based on a published index or independent trading platform, for delivered gas to any NJNG citygate during the OFO period; and
iii. The cost of gas purchased by the Company

The Company's Replacement Cost of Gas shall also include any pipeline penalties or other charges or damages assessed on the Company.

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*BPU No. 11 - Gas* *Original Sheet No. 95*

# *SERVICE CLASSIFICATION - TPS*

## *THIRD PARTY SUPPLIERS REQUIREMENTS (continued)*

### *SPECIAL PROVISIONS (continued)*

*c. IS Services*

The Company may issue an IS Daily Balancing Restriction (IS-DB) requiring delivery by the Third Party Supplier of at least the volume of gas the Customers, in aggregate, use on the affected gas day ("IS Daily Balancing Volume") plus Special Provision 3, Fuel Use and Unaccounted for Gas. This requirement may be issued as a blanket for the entire system or for a single Third Party Supplier or Customer.

Third Party Suppliers who fail to deliver the IS Daily Balancing Volumes of gas may not be permitted to continue to operate on the system. In addition, the Third Party Supplier will be billed at the applicable "Delivery Shortfall" charge in effect during the IS-DB period for the volume difference between the IS Daily Balancing Volume and the actual delivered volume.

There will be no daily or monthly penalties for delivering gas in excess of an IS Daily Balancing Volume. If the Third Party Supplier ends the month with a positive imbalance (in aggregate the Third Party Supplier delivered more gas than was used by its Customers), the portion of the imbalance related to overdeliveries on IS-DB days will be carried forward to the following month and be included in that month's cashout determination pursuant to Special Provision 1.a. of this Service Classification. If the Company issues additional IS-DB restrictions in the month of the cashout determination, the Company, in its sole discretion, may waive the tiering of the cashout prices for positive imbalances greater than 5 percent initially incurred on IS-DB restriction days.

*3. Fuel Use and Unaccounted for Gas*

A 2% adjustment for fuel use and unaccounted for gas will be made to the quantity of gas received for the Customers' accounts. The quantity of gas ultimately delivered to the Customers shall be reduced by 2% from the level received by the Company for the Customers' account.

*4. Taxes, Assessments And Surcharges*

The Third Party Supplier shall pay all taxes or surcharges that are lawfully imposed upon the Company in providing service under this service classification.

*5. Incremental Expenses*

The Third Party Supplier shall reimburse the Company for any out-of-pocket expenses (including, but not limited to, legal and travel expenses) incurred in connection with the initiation and rendering of service under this service classification. The Company shall provide an estimate of such expenses prior to their incurrence. Reimbursements for any costs associated with special non-recurring projects requested by a Third Party Supplier may be collected through this special provision. These special projects represent a level of service not anticipated in any of our administrative charges. The price for these projects shall be mutually agreed to prior to the initiation of any work related to the special project**.**

# SERVICE CLASSIFICATION - TPS

## THIRD PARTY SUPPLIERS REQUIREMENTS (continued)

### SPECIAL PROVISIONS (continued)

6. **Unauthorized Use Charge**

In the event the Company notifies a Customer to discontinue the use of transportation service at any time, and the Customer fails to do so ("Unauthorized Use"), the Company shall bill the Customer for usage occurring during the period of Unauthorized Use at the rate of ten (10) times the highest price of daily ranges for delivery in Texas Eastern Zone M-3 or Transco Zone 6 NNY North which are published in Platts Gas Daily on the table, "Daily Price Survey". The Company reserves the right to bill a rate equal to the maximum penalty charge for unauthorized daily overruns as provided for in the FERC-approved gas tariffs of the interstate pipelines that deliver gas to the Company. The Company shall also have the right to terminate the Customer's service.

The Company has the right to recover proportionately from undelivered Customers any penalties or other charges or damages assessed on the Company as a result of any Unauthorized Use by the Customers.

# SERVICE CLASSIFICATION - TPS

## THIRD PARTY SUPPLIERS REQUIREMENTS (continued)

## SPECIAL PROVISIONS (continued)

7. ***Delivery Shortfall Charge***

In the event that the Third Party Supplier fails to deliver the Daily Delivery Volume, OFO Required Volume, or IS Daily Balancing Volume as directed by the Company (a "Delivery Shortfall"), the Company shall bill the Third Party Supplier for the volume of the Delivery Shortfall at a rate equal to the higher of:

i. Ten (10) times the highest price of daily ranges for delivery in Texas Eastern Zone M-3 that are published in Platts Gas Daily on the table, "Daily Price Survey"; and

ii. Ten (10) times the highest price of daily ranges for delivery in Transco Zone 6 NNY North that are published in Platts Gas Daily on the table, "Daily Price Survey."

However, in a month that the Company does not allow Third Party Suppliers to deliver to the Company on the Transcontinental Gas Pipeline, the Company shall bill the Third Party Supplier for the volume of the Delivery Shortfall at a rate equal to ten (10) times the highest price of daily ranges for delivery in Texas Eastern Zone M-3 that are published in Platts Gas Daily on the table, "Daily Price Survey."

If such Delivery Shortfall occurs when the Company has issued an OFO or required daily balancing, the Company reserves the right to bill a rate equal to the maximum penalty charge for unauthorized daily overruns as provided for in the FERC-approved gas tariffs of the interstate pipelines that deliver gas to the Company. In the event of a Delivery Shortfall, the Company shall have the right to recover *pro rata* from all under-delivering Third Party Suppliers any penalties or other charges or damages assessed on the Company because of such under-deliveries for the days the Third Party Suppliers under-delivered.

Notwithstanding the above, if contemporaneously with a Delivery Shortfall, an interstate pipeline that delivers to an NJNG delivery meter has declared a force majeure on its pipeline system curtailing primary, in-path transportation in the delivery meter's zone of delivery, the Company may waive the above charges and may bill the Third Party Supplier for the Company's Replacement Cost of Gas (defined below) provided that the under-delivering Third Party Supplier is able to demonstrate to the Company's reasonable satisfaction that the transportation contract on which the Third Party Supplier had scheduled deliveries to the Company's delivery meter during the period in which the OFO was in effect entitled the Third Party Supplier to firm transportation rights through the point at which the force majeure was declared and that the pipeline curtailed Third Party Supplier's deliveries pro rata with deliveries to other similarly situated delivery meters on the contract. The Third Party Supplier must notify the Company in writing of the anticipated Delivery Shortfall before the nomination deadline for the next North American Energy Standards Board ("NAESB") nomination cycle. If there are no additional cycles, they must notify the Company in writing before the gas day ends. "Company's Replacement Cost of Gas" means the highest of:

i. The Company's LNG inventory and gasification costs adjusted for all appropriate taxes, assessments and surcharges;

ii. The prevailing market price, as determined by the Company based on a published index or independent trading platform, for delivered gas to any NJNG citygate during the time period of the force majeure; and

iii. The cost of gas purchased by the Company.

The Company's Replacement Cost of Gas shall also include any pipeline penalties or other charges or damages assessed on the Company.

# *SERVICE CLASSIFICATION - TPS*

## *THIRD PARTY SUPPLIERS REQUIREMENTS (continued)*

### *SPECIAL PROVISIONS (continued)*

8. ***Individual Customer Responsibility***
Customers taking service under Service Classifications RS, FT, GSL, GSS, DGC and IS may elect to designate one Third Party Supplier per account to have responsibility for nominations, daily balancing and/or monthly balancing on behalf of the Customer. The Company will provide both individual and summary bills to each such Third Party Supplier, with a summary of usage and associated charges provided for each Customer. If a Customer's designated Third Party Supplier should default on any obligation for payment under this Service Classification, the Customer will be responsible for its proportional share of charges, including payment for "Unauthorized Use", "Delivery Shortfall" or for monthly imbalances.

9. ***Nominations***
By the deadline specified on the Company's electronic bulletin board (EBB), the Third Party Supplier shall enter nominations onto the Company's EBB on the day prior to gas flow for the next calendar day. The Third Party Supplier's nomination shall contain its Customers' transportation volumes, the name of the supplier and the contract number, along with the pipeline transporter. The Third Party Supplier may change any daily or monthly nominations in a timely manner on the Company's EBB by the time of the day prior to gas flow specified on the Company's EBB. The Third Party Supplier may request changes to nominations after the time specified on the Company's EBB in writing by e-mailing the Company, however any late changes are completely at the discretion of the Company. Any agreed to changes will have to be formally requested in writing.

The Company will not be required to accept any gas rendered by the pipeline transporter that: (a) does not conform to the Third Party Supplier's currently effective nominations or (b) is not delivered to a mutually agreeable delivery meter. The Company shall not be obligated to provide transportation service during an hourly, daily or monthly period in excess of the levels specified in the service agreement.

### *PAYMENT*
Unless otherwise specified, bills are due within 10 days after the Company sends each Third Party Supplier's individual bill and is subject to a late payment charge as set forth in Paragraph 8.9 of the Standard Terms and Conditions of this Tariff. The Company may elect to utilize the deposit to satisfy any payments deemed to be late and to notify the Third Party Supplier of the need to replenish the deposit. Additionally, if a Third Party Supplier's account is in arrears, the Company reserves the right to cease new enrollments for the Third Party Supplier and has the right to remove the Third Party Supplier from the New Jersey Natural Gas system.

### *CONTRACT*
The term of the initial Service Agreement will be for a minimum of one year. Thereafter, successive one-year terms will be in effect until terminated by written notice at least two (2) months prior to the expiration of the service agreement.

### *TERMS AND CONDITIONS*
Service is subject to the Standard Terms and Conditions of this Tariff, the applicable transportation Service Classification and the service agreement.

# *SERVICE CLASSIFICATION - CNG*

## *COMPRESSED NATURAL GAS*

### *AVAILABILITY*

This service is available to any customer who would otherwise qualify for service under Service Classifications RS, GSS, GSL, FT, IS, or NGV and who will utilize natural gas for the purpose of fueling natural gas vehicles at Company owned compressed natural gas re-fueling facilities operated by the Customer on its property ("Host Customer").

Availability of this Service Classification is subject to the terms and conditions approved in BPU Docket No. GR11060361. This Service Classification is closed.

### *CONDITIONS PRECEDENT*

The Host Customer must sign an Agreement with the Company. The Host Customer must provide assurance that it will use initially at least twenty (20) percent of the re-fueling facility's capacity. The Host Customer must agree to provide the general public with reasonable access to a re-fueling facility for purposes of fueling the general public's natural gas vehicles.

### *DEFINITION OF TERM USED HEREIN*

"GGE" is the Gasoline Gallon Equivalent for converting a price per therm of natural gas to a price per gallon of gasoline. The GGE shall be determined in accordance with local standards.

### *CHARACTER OF SERVICE*

Firm gas service where Host Customer may purchase gas supply pursuant to the Company's Rider "A" for Basic Gas Supply Service ("BGSS"), from the Company through a contract, or from a Third Party Supplier.

### *MONTHLY RATES*

***Customer Charge:***

| | |
|---|---|
| Customer Charge per meter per month | $104.49 |

***Delivery Charge:***

| | |
|---|---|
| Delivery Charge per therm | $0.5613<br>($0.702 per GGE) |

***BGSS Charge:***

| | |
|---|---|
| Monthly BGSS Charge per therm for Sales Customers without a gas supply contract | See "Rate Summaries" at the end of this Tariff |

These rates are inclusive of all applicable taxes and riders and are subject to adjustment for all other applicable riders, taxes, assessments or similar charges lawfully imposed by the Company. See Rate Summaries at the end of this Tariff for a summary of components incorporated in these rates.

### *MINIMUM MONTHLY CHARGE*

The minimum monthly charge shall be the Customer Charge.

Where service is taken for less than one month, the minimum charge will be prorated.

# *SERVICE CLASSIFICATION - CNG*

## *COMPRESSED NATURAL GAS (continued)*

## *SPECIAL PROVISIONS*

I. *Applicable to All Customers in this Service Classification*

*1.* ***CNG Re-Fueling Facilities***

The Company shall install and own Compressed Natural Gas ("CNG") re-fueling facilities on the Host Customer's property. The Company shall maintain these facilities. The Host Customer is required to monitor and operate these facilities at its own expense. The Host Customer is also required to provide reasonable access to the re-fueling station to the general public and non-host customer fleets.

*2.* ***Automated Meter Reading Device***

Metering shall include an automated meter reading device (AMR)**,** which shall be furnished and installed by the Company at the Host Customer's expense. The Host Customer shall furnish an electrical supply and phone line for the operation of the device, in an area acceptable to the Company. The Company shall provide technical assistance in order to minimize the Host Customer's expense for such installation.

The Host Customer may reimburse the Company for the AMR expense, either in a lump sum payment when service is initiated or over the life of the initial CNG agreement with the prime interest rate used to calculate carrying costs on the unpaid balance.

*3.* ***Incremental Expenses***

The Host Customer shall reimburse the Company for any out-of-pocket expenses (including, but not limited to, legal and travel expenses) incurred in connection with the initiation and rendering of service under this service classification. The Company shall provide an estimate of such expenses prior to their incurrence.

*4.* ***Taxes, Assessments and Surcharges***

The Customer shall pay all riders, taxes, assessments and surcharges that are lawfully imposed upon the Company in providing service under this classification.

# *SERVICE CLASSIFICATION - CNG*

## *COMPRESSED NATURAL GAS (continued)*

5. ***Pricing to the General Public***

The Host Customer shall post the charge to the general public for its re-fueling volume at a price per GGE provided by the Company. Prior to the beginning of each month, the Company will notify the Host Customer of the price, the components of which are defined below:

a. Monthly BGSS Charge as set forth in Rider "A" converted to a price per GGE
b. CNG Delivery Charge as set forth in Service Classification CNG converted to a price per GGE
c. Applicable state and federal excise taxes
d. $0.20 per GGE for the Host Customer's expenses to operate the facilities.

The Host Customer shall display the price per GGE at the re-fueling station. The Company shall credit the Host Customer for the monthly volume sold to the general public at the price per GGE for the Host Customer's expenses to operate the facilities as defined in 5(d) above.

6. ***Pricing to Non-Host Company Fleets***

Other fleets re-fueling vehicles at the Company owned CNG re-fueling facilities operated by the Host Customer on its property may purchase gas supply from the Company's Rider "A" for Basic Gas Supply Service ("BGSS"), from the Company through a contract, or from a Third Party Supplier pursuant to Section II herein. The Company shall charge other fleets for re-fueling volumes at a price per GGE, the components of which are defined below:

a. Monthly BGSS Charge as set forth in Rider "A" or a gas supply contract price or the price provided by a Third Party Supplier, converted to a price per GGE
b. CNG Delivery Charge as set forth in Service Classification CNG converted to a price per GGE
c. Applicable state and federal excise taxes
d. $0.20 per GGE for the Host Customer's expenses to operate the facilities.

The Company shall credit the Host Customer for the monthly volume sold to the other fleets at the price per GGE for the Host Customer's expenses to operate the facilities as defined in 6(d) above.

# SERVICE CLASSIFICATION - CNG

## COMPRESSED NATURAL GAS (continued)

II. *Applicable to All Customers Purchasing Gas Supply from a Third Party Supplier*

1. ***Customer Responsibility***
The Company may require the Customer to provide, to the Company's satisfaction, proof of a firm gas supply having marketable title of gas with firm transportation capacity to the Company's distribution system. In the event the Customer designates a Third Party Supplier in accordance with Service Classification TPS, the Customer will remain responsible for a pro rata share of any Charges which such Third Party Supplier fails to pay to the Company including payments for Delivery Shortfall or for Monthly Imbalance.

2. ***Billing***
Customers purchasing gas supply from a Third Party Supplier can only be billed through Billing Option 1 as defined in Service Classification-TPS.

3. ***Additional Requirements***
Service is subject to the terms and conditions of the Third Party Supplier Requirements section of this Tariff (Service Classification – TPS) and Section 10 of the Company's Standard Terms and Conditions.

## CONTRACT

A written agreement shall be required for Compressed Natural Gas Host Customers and non-Host Customers Fleets.

## TERMS AND CONDITIONS

Service is subject to the Company's Standard Terms and Conditions of this Tariff.

RESERVED FOR FUTURE USE

# *RIDER "A"*

# *BASIC GAS SUPPLY SERVICE - BGSS*

Applicable to the following service classifications:

| | | | |
|---|---|---|---|
| RS | Residential Service | | |
| DGR | Distributed Generation - Residential | ED | Economic Development |
| DGC | Distributed Generation - Commercial | NGV | Natural Gas Vehicles |
| GSS | General Service - Small | IS | Interruptible Service |
| GSL | General Service - Large | CNG | Compressed Natural Gas |

## I. Periodic Basic Gas Supply Service Charge

By June 1 of each year, the Company shall file with the Board, a request for an October 1 implementation of a Periodic Basic Gas Supply Service ("Periodic BGSS") Charge, which shall be applicable to customers on the RS, GSS, and DGR, service classifications listed above and to customers on the ED service classification listed above who are eligible to receive service under Service Classification GSS.

### A. Determination of the Initial Periodic BGSS Factor for the BGSS Year

The Periodic BGSS Factor shall be derived in the following manner:

(1) An estimate shall be made of the total volume of prospective gas supplies from all sources, including pipeline natural gas and all substitute and supplement gas supplies, and of the estimated overall commodity cost of all such prospective supplies, including pipeline refunds and other credits, excluding Company labor costs, for the remainder of the BGSS year ending September 30. The estimated overall commodity costs of prospective supplies will be comprised of 1) the value of gas withdrawn from storage; 2) the value of volumes whose price was previously set by hedges or other financial instruments; 3) current flowing gas, which will be priced at the arithmetic average of (i) the NYMEX closing price for the last trading day prior to each respective month and (ii) the average of the estimated Inside FERC prices for the producing locations that relate to the Company's purchases; and 4) the variable cost of transportation and fuel.

(2) An estimate shall be made of the total volume of prospective firm sales of gas (in therms) for the BGSS year ending September 30.

# RIDER "A"

## BASIC GAS SUPPLY SERVICE – BGSS (continued)

(3) The cost of prospective gas supplies (per paragraph (1)) shall be adjusted upward or downward to the extent of the cumulative amount of any prior under-recovery or over-recovery of gas commodity costs to determine the total commodity gas costs to be recovered and then shall be divided by the estimated total volume of prospective firm sales (per paragraph (2)), to determine the per unit commodity cost recovery rate.

(4) An estimate shall be made of the fixed pipeline, fixed storage, and supplier demand costs for the BGSS year ending September 30. The estimated fixed demand shall be adjusted upward or downward to the extent of the cumulative amount of any prior under-recovery or over-recovery of fixed costs and then shall be divided by the estimated total volume of prospective firm sales (per paragraph (2)), to determine the per unit demand cost recovery rate.

(5) The adjusted commodity gas costs to be recovered, as determined per paragraph (3), shall then be added to the per unit demand cost recovery as determined per paragraph (4) and the result carried for four (4) decimal places.

**B. Determination of Revised Periodic BGSS Factors**

(1) Following Board approval of the initial Periodic BGSS Charge, the Company shall have the opportunity to implement increases to be effective December 1 and February 1 on a self-implementing basis subject to a maximum rate increase of up to 5% of the average residential customer total bill.

(2) The Company may implement, at its discretion, bill credits, refunds, or self-implementing rate reductions during the BGSS year ending September 30.

# *RIDER "A"*

## *BASIC GAS SUPPLY SERVICE - BGSS (continued)*

### II. Monthly Basic Gas Supply Service Charge

On the second day following the close of the trading of the NYMEX Henry Hub natural gas contracts for the prospective month, the Company shall submit to the Board, a Monthly Basic Gas Supply Service ("BGSS") Charge, which shall be applicable to customers in the GSL, DGC, NGV, CNG, and IS service classifications, and to customers in the ED service classification listed above who are eligible to receive service under Service Classification GSL.

#### A. Derivation of the Monthly BGSS Factor

The Monthly BGSS Factor shall be derived in the following manner:

(1) An estimate shall be made of the fixed pipeline, fixed storage, and supplier demand costs for the BGSS year ending September 30. An estimate shall be made of the total volume of prospective firm sales of gas (in therms) for the BGSS year ending September 30. The estimated fixed demand shall then be divided by the estimated total volume of prospective firm sales to determine the per unit demand cost recovery rate.

(2) The overall Monthly BGSS Charge will be established prior to the beginning of each month based on the sum of: 1) the arithmetic average of (i) the NYMEX closing price for the last trading day prior to each respective month and (ii) the average of the estimated Inside FERC prices for the producing locations that relate to the Company's purchases; 2) the variable cost of transportation and fuel; and 3) the per unit demand cost recovery rate as determined in accordance with paragraph (1). The Monthly BGSS Factor shall be adjusted for taxes, assessments or surcharges. The result shall be carried for four (4) decimal places.

(3) The Monthly Gas Cost Recovery Charge shall be added to all tariff rates then in effect, effective for service rendered commencing the first day of such month of such year, and continuing in effect until the effective date of the subsequent monthly or other filing of a revision of modification thereof.

## *RIDER "A"*

## *BASIC GAS SUPPLY SERVICE - BGSS (continued)*

### III. Tracking the Operation of the BGSS

The net amount of gas costs and recoveries, including pipeline refunds and other credits, if any, shall be maintained in a separate clearing account which will be reviewed as part of the annual filing.

Interest shall be computed monthly, at the overall annual rate of return as authorized by the Board of Public Utilities, on the average monthly balances of over or under-recovery of excess purchased gas costs and supplier refunds. In the event such interest computations result in a cumulative net interest credit at the end of the year, such credit shall be applied against the gas costs in calculating the Periodic BGSS factor for the following year.

In accordance with P.L., 1997 c. 162, the charges applicable under this Rider include provision for the New Jersey Sales and Use Tax ("SUT"), and when billed to customers exempt from this tax, as set forth in Rider "B", shall be reduced by the amount of such tax included therein.

# *RIDER "A"*

## *BASIC GAS SUPPLY SERVICE - BGSS(continued)*

### *PERIODIC BASIC GAS SUPPLY SERVICE (BGSS) CHARGE*

| *SERVICE CLASSIFICATION* | *APPLICATION* | *CHARGE* |
|---|---|---|
| RS and GSS sales customers, and ED sales customers eligible for service under Service Classification GSS | Included in the Basic Gas Supply Charge | $0.3320 per therm |

### *BALANCING CHARGE*

| *SERVICE CLASSIFICATION* | *APPLICATION* | *CHARGE* |
|---|---|---|
| RS, GSS, GSL, DGR, DGC-Balancing, and ED customers eligible for service under Service Classifications GSS and GSL | Included in the Delivery Charge | $0.1026 per therm |

# *RIDER "A"*

## *BASIC GAS SUPPLY SERVICE - BGSS(continued)*

### *MONTHLY BASIC GAS SUPPLY SERVICE (BGSS) CHARGE*

| *SERVICE CLASSIFICATION* | *APPLICATION* |
|---|---|
| GSL, DGC-Balancing, and CNG sales customers, and ED sales customers eligible for service under Service Classification GSL | Included in the Basic Gas Supply Charge |

| Effective Date | Charge Per Therm for IS, CNG, NGV | Charge Per Therm for GSL, DGC-Balancing[1] |
|---|---|---|
| March 1, 2020 | $0.4527 | $0.3439 |
| April 1, 2020 | $0.4207 | $0.3119 |
| May 1, 2020 | $0.4486 | $0.3398 |
| June 1, 2020 | $0.4291 | $0.3203 |
| July 1, 2020 | $0.4152 | $0.3064 |
| August 1, 2020 | $0.4266 | $0.3178 |
| September 1, 2020 | $0.4031 | $0.2943 |
| October 1, 2020 | $0.3485 | $0.2459 |
| November 1, 2020 | $0.4505 | $0.3479 |
| December 1, 2020 | $0.4523 | $0.3497 |
| January 1, 2021 | $0.4895 | $0.3869 |
| February 1, 2021 | $0.5391 | $0.4365 |
| March 1, 2021 | $0.5312 | $0.4286 |

[1] For GSL and DGC customers, the BGSS charge per therm is reduced by the Balancing Charge which is included in the Delivery Charge.

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# *RIDER "A"*

## *BASIC GAS SUPPLY SERVICE - BGSS(continued)*

### *BGSS SAVINGS COMPONENT RELATED TO THE CONSERVATION INCENTIVE PROGRAM (CIP) IN RIDER "I"*

| *SERVICE CLASSIFICATION* | *APPLICATION* | *CREDIT* |
|---|---|---|
| RS, GSS, GSL, and ED sales customers | Embedded within the Periodic Basic Gas Supply Charge and the Monthly Basic Gas Supply Charge | ($0.0270) per therm |

### *TEMPORARY BGSS RATE CREDIT ADJUSTMENT*

***Applicable to RS and GSS sales customers and ED customers eligible for service under Service Classification GSS***

| *EFFECTIVE DATES* | *CREDIT PER THERM* |
|---|---|
| November 1, 2015 through February 29, 2016 | ($0.2640) |
| November 1, 2016 through December 31, 2016 | ($0.1666) |
| January 1, 2017 through February 28, 2017 | ($0.1664) |
| December 1, 2020 through January 31, 2021 | ($0.1220) |

*NEW JERSEY NATURAL GAS COMPANY*

***BPU No. 11 - Gas*** ***Original Sheet No. 158***

## *RIDER "B"*

## *NEW JERSEY SALES AND USE TAX (SUT)*

Applicable to the following service classifications:

| | | | |
|---|---|---|---|
| RS | Residential Service | ED | Economic Development |
| DGR | Distributed Generation Residential | EGS | Electric Generation Service |
| GSS | General Service - Small | NGV | Natural Gas Vehicle |
| GSL | General Service - Large | IS | Interruptible Service |
| FT | Firm Transportation | IGS | Incremental Gas Service |
| DGC | Distributed Generation Commercial | CNG | Compressed Natural Gas |

## *RIDER "B"*

## *NEW JERSEY SALES AND USE TAX (SUT) (continued)*

In accordance with P.L. 1997, c. 162 (the "energy tax reform statute"), as amended by P.L. 2006, c. 44, P.L. 2009, c. 240, and P.L. 2016, c. 57, provision for the New Jersey Sales and Use Tax ("SUT") has been included in all charges applicable under this Tariff by multiplying the charges that would apply before application of the SUT by the factor 1.06625. The energy tax reform statute exempts the following customers from the SUT provision, and when billed to such customers, the charges otherwise applicable under this Tariff shall be reduced by the provision for the SUT) included therein:

1. Franchised providers of utility services (gas, electricity, water, waste water and telecommunications services provided by local exchange carriers) within the State of New Jersey. [P.L. 1997, c.162]

2. Natural gas or utility service that is used to generate electricity that is sold for resale or to an end user other than the end user located on the property the cogeneration or self-generation unit that generated the electricity is located. [P.L. 2009, c. 240]

3. Cogenerators in operation, or which have filed an application for an operating permit or a construction permit and a certificate of operation in order to comply with air quality standards under P.L. 1954, c. 212 (C.26:2C-1 et seq.) with the New Jersey Department of Environmental Protection, on or before March 10, 1997. [P.L. 1997, c.162]

4. Natural gas and utility service that is used for cogeneration facility that is constructed after January 1, 2010. Any cogeneration facility that was in operation prior to January 1, 2010 and was subject to New Jersey SUT for the purchase and use of natural gas and utility service for cogeneration purposes shall continue to be subject to, and responsible for payment of, such tax. [P.L. 2009, c. 240]

5. Special contract customers for which a customer-specific tax classification was approved by a written Order of the New Jersey Board of Public Utilities prior to January 1, 1998. [P.L. 1997, c.162]

6. Agencies or instrumentalities of the federal government. [P.L. 1997, c.162]

7. International organizations of which the United States of America is a member. [P.L. 1997, c.162]

8. Cemetery companies, pursuant to N.J.S.A 8A:5-10. (must provide an Exempt Use Certificate (ST-4) to seller).

## *RIDER "B"*

## *NEW JERSEY SALES AND USE TAX (SUT) (continued)*

9. Amtrak (National Railroad Passenger Corporation) and New Jersey Transit Rail Operations.

10. Limited Dividend Housing Corporations organized under N.J.S.A. 55:16-1 seq., for use at the qualified housing project. (must provide an Exempt Use Certificate (ST-4) to seller).

In addition, the Business Retention and Relocation Assistance Act (P.L. 2004, c. 65) and subsequent amendment (P.L. 2005, c.374) exempts the following customers from the SUT provision, and when billed to such customers, the charges otherwise applicable shall be reduced by the provision for the SUT included therein:

1. a qualified business that employs at least 250 people within an enterprise zone, at least 50% of whom are directly employed in a manufacturing process, for the exclusive use or consumption of such business within an enterprise zone, and

2. a group of two or more persons:

   a) each of which is a qualified business that are all located within a single redevelopment area adopted pursuant to the "Local Redevelopment and Housing Law," P.L.1992, c.79 (C.40A:12A-1 et seq.);

   b) that collectively employ at least 500 people within an enterprise zone, at least 50% of whom are directly employed in a manufacturing process;

   c) are each engaged in a vertically integrated business, evidenced by the manufacture and distribution of a product or family of products that, when taken together, are primarily used, packaged and sold as a single product; and

   d) collectively use the energy and utility service for the exclusive use or consumption of each of the persons that comprise a group within an enterprise zone;

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## *RIDER "B"*

## *NEW JERSEY SALES AND USE TAX (SUT) (continued)*

3. a business facility located within a county that is designated for the 50% tax exemption under section 1 of P.L. 1993, c.373 (C.54:32B-8.45) provided that the business certifies that it employs at least 50 people at that facility, at least 50% of whom are directly employed in a manufacturing process, and provided that the energy and utility services are consumed exclusively at that facility.

A business that meets the requirements in (1), (2) or (3) above shall not be provided the exemption described in this section until it has complied with such requirements for obtaining the exemption as may be provided pursuant to P.L.1983, c.303 (C.52:27H-60 et seq.) and P.L.1966, c.30 (C.54:32B-1 et seq.) and the Company has received a sales tax exemption letter issued by the New Jersey Department of Treasury, Division of Taxation.

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# *RIDER "C"*

# *REMEDIATION ADJUSTMENT (RA)*

Applicable to the following service classifications:

| | | | |
|---|---|---|---|
| RS | Residential Service | ED | Economic Development |
| DGR | Distributed Generation Residential | EGS | Electric Generation Service |
| GSS | General Service - Small | NGV | Natural Gas Vehicle |
| GSL | General Service - Large | IS | Interruptible Service |
| FT | Firm Transportation | IGS | Incremental Gas Service |
| DGC | Distributed Generation Commercial | CNG | Compressed Natural Gas |

In accordance with P.L. 2011, c. 9, societal benefits charges pursuant to section 12 of P.L. 1999, c.23 (C.48:3-60), or any other charge designed to recover the costs for societal, energy efficiency, conservation, environmental or renewable energy programs, are not applicable to natural gas delivery service or commodity that is used to generate electricity that is sold for resale. Natural gas used to generate electricity that is sold for resale by customers served under the above Service Classifications is exempt from costs associated with the Remediation Adjustment ("RA") and shall not be billed for such charges. In order to qualify for this exemption, a customer who uses natural gas to generate electricity for resale must complete an Annual Certification form, provided by the Company, to certify the percentage of natural gas used at the customer's New Jersey generation facilities during the previous calendar year to generate electricity that was sold for resale. For a new customer or a customer with less than twelve months of usage history, estimates supported by engineering and operational plans may be used to determine the percentage of natural gas used to generate electricity sold for resale.

The RA Factor will be determined as follows:

## *I. DEFINITION OF TERMS USED HEREIN*

1. ***"Remediation Costs"*** are all investigation, testing, land acquisition if appropriate, remediation and/or litigation costs/expenses or other liabilities excluding personal injury claims and specifically relating to former gas manufacturing facility sites, disposal sites, or sites to which material may have migrated, as a result of the earlier operation or decommissioning of gas manufacturing facilities.

2. ***"Recovery Year"*** is each October 1 to September 30 year and is the time period over which the amortized expenses shall be received from Customers.

3. ***"Remediation Year"*** is each July 1 to June 30 year and is the time period over which the remediation costs are incurred.

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## *RIDER "C"*

## *REMEDIATION ADJUSTMENT (RA) (continued)*

***DEFINITIONS OF TERMS USED HEREIN (continued)***

*4.* ***"Third Party Claims"*** are all claims by New Jersey Natural Gas Company against any entity including insurance companies, from which recoveries may be received and will be charged through the RA factor as follows:

a) Fifty percent of the reasonable transaction costs and expenses in pursuing Third Party Claims shall be included as Remediation Costs and shall be recovered as part of the RA clause. The remaining 50% shall be deferred until such time as the specific claim is resolved.

b) In the event that the Company is successful in obtaining a reimbursement from any Third Party, the Company shall be permitted to retain the deferred 50% as specified in 4a. The balance of the reimbursement, if any, shall be applied against the Remediation Costs in the year it is received and will be amortized over seven years.

*5.* ***Sale of Property*** shall be calculated by taking the proceeds of any sale of a former manufacturing gas plant site, less all reasonable expenses associated with selling the site, and subtracting the total costs that were incurred in cleaning up the site and amortized through rates. The proceeds associated with the total costs that were incurred in cleaning up the site will be included as a credit to the remediation costs incurred in the year of the sale. The remainder shall be equally shared between the Company and ratepayers.

# RIDER "C"

## REMEDIATION ADJUSTMENT (RA) (continued)

### II. DETERMINATION OF THE REMEDIATION ADJUSTMENT

At the end of the remediation year, the Company shall file with the Board all bills and receipts relating to the amount of any remediation costs incurred in the preceding remediation year for which it seeks to begin recovery. In the same filing, the Company shall include similar material and information to support any expenses and/or recoveries resulting from Third Party claims. The Company shall also submit in its annual filing a projection of remediation costs for the following remediation year.

The RA factor shall be calculated by taking one seventh of the Actual Remediation Costs plus applicable Third Party Claims and Sale of Property allocations incurred each year, until fully amortized, plus the prior years' RA over or under-recovery plus appropriate carrying costs and dividing this amount by the Company's total volume of prospective sales for the upcoming recovery year. The result shall be carried for four (4) decimal places.

The RA will be calculated as the difference between revenues calculated by multiplying the RA factor times actual monthly firm sales and remediation costs allowable per the formula.

The total annual charge to the Company's ratepayers for remediation costs during any recovery year shall not exceed five (5%) percent of the Company's total revenues from gas sales during the preceding Remediation Year. If this limitation results in the Company recovering less than the amount that would otherwise be recovered in a particular Recovery Year and the mechanism is not reopened at the request of any party, then the remediation costs in excess of the 5% shall be included in the subsequent year's collection. The Company shall calculate carrying costs on any under-or over-recovered RA cost balances, and the deferred tax benefit associated with those balances, using the same interest rate, which rate will be adjusted each August 31 based upon the seven-year constant maturity Treasury rate, shown in the Federal Reserve Statistical Release, plus 60 basis points. Interest applicable to the Company's unamortized RA balance shall be calculated and will accrue on a monthly basis and shall be rolled into the RA balance at the beginning of each recovery year.

# *RIDER "C"*

## *REMEDIATION ADJUSTMENT (RA) (continued)*

### *III. TRACKING THE OPERATION OF THE REMEDIATION ADJUSTMENT CLAUSE*

The revenues billed, net of taxes and assessments through the application of the Remediation Adjustment factor shall be accumulated for each month and be applied against the total amortized Remediation Costs calculated for that year. Any over or under collection at the end of the Recovery Year will be included in the determination of the following year's RA factor.

In accordance with P.L. 1997, c. 162, as amended by P.L. 2006, c. 44, P.L. 2009, c. 240, and P.L. 2016, c. 57, the charges applicable under this Rider include provision for the New Jersey Sales and Use Tax ("SUT") and when billed to customers exempt from this tax, as set forth in Rider "B", shall be reduced by the amount of such tax included therein.

The RA factor shall be collected through the SBC on a per-therm basis within the Delivery Charge for all service classifications to which Rider "A" applies. The RA factor is set forth below:

$0.0145

*NEW JERSEY NATURAL GAS COMPANY*

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# *RIDER "D"*

# *INFRASTRUCTURE INVESTMENT PROGRAM - IIP*

Applicable to the following service classifications:

| | | | |
|---|---|---|---|
| RS | Residential Service | DGC | Distributed Generation Commercial |
| DGR | Distributed Generation Residential | ED | Economic Development |
| GSS | General Service - Small | NGV | Natural Gas Vehicle |
| GSL | General Service - Large | CNG | Compressed Natural Gas |
| FT | Firm Transportation | | |

## *INCREMENTAL BASE RATE CHARGES*

| *Service Classification* | | *Pre-Tax Rate* | *After-tax Rate* |
|---|---|---|---|
| **RS** | | | |
| IIP Customer Charge | per meter per month | $0.00 | $0.00 |
| IIP Base Rate Charge | per therm | $0.0000 | $0.0000 |
| | | | |
| **DGR** | | | |
| IIP Customer Charge | per meter per month | $0.00 | $0.00 |
| IIP Base Rate Charge | per therm | $0.0000 | $0.0000 |
| | | | |
| **GSS** | | | |
| IIP Customer Charge | per meter per month | $0.00 | $0.00 |
| IIP Base Rate Charge | per therm | $0.0000 | $0.0000 |
| | | | |
| **GSL** | | | |
| IIP Customer Charge | per meter per month | $0.00 | $0.00 |
| IIP Demand Charge | per therm per month applied to HMAD | $0.00 | $0.00 |
| IIP Base Rate Charge | per therm | $0.0000 | $0.0000 |
| | | | |
| **FT** | | | |
| IIP Customer Charge | per meter per month | $0.00 | $0.00 |
| IIP Demand Charge | per therm per month applied to MDQ | $0.00 | $0.00 |
| IIP Base Rate Charge | per therm | $0.0000 | $0.0000 |
| | | | |
| **DGC** | | | |
| IIP Customer Charge | per meter per month | $0.00 | $0.00 |
| IIP Demand Charge | per therm per month applied to PBQ | $0.00 | $0.00 |
| IIP Base Rate Charge | per therm | $0.0000 | $0.0000 |

*Date of Issue:*
*Issued by: Mark G. Kahrer, Senior Vice President*
*Wall, NJ 07719*

*Effective for service rendered on and after April 29, 2021*

*Filed pursuant to Order of the Board of Public Utilities entered in Docket No.*

# RIDER "D"

## INFRASTRUCTURE INVESTMENT PROGRAM - IIP (continued)

| Service Classification | | Pre-Tax Rate | After-tax Rate |
|---|---|---|---|
| **NGV** | | | |
| IIP Customer Charge | per meter per month | $0.00 | $0.00 |
| IIP Base Rate Charge | per therm | $0.0000 | $0.0000 |
| | | | |
| **CNG** | | | |
| IIP Customer Charge | per meter per month | $0.00 | $0.00 |
| IIP Base Rate Charge | per therm | $0.0000 | $0.0000 |

The above IIP Customer Charges will be included in the total Customer Charge on customer bills. The above IIP Demand Charges will be included in the total Demand Charge on customer bills. The above IIP Base Rate Charges will be included in total Delivery Charges on customer bills.

**DETERMINATION OF THE IIP**

The purpose of the Infrastructure Investment Program Rider is to set forth the base rate adjustments associated with the Company's approved Infrastructure Investment Program pursuant to N.J.A.C. 14:3-2A.1 et seq. The Company shall file periodic requests with the Board for implementation of IIP charges applicable to customers on service classifications to which Rider "D" applies. Filings will be made according to the Company's recovery periods approved in BPU Docket No. GR19020278.

*NEW JERSEY NATURAL GAS COMPANY*

*BPU No. 11 - Gas* *Original Sheet Nos. 168-169*

## *RIDER "D"*

## *INFRASTRUCTURE INVESTMENT PROGRAM - IIP (continued)*

RESERVED FOR FUTURE USE

*NEW JERSEY NATURAL GAS COMPANY*

*BPU No. 11 - Gas* *Original Sheet No. 170*

# *RIDER "E"*

# *NEW JERSEY'S CLEAN ENERGY PROGRAM*

## AVAILABILITY

Applicable to the following service classifications:

| | | | |
|---|---|---|---|
| RS | Residential Service | ED | Economic Development |
| DGR | Distributed Generation Residential | EGS | Electric Generation Service |
| GSS | General Service - Small | NGV | Natural Gas Vehicle |
| GSL | General Service - Large | IS | Interruptible Service |
| FT | Firm Transportation | IGS | Incremental Gas Service |
| DGC | Distributed Generation Commercial | CNG | Compressed Natural Gas |

In accordance with P.L. 2011, c. 9, societal benefits charges pursuant to section 12 of P.L. 1999, c.23 (C.48:3-60), or any other charge designed to recover the costs for societal, energy efficiency, conservation, environmental or renewable energy programs, are not applicable to natural gas delivery service or commodity that is used to generate electricity that is sold for resale. Natural gas used to generate electricity that is sold for resale by customers served under the above Service Classifications is exempt from costs associated with NJ's Clean Energy Program and shall not be billed for such charges. In order to qualify for this exemption, a customer who uses natural gas to generate electricity for resale must complete an Annual Certification form, provided by the Company, to certify the percentage of natural gas used at the customer's New Jersey generation facilities during the previous calendar year to generate electricity that was sold for resale. For a new customer or a customer with less than twelve months of usage history, estimates supported by engineering and operational plans may be used to determine the percentage of natural gas used to generate electricity sold for resale.

The Company shall file with the Board, an annual NJ's Clean Energy Program factor concurrent with the Company's SBC filing, which shall be derived in the following manner:

1. The Company's funding obligation based upon the most recently BPU approved NJ's Clean Energy Program, previously referred to as the Comprehensive Resource Analysis ("CRA") Plan.

2. The difference between the approved funding obligation for the preceding year and the actual recovery of the NJ's Clean Energy Program costs plus appropriate carrying costs.

3. An estimate shall be made of the total volume of prospective jurisdictional therm sales of gas for the applicable service classifications for the twelve (12) months of the recovery year.

# *RIDER "E"*

## *NEW JERSEY'S CLEAN ENERGY PROGRAM (continued)*

4. The total NJ's Clean Energy Program costs to be recovered, as determined per paragraphs (1), (2) and (3) shall then be divided by the total volume of prospective jurisdictional therm sales (per paragraph (3)), and the result carried to four (4) decimal places. Such result shall constitute the NJ's Clean Energy Program factor effective for service rendered commencing the effective date of approval, and continuing in effect until the effective date of any subsequent annual or other filing of a revision of modification thereof.

The net amount shall be maintained in a separate deferred account. In the event that the Company determines that an existing NJ's Clean Energy Program rate, if left unchanged, would result in a material over- or under-collection of amounts incurred or expected to be incurred during the current NJ's Clean Energy Program Recovery Year, the Company may file with the BPU for approval of an interim revision of the NJ's Clean Energy Program rate. Such interim revision shall be designed to minimize or eliminate the over- or under-collection expected to result absent such revision either over: (a) the remaining billing months of the current NJ's Clean Energy Program Recovery Year or (b) over such other time period as the BPU shall determine.

The Company shall calculate carrying costs on the average monthly balances of under-or over-recovery of deferred costs, and the deferred tax benefit associated with those balances, using the same interest rate, which will be adjusted each August 31 based upon the seven-year constant maturity Treasury rate, shown in the Federal Reserve Statistical Release, plus 60 basis points. Interest will accrue on a monthly basis and shall be rolled into the balance each October 1.

In accordance with P.L. 1997, c. 162, as amended by P.L. 2006, c. 44, P.L. 2009, c. 240, and P.L. 2016, c. 57, the charges applicable under this Rider include provision for the New Jersey Sales and Use Tax ("SUT") and when billed to customers exempt from this tax, as set forth in Rider SUT, shall be reduced by the amount of such tax included therein.

The NJ's Clean Energy Program factor shall be collected through the SBC on a per therm basis within the Delivery Charge for all service classifications to which this Rider "E" applies. The NJ's Clean Energy Program factor is as set forth below:

$0.0213

# *RIDER "F"*

# *ENERGY EFFICIENCY - EE*

## AVAILABILITY

Applicable to the following service classifications:

| | | | |
|---|---|---|---|
| RS | Residential Service | ED | Economic Development |
| DGR | Distributed Generation Residential | EGS | Electric Generation Service |
| GSS | General Service - Small | NGV | Natural Gas Vehicle |
| GSL | General Service - Large | IS | Interruptible Service |
| FT | Firm Transportation | IGS | Incremental Gas Service |
| DGC | Distributed Generation Commercial | CNG | Compressed Natural Gas |

In accordance with P.L. 2011, c. 9, societal benefits charges pursuant to section 12 of P.L. 1999, c.23 (C.48:3-60), or any other charge designed to recover the costs for societal, energy efficiency, conservation, environmental or renewable energy programs, are not applicable to natural gas delivery service or commodity that is used to generate electricity that is sold for resale. Natural gas used to generate electricity that is sold for resale by customers served under the above Service Classifications is exempt from costs associated with the Energy Efficiency ("*EE")* Rider and shall not be billed for such charges. In order to qualify for this exemption, a customer who uses natural gas to generate electricity for resale must complete an Annual Certification form, provided by the Company, to certify the percentage of natural gas used at the customer's New Jersey generation facilities during the previous calendar year to generate electricity that was sold for resale. For a new customer or a customer with less than twelve months of usage history, estimates supported by engineering and operational plans may be used to determine the percentage of natural gas used to generate electricity sold for resale.

The EE rate is for recovering authorized expenditures related to the energy-efficiency programs as approved in BPU Docket Nos. GO09010057, GO10030225, GR11070425, GO12070640 and GO14121412, and GO18030355.

## DETERMINATION OF THE EE

The Company shall file an annual request with the Board for implementation of an EE charge, which shall be applicable to customers on all service classifications to which Rider "F" applies. The EE recovery year is intended to run from October 1st to September 30th of each year.

*NEW JERSEY NATURAL GAS COMPANY*

*BPU No. 11 - Gas* *Original Sheet No. 173*

# *RIDER "F"*

## *ENERGY EFFICIENCY – EE (continued)*

### I. Determination of the Rate

The EE rate shall be derived in the following manner:

1. An estimate shall be made of the total annual cost related to the programs. This rider will include only expenses for energy-efficiency programs approved by the Board in BPU Docket Nos. GO09010057, GO10030225, GR11070425, GO12070640, GO14121412, and GO18030355 unless modified further by Board Order.

2. An estimate shall be made of the total annual volume of prospective jurisdictional sales of gas (in therms) to NJNG's sales and transportation customers.

3. The prospective costs (per paragraph (1)) shall be adjusted upward or downward to the extent of the amount of any prior under-recovery or over-recovery to determine the total costs to be recovered and then shall be divided by the estimated total volume of prospective sales (per paragraph (2)), to determine the per unit cost recovery rate. The result shall be carried for four (4) decimal places.

### II. Tracking the Operation of the EE

The Company shall calculate carrying costs on the average monthly balances of under-or over-recovery of deferred costs based upon the Company's monthly commercial paper rate. The carrying cost calculation shall be based on the net of tax beginning and end average monthly balance. The carrying costs shall accrue on a monthly basis and shall be rolled into the balance at the end of each EE recovery year.

In accordance with P.L., 1997 c. 162, the charges applicable under this Rider include provision for the New Jersey Sales and Use Tax ("SUT"), and when billed to customers exempt from this tax, as set forth in Rider "B", shall be reduced by the amount of such tax included therein.

The EE factor shall be credited/collected on a per therm basis within the Delivery Charge for all service classifications to which Rider "F" applies. The EE factor is as set forth below:

$0.0171

*NEW JERSEY NATURAL GAS COMPANY*

*BPU No. 11 - Gas* *Original Sheet Nos. 174-175*

## *RIDER "G"*

RESERVED FOR FUTURE USE

# *RIDER "H"*

# *UNIVERSAL SERVICE FUND – USF*

## AVAILABILITY

Applicable to the following service classifications:

| | | | |
|---|---|---|---|
| RS | Residential Service | ED | Economic Development |
| DGR | Distributed Generation Residential | EGS | Electric Generation Service |
| GSS | General Service - Small | NGV | Natural Gas Vehicle |
| GSL | General Service - Large | IS | Interruptible Service |
| FT | Firm Transportation | IGS | Incremental Gas Service |
| DGC | Distributed Generation Commercial | CNG | Compressed Natural Gas |

In accordance with P.L. 2011, c. 9, societal benefits charges pursuant to section 12 of P.L. 1999, c.23 (C.48:3-60), or any other charge designed to recover the costs for societal, energy efficiency, conservation, environmental or renewable energy programs, are not applicable to natural gas delivery service or commodity that is used to generate electricity that is sold for resale. Natural gas used to generate electricity that is sold for resale by customers served under the above Service Classifications is exempt from costs associated with the Universal Service Fund ("USF") and shall not be billed for such charges. In order to qualify for this exemption, a customer who uses natural gas to generate electricity for resale must complete an Annual Certification form, provided by the Company, to certify the percentage of natural gas used at the customer's New Jersey generation facilities during the previous calendar year to generate electricity that was sold for resale. For a new customer or a customer with less than twelve months of usage history, estimates supported by engineering and operational plans may be used to determine the percentage of natural gas used to generate electricity sold for resale.

The USF is a fund established by the New Jersey Board Public Utilities ("NJBPU") to provide affordable access for electric and natural gas service to all residential customers in the State. The Electric Discount and Energy Competition Act mandated the establishment of the USF in New Jersey.

Revenues collected through this rider are used to fund the State's USF program for qualified low-income customers and the Lifeline Credit program, a special program for qualified low-income elderly and disable citizens. The USF is administered by the State of New Jersey Department of Community Affairs and the Lifeline Credit Program is administered by the State of New Jersey Department of Human Resources. The USF program Year is intended to run from October 1st to September 30th of each year.

# RIDER "H"

## UNIVERSAL SERVICE FUND – USF (continued)

### DETERMINATION OF THE USF

On an annual basis, the NJBPU shall consider the following: estimated USF benefits for upcoming USF program Year; Lifeline budget for upcoming USF program year; estimated administrative expenses; the projected current year under/over recovery position, and annual forecasted volumes in order to establish a USF rate for the upcoming USF program year. This state wide rate shall be adjusted for all applicable taxes and assessments and shall be provided to all utilities to be included in their annual SBC filings for notice and public hearing purposes.

The Company shall calculate carrying costs on any under-or over-recovered USF balances based upon the two-year constant maturity Treasury rate, as published in the Federal Reserve Statistical Release on the first day of each month, or the closest day thereafter on which rates are published, plus sixty (60) basis points; provided, however, that this interest rate does not exceed the overall rate of return as authorized by the Board. The interest rate shall be reset each month. The carrying cost calculation shall be based on the net of tax beginning and end average monthly balance. The carrying costs shall accrue on a monthly basis and shall be rolled into the USF balance at the end of each USF year.

The USF shall be collected on a per therm basis and shall remain in effect until changed by order of the NJBPU:

| | |
|---|---|
| Lifeline | $0.0057 |
| USF | $0.0059 |
| USF Billing Factor | $0.0116 |

In accordance with P.L. 1997, c. 162, as amended by P.L. 2006, c. 44, P.L. 2009, c. 240, and P.L. 2016, c. 57, the charges applicable under this Rider include provision for the New Jersey Sales and Use Tax ("SUT"), and when billed to customer exempt from this tax, as set forth in Rider "B", shall be reduced by the amount of such tax included therein.

# RIDER "I"

# CONSERVATION INCENTIVE PROGRAM – CIP

Applicable to the following service classifications:

| | |
|---|---|
| RS | Residential Service |
| GSS | General Service - Small |
| GSL | General Service - Large |
| ED | Economic Development |

## I. DEFINITION OF TERMS AS USED HEREIN

1. **Actual Number of Customers** – The Actual Number of Customers ("ANC") shall be determined on a monthly basis for each of the Customer Class Groups to which the Conservation Incentive Program ("CIP") applies. The ANC shall equal the aggregate actual booked number of customers for the month as recorded on the Company's books, plus any Incremental Large Customer Count Adjustment.

2. **Actual Usage per Customer** – the Actual Usage per Customer ("AUC") shall be determined in therms on a monthly basis for each of the Customer Class Groups to which the CIP applies. The AUC shall equal the aggregate actual booked sales for the month as recorded on the Company's books divided by the Actual Number of Customers for the corresponding month.

3. **Adjustment Period** - shall be the year beginning immediately following the conclusion of the Annual Period.

4. **Annual Period** – shall be the twelve consecutive months from October 1 of one calendar year through September 30 of the following calendar year.

5. **Average 13 Month Common Equity Balance** - shall be the common equity balance at the beginning of the Annual Period (i.e., October 1) and the month ending balances for each of the twelve months in the Annual Period divided by thirteen (13).

6. **Baseline Usage per Customer** – the Baseline Usage per Customer ("BUC") shall be stated in therms on a monthly basis for each of the Customer Class Groups to which the CIP applies. The BUC shall be rounded to the nearest one tenth of one therm.

# RIDER "I"

## CONSERVATION INCENTIVE PROGRAM – CIP (continued)

7. ***Customer Class Group*** – For purposes of determining and applying the CIP, customers shall be aggregated into four separate recovery class groups. The Customer Class Groups shall be as follows:

   Group I: RS (non-heating customers only)
   Group II: RS (heating customers only)
   Group III: GSS, ED using less than 5,000 therms annually
   Group IV: GSL, ED using 5,000 therms or greater annually

8. ***Forecast Annual Usage*** – the Forecast Annual Usage ("FAU") shall be the projected total annual throughput for all customers within the applicable Customer Class Group. The FAU shall be estimated based on normal weather.

9. ***Incremental Large Customer Count Adjustment*** – the Company shall maintain a list of incremental commercial and industrial customers added to its system on or after September 1, 2021 whose connected load is greater than that typical for the Company's average commercial and industrial customer. For purposes of the CIP, large incremental customers shall be those customers whose connected load exceeds 5,400 cubic feet per hour ("CFH"). A new customer at an existing location previously connected to NJNG's facilities shall not be considered an incremental customer. The Actual Number of Customers for the Customer Class Group shall be adjusted to reflect the impact of all such incremental commercial or industrial customers. Specifically, the Incremental Large Customer Count Adjustment for the applicable month shall equal the aggregate connected load for all active customers that exceed the 5,400 CFH threshold divided by 2,700 CFH less the number of active customers, rounded to the nearest whole number.

10. ***Margin Revenue Factor*** – the Margin Revenue Factor ("MRF") shall be the weighted-average margin rate as quoted in the individual service classes to which the CIP applies. The MRFs by Customer Class Group are as follows:

| | |
|---|---|
| Group I (RS non-heating): | $0.7139 |
| Group II (RS heating): | $0.7139 |
| Group III (GSS, ED using less than 5,000 therms annually) | $0.6641 |
| Group IV (GSL, ED using 5,000 therms or greater annually) | $0.3213 |

The MRF shall be reset each time new base rates are placed into effect.

# RIDER "I"

## CONSERVATION INCENTIVE PROGRAM – CIP (continued)

### II. BASELINE USAGE PER CUSTOMER

The BUC for each Customer Class Group by month are as follows:

| Month | Group I: RS Non-Heating | Group II: RS Heating | Group III: GSS, ED using less than 5,000 therms annually | Group IV: GSL, ED using 5,000 therms or greater annually |
|---|---|---|---|---|
| Oct. | 17.5 | 43.4 | 47.5 | 879.9 |
| Nov. | 13.9 | 100.4 | 124.2 | 1,738.1 |
| Dec. | 17.4 | 160.8 | 208.6 | 2,593.4 |
| Jan. | 20.4 | 191.2 | 270.3 | 3,041.6 |
| Feb. | 16.5 | 162.9 | 221.9 | 2,574.1 |
| Mar. | 13.0 | 131.5 | 173.0 | 2,057.0 |
| Apr. | 8.5 | 65.7 | 72.4 | 1,065.0 |
| May | 9.9 | 31.7 | 34.3 | 673.6 |
| Jun. | 17.2 | 21.8 | 21.7 | 530.0 |
| Jul. | 15.5 | 21.2 | 22.7 | 548.5 |
| Aug. | 13.1 | 20.3 | 22.8 | 548.3 |
| Sep. | 17.9 | 23.0 | 20.1 | 490.5 |
| Total Annual | 180.8 | 973.9 | 1,239.5 | 16,740.0 |

The BUC shall be reset each time new base rates are placed into effect.

### III. DETERMINATION OF THE CONSERVATION INCENTIVE PROGRAM RATE

1. At the end of the Annual Period, a calculation shall be made that determines for each Customer Class Group the deficiency or excess to be surcharged or credited to customers pursuant to the CIP mechanism. The deficiency or excess shall be calculated each month by multiplying the result obtained from subtracting the Baseline Usage per Customer from the Actual Usage per Customer by the Actual Number of Customers and then multiplying the resulting therms by the Margin Revenue Factor.

# RIDER "I"

## CONSERVATION INCENTIVE PROGRAM – CIP (continued)

2. The normal degree days and degree day consumption factors per customer to be used for the calculation of the weather related change in customer usage, are set forth below:

| | | Consumption Factors per customer (therms per customer per degree day) | | |
|---|---|---|---|---|
| Month | Degree Days | Group II- Residential Heating | Group III- GSS | Group IV- GSL |
| October | 238 | 0.1260 | 0.1858 | 1.7779 |
| November | 524 | 0.1677 | 0.2298 | 2.3094 |
| December | 813 | 0.1919 | 0.2726 | 2.6513 |
| January | 968 | 0.2020 | 0.2872 | 2.7882 |
| February | 814 | 0.1998 | 0.2810 | 2.7160 |
| March | 674 | 0.1934 | 0.2631 | 2.4674 |
| April | 346 | 0.1776 | 0.1927 | 1.8978 |
| May | 122 | 0.1458 | 0.1721 | 1.6534 |

These consumption factors per customer shall be multiplied by the actual number of customers to determine the consumption factors. The weather related change in customer usage shall be calculated as the difference between actual degree days and the above normal degree days multiplied by the consumption factors, and multiplying the result by the margin revenue factors as defined in Section I.10. of this Rider.

3. Recovery of margin deficiency associated with non-weather related changes in customer usage will be subject to a BGSS savings test and a Margin Revenue recovery limitation ("recovery tests"). Recovery of non-weather related margin deficiency will be limited to the smaller of (1) the level of BGSS savings achieved when such savings are less than 75 percent of the non-weather related margin deficiency, i.e. BGSS savings test, and (2) 6.5 percent of variable margins for the CIP Annual Period, i.e., Margin Revenue recovery limitation. Any amount that exceeds the above limitations may be deferred for future recovery and is subject to either or both of the recovery tests in a future year consistent with the amount by which either or both of the non-weather related margin deficiency exceeded the recovery tests. For the purposes of this calculation, the value of the weather related portion shall be calculated as set forth in Section III.2. of this Rider I.

# RIDER "I"

## CONSERVATION INCENTIVE PROGRAM – CIP (continued)

4. In addition, the CIP shall not operate to permit the Company to recover any portion of a deficiency that will cause the Company to earn in excess of a 10.5% return on common equity for the Annual Period; any portion which is not recovered shall not be deferred. For purposes of this section, the Company's rate of return on common equity shall be calculated by dividing the Company's regulated jurisdictional net income for the Annual Period by the Company's average 13-month common equity balance for such Annual Period, all as reflected in the Company's monthly reports to the Board of Public Utilities. The Company's regulated jurisdictional net income shall be calculated by subtracting from total net income (1) other income, net of associated taxes, (2) margins retained from Off-System Sales and Capacity release, net of associated taxes, (3) margins retained from the Storage Incentive Program, net of associated taxes, and (4) margins retained from the energy efficiency programs of Rider "F", net of associated taxes. The Company's average thirteen-month common equity balance for any Annual Period shall be the Company's average total common equity less the Company's average common equity investment in unregulated subsidiaries.
5. The amount to be surcharged or credited shall equal the eligible aggregate deficiency or excess for all months during the Annual Period determined in accordance with the provisions herein, divided by the Forecast Annual Usage for the Customer Class Group.

## IV. TRACKING THE OPERATION OF THE CONSERVATION INCENTIVE PROGRAM

The revenues billed, or credits applied, net of taxes and assessments, through the application of the Conservation Incentive Program Rate shall be accumulated for each month of the Adjustment Period and applied against the CIP excess or deficiency from the Annual Period and any cumulative balances remaining from prior periods.

In accordance with P.L. 1997, c. 192, as amended by P.L. 2006, c. 44, P.L. 2009, c. 240, and P.L. 2016, c. 57, the charges applicable under this Rider include provision for the New Jersey Sales and Use Tax ("SUT") and when billed to customers exempt from this tax, as set forth in Rider "B", shall be reduced by the amount of such tax included therein.

# RIDER "I"

## CONSERVATION INCENTIVE PROGRAM – CIP (continued)

The annual filing for the adjustment to the CIP rate shall be concurrent with the annual filing for BGSS. The CIP factor shall be credited/collected on a basis within the Delivery Charge for all service classifications stated above.

The currently effective CIP factor by Customer Class Group are as follows:

| | |
|---|---|
| Group I (RS non-heating): | ($0.0334) |
| Group II (RS heating): | $0.0304 |
| Group III (GSS, ED using less than 5,000 therms annually): | $0.0400 |
| Group IV (GSL, ED using 5,000 therms or greater annually): | $0.0303 |

For the recovery of the October 2019 through September 2020 CIP margin deficiency, the recovery of the margin deficiency associated with non-weather related change in customer usage included in the above factors are offset by the BGSS savings component, as set forth in Rider A. The BGSS savings component is embedded within the Periodic BGSS Charge and the Monthly BGSS Charge.

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# SUMMARY OF RATE COMPONENTS

*NEW JERSEY NATURAL GAS COMPANY*

*BPU No. 11 - Gas* *Original Sheet No. 252*

## *SUMMARY OF RESIDENTIAL RATE COMPONENTS*

### Residential Heating Customers

| | | Bundled Sales | Transport | Reference |
|---|---|---|---|---|
| ***Customer Charge*** | | | | |
| Customer Charge per meter per month | | 12.10 | 12.10 | |
| IIP Customer Charge per meter per month | | 0.00 | 0.00 | Rider D |
| **Total Customer Charge** | | **12.10** | **12.10** | |
| ***Delivery Charge ("DEL") per therm*** | | | | |
| Pre-tax Base Rate | | 0.7139 | 0.7139 | |
| Pre-tax IIP Base Rate | | 0.0000 | 0.0000 | Rider D |
| Total Pre-tax Base Rate (Margin Revenue Factor) | | 0.7139 | 0.7139 | |
| SUT | | 0.0473 | 0.0473 | Rider B |
| After-tax Base Rate | | 0.7612 | 0.7612 | |
| CIP | | 0.0304 | 0.0304 | Rider I |
| EE | | 0.0171 | 0.0171 | Rider F |
| *Subtotal* | a | *0.8087* | *0.8087* | |
| *Balancing Charge* | b | *0.1026* | *0.1026* | Rider A |
| *Societal Benefits Charge ("SBC"):* | | | | |
| NJ's Clean Energy | | 0.0213 | 0.0213 | Rider E |
| RA | | 0.0145 | 0.0145 | Rider C |
| USF | | 0.0116 | 0.0116 | Rider H |
| *Total SBC* | c | *0.0474* | *0.0474* | |
| **Delivery Charge (DEL)** | a+b+c=d | **0.9587** | **0.9587** | |
| ***Basic Gas Supply Charge ("BGS")*** | | | | |
| **BGS** | e | **0.3320** | **x** | Rider A |

With the exception of the Customer Charge, these rates are on a per-therm basis.

Total Customer Charge, DEL rate and BGS rate are presented on customer bills.

## *SUMMARY OF RESIDENTIAL RATE COMPONENTS*

## Residential Non-Heating Customers

| | | Bundled Sales | Transport | Reference |
|---|---|---|---|---|
| ***Customer Charge*** | | | | |
| Customer Charge per meter per month | | 12.10 | 12.10 | |
| IIP Customer Charge per meter per month | | 0.00 | 0.00 | Rider D |
| **Total Customer Charge** | | **12.10** | **12.10** | |
| ***Delivery Charge ("DEL") per therm*** | | | | |
| Pre-tax Base Rate | | 0.7139 | 0.7139 | |
| Pre-tax IIP Base Rate | | 0.0000 | 0.0000 | Rider D |
| Total Pre-tax Base Rate (Margin Revenue Factor) | | 0.7139 | 0.7139 | |
| SUT | | 0.0473 | 0.0473 | Rider B |
| After-tax Base Rate | | 0.7612 | 0.7612 | |
| CIP | | (0.0334) | (0.0334) | Rider I |
| EE | | 0.0171 | 0.0171 | Rider F |
| *Subtotal* | a | *0.7449* | *0.7449* | |
| *Balancing Charge* | b | *0.1026* | *0.1026* | Rider A |
| *Societal Benefits Charge ("SBC"):* | | | | |
| NJ's Clean Energy | | 0.0213 | 0.0213 | Rider E |
| RA | | 0.0145 | 0.0145 | Rider C |
| USF | | 0.0116 | 0.0116 | Rider H |
| *Total SBC* | c | *0.0474* | *0.0474* | |
| **Delivery Charge (DEL)** | a+b+c=d | **0.8949** | **0.8949** | |
| ***Basic Gas Supply Charge ("BGS")*** | | | | |
| **BGS** | e | **0.3320** | **x** | Rider A |

With the exception of the Customer Charge, these rates are on a per-therm basis.

Total Customer Charge, DEL rate and BGS rate are presented on customer bills.

*NEW JERSEY NATURAL GAS COMPANY*

*BPU No. 11 - Gas* *Original Sheet No. 254*

## *SUMMARY OF RESIDENTIAL RATE COMPONENTS*

## Residential Distributed Generation Service

| | | Nov - Apr | May - Oct | Reference |
|---|---|---|---|---|
| ***Customer Charge*** | | | | |
| Customer Charge per meter per month | | 12.10 | 12.10 | |
| IIP Customer Charge per meter per month | | 0.00 | 0.00 | Rider D |
| **Total Customer Charge** | | **12.10** | **12.10** | |
| ***Delivery Charge ("DEL") per therm*** | | | | |
| Pre-tax Base Rate | | 0.1685 | 0.1185 | |
| Pre-tax IIP Base Rate | | 0.0000 | 0.0000 | Rider D |
| Total Pre-tax Base Rate | | 0.1685 | 0.1185 | |
| SUT | | 0.0112 | 0.0079 | Rider B |
| After-tax Base Rate | | 0.1797 | 0.1264 | |
| EE | | 0.0171 | 0.0171 | Rider F |
| *Subtotal* | a | *0.1968* | *0.1435* | |
| *Balancing Charge* | b | *0.1026* | *0.1026* | Rider A |
| *Societal Benefits Charge ("SBC"):* | | | | |
| NJ's Clean Energy | | 0.0213 | 0.0213 | Rider E |
| RA | | 0.0145 | 0.0145 | Rider C |
| USF | | 0.0116 | 0.0116 | Rider H |
| *Total SBC* | c | 0.0474 | 0.0474 | |
| **Delivery Charge (DEL)** | a+b+c=d | **0.3468** | **0.2935** | |
| ***Basic Gas Supply Charge ("BGS")*** | | | | |
| **BGS** | e | **0.3320** | **0.3320** | Rider A |

With the exception of the Customer Charge, these rates are on a per-therm basis.

Total Customer Charge, DEL rate and BGS rate are presented on customer bills.

## *SUMMARY OF FIRM COMMERCIAL RATE COMPONENTS*

## General Service - Small (GSS)

| | | Bundled Sales | Transport | Reference |
|---|---|---|---|---|
| ***Customer Charge*** | | | | |
| Customer Charge per meter per month | | 44.25 | 44.25 | |
| IIP Customer Charge per meter per month | | 0.00 | 0.00 | Rider D |
| **Total Customer Charge** | | **44.25** | **44.25** | |
| ***Delivery Charge ("DEL") per therm*** | | | | |
| Pre-tax Base Rate | | 0.6641 | 0.6641 | |
| Pre-tax IIP Base Rate | | 0.0000 | 0.0000 | Rider D |
| Total Pre-tax Base Rate (Margin Revenue Factor) | | 0.6641 | 0.6641 | |
| SUT | | 0.0440 | 0.0440 | Rider B |
| After-tax Base Rate | | 0.7081 | 0.7081 | |
| CIP | | 0.0400 | 0.0400 | Rider I |
| EE | | 0.0171 | 0.0171 | Rider F |
| *Subtotal* | a | *0.7652* | *0.7652* | |
| *Balancing Charge* | b | *0.1026* | *0.1026* | Rider A |
| *Societal Benefits Charge ("SBC"):* | | | | |
| NJ's Clean Energy | | 0.0213 | 0.0213 | Rider E |
| RA | | 0.0145 | 0.0145 | Rider C |
| USF | | 0.0116 | 0.0116 | Rider H |
| *Total SBC* | c | *0.0474* | *0.0474* | |
| **Delivery Charge (DEL)** | a+b+c=d | **0.9152** | **0.9152** | |
| ***Basic Gas Supply Charge ("BGS")*** | | | | |
| **BGS** | e | **0.3320** | **x** | Rider A |

With the exception of the Customer Charge, these rates are on a per-therm basis.

Total Customer Charge, DEL rate and BGS rate are presented on customer bills.

*NEW JERSEY NATURAL GAS COMPANY*

*BPU No. 11 - Gas* *Original Sheet No. 256*

## *SUMMARY OF FIRM COMMERCIAL RATE COMPONENTS*

## General Service - Large (GSL)

| | | Bundled Sales | Transport | Reference |
|---|---|---|---|---|
| ***Customer Charge*** | | | | |
| Customer Charge per meter per month | | 104.49 | 104.49 | |
| IIP Customer Charge per meter per month | | 0.00 | 0.00 | Rider D |
| **Total Customer Charge** | | **104.49** | **104.49** | |
| ***Demand Charge*** | | | | |
| Demand Charge per month applied to HMAD | | 3.41 | 3.41 | |
| IIP Demand Charge per month applied to HMAD | | 0.00 | 0.00 | Rider D |
| **Total Demand Charge** | | **3.41** | **3.41** | |
| ***Delivery Charge ("DEL") per therm*** | | | | |
| Pre-tax Base Rate | | 0.3213 | 0.3213 | |
| Pre-tax IIP Base Rate | | 0.0000 | 0.0000 | Rider D |
| Total Pre-tax Base Rate (Margin Revenue Factor) | | 0.3213 | 0.3213 | |
| SUT | | 0.0213 | 0.0213 | Rider B |
| After-tax Base Rate | | 0.3426 | 0.3426 | |
| CIP | | 0.0303 | 0.0303 | Rider I |
| EE | | 0.0171 | 0.0171 | Rider F |
| *Subtotal* | a | *0.3900* | *0.3900* | |
| *Balancing Charge* | b | *0.1026* | *0.1026* | Rider A |
| *Societal Benefits Charge ("SBC"):* | | | | |
| NJ's Clean Energy | | 0.0213 | 0.0213 | Rider E |
| RA | | 0.0145 | 0.0145 | Rider C |
| USF | | 0.0116 | 0.0116 | Rider H |
| *Total SBC* | c | *0.0474* | *0.0474* | |
| **Delivery Charge (DEL)** | a+b+c=d | **0.5400** | **0.5400** | |
| ***Basic Gas Supply Charge ("BGS")*** | | | | |
| **BGS** | e | **0.4286** | **X** | Rider A |

With the exception of the Customer Charge and Demand charges, these rates are on a per-therm basis.

Total Customer, Total Demand, DEL, and BGS charges are presented on customer bills.

*NEW JERSEY NATURAL GAS COMPANY*

*BPU No. 11 - Gas* *Original Sheet No. 257*

## *SUMMARY OF FIRM COMMERCIAL RATE COMPONENTS*

### FIRM TRANSPORTATION (FT)

| | | Transport | Reference |
|---|---|---|---|
| ***Customer Charge*** | | | |
| Customer Charge per meter per month | | 389.18 | |
| IIP Customer Charge per meter per month | | 0.00 | Rider D |
| **Total Customer Charge** | | **389.18** | |
| ***Demand Charge*** | | | |
| Demand Charge per therm per month applied to MDQ | | 2.83 | |
| IIP Demand Charge per month applied to the MDQ | | 0.00 | Rider D |
| **Total Demand Charge** | | **2.83** | |
| ***Delivery Charge ("DEL") per therm*** | | | |
| Pre-tax Base Rate | | 0.1118 | |
| Pre-tax IIP Base Rate | | 0.0000 | Rider D |
| Total Pre-tax Base Rate | | 0.1118 | |
| SUT | | 0.0074 | Rider B |
| After-tax Base Rate | | 0.1192 | |
| EE | | 0.0171 | Rider F |
| *Subtotal* | a | *0.1363* | |
| *Societal Benefits Charge ("SBC"):* | | | |
| NJ's Clean Energy | | 0.0213 | Rider E |
| RA | | 0.0145 | Rider C |
| USF | | 0.0116 | Rider H |
| *Total SBC* | b | *0.0474* | |
| **Delivery Charge (DEL)** | a+b=c | **0.1837** | |

With the exception of the Customer Charge and Demand charges, these rates are on a per-therm basis.

Total Customer, Total Demand, and DEL, charges are presented on customer bills.

*NEW JERSEY NATURAL GAS COMPANY*

*BPU No. 11 - Gas* *Original Sheet No. 258*

## *SUMMARY OF FIRM COMMERCIAL RATE COMPONENTS*

## Commercial Distributed Generation Service – DGC-Balancing

| | | Nov - Apr | May - Oct | Reference |
|---|---|---|---|---|
| ***Customer Charge*** | | | | |
| Customer Charge per meter per month | | 104.49 | 104.49 | |
| IIP Customer Charge per meter per month | | 0.00 | 0.00 | Rider D |
| **Total Customer Charge** | | **104.49** | **104.49** | |
| ***Demand Charge*** | | | | |
| Demand Charge per therm per month applied to PBQ | | 2.45 | 2.45 | |
| IIP Demand Charge per therm per month applied to PBQ | | 0.00 | 0.00 | Rider D |
| **Total Demand Charge** | | **2.45** | **2.45** | |
| ***Delivery Charge ("DEL") per therm*** | | | | |
| Pre-tax Base Rate | | 0.0643 | 0.0337 | |
| Pre-tax IIP Base Rate | | 0.0000 | 0.0000 | Rider D |
| Total Pre-tax Base Rate | | 0.0643 | 0.0337 | |
| SUT | | 0.0043 | 0.0022 | Rider B |
| After-tax Base Rate | | 0.0686 | 0.0359 | |
| EE | | 0.0171 | 0.0171 | Rider F |
| *Subtotal* | a | 0.0857 | 0.0530 | |
| *Societal Benefits Charge ("SBC"):* | | | | |
| NJ's Clean Energy | | 0.0213 | 0.0213 | Rider E |
| RA | | 0.0145 | 0.0145 | Rider C |
| USF | | 0.0116 | 0.0116 | Rider H |
| *Total SBC* | b | *0.0474* | *0.0474* | |
| Balancing Charge | c | *0.1026* | *0.1026* | |
| **DGC-Balancing Delivery Charge (DEL)** | a+b+c=d | **0.2357** | **0.2030** | |
| ***Basic Gas Supply Charge ("BGS")*** | | | | |
| **BGS** | e | **0.4286** | **0.4286** | Rider A |

The Delivery Charges for DGC-Balancing above include the Balancing Charge as reflected in Rider "A" of this Tariff for customers whose Third Party Supplier delivers gas on their behalf pursuant to paragraph (3) under Deliveries to Company's Designated Delivery Meters section of Service Classification TPS.

With the exception of the Customer Charge and Demand Charge, these rates are on a per-therm basis.

Total Customer Charge, Total Demand Charge, DEL, and BGS charges are presented on customer bills.

*NEW JERSEY NATURAL GAS COMPANY*

*BPU No. 11 - Gas* *Original Sheet No. 259*

## *SUMMARY OF FIRM COMMERCIAL RATE COMPONENTS*

## Commercial Distributed Generation Service – DGC-FT

| | | Nov - Apr | May - Oct | Reference |
|---|---|---|---|---|
| ***Customer Charge*** | | | | |
| Customer Charge per meter per month | | 104.49 | 104.49 | |
| IIP Customer Charge per meter per month | | 0.00 | 0.00 | Rider D |
| **Total Customer Charge** | | **104.49** | **104.49** | |
| ***Demand Charge*** | | | | |
| Demand Charge per therm per month applied to PBQ | | 2.45 | 2.45 | |
| IIP Demand Charge per therm per month applied to PBQ | | 0.00 | 0.00 | Rider D |
| **Total Demand Charge** | | **2.45** | **2.45** | |
| ***Delivery Charge ("DEL") per therm*** | | | | |
| Pre-tax Base Rate | | 0.0643 | 0.0337 | |
| IIP Pre-tax Base Rate | | 0.0000 | 0.0000 | Rider D |
| Total Pre-tax Base Rate | | 0.0643 | 0.0337 | |
| SUT | | 0.0043 | 0.0022 | Rider B |
| After-tax Base Rate | | 0.0686 | 0.0359 | |
| EE | | 0.0171 | 0.0171 | Rider F |
| *Subtotal* | a | *0.0857* | *0.0530* | |
| *Societal Benefits Charge ("SBC"):* | | | | |
| NJ's Clean Energy | | 0.0213 | 0.0213 | Rider E |
| RA | | 0.0145 | 0.0145 | Rider C |
| USF | | 0.0116 | 0.0116 | Rider H |
| *Total SBC* | b | *0.0474* | *0.0474* | |
| **DGC-FT Delivery Charge (DEL)** | a+b=c | **0.1331** | **0.1004** | |

For DGC-FT customers whose Third Party Supplier delivers gas on their behalf pursuant to paragraph (1) under Deliveries to Company's Designated Delivery Meters section of Service Classification TPS, the DGC-FT Delivery Charges above exclude the Balancing Charge reflected in Rider "A" of this Tariff.

With the exception of the Customer Charge and Demand Charge, these rates are on a per-therm basis.

Total Customer Charge, Total Demand Charge, and DEL rate are presented on customer bills

## *SUMMARY OF FIRM COMMERCIAL RATE COMPONENTS*

### Electric Generation Service (EGS)

| | | Without SUT | With SUT | Reference |
|---|---|---|---|---|
| ***Customer Charge*** | | | | |
| Customer Charge per meter per month | | 877.26 | 935.38 | |
| ***Demand Charge*** | | | | |
| Demand Charge per therm per month applied to MDQ | | 1.5132 | 1.6134 | |
| ***Delivery Charge ("DEL") per therm*** | | | | |
| Pre-tax Base Rate | | 0.0047 | 0.0047 | |
| SUT | | 0.0000 | 0.0003 | Rider B |
| Delivery Charge excluding Riders C, E, F and H | a | 0.0047 | 0.0050 | |
| EE | b | 0.0160 | 0.0171 | Rider F |
| *Societal Benefits Charge ("SBC"):* | | | | |
| NJ's Clean Energy | | 0.0200 | 0.0213 | Rider E |
| RA | | 0.0136 | 0.0145 | Rider C |
| USF | | 0.0108 | 0.0116 | Rider H |
| *Total SBC* | c | *0.0444* | *0.0474* | |
| **Delivery Charge (DEL) including Riders C, E, F and H** | a+b+c=d | **0.0651** | **0.0695** | |

With the exception of the Customer Charge and Demand charges, these rates are on a per-therm basis.

Customer, Demand, and DEL charges are presented on customer bills.

Natural gas used to generate electricity that is sold for resale by customers served under this Service Classification is exempt from Riders B, C, E, F, and H and shall not be billed for such charges subject to the Customer's submission of an Annual Certification form.

***BPU No. 11 - Gas*** ***Original Sheet No. 261***

## *SUMMARY OF INTERRUPTIBLE RATE COMPONENTS*

## INTERRUPTIBLE SALES AND TRANSPORTATION

### With Alternate Fuel

| | | Bundled Sales | Transport | Reference |
|---|---|---|---|---|
| ***Customer Charge*** | | | | |
| Customer Charge per meter per month | | 572.98 | 572.98 | |
| ***Delivery Charge ("DEL") per therm*** | | | | |
| Pre-tax Base Rate | | 0.0494 | 0.0494 | |
| SUT | | 0.0033 | 0.0033 | Rider B |
| After-tax Base Rate | | 0.0527 | 0.0527 | |
| EE | | 0.0171 | 0.0171 | Rider F |
| *Subtotal* | a | *0.0698* | *0.0698* | |
| *Societal Benefits Charge ("SBC"):* | | | | |
| NJ's Clean Energy | | 0.0213 | 0.0213 | Rider E |
| RA | | 0.0145 | 0.0145 | Rider C |
| USF | | 0.0116 | 0.0116 | Rider H |
| *Total SBC* | b | *0.0474* | *0.0474* | |
| **Delivery Charge (DEL)** | a+b=c | **0.1172** | **0.1172** | |
| ***Basic Gas Supply Charge ("BGS")*** | | | | |
| Monthly BGSS | d | 0.5312 | X | Rider A |
| **BGS** | d | **0.5312** | **X** | |

With the exception of the Customer Charge, these rates are on a per-therm basis.

Customer Charge, DEL rate and BGS rate are presented on customer bills.

***BPU No. 11 - Gas*** ***Original Sheet No. 262***

## *SUMMARY OF INTERRUPTIBLE RATE COMPONENTS*

## INTERRUPTIBLE SALES AND TRANSPORTATION

### Without Alternate Fuel

| | | Bundled Sales | Transport | Reference |
|---|---|---|---|---|
| ***Customer Charge*** | | | | |
| Customer Charge per meter per month | | 572.98 | 572.98 | |
| ***Delivery Charge ("DEL") per therm*** | | | | |
| Pre-tax Base Rate | | 0.2753 | 0.2753 | |
| SUT | | 0.0182 | 0.0182 | Rider B |
| After-tax Base Rate | | 0.2935 | 0.2935 | |
| EE | | 0.0171 | 0.0171 | Rider F |
| *Subtotal* | a | *0.3106* | *0.3106* | |
| *Societal Benefits Charge ("SBC"):* | | | | |
| NJ's Clean Energy | | 0.0213 | 0.0213 | Rider E |
| RA | | 0.0145 | 0.0145 | Rider C |
| USF | | 0.0116 | 0.0116 | Rider H |
| *Total SBC* | b | *0.0474* | *0.0474* | |
| **Delivery Charge (DEL)** | a+b=c | **0.3580** | **0.3580** | |
| ***Basic Gas Supply Charge ("BGS")*** | | | | |
| Monthly BGSS | d | 0.5312 | X | Rider A |
| **BGS** | d | **0.5312** | **X** | |

With the exception of the Customer Charge, these rates are on a per-therm basis.

Customer Charge, DEL rate and BGS rate are presented on customer bills.

*NEW JERSEY NATURAL GAS COMPANY*

*BPU No. 11 - Gas* *Original Sheet No. 263*

## *SUMMARY OF FIRM COMMERCIAL RATE COMPONENTS*

## Compressed Natural Gas (CNG)

| | | Bundled Sales | Transport | Reference |
|---|---|---|---|---|
| ***Customer Charge*** | | | | |
| Customer Charge per meter per month | | 104.49 | 104.49 | |
| IIP Customer Charge per meter per month | | 0.00 | 0.00 | Rider D |
| **Total Customer Charge** | | **104.49** | **104.49** | Rider D |
| ***Delivery Charge ("DEL") per therm*** | | | | |
| Pre-tax Base Rate | | 0.2659 | 0.2659 | |
| IIP Pre-tax Base Rate | | 0.0000 | 0.0000 | Rider D |
| CNG Charge | | 0.2000 | 0.2000 | |
| Total Pre-tax Base Rate | | 0.4659 | 0.4659 | Rider D |
| SUT | | 0.0309 | 0.0309 | Rider B |
| After-tax Base Rate | | 0.4968 | 0.4968 | |
| EE | | 0.0171 | 0.0171 | Rider F |
| *Subtotal* | a | *0.5139* | *0.5139* | |
| *Societal Benefits Charge ("SBC"):* | | | | |
| NJ's Clean Energy | | 0.0213 | 0.0213 | Rider E |
| RA | | 0.0145 | 0.0145 | Rider C |
| USF | | 0.0116 | 0.0116 | Rider H |
| *Total SBC* | b | *0.0474* | *0.0474* | |
| **Delivery Charge (DEL)** | a+b=c | **0.5613** | **0.5613** | |
| ***Basic Gas Supply Charge ("BGS")*** | | | | |
| Monthly BGSS | d | 0.5312 | X | Rider A |
| **BGS** | d | **0.5312** | **X** | |

With the exception of the Customer Charge, these rates are on a per-therm basis.

Total Customer, DEL, and BGSS charges are presented on customer bills.

*NEW JERSEY NATURAL GAS COMPANY*

*BPU No. 11 - Gas* *Original Sheet No. 264*

## *SUMMARY OF RESIDENTIAL AND FIRM COMMERCIAL RATE COMPONENTS*

## Natural Gas Vehicles (NGV)

### Gas Available at Company Facilities

| | | | | Reference |
|---|---|---|---|---|
| ***Delivery Charge ("DEL")*** | | $ per therm | $ per GGE | |
| Pre-tax Base Rate | | 0.2659 | | |
| IIP Pre-tax Base Rate | | 0.0000 | | Rider D |
| Total Pre-tax Base Rate | | 0.2659 | | |
| SUT | | 0.0176 | | Rider B |
| After-tax Base Rate | | 0.2835 | | |
| EE | | 0.0171 | | Rider F |
| *Subtotal* | a | *0.3006* | | |
| *Societal Benefits Charge ("SBC"):* | | | | |
| NJ's Clean Energy | | 0.0213 | | Rider E |
| RA | | 0.0145 | | Rider C |
| USF | | 0.0116 | | Rider H |
| *Total SBC* | b | *0.0474* | | |
| **Delivery Charge (DEL)** | a+b=c | **0.3480** | **0.435** | |
| ***Compression Charge*** | d | **0.4958** | **0.620** | |
| ***Monthly Basic Gas Supply Charge ("BGS")*** | e | **0.5312** | **0.664** | Rider A |
| ***Total Variable Charge*** | c+d+e=f | **1.3750** | **1.719** | |
| New Jersey Motor Vehicle Fuel Tax | g | | **0.000** | |
| Federal Excise Fuel Tax * | h | | **0.185** | |
| Federal Excise Fuel Tax Credit * | i | | **(0.517)** | |
| ***Total Price*** | f+g+h+i =j | | **1.387** | |

*Adjusted to reflect Internal Revenue Service GGE Conversion.

*NEW JERSEY NATURAL GAS COMPANY*

*BPU No. 11 - Gas* *Original Sheet No. 265*

## *SUMMARY OF RESIDENTIAL AND FIRM COMMERCIAL RATE COMPONENTS*

## Natural Gas Vehicles (NGV)

### Customer Owned Facilities

| | | | | Reference |
|---|---|---|---|---|
| ***Customer Charge*** | | | | |
| Residential Customer Charge per month | | 12.10 | | |
| Residential IIP Customer charge per month | | 0.00 | | Rider D |
| **Total Residential Customer Charge** | | **12.10** | | |
| Commercial Customer Charge per meter per month | | 104.49 | | |
| Commercial IIP Customer charge per month | | 0.00 | | Rider D |
| **Total Commercial Customer Charge** | | **104.49** | | |
| ***Delivery Charge ("DEL")*** | | $ per therm | $ per GGE | |
| Pre-tax Base Rate | | 0.2659 | | |
| IIP Pre-tax Base Rate | | 0.0000 | | Rider D |
| Total Pre-tax Base Rate | | 0.2659 | | |
| SUT | | 0.0176 | | Rider B |
| After-tax Base Rate | | 0.2835 | | |
| EE | | 0.0171 | | Rider F |
| *Subtotal* | a | 0.3006 | | |
| *Societal Benefits Charge ("SBC"):* | | | | |
| NJ's Clean Energy | | 0.0213 | | Rider E |
| RA | | 0.0145 | | Rider C |
| USF | | 0.0116 | | Rider H |
| *Total SBC* | b | *0.0474* | | |
| **Delivery Charge (DEL)** | a+b=c | **0.3480** | **0.435** | |
| ***Monthly Basic Gas Supply Charge ("BGS")*** | d | **0.5312** | **0.664** | Rider A |
| ***Total Variable Charge*** | c+d=e | **0.8792** | **1.099** | |

Customer, DEL, and BGS charges are presented on customer bills for Firm Sales Gas Service.
Customer and DEL charges are presented on customer bills for Firm Transport Gas Service.

***NJNG TARIFF - BPU NO. 11~~0~~ - GAS***

# *NEW JERSEY NATURAL GAS COMPANY*

## *TARIFF*

## *FOR GAS SERVICE*

## *BPU No. 1110 - Gas*

## *APPLICABLE IN*

***All service areas of the Company***
***located in parts of***
***Middlesex, Monmouth, Ocean, Morris, Sussex and Burlington Counties***

***ISSUED BY: Mark G. Kahrer***
***Senior Vice President***
***Wall, New Jersey***

# *TABLE OF CONTENTS*

**NEW JERSEY NATURAL GAS COMPANY**

~~**First Revised Sheet No. 3**~~
**BPU No. 11~~10~~ - Gas** ~~**Superseding**~~ **Original Sheet No. 3**

# TABLE OF CONTENTS (continued)

# *LIST OF COMMUNITIES SERVED*

## *BURLINGTON COUNTY*

Bass River Township
Washington Township

## *MIDDLESEX COUNTY*

Old Bridge Township (*)
Sayreville (*)

## *MONMOUTH COUNTY*

Aberdeen Township
Allenhurst Borough
Asbury Park, City of
Atlantic Highlands Borough
Avon-By-The-Sea Borough
Belmar Borough
Bradley Beach Borough
Brielle Borough
Colts Neck Township
Deal Borough
Eatontown Borough
Englishtown Borough
Fair Haven Borough
Farmingdale Borough
Freehold Borough
Freehold Township
Hazlet Township
Highlands Borough
Holmdel Township
Howell Township
Interlaken Borough
Keansburg Borough
Keyport Borough
Lake Como Borough
Little Silver Borough
Loch Arbour Village
Long Branch, City of
Manalapan Township
Manasquan Borough
Marlboro Township
Matawan Borough
Middletown Township
Monmouth Beach Borough
Neptune City Borough
Neptune Township
Oceanport Borough
Ocean Township
Red Bank Borough
Rumson Borough
Sea Bright Borough
Sea Girt Borough
Shrewsbury Borough
Shrewsbury Township
Spring Lake Borough
Spring Lake Heights~~Hts.~~ Borough
Tinton Falls Borough
Union Beach Borough
Wall Township
West Long Branch Borough

## *MORRIS COUNTY*

Boonton, Town of
Boonton Township
Denville Township
Dover, Town of
Jefferson Township
Kinnelon Borough
Lincoln Park Borough
Mine Hill Township
Montville Township
Mountain Lakes Borough
Mount Arlington Borough
Mount Olive ~~Twp.~~Township (*)
Netcong Borough
Parsippany-Troy Hills ~~Twp.~~Township (*)
Randolph Township
Rockaway Borough
Rockaway Township
Roxbury Township
Washington Township (*)
Wharton Borough
Victory Gardens Borough

## *OCEAN COUNTY*

Barnegat Light Borough
Barnegat Township
Bay Head Borough
Beach Haven Borough
Beachwood Borough
Berkeley Township
Brick Township
Dover Township
Eagleswood Township
Harvey Cedars Borough
Island Heights Borough
Jackson Township
Lacey Township
Lakehurst Borough
Lakewood Township
Lavallette Borough
Little Egg Harbor ~~Twp.~~Township
Long Beach Township
Manchester ~~Twp.~~Township ~~(*)~~
Mantoloking Borough
Ocean Gate Borough
Ocean Township
Pine Beach Borough
Point Pleasant Borough
Point Pleasant Beach Borough
Seaside Heights Borough
Seaside Park Borough
Ship Bottom Borough
South Toms River Borough
Stafford Township
Surf City Borough
Toms River Township
Tuckerton Borough

## *SUSSEX COUNTY*

Hopatcong Borough
Stanhope Borough

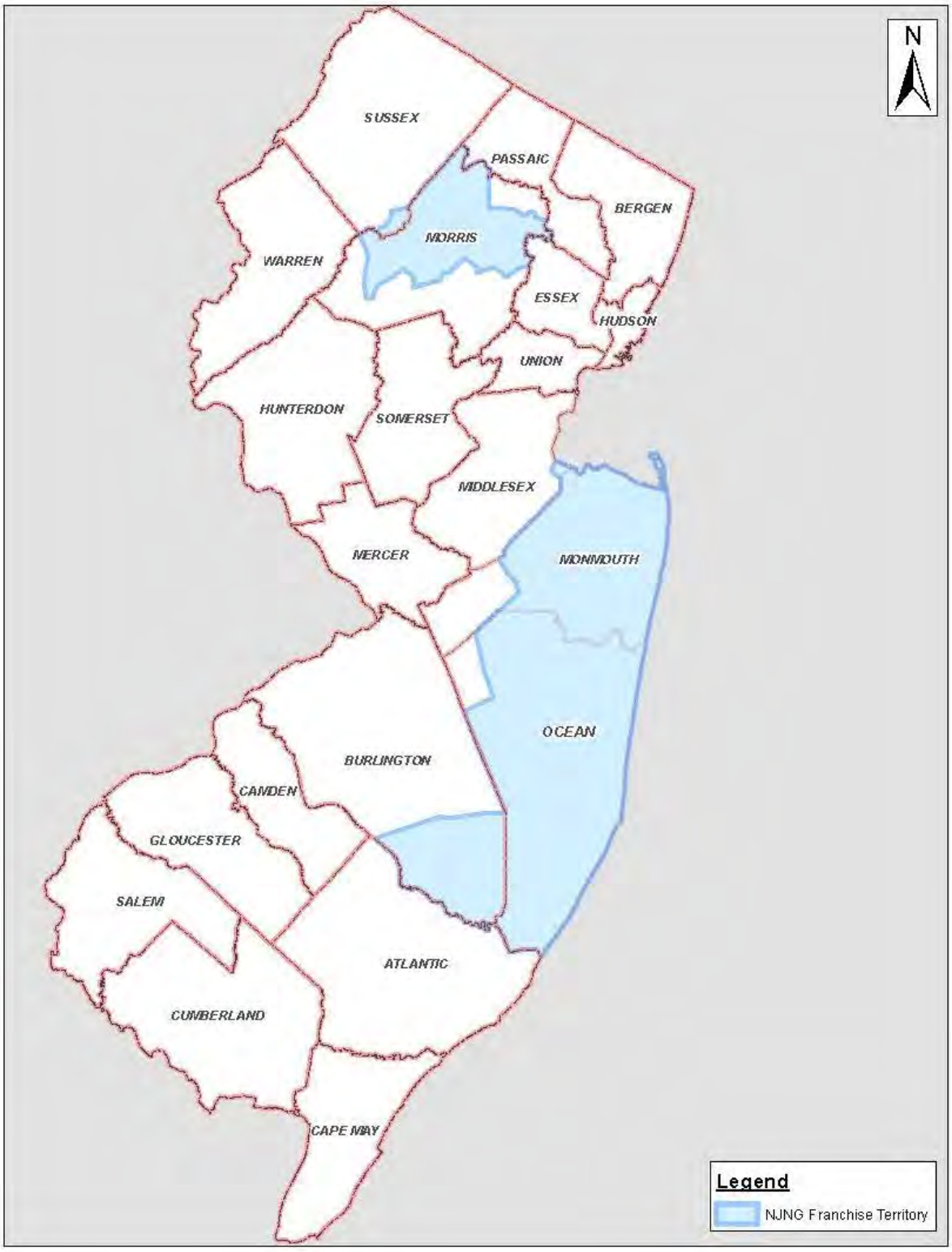
(*) Partial Franchise

# *NEW JERSEY NATURAL GAS COMPANY*

***BPU No. 1110 - Gas*** ***Original Sheet No. 5***

# *NEW JERSEY NATURAL GAS COMPANY*

***BPU No. 1110 - Gas*** ***Original Sheet No. 5***




***Date of Issue:*** ***November 13, 2019***
***Issued by:*** ***Mark G. Kahrer, Senior Vice President***
***29, , 20192021***
***Wall, NJ 07719***

***Effective for service rendered on***
***and after November 15 April***

***Filed pursuant to Order of the Board of Public Utilities entered in***
***Docket No. GR19030420***

# *NEW JERSEY NATURAL GAS COMPANY*

***BPU No. 1110 - Gas*** ***Original Sheet No. 5***

***Date of Issue:*** ***~~November 13, 2019~~***
***Issued by:*** ***Mark G. Kahrer, Senior Vice President***
***29, , 20192021***
***Wall, NJ 07719***

***Effective for service rendered on and after ~~November 15~~ April***

***Filed pursuant to Order of the Board of Public Utilities entered in Docket No. ~~GR19030420~~***

# *STANDARD TERMS AND CONDITIONS - INDEX*

# *STANDARD TERMS AND CONDITIONS – INDEX (continued)*

# *STANDARD TERMS AND CONDITIONS*

## *DEFINITIONS*

A. "*Board*" means the Board of Public Utilities of the state of New Jersey. Customers can contact the Board Division of Customer Assistance by calling 1-609-341-9188 or 1-800-624-0241 and at their Web site, www.nj.gov/bpu/.

B. "*Company*" means New Jersey Natural Gas Company, or any legal successor.

C. "*Customer*" means a person that is an end user, a customer of record, or both, as these terms are defined in this section.

D. *"Customer of record"* means the person that applies for utility service and is identified in the account records of a public utility as the person responsible for payment of the public utility bill. A customer may or may not be an end user, as defined herein.

E. *"End user"* means a person who receives, uses, or consumes gas service. An end user may or may not be a customer of record, as defined in this section.

F. "*Month*" is used for billing purposes to designate a period of 26 to 34 days.

G. "*Year*" is used to designate a period of twelve consecutive "months".

H. "*MCF*" is used to designate one thousand (1,000) cubic feet of gas.

I. "*BTU*" (British Thermal Unit) is used to designate the amount of heat required to raise the temperature of one (1) pound of water @ 60°Fahrenheit, 1° Fahrenheit.

J. "*Therm*" is used to designate a unit of heating value equivalent to 100,000 BTUs.

K. "*FERC*" means the Federal Energy Regulatory Commission.

L. "*Tampering*" means the unauthorized connecting, disconnecting, or causing to be connected or disconnected, or in any other manner interfering with the operation of the Company's meters, pipes, conduits, other equipment or attachments, or as otherwise provided by this Tariff (see Sections 6.6, 6.13, and 6.15).

M. *"Point of Delivery"* shall be that point where the Company delivers metered gas (outlet of Company gas meter) to the Customer's installation unless otherwise specified in the service agreement. The gas supplied by Company becomes the property of the Customer at the Point of Delivery.

# *STANDARD TERMS AND CONDITIONS*

## *DEFINITIONS (continued)*

N. *"Customer Equipment"* shall mean all appliances, piping, vents, connectors, valves, fittings or any other gas utilization or distribution equipment at or on the Customer's side of the Point of Delivery with the exception of Company owned facilities, e.g., Compressed Natural Gas ("CNG") re-fueling facilities. Customer Equipment also includes equipment leased by the Customer from third parties.

O. *"Gas Service"* shall mean the provision of gas service to customers. The gas provided shall be a service and shall not constitute goods for any purpose.

***Main and Service Extension Related Terms***

P. **"***Extension***"** means the construction or installation of plant and/or facilities by the Company to convey service from existing or new plant and/or facilities to one or more new customers, and also means the plant and/or facilities themselves. This term includes all plant and/or facilities for transmission and/or distribution, whether located overhead or underground, on a public street or right of way, or on a private property or private right of way, including the pipe, conduit or other means of conveying service from existing plant and/or facilities to each unit or structure to be served. An extension begins at the existing infrastructure and ends at the meter, inclusive of the meter;

Q. **"***Distribution Revenue***"** means total annual revenue, inclusive of related Sales and Use Tax collected from a Customer, less the Basic Gas Supply Service and Balancing charges, inclusive of related Sales and Use Tax, assessed in accordance with the Tariff.

R. **"***Applicant***"** means a person that has applied to the appropriate regulated entity, as defined at N.J.A.C. 14:3-1 for construction of an extension, as defined at N.J.A.C. 14:3-8.2 and above.

S. **"***Cost***"** means, with respect to the cost of construction of an extension, actual and/or site-specific unitized expenses incurred for materials and labor (including both internal and external labor) employed in the actual design, construction, and/or installation of the extension, including overhead directly attributable to the work, as well as overrides or loading factors such as those for mapping and design. This term does not include expenses for clerical, dispatching, supervision, or general office functions. Costs shall be determined by the Company and shall include all costs inclusive of upgrades to existing infrastructure.

# *STANDARD TERMS & CONDITIONS*

## *1. GENERAL*

### *1.1 INTRODUCTION*

These Standard Terms and Conditions, filed as part of the Tariff of New Jersey Natural Gas Company (referred to as "the Company" or "Company"), set forth the terms and conditions under which service is rendered and will be supplied. They govern all classes of service, to the extent applicable, and are made a part of all agreements for the supply of gas service, unless specifically modified by the terms of a particular service classification, or by special terms written in and made a part of a contract for service.

Failure by the Company to enforce any provisions, terms or conditions set forth in this Tariff shall not be deemed a waiver of such provisions, terms or conditions.

### *1.2 APPLICATION OF TARIFF*

This Tariff applies to all persons, partnerships, corporations or others herein designated as Customers who are lawfully receiving gas service from the Company, under the prescribed service classification whether service is based upon contract, agreement, or accepted signed application. If any terms and conditions contained in this Tariff are in conflict with the New Jersey Administrative Code, the New Jersey Administrative Code shall prevail. The Tariff will not be construed to be in conflict with the New Jersey Administrative Code if the Tariff provides for a more liberal treatment of Customers than that provided for in the New Jersey Administrative Code.

### *1.3 FILING AND POSTING OF TARIFF*

A copy of this Tariff is filed with the Board of Public Utilities (referred to as "the Board" or "Board"), of the state of New Jersey. Copies are posted and open for inspection at the offices of the Company and on the Company's Web site at www.njng.com/regulatory/tariff.asp.

### *1.4 REVISION OF TARIFF*

This Tariff may be revised, amended, supplemented or otherwise changed from time to time in accordance with the rules of procedure determined by the Board.

### *1.5 STATEMENTS BY AGENTS*

No representative of the Company has authority to modify any provision contained in this Tariff or bind the Company by any promise or representation contrary thereto, and the Company shall not be bound thereby.

# *STANDARD TERMS & CONDITIONS*

## *2. OBTAINING SERVICE*

### *2.1 APPLICATION FOR SERVICE*

Application for gas service may be made in person at any customer service office of the Company, by mail, by telephone, by facsimile transmission or electronic mail, where available. The applicant shall state, at the time of making application for service, the conditions under which service will be required, and may be required to sign an agreement covering special circumstances for the supply of gas service. The applicant also may be required to supply proof of identification, in accordance with N.J.A.C. 14:3-3.2(e) and (h), as may be amended or superseded.

### *2.2 ACCOUNT OPENING CHARGE*

The applicant shall be required to pay a $15.00 account opening charge each time service is turned on at a new or existing location. However, the Company may waive the account opening fee if a field visit is not required to establish service.

### *2.3 SERVICE INFORMATION FROM COMPANY*

Upon receipt of application from the prospective Customer, the Company will advise the Customer of the type and character of gas service which will be furnished, the point at which service will be delivered and the location to be provided for the Company's metering and regulating equipment.

All customers shall be given a copy of the "Customer Bill of Rights" approved by the Board, effective at the time of service initiation. The copy shall be presented no later than at the time of the issuance of the customer's first bill or 30 days after the initiation of service, whichever is later.

### *2.4 FORM OF APPLICATION*

Standard applications or agreements to supply gas service shall be in accordance with the particular service classification. The Company, in its sole discretion, reserves the right to require contributions toward the investment required for such service and to establish such minimum charges and facilities charges as may be appropriate.

Additionally, the Company may require a special service agreement and/or charge when: 1) large or special investment is necessary to supply service, 2) special facilities are required to serve a Customer, or 3) the hourly capacity of the Company's facilities, necessary to serve the Customer's demand, may be out of proportion with the monthly or annual use of gas service for occasional, intermittent, or low load factor purposes.

When a Customer signs a main and/or service extension agreement, and subsequently does not install any or all of the indicated equipment within a reasonable time, not to exceed six (6) months, or does not purchase the volumes of gas included in the service agreement, the Company reserves the right to charge the Customer for the full cost of providing the main and/or service.

# *STANDARD TERMS & CONDITIONS*

## *2. OBTAINING SERVICE (continued)*

### *2.5 SELECTION OF SERVICE CLASSIFICATION*

Upon the request of a Customer, the Company will assist in the selection of the available rate most desirable to the Customer. Any advice given by the Company will be based on the Customer's oral or written statements as to the class of service desired and the manner in which it is intended to be used. However, by giving such advice, the Company assumes no responsibility related to the customer selection for class of service.

### *2.6 CHANGE OF SERVICE CLASSIFICATION*

Within three months after service has begun, a Customer may request in writing to change the service classification or provision within a service classification under which they are billed. Subsequent to initial selection of a service classification, a Customer may request in writing a change to the service classification or provision within a service classification under which they are billed if their character or use of gas service has changed. Any change in schedule, if permitted, will be applicable to the next regular billing subsequent to such notification by the Customer.

### *2.7 DEPOSIT AND GUARANTEE*

Before the Company renders service, a deposit or other guarantee satisfactory to the Company may be required as security for the payment of future and final bills from any new or existing Customer who has not established credit with the Company. A deposit also may be required from a Customer whose credit has become impaired. A new Customer, who provides the Company with a letter of reference from another utility or source acceptable to the Company, may have the deposit waived. The deposit shall be in accordance with the provisions set forth in N.J.A.C. 14:3-3.4, as may be amended or superseded.

If a Customer's service has been terminated for non-payment of bills, the Company may not condition restoration of service on payment of the deposit, unless the deposit has been included on prior bills, or notice has been provided to the Customer.

### *2.8 AMOUNT OF GUARANTEE DEPOSIT*

The Company may require a deposit to guarantee payments of bills equivalent to the estimated gross bill for natural gas service for any single billing period plus an additional billing period.

### *2.9 INTEREST ON GUARANTEE DEPOSIT*

The Company will credit simple interest at the applicable interest rate established annually by the Board on customer deposits provided such amount remains on deposit for not less than three (3) consecutive months.

Interest shall be payable annually and/or when the deposit is refunded or applied in accordance with N.J.A.C. 14:3-3.5, as may be amended or superseded.

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# *STANDARD TERMS & CONDITIONS*

## *2. OBTAINING SERVICE (continued)*

# *STANDARD TERMS & CONDITIONS*

## *2. OBTAINING SERVICE (continued)*

### *2.10 RETURN OF GUARANTEE DEPOSIT*

The Company shall review residential Customer accounts at least once every year and non-residential Customer accounts at least once every two years. If the review indicates that a Customer has established good credit, the Company will apply the deposit, plus any interest, to the outstanding balance on the Customer's account and will send a refund check to the Customer for any amount over and above the outstanding balance. Upon termination of service, the Customer will receive the balance of the deposit, plus interest, less any unpaid charges in accordance with N.J.A.C. 14:3-3.5, as may be amended or superseded.

### *2.11 PERMITS*

The Customer shall obtain or cause to be obtained all legally-required permits and/or certificates necessary to give the Company or its representatives access to the Customer's equipment and to enable its mains to be connected with the Customer's equipment. If the Company makes application for any permits and/or certificates, the Customer will be required to pay the application fee/charge, if any. The Company shall not be obliged to furnish service unless and until such permits and/or certificates have been delivered to the Company.

When the Customer is not the owner of the premises or the owner of the property lying between the premises and the Company's mains, the Customer may be required to obtain from the proper owner(s) the necessary consent to install and maintain all necessary equipment to supply gas at the Customer's premises.

### *2.12 TEMPORARY SERVICE*

Temporary service is available, for a limited period, to any Customer who can be served from the Company's existing lines or facilities, when and where the Company is permitted to provide such service. The Customer shall pay the total cost of connecting and disconnecting the gas service, including any piping, metering equipment, or other facilities that may be necessary. The Company may require an advance payment covering the estimated cost of construction or gas supplied, or both.

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# *STANDARD TERMS & CONDITIONS*

## *2. OBTAINING SERVICE (continued)*

### *2.13 SERVICE TO FORMER CUSTOMERS*

Service will not be supplied by the Company to former Customers until such time as any and all amounts or outstanding balances owed to the Company for previous service have been paid or otherwise discharged in accordance with N.J.A.C. 14:3-3A.9, as may be amended or superseded. Customers qualifying for Winter Termination Protection who have a prior outstanding balance due from their existing service location may have service restored upon the establishment of satisfactory payment arrangements. The Company may refuse to initiate service, or may discontinue service after proper notice and in accordance with N.J.A.C. 14:3-3A.2, as may be amended or superseded, to a residential applicant, or a member of the household then indebted to the Company for services provided by the Company at any location, if the Company reasonably determines that substantially the same household occupies the premises to be or being served. The Company may refuse to initiate service or may discontinue service after proper notice and in accordance with N.J.A.C. 14:3-3A.2, as may be amended or superseded, to a commercial applicant, or an officer, director, general or limited partner, business associate, or other agent, of an entity then indebted to the Company for services provided by the Company at any location, if the Company has reason to believe that substantially the same entity occupies the premises to be or being served.

# *STANDARD TERMS & CONDITIONS*

## *3. CHARACTERISTICS OF SERVICE*

### *3.1 GENERAL*

Gas service supplied by the Company in the entire territory served shall be straight natural gas, or any mixture of straight natural gas and substitute gas. The volume of gas to be delivered shall be measured in accordance with the published recommendation of the American Gas Association, as amended or superseded from time to time.

The basic unit of volume or one standard cubic foot shall be one cubic foot of gas at a temperature of 60° Fahrenheit (F) and an absolute pressure of 14.73 pounds per square inch. The average atmospheric pressure shall be assumed to be 14.73 pounds per square inch irrespective of variations in atmospheric pressure from time to time. The volume of gas measured, other than at the standard temperature and/or pressure shall be adjusted in accordance with Boyle's Law for measuring gas at varying pressures and the Charles Law for measuring gas at varying temperatures.

### *3.2 SINGLE POINT OF DELIVERY*

The Company will furnish, install and maintain a single meter for each service classification under which a Customer receives service unless, in the sole and final judgment of the Company, the volume of the Customer's requirements, economic considerations, conditions on its distribution system, or other reasons make it desirable to install additional meters.

### *3.3 CONTINUITY OF SERVICE*

The Company will use reasonable diligence to provide a regular and uninterrupted supply of service, but should the supply be suspended, curtailed or discontinued by the Company for any of the reasons set forth in Section 9 of these Standard Terms and Conditions, or should the supply of service be interrupted, curtailed, deficient, defective or fail by reason of any Act of God, accident, strike, legal process, governmental interference, or other cause whatsoever beyond its control, the Company shall not be liable for any loss or damage, direct or consequential, resulting from any such suspension, discontinuance, defect, interruption, curtailment, deficiency or failure.

### *3.4 UNUSUAL CONDITIONS*

The Company reserves the right to place limitations on the amount and character of gas service it will supply; to refuse service to new Customers or existing Customers for additional load if unable to obtain sufficient supply for such service; to reject applications for service or additional service where such service is not available, or where such service might affect the supply of gas to other Customers; or for other good and sufficient reasons subject to the orders or rules of the Board.

# *STANDARD TERMS & CONDITIONS*

## *4. GAS DISTRIBUTION MAIN AND SERVICE EXTENSIONS*

### *4.1 GENERAL PROVISIONS*

The Company will construct, own, and maintain gas mains located on streets and highways and on rights-of-way acquired by the Company. The formulae for the extension of utility service set forth below shall not serve to prevent the parties hereto from exercising their rights under the N.J.S.A. 48:2-27 and the applicable New Jersey Administrative Code provisions.

Where it is necessary to provide additional facilities to serve the requirements of either existing customers or new applicants, the Company may require a deposit or a contribution in aid of construction according to the conditions specified below. The Company, in its sole discretion, will determine the appropriate amount of such deposit or contribution in aid of construction. The Extension cost for which the Company receives a deposit or a non-refundable contribution shall include the tax consequences incurred by the Company.

### *4.2 RESIDENTIAL AND FIRM COMMERCIAL CUSTOMER - MAIN EXTENSION AND SERVICE LINE CONNECTION*

The Company will install facilities and make gas main extensions and service line connections to serve individual permanent residential customers and firm commercial customers without alternate fuel capacity and taking service under service classifications included in Rider "I" Conservation Incentive Program (CIP) free of charge where the Extension Cost does not exceed ten (10) times the annual distribution revenue at the baseline usage per customer volume for the Customer's respective CIP group and subject to the terms described in ~~p~~Paragraph 5.2. For residential customers, the Extension Cost shall not include the cost of the meter.

An applicant shall be required to provide an Extension Cost Deposit or a non-refundable contribution in aid of construction for the value of any Extension Cost that is greater than ten (10) times the annual distribution revenue at the baseline usage per customer volume for the Customer's respective CIP group; however, the Company shall waive a required deposit of $3,000 or less.

For customers taking service under firm service classifications not included in Rider "I" CIP, the Company will install facilities and make gas main extensions and service line connections to serve individual customers without alternate fuel capacity free of charge where the Extension Cost does not exceed ten (10) times the estimated annual distribution revenue, unless otherwise specified in the service classification. An applicant shall be required to provide an Extension Cost Deposit or a non-refundable contribution in aid of construction for the value of any Extension Cost that is greater than ten (10) times the estimated annual distribution revenue and subject to the terms described in ~~p~~Paragraph 5.2; however, the Company shall waive a required deposit of $3,000 or less.

# *STANDARD TERMS & CONDITIONS*

## *4. GAS DISTRIBUTION MAIN AND SERVICE EXTENSIONS (continued)*

The Extension Cost Deposit, as defined above, shall remain, without interest, in the possession of the Company unless additional customers connect to the particular extension. At such time there will be refunded to the depositor, the annual baseline distribution revenue value for the additional connecting Customer based upon the ratio in effect when the deposit was made. Once a portion of the deposit has been refunded to the applicant, the calculation shall only be reviewed for subsequent additional customers connecting to the particular extension. No further calculation shall be performed when accumulated refunds are equal to the sum deposited and in no event shall refunds exceed the initial deposit.

All deposits not returned to the applicant within a period of ten (10) years after the Company first makes gas service available shall remain the property of the Company with no further obligation of refund. The Company and applicant may agree upon a satisfactory revenue guarantee in lieu of a deposit or contribution.

Where it is necessary to provide additional facilities to serve increased requirements of an existing Customer, the Company reserves the right to require the Customer to provide a non-refundable contribution in aid of construction or a deposit in an amount equal to the cost of such additional facilities. The deposit amount may be subject to refund as outlined earlier in this section except that refunds shall be a function of the incremental distribution revenue generated by the increased requirements over a predetermined base.

# *STANDARD TERMS & CONDITIONS*

## *4. GAS DISTRIBUTION MAIN AND SERVICE EXTENSIONS (continued)*

### *4.3 LAND DEVELOPMENT - MAIN EXTENSION AND SERVICE LINE CONNECTIONS*

Where applications for extensions into newly developed tracts of land are made by individuals, partnerships, or corporations interested in the development and sale of land but not as ultimate residents, the Company shall require a deposit from the applicant covering the entire cost of installing the necessary mains, services and common distribution facilities to serve the tracts. However, if an individual, partnership, or corporation has contracted sales to ultimate residents, the Company may waive a required deposit for the value of any Extension Cost that is less than or equal to ten (10) times the annual distribution revenue at the baseline usage per customer volume for the ultimate residents' respective CIP group.

Such deposits are to be returned to the depositor, without interest, if during a ten-year period from the date of the original deposit, when and as new services abutting on such mains are completed, the prospective Customer's gas equipment is installed, and the dwellings are occupied by bona-fide owners or responsible tenants who have entered into an agreement for use of gas service. Upon such completion and occupation, there shall be returned to the depositor an amount equal to the product of residential customer ratio in effect in pParagraph 4.2 when the deposit was made and the annual baseline distribution revenue for each of the dwellings as described above but not in excess of the amount deposited. In no event shall more than the original deposit be returned to the depositor. All deposits not returned to the applicant within a period of ten (10) years after the Company first made gas service available to the tract of land shall remain the property of the Company with no further obligation of refund. The Company may agree upon a satisfactory revenue guarantee in lieu of a deposit or contribution.

### *4.4 ALTERNATE FUEL CUSTOMER - MAIN EXTENSION*

The Company reserves the right to require any alternate fuel customer to make a non-refundable contribution in aid of construction of an amount equal to the entire cost of the new facilities required to provide service. Where it is necessary to provide additional facilities to serve the increased requirements of any existing Customer, the Company reserves the right to require the Customer to provide a non-refundable contribution in aid of construction in an amount equal to the cost of such additional facilities and shall include the tax consequences incurred by the Company.

The Company is under no obligation to refund any of the contribution but the Company reserves the right in its sole judgment to do so where economics and revenue conditions warrant said action. In lieu of a contribution, the Company may agree upon a satisfactory revenue guarantee.

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# *STANDARD TERMS & CONDITIONS*

## *5. SERVICE LINE CONNECTIONS*

### *5.1 GENERAL PROVISIONS*

Gas service will normally be supplied to each premise through a single service line, except where, in the judgment of the Company, it is deemed desirable to install more than one service line. The Company may also choose to install multiple meters on one service line providing service to several premises. If more than one service line is installed for the convenience of the Customer, each location will be considered as a separate Customer.

### *5.2 FIRM CUSTOMERS*

The Company shall furnish and place, a service line in accordance with the terms described in ~~p~~Paragraph 4.2 above, measured at right angles from the nearest curb line to Customer's building, at the point of service entrance designated by the Company. Should the Customer request a service entrance at a location other than that designated by the Company, the Customer shall pay any additional cost associated with said change in point of service entrance and shall include the tax consequences incurred by the Company.

### *5.3 ALTERNATE FUEL CUSTOMERS*

The Company shall provide a service line connection at the Customer's expense.

### *5.4 CHANGE IN EXISTING INSTALLATIONS*

Any change in the existing service line, which may include installation of an Excess Flow Valve, and/or metering facilities requested by the Customer and approved by the Company shall be made at the Customer's expense and shall include the tax consequences incurred by the Company. If the change in the service line or metering facilities is to serve increased usage requirements, deposits or contributions in aid of construction shall be administered in accordance with Section 4 of these Standard Terms and Conditions.

# *STANDARD TERMS AND CONDITIONS*

## *6. METERING AND MEASURING EQUIPMENT*

### *6.1 GENERAL*

A suitable meter or meters will be installed, owned and maintained by the Company for the purpose of measuring the quantity of gas service delivered to the Customer. The type and make of metering equipment will be in accordance with the Company's specification which, from time to time, may be changed or altered. It is the sole obligation of the Company to furnish meters that provide adequate and accurate records for billing purposes in accordance with N.J.A.C. 14:3-4.1, as may be amended or superseded.
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### *6.2 METER LOCATION*

The Customer shall provide on the premises, at a location satisfactory to the Company, proper space for metering and associated equipment. The meter location shall be kept free and clear of obstructions so that properly authorized representatives of the Company may gain easy access to the meter location for the purpose of operating valves, reading meters, or emergencies in accordance with N.J.A.C. 14:3-4.2, as may be amended or superseded.
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### *6.3 CHANGE OF METER LOCATION*

Any change requested by the Customer in the point of location of the meter or service facilities, if approved by the Company, shall be made at the expense of the Customer and shall include the tax consequences incurred by the Company.

### *6.4 CUSTOMER'S RESPONSIBILITY*

The Customer shall be responsible for the protection and safekeeping of the equipment and facilities of the Company while it is on the Customer's premises. The Customer shall permit access to the Company's equipment to duly authorized representatives of the Company or duly authorized governmental officials.

### *6.5 ACCESS TO CUSTOMER'S PREMISES*

Properly identified and authorized representatives of the Company shall have free access to the Customer's premises at all reasonable times for the purpose of reading meters, for inspection and repairs, for investigation of emergencies or hazardous conditions, for removal of the Company's property or for any other purposes incident to the supply of gas service, in accordance with N.J.A.C. 14:3-3.6, as may be amended or superseded. The Customer is requested to contact the Company immediately if a question arises regarding the authority or credentials of any person claiming to represent the Company.

# *STANDARD TERMS AND CONDITIONS*

## *6. METERING AND MEASURING EQUIPMENT (continued)*

### *6.6 AUTHORIZATION TO TURN ON GAS*

No person other than a duly authorized employee or representative of the Company shall turn gas service on or into any new system of piping or into any old system of piping from which the use of gas has been discontinued. Disconnections, reconnections, or meter removals performed by persons other than authorized Company personnel are prohibited and shall constitute Tampering.

### *6.7 UNAUTHORIZED USE*

The use of service in excess of 30 days without the Company's express authorization may be terminated by the Company without notice. The use of natural gas service, without notice to the Company, shall render the user liable for any amount reasonably determined by the Company to be due for gas service supplied to the premises since the last meter reading recorded and billed by the Company.

### *6.8 OWNERSHIP AND REMOVAL*

All equipment supplied by the Company shall remain its exclusive property and the Company shall have the right to remove its equipment from the premises of the Customer at any time after termination of service.

### *6.9 PAYMENT FOR REPAIRS OR LOSS*

The Customer shall pay the Company for any necessary repairs for damage to or any loss of the Company's property located on the Customer's premises, and for the reconnection of service interrupted by such damage or loss, when the damage or loss is caused by negligence or willful misconduct on the part of Customer, or the Customer's family members, employees or agents, or by the failure of the Customer or foregoing persons to comply with the Standard Terms and Conditions and applicable service classifications under which service is furnished. The reconnection charge shall be $45.00 per Customer interruption. This charge will be waived when the appropriate Company personnel are on site at the time of the repair and able to reconnect the Customer safely.

### *6.10 REMOTE METER READING EQUIPMENT*

The Company, in its sole discretion and as a condition of service, may install at the Company's expense a remote meter reading device to monitor a Customer's gas consumption. When such device requires attachment to services including, but not limited to, telephone utilities, electric utilities, or a data plan, the Customer shall provide suitable connections.

When a remote meter reading device is requested by the Customer, it shall be installed at the Customer's expense if the installation is deemed feasible by the Company. The Customer may reimburse the Company for the remote meter reading device expense, either in a lump sum payment or over a twelve-month period with the prime interest rate used to calculate carrying costs. All equipment remains the sole property of the Company.

# *STANDARD TERMS AND CONDITIONS*

## *6. METERING AND MEASURING EQUIPMENT (continued)*

### *6.11 SUB-METERING*

Sub-metering, the practice in which the customer of record buys gas from the company and resells it through some metering device to tenants at a profit, is not permitted in any form. Gas service supplied by the Company shall not be resold by the Customer to others except where the Customer is another publicly regulated gas utility company, or where the natural gas is used for conversion to compressed natural gas, or when check-metering as defined below is being used by the Customer.

### *6.12 CHECK-METERING*

Check-metering is defined as the practice in which a Customer, through the use of a gas check meter, monitors or evaluates his own consumption or the consumption of a tenant for accountability or conservation purposes.

Gas check meters are devices that measure the volume of gas being delivered to particular locations in a system after measurement by a utility-owned meter. Gas check meters provide the Customer the means to apportion among the end users the cost of gas service being supplied through the Company meter.

Check-metering is permitted in new or existing buildings or premises where the basic characteristic of service is industrial or commercial. Check-metering is not permitted in new or existing buildings or premises where the basic characteristic of service is residential, except for condominiums or cooperative housing, or where such buildings or premises are publicly financed or government owned or are charitable in nature, or where the gas use is restricted to cooking gas. Check-metering is not permitted for space heating in residential premises subject to the exceptions set forth above.

If the Customer charges the tenant for usage incurred by the tenant, reasonable administrative expenses may be included, but such charges shall not exceed the amount the Company would charge if the tenant was served and billed directly by the Company.

Prior to the installation of any gas check metering devices, the Customer is required to contact the Company in order to ascertain whether the affected premises are located within a utilization pressure area of the Company's distribution system and whether or not the installation of a check metering device will cause any significant pressure drop within the affected premises.

All gas-consuming devices in any tenant unit must be metered through a single gas check-meter.

The ownership of all check-metering devices is that of the Customer, along with all incidents in connection with said ownership, including accuracy of the meter reading and billing, liability arising from the presence of the equipment and the maintenance and repair of the equipment. Any additional costs which may result from and are attributable to the installation of check-metering devices shall be borne by the Customer.

# *STANDARD TERMS AND CONDITIONS*

## *6. METERING AND MEASURING EQUIPMENT (continued)*

### *6.13 TAMPERING & OTHER DECEPTIVE PRACTICES*

When it is established that Tampering has occurred and the Customer has caused or knowingly benefited from such Tampering, the Customer shall be required to bear all of the costs incurred by the Company including, but not limited to, the following: (a) investigations, (b) inspections, (c) costs related to administrative, civil or criminal proceedings, (d) attorneys' fees, (e) installation of any protective equipment deemed necessary by the Company, and (f) actual costs of damage to equipment.

Furthermore, when Tampering with Company facilities results in incorrect measurement, correctly measured service used without Company authorization or the omission of measurement of the service supplied, and the Customer has benefited from such Tampering, the Customer shall pay for such service as the Company may estimate from available information, to have been used on the premises.

If persons other than the Customer are identified as beneficiaries of service obtained at the Customer's premises by Tampering, or have created or contributed to the Tampering, the Company shall elect to hold such persons liable for all of the aforesaid costs incurred and the value of service (metered or unmetered) received. A "beneficiary" is any person who benefits from such Tampering.

The foregoing remedies against the Customer and other beneficiaries arising from Tampering shall also apply to gas service obtained by fraudulent means, imposture, theft of identity, impersonation, theft of service, theft by deception or other unlawful methods.

### *6.14 DIVERSION OF SERVICE*

Diversion is an unauthorized connection to pipes by which the gas service registers on the Customer's meter, even if such service is being used by other than the Customer of record without his or her knowledge or cooperation. When a Customer alleges, or it is established, that service has been diverted outside of the Customer's premises, the Customer shall not be required to pay for such service without his or her consent. The definitions, procedures, investigations and determination of N.J.A.C. 14:3-7.8, as may be amended or superseded, shall apply.

### *6.15 SEALING OF METERS AND LOCKING DEVICES*

For safety purposes, it is the practice of the Company to seal meters and regulators, and to install locking devices when needed. Removal of seals or locking devices by persons other than authorized Company personnel is prohibited and shall constitute Tampering.

# *STANDARD TERMS AND CONDITIONS*

## *6. METERING AND MEASURING EQUIPMENT (continued)*

### *6.16 INABILITY TO ACCESS CUSTOMER LOCATION*

If a Customer has requested that the Company perform work related to the installation of a meter set on Customer property and the Company is unable to complete that work due to the Customer not being available at the scheduled time or the required work not being completed by the Customer and/or contractor, the Customer shall be charged $45.00.

# *STANDARD TERMS AND CONDITIONS*

## *7. CUSTOMER'S INSTALLATION*

### *7.1 INSTALLATION RULES*

Customer's appliances, piping, and installation shall be made and maintained in accordance with the standards of the Fuel Gas Subcode of the Uniform Construction Code set forth in N.J.A.C. 5:23-3.22 as may be amended or superseded and such other regulations as may be determined from time to time by any governmental agency having jurisdiction over the Customer's installations.

### *7.2 ADEQUACY AND SAFETY OF INSTALLATION*

The Company shall not be required to supply gas service until the Customer's installation has been approved by the authorities with jurisdiction. The Company also reserves the right to withhold its service, or to discontinue its service, whenever such installation or part thereof is deemed by the Company to be unsafe, inadequate, or unsuitable for receiving service, or interferes with or impairs the continuity or quality of service to the Customer or to others.

### *7.3 FINAL CONNECTION*

In all cases, no final connection between the Company's equipment and the Customer's installation shall be made without final inspection from the Department of Community Affairs or its designee.

### *7.4 CHANGE IN CUSTOMER'S INSTALLATION*

The Customer shall give immediate notice to the Company of any: 1) proposed additions in connected appliances or equipment, 2) change in demand or other conditions of use, or 3) change of purpose or location of the installation. Changes in service conditions shall not be made effective until the Customer notifies the Company and receives the Company's approval of same. Failure to give notice of additions or changes in load or location shall render Customer liable for any damages to the meters or other apparatus and equipment of the Company caused by the additional or changed installation.

### *7.5 COMPANY'S LIABILITY*

The Company shall not be liable for any claim for damages resulting from the supply, use, care or handling of the gas or from the presence or operation of the Company's structures, equipment, pipes, or devices, except for general or direct damages that follow from the Company's negligence, recklessness, or willful misconduct. The Company shall not be liable for special or consequential damages.

# *STANDARD TERMS AND CONDITIONS*

## *7. CUSTOMER'S INSTALLATION (continued)*

All Customer Equipment shall be suitable for the use of natural gas and shall be installed, inspected, repaired and maintained solely by the Customer and solely at the Customer's expense in a manner approved by the public authorities having jurisdiction over the same, and in good and safe condition in accordance with all applicable codes. The Customer shall be solely responsible for the selection of the Customer Equipment and the Company shall have no duty or responsibility for the design, selection, installation, operation or repair of said Equipment. The Customer shall be responsible for the design of the venting and piping associated with the Customer Equipment downstream of the Point of Delivery. The Company does not, by inspection, non-rejection or any other way, give any warranty, express or implied, as to the adequacy, safety or other characteristics of the Customer Equipment. The Company shall not be liable for damages to the Customer Equipment or for injuries sustained by the Customer or others, due to the condition or character of the Customer Equipment. The Company shall not be responsible for the use, care or handling of the gas delivered to the Customer after it passes beyond the point at which the Company's service facilities connect to the Customer Equipment.

The Company may, but need not, conduct a limited inspection of the appliances, venting system and leak integrity of the Customer's piping and venting downstream of the Point of Delivery as a courtesy to the Customer at the time of the initiation of service or thereafter at the request of the Customer. In no event, however, shall the Company have any duty to inspect Customer Equipment or be responsible for any failure of the Customer Equipment or any harm arising from the operation of the Customer Equipment, even if, the Company undertakes, as a courtesy to the Customer, to conduct a limited inspection at the time of initiation of service or otherwise. The Customer shall, at all times, be solely responsible for the inspection, integrity and safety of all Customer Equipment.

## *7.6 BACK PRESSURE AND SUCTION*

When the nature of the Customer's gas equipment is such that it may cause back pressure or suction in the piping system, meters, or other associated equipment of the Company, suitable protective devices subject to approval by the Company, shall be furnished, installed, and maintained by the Customer.

When the Customer uses an alternate fuel that is gas, a three-way valve (a check valve is not permissible) is required to be installed at the Customer's expense subject to the Company's approval.

## *7.7 LEAKAGE*

The Customer shall give notice immediately of any escape of gas on or about the premises to the Company.

# *STANDARD TERMS & CONDITIONS*

## *8. METER READING AND BILLING*

### *8.1 EVIDENCE OF CONSUMPTION*

The quantities of service delivered to the Customer as recorded by the Company's meter or meters, subject to any necessary adjustments for pressure and temperature in accordance with Section 3.1 of this Tariff, shall be final and conclusive except when the metering equipment fails to register or is determined to be in error.

### *8.2 MONTHLY METER READING*

The Company shall read meters on a monthly schedule. Nothing in this section shall be deemed to limit the applicability of Section 8.3 below.

### *8.3 ESTIMATED USAGE*

Where the Company is unable to read the meter, the Company may estimate the amount of gas supplied and submit an estimated bill. An adjustment of the Customer's estimated use to actual use will be made after an actual meter reading is obtained in accordance with N.J.A.C. 14:3-7.2(e), as may be amended or superseded.

### *8.4 ADJUSTMENT FOR INACCURATE METER RECORDING*

When it is determined that the Company's meter is inaccurate or defective, the use of gas service shall be determined by a test of the meter, or by registration of the meter set in its place during the period next following, or after due consideration of previous or subsequent properly measured deliveries. Whenever a meter is found to be registering fast by 2% or more, an adjustment of charges shall be made. When a meter is found to be registering slow by more than 2% due to progressive inaccuracy, an adjustment of charges may be made except for residential accounts, where no adjustment shall be made. An adjustment may be made on any account with a meter that is determined by a Company test of the meter to be defective or non-registering. A defective or non-registering meter is any meter not properly functioning due to a physical inability to meet original manufacturing standards. Any adjustment to the Customer's account resulting from the terms in this section will be billed or applied to the account in accordance with N.J.A.C. 14:3-4.6, as may be amended or superseded. If the adjustment results in a credit, such amount may be refunded upon request from the Customer. If the Customer does not request a refund, a bill credit will be applied to the Customer's account.

If a meter is found to be registering less than 100% of the service provided, the Company shall only adjust the charges retrospectively and/or require the Customer to repay the amount undercharged if: 1) the meter was tampered with; 2) the meter failed to register at all; or 3) the circumstances are such that the Customer should reasonably have known that the bill did not reflect the actual usage. In rebilling a Customer under this Section, the Company may perform a load analysis or degree day analysis.

# *STANDARD TERMS & CONDITIONS*

## *8. METER READING AND BILLING (continued)*

### *8.5 THERM CONVERSION FACTOR*

For billing purposes, the reading of the Customer's meter in cubic feet first will be converted to standard cubic feet, then converted to therms by multiplying the use in cubic feet by the weighted average of the BTU content of all gas purchased from all pipeline suppliers for the second preceding calendar month and divided by 100,000. Such calculation shall be to the closest 1/100 of a therm.

### *8.6 BILLING PERIOD*

When the billing interval is substantially greater or less than one month, bills will be computed by prorating charges provided under the applicable Service Classification on the basis of the relationship between the time covered by the billing period and a full month.

### *8.7 PAYMENT OF BILLS*

Bills normally will be rendered monthly and may be paid through the Company's authorized payment methods including, but not limited to, at any business office of the Company during its regular office hours, at any of its authorized payment locations during regular office hours of such agencies, on the Company's Web site at www.njng.com, authorized electronic payment remitters, auto-debit enrollment, by phone {1-800-221-0051}, or by mail.

### *8.8 PAYMENT OBLIGATION*

Unless otherwise specified all bills are net and payable within at least fifteen (15) days from the date the bill is sent. Failure to make payment may be deemed sufficient reason for the Company to consider the Customer's account delinquent. The Company may discontinue service for nonpayment of bills provided it gives the Customer at least ten days written notice of its intention to discontinue. The notice of discontinuance shall not be served until the expiration of the said 15 day period. However, in cases of fraud, illegal use, or when it is clearly indicated that the Customer is preparing to leave, immediate payment of account may be required.

The Company shall apply the regulations set forth in N.J.A.C. 14:3-3A.2, as may be amended or superseded, and shall discontinue service for nonpayment only if one or both of the following criteria are met: 1) the Customer's arrearage is more than $100.00; 2) the Customer's account is more than three months in arrears.

# *STANDARD TERMS & CONDITIONS*

## *8. METER READING AND BILLING (continued)*

### *8.9 LATE PAYMENT CHARGE*

A late payment charge at the rate of 1.5% per monthly billing period shall be applied to all non-residential customers. The charge will be applied to all amounts previously billed including late payment charges and accounts payable that are not paid at the time the next monthly bill is prepared and shall not be applied sooner than twenty-five (25) days after a bill is rendered, in accordance with N.J.A.C. 14:3-7.1(e). Service to governmental entities will not be subject to a late payment charge. The amount of the late payment charge to be added to the unpaid balance shall be calculated by multiplying the unpaid balance by the late charge rate. When payment is received by the Company from a Customer who has an unpaid balance which includes charges for late payment, the Customer's payment shall be applied first to such late payment charges and then to the remainder of the unpaid balance.

### *8.10 FINAL BILL*

A Customer intending to discontinue service must give the Company reasonable notice thereof. Within forty-eight (48) hours of said notice, the Company shall discontinue service or obtain a meter reading for the purpose of calculating a final bill, unless a holiday or weekend intervenes. Where such notice is not received by the utility, the Customer shall be liable for service until the final reading of the meter is taken. Notice to discontinue service will not relieve a Customer from any minimum or guaranteed payment under any contract or Service Classification.

### *8.11 RETURNED PAYMENT FEE*

The Company will charge $10.00 to process Customer payments that are uncollectible and returned by the Company's bank.

### *8.12 FIELD COLLECTION CHARGE*

A charge of $15.00 may be made when the Company makes a collection visit to the Customer or premises.

*NEW JERSEY NATURAL GAS COMPANY*

*BPU No. 1110 - Gas* *Original Sheet No. 30*

# *STANDARD TERMS & CONDITIONS*

## *9. DISCONTINUANCE OF SERVICE*

### *9.1 COMPANY CAUSES*

The Company shall, upon reasonable notice, when it reasonably can be given, have the right to suspend, curtail, or discontinue its service for any of the following reasons:

a. For the purpose of making repairs, changes, replacements, or improvements in any part of its system.

b. For compliance in good faith with any governmental order or directive, whether Federal, State, Municipal, or otherwise, even if such order or directive subsequently is held to be invalid.

c. In the event of an emergency threatening the integrity of its system if, in the Company's sole judgment, such action will prevent or lessen the emergency condition.

### *9.2 CUSTOMER ACTS OR OMISSIONS*

The Company also shall have the right to suspend, curtail or discontinue its service for any of the following act(s) or omission(s) on the Customer's part:

a. Nonpayment of any bill due for service furnished at the present or any previous location, in accordance with N.J.A.C. 14:3-3A.1, as may be amended or superseded. However, nonpayment for business service shall not be a reason for discontinuance of residential service, except in cases of diversion of service pursuant to N.J.A.C. 14:3-7.8, as may be amended or superseded and service shall not be discontinued for nonpayment of appliance repair, installation charges, service contracts, and other services unrelated to gas service.

b. Tampering with any facility of the Company.

c. Fraudulent representation in relation to the use of gas service.

d. Customer moving from the premises unless that Customer requests that service be continued.

e. Delivering gas service to others without written approval of the Company except as permitted under Standard Terms and Conditions Sections 6.11 and 6.12 Sub-Metering and Check-Metering.

f. Failure to make or increase an advance payment or deposit when required by the Company.

g. Refusal to contract for service where a contract is required.

h. Connecting and operating equipment in such a manner as to produce disturbing effects on the service of the Company or other Customers.

# *STANDARD TERMS & CONDITIONS*

## *9. DISCONTINUANCE OF SERVICE (continued)*

i. Where the conditions of the Customer's installation presents a hazard to life or property.

j. Failure of the Customer to repair any faulty equipment or lines.

k. Failure to comply with any of these Standard Terms and Conditions or with any of the terms of the service classification or contract under which gas service is furnished.

l. Failure to provide reasonable access to the premises, and to the Company's meter and other service facilities on the premises, for the purposes of meter installation, reading, testing, inspection, maintenance, removal, or replacement of meters or other service facilities.

Reasonable access means that premises shall not become obstructed or hazardous, and that the Customer shall not construct, pave over, or otherwise obstruct the Company's service line or other facilities. In the event reasonable access, as described here, is not complied with, the Company may, upon reasonable notice, discontinue service and remove its equipment from the Customer's premises.

Any costs of protecting or relocating such service line or facilities shall be borne by the Customer.

m. In the event a writ of execution is issued against a Customer, or in case the premises to which service is supplied is levied upon, or in the case of assignment or act of bankruptcy on the part of the Customer.

n. Service to a residential customer shall only be discontinued between the hours of 8:00 a.m. and 4:00 p.m. Monday through Thursday, unless there is a safety related emergency. There shall be no involuntary termination of service on Fridays, Saturdays, and Sundays or on the day before a holiday or on a holiday, absent such emergency.

## *9.3 CHARGES PAYABLE UPON TERMINATION*

If gas service is terminated for any of the above reasons where the Customer is under written contract, the minimum charge for the unexpired portion of the term shall become due and payable immediately, provided, however, that if satisfactory arrangements are subsequently made by Customer for reconnection of the service, the immediate payment of the minimum charge for the unexpired portion of the contract term may be waived or modified as the circumstances indicate would be just and reasonable.

## *9.4 NON-WAIVER*

Failure of the Company to exercise its rights to suspend, curtail or discontinue service, for any of the above reasons, shall not be deemed a waiver of the Company's rights.

# *STANDARD TERMS & CONDITIONS*

## *9. DISCONTINUANCE OF SERVICE (continued)*

### *9.5 RESTORATION OF SERVICE*

The Company shall not reconnect service to the Customer's premises, where service has been discontinued by reason of any act or default of the Customer, until such time as the Customer has rectified the condition or conditions causing discontinuance of service. Service shall not be reconnected until the Customer has met all financial requirements including satisfactory payment arrangements called for under these Standard Terms and Conditions and the applicable Service Classification, or if the Board so directs when a complaint involving such a matter is pending before the Board in accordance with N.J.A.C. 14:3-3A.9, as may be amended or superseded.

The Company shall treat the restoration of service and the turn-on of new accounts on a first come, first serve basis during periods outside of the winter moratorium. The Company shall give priority to the restoration of service during the winter moratorium.

### *9.6 RECONNECTION CHARGE*

The Customer shall pay a reconnection charge of $45.00 for the restoration of service when service has been suspended for any of the reasons cited in Section 9.2, with the exception of 9.2.d, of these Standard Terms and Conditions.

# *STANDARD TERMS & CONDITIONS*

## *10. FOR CUSTOMERS PURCHASING GAS SUPPLY FROM A THIRD PARTY SUPPLIER*

### *10.1 CONDITIONS PRECEDENT*

The Customer shall designate a Third Party Supplier, formerly referred to as Marketer or Broker, who will act as the Customer's agent with the Company for purposes of receiving nominations, satisfying delivery obligations, daily and monthly balancing, selection of billing option and all related charges. The Third Party Supplier must be authorized by the Company and is subject to the service requirements of the Third Party Supplier Requirements ("TPS") Service Classification. The Customer is responsible for payment of any costs if additional facilities are necessary to provide service. The Company reserves the right to limit new customers served under this service, if it determines that service expansion is detrimental to existing firm customers.

### *10.2 RETURN TO FIRM SALES SERVICE*

Customers shall be permitted to return to firm sales service in accordance with N.J.A.C. 14:4-2.6(f), as may be amended or suspended. Transport customers who terminate such service and who wish to return to firm sales service, will be viewed as new applicants for such firm sales service. Such service will be offered subject to the conditions contained in Section 3.4 of the Company's Standard Terms and Conditions in its Tariff.

### *10.3 WARRANTY*

NJNG warrants that at the time of delivery to the Customer at the Delivery Point said gas quantities shall be free and clear of all liens, encumbrances and claims whatsoever which may result solely from NJNG's possession or transportation of gas hereunder and, further, that it will indemnify and hold the Customer harmless from all suits, actions, debts, accounts, damages, costs, losses, and expense arising from or out of adverse claims of any or all persons to said gas quantities, arising out of, relating to or resulting from such possession or transportation.

### *10.4 CONTRACT*

Written application on Company's Standard Application Form may be required.

# *STANDARD TERMS & CONDITIONS*

## *10. FOR CUSTOMERS PURCHASING GAS SUPPLY FROM A THIRD PARTY SUPPLIER (continued)*

### *10.5 REGULATORY APPROVALS*

The Customer is responsible for securing approvals from all regulatory bodies having jurisdiction and making any filings or reports, as required, pertaining to the acquisition of the gas and/or the transportation of the gas from the Customer's source to the Company's designated delivery meters.

The Company reserves the right, in its sole reasonable judgment, to deny service hereunder if it determines that the underlying contracts or transportation agreements do not comply with all applicable Federal or State laws, rules or regulations, including those of all appropriate regulatory agencies; or if it determines that the requested transportation service is not operationally feasible.

### *10.6 CHANGE OF THIRD PARTY SUPPLIER*

Customers shall be permitted to switch suppliers in accordance with N.J.A.C. 14:4-2.6(f), as may be amended or superseded.

# *STANDARD TERMS & CONDITIONS*

## *11. CONDITIONS UNDER WHICH RATE DISCOUNTS SHALL BE CONSIDERED*

### *11.1 CUSTOMERS WITH ABILITY TO BYPASS*

A Customer requesting a discount from NJNG's Tariff Rate for Gas Service due to the Customer's asserted ability to physically bypass the Company's distribution and/or transmission system facilities shall provide the following information to the Company:

a. A statement from the interstate natural gas pipeline that the proposed interconnection is operationally viable, that sufficient capacity is available and the pipeline would serve the party if requested;

b. Maps or flow diagrams for the bypass connection, which shall identify the route of the pipeline from the interconnection with the pipeline and the Customer's site, the size of the connecting pipeline from the interconnection with the pipeline and the Customer's site, the size of the connecting pipeline and any other appurtenant facilities required;

c. Engineering studies setting forth the estimated cost(s) to complete construction;

d. Status of all reliability and environmental permits required by State and Federal agencies; and

e. Other information that the Company deems appropriate in considering the Customer's request.

Each request will be evaluated on a case-by-case basis to determine whether a discount from NJNG's Tariff Rate for Gas Service would be just and reasonable. Any agreement between the Customer and the Company for a discount from NJNG's Tariff Rate for Gas Service is subject to Board approval.

### *11.2 CUSTOMERS WITH CIRCUMSTANCES OTHER THAN AN ASSERTED ABILITY TO PHYSICALLY BYPASS*

A new Customer or existing Customer who requests a discount from NJNG's Tariff Rate for Gas Service due to circumstances other than the asserted ability to physically bypass the Company's distribution and/or transmission system facilities shall contact the Company in writing with its request. The new or existing Customer shall provide all of the information that the Company deems appropriate in considering the Customer's request. Each request will be evaluated on a case-by-case basis to determine whether a discount from NJNG's Tariff Rate for Gas Service would be just and reasonable. Any agreement between the Customer and the Company for a discount from NJNG's Tariff Rate for Gas Service is subject to Board approval.

## *RESERVED FOR FUTURE USE*

*NEW JERSEY NATURAL GAS COMPANY*

~~*First Revised Sheet No. 51*~~

*BPU No. 11~~10~~ - Gas* ~~*Superseding*~~ *Original Sheet No. 51*

# *SERVICE CLASSIFICATION - RS*

## *RESIDENTIAL SERVICE*

### *AVAILABILITY*

This service is available to any residential Customer in the territory served by the Company using gas for any domestic purpose. This rate is applicable to individually-metered apartments and to rooming and boarding houses where the number of rental bedrooms is not more than twice the number of bedrooms used by the Customer.

Gas delivered under this schedule may not be used for other than domestic purposes except when such use is incidental to domestic use.

### *CHARACTER OF SERVICE*

Firm gas service where Customer may either purchase gas supply from the Company's Rider "A" for Basic Gas Supply Service ("BGSS") or from a Third Party Supplier.

### *MONTHLY RATES*

#### *Customer Charge:*

| | |
|---|---|
| Customer Charge per meter per month | $~~10.14~~12.10 |

#### *Delivery Charge:*

**Residential Heating**

| | |
|---|---|
| Delivery Charge per therm | $~~0.6976~~0.9587 |

**Residential Non-Heating**

| | |
|---|---|
| Delivery Charge per therm | $~~0.6338~~0.8949 |

#### *BGSS Charge:*

| | |
|---|---|
| BGSS Charge per therm for Sales Customers | See "Rate Summaries" at the end of this Tariff |

These rates are inclusive of all applicable taxes and riders and are subject to adjustment for all other applicable riders, taxes, assessments or similar charges lawfully imposed by the Company. See Rate Summaries at the end of this Tariff for a summary of components incorporated in these rates.

# *SERVICE CLASSIFICATION - RS*

## *RESIDENTIAL SERVICE (continued)*

### *MINIMUM MONTHLY CHARGE*

The minimum monthly charge shall be the Customer Charge.

Where service is taken for less than one month, the minimum charge will be prorated.

### *BALANCING CHARGE ADJUSTMENTS*

The Balancing Charge is included in the Delivery Charge and is subject to adjustment in the Company's annual BGSS proceeding. All revenues derived from this Charge will be credited to the BGSS. See Rider "A" for the current Balancing Charge.

### *SPECIAL PROVISIONS*

I. *Applicable to All Customers Purchasing Gas Supply from a Third Party Supplier*

1. ***Metering***
   An Automated Meter Reading (AMR) device will not be required for this service.

   Should the Company decide to install an AMR or a Customer request an AMR, the installation shall be in accordance with Paragraph 6.10 of the Standard Terms and Conditions.

2. ***Additional Requirements***
   Service is subject to the terms and conditions of the Third Party Supplier Requirements section of this Tariff (Service Classification – TPS) and Section 10 of the Company's Standard Terms and Conditions.

### *CONTRACT*

Written application on Company's Standard Application Form may be required.

### *TERMS AND CONDITIONS*

Service is subject to the Company's Standard Terms and Conditions.

*NEW JERSEY NATURAL GAS COMPANY*

*~~First Revised Sheet No. 53~~*

*BPU No. 11~~10~~ - Gas* *~~Superseding~~ Original Sheet No. 53*

# *SERVICE CLASSIFICATION – DGR*

## *DISTRIBUTED GENERATION SERVICE - RESIDENTIAL*

### *AVAILABILITY*

This service is available to any residential customer using distributed generation technologies including, but not limited to, microturbines and fuel cells to generate electricity for domestic purposes.

### *CHARACTER OF SERVICE*

Firm gas service where Customer may either purchase gas supply from the Company's Rider "A" for Basic Gas Supply Service ("BGSS") or from a Third Party Supplier.

### *MONTHLY RATES*

***Customer Charge:***

| | |
|---|---|
| Customer Charge per meter per month | $~~10.14~~12.10 |

***Delivery Charge:***

| | |
|---|---|
| November - April | $0.3468 |
| May - October | $0.2935 |

***BGSS Charge:***

| | |
|---|---|
| BGSS Charge per therm for Sales Customers | See "Rate Summaries" at the end of this Tariff |

These rates are inclusive of all applicable taxes and riders and are subject to adjustment for all other applicable riders, taxes, assessments or similar charges lawfully imposed by the Company. See Rate Summaries at the end of this Tariff for a summary of components incorporated in these rates.

### *MINIMUM MONTHLY CHARGE*

The minimum monthly charge shall be the Customer Charge. Where service is taken for less than one month, the minimum charge will be prorated.

### *BALANCING CHARGE ADJUSTMENTS*

The Balancing Charge is included in the Delivery Charge and is subject to adjustment in the Company's annual BGSS proceeding. All revenues derived from this Charge will be credited to the BGSS. See Rider "A" for the current Balancing Charge.

# *SERVICE CLASSIFICATION - DGR*

## *DISTRIBUTED GENERATION SERVICE - RESIDENTIAL (continued)*

## *SPECIAL PROVISIONS*

I. *Applicable to All Customers Under This Service Classification*

1. ***Metering***

All service rendered hereunder shall be metered separately from any other gas service provided to Customer at the Customer's location.

An Automated Meter Reading (AMR) device with daily meter reads will not be required for this service. However, upon prior notice to the Customer, the Company reserves the right to install an AMR at its own expense. Should the Company decide to install an AMR, the Customer shall furnish the necessary infrastructure to support the AMR, including, but not limited to, an electrical supply and phone line, or data plan, for the operation of the device, in an area acceptable to the Company.

Should the Customer request an AMR, the installation shall be in accordance with Paragraph 6.10 of the Standard Terms and Conditions.

II. *Applicable to All Customers Purchasing Gas Supply from a Third Party Supplier*

1. ***Additional Requirements***

Service is subject to the terms and conditions of the Third Party Supplier Requirements section of this Tariff (Service Classification – TPS) and Section 10 of the Company's Standard Terms and Conditions.

## *TERMS AND CONDITIONS*

Service is subject to the Standard Terms and Conditions of this Tariff.

*NEW JERSEY NATURAL GAS COMPANY*

~~*First Revised Sheet No. 55*~~

*BPU No. 11~~10~~ - Gas* ~~*Superseding*~~ *Original Sheet No. 55*

# *SERVICE CLASSIFICATION – GSS*

## *GENERAL SERVICE - SMALL*

### *AVAILABILITY*

This service is available to any Customer in the entire territory served by the Company who uses less than 5,000 therms annually and uses gas for all purposes other than residential service and interruptible service. Where the Customer uses the Cooling, Air Conditioning and Pool Heating service ("CAC") under Special Provision I.2, the Company may, upon application by the Customer, meter the space heating and CAC use separately. Street Lighting Service also will be supplied under this schedule (Special Provision II.1).

### *CHARACTER OF SERVICE*

Firm gas service where Customer may either purchase gas supply from the Company's Rider "A" for Basic Gas Supply Service ("BGSS") or from a Third Party Supplier.

### *MONTHLY RATES*

***Customer Charge:***

| | |
|---|---|
| Customer Charge per meter per month | $~~34.85~~44.25 |

***Delivery Charge:***

| | |
|---|---|
| Delivery Charge per therm | $~~0.6499~~0.9152 |

***BGSS Charge:***

| | |
|---|---|
| BGSS Charge per therm for Sales Customers | See "Rate Summaries" at the end of this Tariff |

These rates are inclusive of all applicable taxes and riders and are subject to adjustment for all other applicable riders, taxes, assessments or similar charges lawfully imposed by the Company. See Rate Summaries at the end of this Tariff for a summary of components incorporated in these rates.

### *MINIMUM MONTHLY CHARGE*

The minimum monthly charge shall be the Customer Charge.

Where service is taken for less than one month, the minimum charge will be prorated.

### *BALANCING CHARGE ADJUSTMENTS*

The Balancing Charge is included in the Delivery Charge and is subject to adjustment in the Company's annual BGSS proceeding. All revenues derived from this Charge will be credited to the BGSS. See Rider "A" for the current Balancing Charge.

# SERVICE CLASSIFICATION - GSS

## GENERAL SERVICE - SMALL (continued)

## SPECIAL PROVISIONS

I. *Applicable to All Customers Under This Service Classification*

1. ***Annual Review***
The Company shall review, at least once a year, each GSS Customer's annual usage based on the most recent twelve (12) months of billing information to determine if the General Service – Large ("GSL") Service Classification is applicable to the Customer. If the Customer's normalized annual usage is greater than or equal to 5,500 therms, the customer will be switched to GSL prospectively.

2. ***Air Conditioning and Pool Heating***
Upon separate application, GSS Customers who have installed and are using gas air conditioning and/or pool heating equipment will be billed on the above Monthly Rates and will be billed a credit of ($~~0.3863~~0.6323) per therm for all monthly consumption of gas for services rendered between May 1 and September 30 of each year. This credit is the difference between the delivery charge for service rendered between May 1 and September 30 of each year under this Special Provision of $~~0.2636~~0.2829 per therm, which includes $~~0.0900~~0.1080 per therm margin, all appropriate riders, taxes, assessments and surcharges, and the delivery charge for Service Classification GSS.

Commercial Air Conditioning and Pool Heating ("CAC") customers will be separately metered, except, at the Company's sole discretion, existing Customers may use the same meter for their cooling, air conditioning or pool heating load and their space heating load as long as there is minimal base load during the period air conditioning rates are in effect.

Where a CAC Customer uses gas under this service classification in a direct-fired chiller/heater and the heating load is metered through the same meter as the cooling, air conditioning or pool heating load, and further, where the gas used for heating is billed separately, the GSS Customer Charge shall be waived, provided the Customer pays the Customer Charge under its heating service in all twelve (12) months of the year.

3. ***Veterans' Organization Service***
Pursuant to N.J.S.A 48:2-21.41, when natural gas service is delivered to a customer that is a Veterans' Organization, serving the needs of veterans of the armed forces, the customer may apply and be eligible for billing under this Special Provision.

*a.* Each customer shall be eligible for billing under this Special Provision upon submitting an Application for Veterans' Organization Service under this Service Classification and by qualifying as a "Veterans' Organization" as defined by N.J.S.A. 48:2-21.41 as "an organization dedicated to serving the needs of veterans of the armed forces that: is chartered under federal law, qualifies as a tax exempt organization under paragraph (19) of subsection (c) of section 501 of the federal Internal Revenue Code of 1986, 26 U.S.C. s.501 (c)(19), or that is organized as a corporation under the 'New Jersey Nonprofit Corporation Act,' N.J.S.15A:1-1 et seq." Under N.J.S.A. 48: 2-21.41, a qualified Veterans' Organization shall be charged the residential rate for service delivered to the property where the Veterans' Organization primarily operates, if the residential rate is lower than the commercial rate for service at that property.

*NEW JERSEY NATURAL GAS COMPANY*

*~~First Revised Sheet No. 56~~*

*BPU No. 11~~10~~ - Gas* *~~Superseding~~ Original Sheet No. 56*

# *SERVICE CLASSIFICATION - GSS*

## *GENERAL SERVICE - SMALL (continued)*

**NEW JERSEY NATURAL GAS COMPANY**

~~**First Revised Sheet No. 57**~~

**BPU No. 1110 - Gas** ~~**Superseding**~~ **Original Sheet No. 57**

# SERVICE CLASSIFICATION - GSS

## GENERAL SERVICE - SMALL (continued)

The Customer shall furnish satisfactory proof of eligibility of service under this Special Provision to the Company. Once proof of eligibility is determined by the Company, service under this Special Provision shall begin with the next billing cycle following receipt of the Application.

b. The Customer will continue to be billed on this Service Classification. At least once annually, the Company shall review eligible customers' Customer Charges and Delivery Charges under this Special Provision for all relevant periods. If the comparable Customer Charges and Delivery Charges under Service Classification Residential Service (RS) are lower than the charges under their current Service Classification, a credit in the amount of the difference will be applied to the Customer's next bill.

4. **Metering**

An Automated Meter Reading (AMR) device will not be required for this service.

Should the Company decide to install an AMR or a Customer request an AMR, the installation shall be in accordance with Paragraph 6.10 of the Standard Terms and Conditions.

~~b.~~

II. *Applicable to All Customers Purchasing Gas Supply Under Rider "A" BGSS*

1. **Street Lighting Service**

Street Lighting Service is not subject to Rider "I" of this Tariff. The delivery charge per therm for Street Lighting Service is $~~0.6099~~0.8752 per therm.

III. *Applicable to All Customers Purchasing Gas Supply from a Third Party Supplier*

~~1. **Metering**~~

~~An Automated Meter Reading (AMR) device will not be required for this service.~~

12. **Additional Requirements**

Service is subject to the terms and conditions of the Third Party Supplier Requirements section of this Tariff (Service Classification – TPS) and Section 10 of the Company's Standard Terms and Conditions.

## TERMS AND CONDITIONS

Service is subject to the Company's Standard Terms and Conditions of this Tariff.

*NEW JERSEY NATURAL GAS COMPANY*

*~~First Revised Sheet No. 57~~*

*BPU No. 11~~10~~ - Gas* *~~Superseding~~ Original Sheet No. 57*

# *SERVICE CLASSIFICATION - GSS*

## *GENERAL SERVICE - SMALL (continued)*

*NEW JERSEY NATURAL GAS COMPANY*

~~*First Revised Sheet No. 58*~~

*BPU No. 1110 - Gas* ~~*Superseding*~~ *Original Sheet No. 58*

# *SERVICE CLASSIFICATION - GSL*

## *GENERAL SERVICE - LARGE*

### *AVAILABILITY*

This service is available to any Customer in the entire territory served by the Company who uses greater than or equal to 5,000 therms annually and uses gas for all purposes other than residential service and interruptible service. Where the Customer uses the Cooling, Air Conditioning and Pool Heating service ("CAC") under Special Provision I.4, the Company may, upon application by the Customer, meter the space heating and CAC use separately.

### *CHARACTER OF SERVICE*

Firm gas service where Customer may either purchase gas supply from the Company's Rider "A" for Basic Gas Supply Service ("BGSS") or from a Third Party Supplier.

### *MONTHLY RATES*

***Customer Charge:***

| | |
|---|---|
| Customer Charge per meter per month | $~~80.79~~104.49 |

***Demand Charge:***

| | |
|---|---|
| Demand Charge per therm applied to HMAD | $~~2.63~~3.41 |

***Delivery Charge:***

| | |
|---|---|
| Delivery Charge per therm | $~~0.4865~~0.5400 |

***BGSS Charge:***

| | |
|---|---|
| BGSS Charge per therm for Sales Customers | See "Rate Summaries" at the end of this Tariff |

These rates are inclusive of all applicable taxes and riders and are subject to adjustment for all other applicable riders, taxes, assessments or similar charges lawfully imposed by the Company. See Rate Summaries at the end of this Tariff for a summary of components incorporated in these rates.

### *MINIMUM MONTHLY CHARGE*

The minimum monthly charge shall be the Customer Charge and the Demand Charge.

Where service is taken for less than one month, the minimum charge will be prorated.

NEW JERSEY NATURAL GAS COMPANY

~~First Revised Sheet No. 59~~

BPU No. 1110 - Gas ~~Superseding~~ Original Sheet No. 59

# SERVICE CLASSIFICATION - GSL

## GENERAL SERVICE - LARGE (continued)

### BALANCING CHARGE ADJUSTMENTS

The Balancing Charge is included in the Delivery Charge and is subject to adjustment in the Company's annual BGSS proceeding. All revenues derived from this Charge will be credited to the BGSS. See Rider "A" for the current Balancing Charge.

### SPECIAL PROVISIONS

I. *Applicable to All Customers in this Service Classification*

1. ***Determination of Demand***
The highest monthly average daily usage (HMAD) that occurs in any billing period will be used to calculate the Demand Charge. The HMAD shall be determined based upon the Customer's highest normalized average daily usage for a month in the most recent twenty-four (24) month period. Estimated data may be used when actual data is not available. At least once a year, the Company shall review and modify, if necessary, each GSL customer's HMAD based upon the most recent twenty-four (24) months of billing information. Any modification will be on a prospective basis. The Company reserves the right to determine the HMAD for any Customer by actually metering daily usage.

2. ***Metering***
An Automated Meter Reading (AMR) device with daily meter reads will not be required for this service. However, the Company reserves the right to install an AMR if it believes such a device will provide a more accurate HMAD than the Determination of Demand set forth above. Should the Company decide to install an AMR, the Customer shall furnish the necessary infrastructure to support the AMR, including, but not limited to, an electrical supply and phone line, or data plan, for the operation of the device, in an area acceptable to the Company.

Should the Customer request an AMR, the installation shall be in accordance with Paragraph 6.10 of the Standard Terms and Conditions.

3. ***Annual Review***
The Company shall review, at least once a year, each GSL customer's annual usage based on the most recent twelve (12) months of billing information to determine if the General Service - Small ("GSS") Service Classification is applicable to the Customer. If the Customer's normalized annual usage is less than or equal to 4,500 therms, the Customer will be switched to GSS prospectively.

4. ***Air Conditioning and Pool Heating***
Upon separate application, GSL Customers who have installed and are using gas air conditioning and/or pool heating equipment will be billed on the above Monthly Rates and will be billed a credit of ($~~0.2229~~0.2571) per therm for all monthly consumption of gas for services rendered between May 1 and September 30 of each year. This credit is the difference between the delivery charge for service rendered between May 1 and September 30 of each year under this Special Provision of $~~0.2636~~0.2829 per therm which includes $~~0.0900~~0.1080 per therm margin, all appropriate riders, taxes, assessments and surcharges, and the delivery charge for Service Classification GSL.

*NEW JERSEY NATURAL GAS COMPANY*

~~*First Revised Sheet No. 59*~~

*BPU No. 11~~10~~ - Gas* ~~*Superseding*~~ *Original Sheet No. 59*

## *SERVICE CLASSIFICATION - GSL*

### *GENERAL SERVICE - LARGE (continued)*

Commercial Air Conditioning and Pool Heating ("CAC") Customers will be separately metered, except, at the Company's sole discretion, existing Customers may use the same meter for their cooling, air conditioning or pool heating load and their space heating load as long as there is minimal base load during the period air conditioning rates are in effect.

# *SERVICE CLASSIFICATION - GSL*

## *GENERAL SERVICE - LARGE (continued)*

Where a CAC Customer uses gas under this service classification in a direct-fired chiller/heater and the heating load is metered through the same meter as the cooling, air conditioning or pool heating load, and further, where the gas used for heating is billed separately, the GSL Customer Charge shall be waived, provided the Customer pays the Customer Charge under its heating service in all twelve (12) months of the year.

5. ***Veterans' Organization Service***
Pursuant to N.J.S.A 48:2-21.41, when natural gas service is delivered to a customer that is a Veterans' Organization serving the needs of veterans of the armed forces, the customer may apply and be eligible for billing under this Special Provision.

*a.* Each customer shall be eligible for billing under this Special Provision upon submitting an Application for Veterans' Organization Service under this Service Classification and by qualifying as a "Veterans' Organization" as defined by N.J.S.A. 48:2-21.41 as "an organization dedicated to serving the needs of veterans of the armed forces that: is chartered under federal law, qualifies as a tax exempt organization under paragraph (19) of subsection (c) of section 501 of the federal Internal Revenue Code of 1986, 26 U.S.C. s.501 (c)(19), or that is organized as a corporation under the 'New Jersey Nonprofit Corporation Act,' N.J.S.15A:1-1 et seq." Under N.J.S.A. 48: 2-21.41, a qualified Veterans' Organization shall be charged the residential rate for service delivered to the property where the Veterans' Organization primarily operates, if the residential rate is lower than the commercial rate for service at that property.

The Customer shall furnish satisfactory proof of eligibility of service under this Special Provision to the Company, who will determine eligibility. Once proof of eligibility is determined by the Company, service under this Special Provision shall begin with the next billing cycle following receipt of the Application.

*b.* The Customer will continue to be billed on this Service Classification. At least once annually, the Company shall review eligible customers' Customer Charges, Demand Charges, and Delivery Charges under this Special Provision for all relevant periods. If the comparable Customer Charges and Delivery Charges under Service Classification Residential Service (RS) are lower than the charges under their current Service Classification, a credit in the amount of the difference will be applied to the Customer's next bill.

II. *Applicable to All Customers Purchasing Gas Supply from a Third Party Supplier*

1. ***Incremental Expenses***
The Customer shall reimburse the Company for any out-of-pocket expenses (including, but not limited to, legal and travel expenses) incurred in connection with the initiation and rendering of service under this service classification. The Company shall provide an estimate of such expenses prior to their incurrence**.**

2. ***Additional Requirements***
Service is subject to the terms and conditions of the Third Party Supplier Requirements section of this Tariff (Service Classification – TPS) and Section 10 of the Company's Standard Terms and Conditions.

## *TERMS AND CONDITIONS*

Service is subject to the Company's Standard Terms and Conditions of this Tariff.

*NEW JERSEY NATURAL GAS COMPANY*

*~~First Revised Sheet No. 61~~*

*BPU No. 11~~10~~ - Gas* *~~Superseding~~ Original Sheet No. 61*

# *SERVICE CLASSIFICATION - FT*

## *FIRM TRANSPORTATION SERVICE*

### *AVAILABILITY*

This service is available to any customer who would otherwise qualify for service under Service Classifications GSS, GSL, IS, or NGV. The Company may require the Customer to provide to the Company's satisfaction, proof of a firm gas supply having marketable title of gas with firm transportation capacity to the Company's distribution systems.

### *MONTHLY RATES*

***Customer Charge:***

| | |
|---|---|
| Customer Charge per meter per month | $~~271.28~~389.18 |

***Demand Charge:***

| | |
|---|---|
| Demand Charge per therm applied to MDQ | $~~1.98~~2.83 |

***Delivery Charge:***

| | |
|---|---|
| Delivery Charge per therm | $~~0.1443~~0.1837 |

These rates are inclusive of all applicable taxes and riders and are subject to adjustment for all other applicable riders, taxes, assessments or similar charges lawfully imposed by the Company. See Rate Summaries at the end of this Tariff for a summary of components incorporated in these rates.

### *MINIMUM MONTHLY CHARGE*

The minimum monthly charge shall be the Customer Charge and the Demand Charge.

Where service is taken for less than one month, the minimum charge will be prorated.

# *SERVICE CLASSIFICATION - FT*

## *FIRM TRANSPORTATION SERVICE (continued)*

## *SPECIAL PROVISIONS*

1. ***Determination of Demand***

The Maximum Daily Quantity (MDQ) will be initially set by determining the highest monthly average daily usage (HMAD) without normalization and multiplying that result by 1.30. The MDQ will be stated in therms.

The Company shall deliver to the Customer the gas quantity provided by the Customer up to the MDQ level. Should the Customer's usage exceed the MDQ, the MDQ will be deemed to have changed. The MDQ for service and billing purposes will remain at the highest actual daily volume served. The Customer may request a decrease to its MDQ when the Customer has installed energy efficient equipment or significantly modified its operations resulting in decreased maximum daily usage. Any decrease in the MDQ will be granted in the Company's sole judgment on a prospective basis.

2. ***Automated Meter Reading Device***

Metering shall include an automated meter reading device (AMR) with daily meter reads**,** which shall be furnished and installed by the Company at the Customer's expense. The Customer shall furnish the necessary infrastructure to support the AMR, including, but not limited to, an electrical supply and phone line, or data plan, for the operation of the device, in an area acceptable to the Company. The Company shall provide technical assistance in order to minimize the Customer's expense for such installation.

The Customer may reimburse the Company for the AMR expense, either in a lump sum payment when service is initiated or over a twelve-month period~~the life of the initial FT agreement~~ with the prime interest rate used to calculate carrying costs~~ on the unpaid balance~~.

3. ***Incremental Expenses***

The Customer shall reimburse the Company for any out-of-pocket expenses (including, but not limited to, legal and travel expenses) incurred in connection with the initiation and rendering of service under this service classification. The Company shall provide an estimate of such expenses prior to their incurrence.

4. ***Customer Responsibility***

In the event the Customer designates a Third Party Supplier in accordance with Service Classification TPS, the Customer will remain responsible for a pro rata share of any Charges which such Third Party Supplier fails to pay to the Company including payments for Delivery Shortfall or for Monthly Imbalance.

# *SERVICE CLASSIFICATION - FT*

## *FIRM TRANSPORTATION SERVICE (continued)*

5. ***Inability to Secure Supply with a Third Party Supplier***

In the event that a new Customer cannot enroll with a Third Party Supplier prior to the commencement of service, or an existing Customer's Third Party Supplier ceases providing service to the Customer and the Customer is unable to secure supply from an alternate Third Party Supplier, Customers may elect to receive temporary supply service from the Company. The price for temporary service provided to the Customers shall be equal to the Monthly BGSS price in Rider "A".

If a Third Party Supplier has not submitted enrollment information for the Customer to the Company within thirty (30) days of a new Customer's commencement of service or an existing Customer's loss of its previous Third Party Supplier, the Customer will be switched to the appropriate sales service classification.

6. ***Additional Requirements***

Service is subject to the terms and conditions of the Third Party Supplier Requirements section of this Tariff (Service Classification – TPS) and Section 10 of the Company's Standard Terms and Conditions.

## *TERMS AND CONDITIONS*

Service is subject to the Standard Terms and Conditions of this Tariff.

*NEW JERSEY NATURAL GAS COMPANY*

*~~First Revised Sheet No. 64~~*

*BPU No. 11~~10~~ - Gas* *~~Superseding~~ Original Sheet No. 64*

# *SERVICE CLASSIFICATION - DGC*

## *DISTRIBUTED GENERATION SERVICE - COMMERCIAL*

### *AVAILABILITY*

This service is available to any commercial customer using distributed generation technologies including, but not limited to, microturbines and fuel cells.

### *CONDITIONS PRECEDENT*

If the Customer is served by a Third Party Supplier, the Third Party Supplier assumes the responsibility for all delivery requirements. The Company may require the Customer to provide, to the Company's satisfaction, proof of a firm gas supply having marketable title of gas with firm transportation capacity to the Company's distribution systems. The Customer is responsible for payment of any costs if additional facilities, exclusive of metering facilities, are necessary to provide service. The Company reserves the right to limit new customers served under this service, if it determines that service expansion is detrimental to existing firm customers. The Customer must demonstrate that qualifying electric generation equipment has been installed at its location.

### *MONTHLY RATES*

| | DGC-Balancing | DGC-FT |
|---|---|---|
| ***Customer Charge:*** | | |
| Customer Charge per meter per month | $~~82.43~~104.49 | $~~82.43~~104.49 |
| ***Demand Charge:*** | | |
| Demand Charge per therm applied to PBQ | $~~1.94~~2.45 | $~~1.94~~2.45 |
| ***Delivery Charge per therm:*** | | |
| November - April | $~~0.2328~~0.2357 | $~~0.1302~~0.1331 |
| May - October | $~~0.2002~~0.2030 | $~~0.0976~~0.1004 |
| ***BGSS Charge:*** | | |
| BGSS Charge per therm for Sales Customers | See "Rate Summaries" at the end of this Tariff | N/A |

The Delivery Charges for DGC-Balancing above include the Balancing Charge as reflected in Rider "A" of this Tariff for customers whose Third Party Supplier delivers gas on their behalf pursuant to paragraph (3) under Deliveries to Company's Designated Delivery Meters section of Service Classification TPS. For DGC-FT customers whose Third Party Supplier delivers gas on their behalf pursuant to paragraph (1) under Deliveries to Company's Designated Delivery Meters section of Service Classification TPS, the DGC-FT Delivery Charges above exclude the Balancing Charge reflected in Rider "A" of this Tariff.

These rates are inclusive of all applicable taxes and riders and are subject to adjustment for all other applicable riders, taxes, assessments or similar charges lawfully imposed by the Company. See Rate Summaries at the end of this Tariff for a summary of components incorporated in these rates.

# *SERVICE CLASSIFICATION - DGC*

## *DISTRIBUTED GENERATION SERVICE - COMMERCIAL (continued)*

### *MINIMUM MONTHLY CHARGE*

The minimum monthly charge shall be the sum of the Customer Charge and the Demand Charge.

Where service is taken for less than one month, the minimum charge will be prorated.

### *SPECIAL PROVISIONS*

I. *Applicable to All Customers in this Service Classification*

1. ***Determination of Demand***
The Peak Billing Quantity (PBQ) will be initially set based on the rated fuel requirements of the installed distributed generation equipment and the Customer's electric requirements. The Company shall deliver to the Customer the gas quantity provided by the Customer up to the PBQ level. Should the Customer's usage exceed the PBQ, the PBQ will be deemed to have changed. The PBQ for service and billing purposes will remain at the highest actual daily volume served.

2. ***Automated Meter Reading Device***
All service rendered hereunder shall be metered separately from any other gas service provided to the Customer at the Customer's location.

Metering shall include an automated meter reading device (AMR) with daily meter reads, which shall be furnished and installed by the Company. The Customer shall furnish the necessary infrastructure to support the AMR, including, but not limited to, an electrical supply and phone line, or data plan, for the operation of the device, in an area acceptable to the Company. The Company shall provide technical assistance in order to minimize the Customer's expense for such installation.

# *SERVICE CLASSIFICATION - DGC*

## *DISTRIBUTED GENERATION SERVICE - COMMERCIAL (continued)*

3. ***Incremental Expenses***
The Customer shall reimburse the Company for any out-of-pocket expenses (including, but not limited to, legal and travel expenses) incurred in connection with the initiation and rendering of service under this service classification. The Company shall provide an estimate of such expenses prior to their incurrence.

The Company's main and service extension policy set forth in Section 4 of the Standard Terms and Conditions shall apply to service rendered hereunder with the following exceptions: the Company will make gas main extensions and service line connections to serve individual firm DGC customers free of charge where the cost of such extension does not exceed three (3) times the estimated annual distribution revenue for equipment with an estimated life of less than 5 years; five (5) times the estimated annual distribution revenue for equipment with an estimated life between six (6) and ten (10) years; six (6) times the estimated annual distribution revenue for equipment with an estimated life between eleven (11) and sixteen (16) years. Equipment with an estimated life greater than sixteen (16) years will be subject to the ten (10) times policy set forth in Section 4 of the Standard Terms and Conditions.

Should the Customer take service under this classification for less than one (1) year, the Customer shall reimburse the Company for the cost of the extension.

II. *Applicable to All Customers Purchasing Gas Supply from a Third Party Supplier*

1. ***Customer Responsibility***
In the event the Customer designates a Third Party Supplier in accordance with Service Classification TPS, the Customer will remain responsible for a pro rata share of any Charges which such Third Party Supplier fails to pay to the Company including payments for Delivery Shortfall or for Monthly Imbalance.

2. ***Additional Requirements***
Service is subject to the terms and conditions of the Third Party Supplier Requirements section of this Tariff (Service Classification – TPS) and Section 10 of the Company's Standard Terms and Conditions.

## *TERMS AND CONDITIONS*

Service is subject to the Standard Terms and Conditions of this Tariff.

*NEW JERSEY NATURAL GAS COMPANY*

*BPU No. 1110 - Gas* *Original Sheet No. 67*

# *SERVICE CLASSIFICATION - ED*

## *ECONOMIC DEVELOPMENT SERVICE*

### *AVAILABILITY*

Customers eligible to receive service under the following Service Classifications: General Service - Small ("GSS"), General Service - Large ("GSL"), or Firm Transportation Service ("FT").

### *CHARACTER OF SERVICE*

Firm gas sales and transportation service.

### *CONDITIONS PRECEDENT*

The Customer must meet the following conditions:

1. a. For new Customers, the building receiving service under this Tariff must be new or have been vacant for at least twelve months.

   b. Existing Customers must have been served for more than one year, and the space utilized for operations must have expanded by more than 5,000 square feet. Gas used in excess of the previous twelve months (base) usage will be subject to the Economic Development (ED) credit.

   c. An existing occupant (a) converts to natural gas and (b) expands space utilized for its operations by more than 5,000 square feet would be eligible for the credit. The Occupant must provide its energy usage for the previous twelve months (base) at the time of application for gas service. The Company will calculate the BTUs used by the Occupant in the base period and BTUs used in excess of the base period would be eligible for the ED credit.

2. The Customer must be adding at least two permanent full-time employees to a location in the Company's service territory. Relocation or consolidation of employees based at locations in the Company's service territory must net at least two new jobs in order to qualify for the ED credit. Employment growth will be confirmed by the Company and/or by affidavit from the Customer. The Company reserves the right, at its discretion, to periodically verify levels of employment. If after verification the required employment level has not been sustained, the Customer will no longer be eligible for the ED credit.

3. The Customer must apply for this service upon the initial application for gas service.

4. The Customer must execute a Service Agreement.

5. The building receiving service under this Tariff must be located within a community in our service territory with a ranking of 150 or less on the current Municipal Distress Index compiled by the New Jersey State Planning Commission.

# *SERVICE CLASSIFICATION - ED*

## *ECONOMIC DEVELOPMENT SERVICE (continued)*

### *MONTHLY RATES*

The monthly rates shall be the same as the applicable service classification except that: 1) GSS Customers will be credited $0.1200 per therm for all eligible gas use, and 2) GSL and FT Customers' Demand charges will be reduced by fifty (50) percent. These rates are inclusive of all applicable taxes and riders and are subject to adjustment for all other applicable riders, taxes, assessments or similar charges lawfully imposed by the Company.

### *MINIMUM MONTHLY CHARGE*

The minimum monthly charge for GSS Customers shall be the Customer Charge. The minimum monthly charge for GSL and FT Customers shall be the Customer Charge and the Demand Charge.

### *SPECIAL PROVISIONS*

1. ***Extension of Facilities***
   The Company will extend facilities per Sections 4, and 5 of the Standard Terms and Conditions of this Tariff utilizing the margins that result from the above Monthly Rates.

2. ***Tariff Availability***
   The Company reserves the right to offer this Tariff rate to customers located in areas of other communities, which demonstrate the characteristics warranting economic development to encourage such development and employment opportunities, if such offer meets public policy objectives of the state of New Jersey as administered by the State of New Jersey Department of Community Affairs or its successor.

### *SERVICE LIMITATIONS*

This service is not available to federal, state, county or local governments or governmental entities.

### *CONTRACT*

The maximum term of the service agreement shall be three years. A Customer's three year term of eligibility will commence no later than six months after the Service Agreement is executed.

### *TERMS AND CONDITIONS*

Service is subject to the Standard Terms and Conditions of this Tariff and the service agreement.

*NEW JERSEY NATURAL GAS COMPANY*

*~~First Revised Sheet No. 69~~*

*BPU No. 11~~10~~ - Gas* *~~Superseding~~ Original Sheet No. 69*

# *SERVICE CLASSIFICATION - EGS*

## *ELECTRIC GENERATION SERVICE*

### *AVAILABILITY*

This service is available to any existing or new customer who uses greater than or equal to 10,000 therms daily for the sole purpose of generating electricity.

### *MONTHLY RATES*

#### *Customer Charge:*

| | Without SUT | With SUT |
|---|---|---|
| Customer Charge per month | $877.26 | $935.38 |

#### *Demand Charge:*

| | Without SUT | With SUT |
|---|---|---|
| Demand Charge per therm applied to MDQ | $1.5132 | $1.6134 |

#### *Delivery Charge:*

| | Without SUT | With SUT |
|---|---|---|
| Delivery Charge per therm | $0.0651 | $0.0695 |

These rates are inclusive of all applicable taxes and riders and are subject to adjustment for all other applicable riders, applicable taxes, assessments or similar charges lawfully imposed by the Company. Natural gas used to generate electricity that is sold for resale by customers served under this Service Classification is exempt from Riders B, C, E and H and shall not be billed for such charges. In order to qualify for this exemption, a customer who uses natural gas to generate electricity for resale must complete an Annual Certification form, provided by the Company, to certify the percentage of natural gas used at the customer's New Jersey generation facilities during the previous calendar year to generate electricity that was sold for resale. For a new customer or a customer with less than twelve months of usage history, estimates supported by engineering and operational plans may be used to determine the percentage of natural gas used to generate electricity sold for resale.

See Rate Summaries at the end of this Tariff for a summary of components incorporated in these rates.

### *MINIMUM MONTHLY CHARGE*

The minimum monthly charge shall be the Customer Charge and the Demand Charge.

*NEW JERSEY NATURAL GAS COMPANY*

*BPU No. 1110 - Gas* *Original Sheet No. 70*

# *SERVICE CLASSIFICATIONS - EGS*

## *ELECTRIC GENERATION SERVICE (continued)*

## *SPECIAL PROVISIONS*

1. ***Determination of Demand***
   The Maximum Daily Quantity (MDQ) will be: (1) initially determined by agreement between the Company and the Customer, (2) stated in therms, and (3) included in the Service Agreement.

2. ***Facilities***
   The Company shall install gas main extensions, service line connections, and facilities necessary to meet pressure and demand requirements at the Customer's location (collectively, the "Extension Cost") to serve the customer free of charge where the Extension Cost does not exceed ten (10) times the estimated annual distribution revenue. An applicant shall be required to provide a non-refundable contribution in aid of construction for the value of any Extension Cost that is greater than ten (10) times the annual distribution revenue. The Extension Cost for which the Company receives a contribution shall include the tax consequences incurred by the Company. The Company and applicant may agree upon a satisfactory revenue guarantee in lieu of a contribution.

   Where it is necessary to provide additional facilities to serve increased requirements of an existing Customer, the Company reserves the right to require the Customer to provide a non-refundable contribution in aid of construction in an amount equal to the cost of such additional facilities.

# *SERVICE CLASSIFICATIONS - EGS*

## *ELECTRIC GENERATION SERVICE (continued)*

3. ***Separately Metered***
Gas delivered hereunder will be separately metered and shall not be used interchangeably with gas supplied under any other service classification.

4. ***Automated Meter Reading Device***
Metering shall include an automated meter reading device (AMR) with daily meter reads**,** which shall be furnished and installed by the Company at the Customer's expense. The Customer shall furnish the necessary infrastructure to support the AMR, including, but not limited to, an electrical supply and phone line or data plan, for the operation of the device, in an area acceptable to the Company. The Company shall provide technical assistance in order to minimize the Customer's expense for such installation.

The customer may reimburse the Company for the AMR expense, either in a lump sum payment when service is initiated or over the life of the initial EGS agreement with the prime interest rate used to calculate carrying costs ~~on the unpaid balance~~.

5. ***Incremental Expenses***
The Customer shall reimburse the Company for any out-of-pocket expenses (including, but not limited to, legal and travel expenses) incurred in connection with the initiation and rendering of service under this service classification. The Company shall provide an estimate of such expenses prior to their incurrence.

6. ***Nominations***
Customer's nominations for service under this Service Classification must be made on the Company's electronic bulletin board ("EBB") by the deadline specified on the Company's EBB on the day prior to gas flow for the next calendar day. Customer may request nomination changes after the deadline or during the intra-day through intra-day nominations no less frequently than is allowed under the then current North American Energy Standards Board ("NAESB") Nomination Standards. Customer shall have the right to request a new nomination, an Intra-day Nomination, for flow intra-day. The term "intra-day nomination" shall mean (i) a nomination received during a gas day for the same day of gas flow, and (ii) a nomination received after the Timely Nominations deadline for the following gas day. Customer shall notify the Company in writing of changes and the Company will enter and/or approve at the Company's sole discretion on the Company's EBB and the applicable interstate pipeline's EBB.

The Company reserves the right to reject nominations, in whole or in part, for deliveries in excess of Customer's estimated usage. This restriction will not apply to days with an Operational Flow Order ("OFO") in place and can be issued as a blanket for the entire system or for a single Third Party Supplier. The Company will provide written notice to a Third Party Supplier of the Company's rejection of the Third Party Supplier's deliveries prior to implementing the reductions on the affected pipeline.

# *SERVICE CLASSIFICATIONS - EGS*

## *ELECTRIC GENERATION SERVICE (continued)*

7. ***Balancing***

It is the intent that Customer's actual daily takes under this Service Classification match the Customer's daily nominations, and that Customer's actual daily deliveries match Customer's actual daily takes. The Customer shall be allowed a daily tolerance for the difference between their actual daily delivery and their actual daily take equal to the greater of 500 Dth or 2% of the Customer's daily takes. On any day that the Company has issued an OFO and/or the applicable interstate pipeline has issued an OFO, Action Alert, Force Majeure, or similar restriction, the tolerance for any negative imbalances (Customer used more than was delivered) is 0 (zero). On any day that the applicable interstate pipeline has issued an OFO limiting positive imbalances (Customer used less than was delivered), the tolerance for any positive imbalances is 0. A cash-out for any differences above the daily tolerance shall be charged or credited to the Customer each month.

If the imbalance is negative (Customer used more gas than was delivered), the Customer will purchase gas from the Company at the rates below:

| ***Imbalance Level*** | ***Calculation*** |
|---|---|
| 0% - ≤ 5% | quantity * Highest price of daily ranges for delivery on the applicable pipeline at the zone of the Company's designated delivery meters, which are published in Platts Gas Daily in the table, "Daily Price Survey" ("Gas Daily High") |
| >5% - ≤ 10% | quantity >5% * Gas Daily High * 1.1 + level above |
| >10% - ≤ 15% | quantity >10% * Gas Daily High * 1.2 + levels above |
| >15% - ≤ 20% | quantity >15% * Gas Daily High * 1.3 + levels above |
| >20% - ≤ 25% | quantity >20% * Gas Daily High * 1.4 + levels above |
| >25% | quantity >25% * Gas Daily High * 1.5 + levels above |

# *SERVICE CLASSIFICATIONS - EGS*

## *ELECTRIC GENERATION SERVICE (continued)*

If the imbalance is positive (Customer delivered more gas than was used), the Company will purchase gas from the Customer at the rates below:

| *Imbalance Level* | *Calculation* |
|---|---|
| 0% - ≤ 5% | quantity * Lowest price of daily ranges for delivery on the applicable pipeline at the zone of the Company's designated delivery meters, which are published in Platts Gas Daily in the table, "Daily Price Survey" ("Gas Daily Low") |
| >5% - ≤ 10% | quantity >5% * Gas Daily Low * .90 + level above |
| >10% - ≤ 15% | quantity >10% * Gas Daily Low * .80 + levels above |
| >15% - ≤ 20% | quantity >15% * Gas Daily Low * .70 + levels above |
| >20% - ≤ 25% | quantity >20% * Gas Daily Low * .60 + levels above |
| >25% | quantity >25% * Gas Daily Low * .50 + levels above |

All revenues and purchases derived from imbalances will be credited to the BGSS.

8. ***Operational Flow Order ("OFO")***

The Company may issue an Operational Flow Order ("OFO") requiring delivery by the Customer of at least the volume of gas the Customer uses on the affected gas day ("OFO Required Volume").

A Customer who fails to deliver the OFO Required Volumes of gas may not be permitted to continue to operate on the system. In addition, the Customer will be billed at the applicable "Delivery Shortfall" charge in effect during the OFO period for the volume difference between the OFO required delivery and the actual delivered volume. There will be no penalties for delivering gas in excess of an OFO Required Volume.

9. ***Delivery Shortfall Charge***

In the event that the Customer fails to deliver the OFO Required Volume directed by the Company (a "Delivery Shortfall"), the Company shall bill the Customer and the Customer shall pay for the volume of the Delivery Shortfall at a rate equal to ten (10) times the highest price of daily ranges for delivery on the applicable pipeline in the zone of the Company's designated delivery meters, that are published in Platts Gas Daily on the table, "Daily Price Survey"; provided, however, the amount billed shall not be lower than the maximum penalty charge for unauthorized daily overruns as provided for in the FERC-approved gas tariffs of the interstate pipelines that deliver gas to the Company. In the event of a Delivery Shortfall, the Company shall have the right to recover *pro rata* from all under-delivering Customers and Third Party Suppliers served under Service Classification TPS any penalties or other charges or damages assessed on the Company because of such under-deliveries for the days the Customers, Third Party Suppliers under-delivered.

# *SERVICE CLASSIFICATIONS - EGS*

## *ELECTRIC GENERATION SERVICE (continued)*

Notwithstanding the above, if contemporaneously with a Delivery Shortfall, the applicable pipeline has declared a force majeure on its system curtailing primary, in-path transportation in the zone of the Company's designated delivery meter, the Company may waive the above charges and may bill the Customer for the Company's Replacement Cost of Gas (defined below) provided that the under-delivering Customer is able to demonstrate to the Company's reasonable satisfaction that the applicable pipeline transportation contract on which the Customer had scheduled deliveries to the Company during the period in which the OFO was in effect entitled the Customer to firm transportation rights through the point at which the force majeure was declared and that the applicable pipeline curtailed Customer's deliveries *pro rata* with deliveries to other similarly situated delivery meters on the contract. The Customer must notify the Company in writing of the anticipated Delivery Shortfall before the nomination deadline for the next North American Energy Standards Board ("NAESB") nomination cycle. If there are no additional cycles, they must notify the Company in writing before the gas day ends. "Company's Replacement Cost of Gas" means the highesthigher of (1) the Company's LNG inventory and gasification costs during the time period of the applicable pipeline force majeure event adjusted for all appropriate taxes, assessments and surcharges, (2) the prevailing market price, as determined by the Company based on a published index or independent trading platform, for delivered gas to any NJNG citygate during the time period of the applicable pipeline force majeure event, andor (3) the cost of gas purchased by the Company during the time period of the applicable pipeline force majeure event; plus any pipeline penalties or other charges or damages assessed on the Company.

10. ***Customer Responsibility***
In the event the Customer designates a Third Party Supplier in accordance with Service Classification TPS, the Customer will remain responsible for a *pro rata* share of any charges which such Third Party Supplier fails to pay to the Company including payments for Delivery Shortfall or for balancing.

11. ***Third Party Supplier Requirements***
In the event the Customer designates a Third Party Supplier, service to the Third Party Supplier is subject to the terms and conditions of the Third Party Supplier Requirements section of this Tariff (Service Classification – TPS) and Section 10 of the Company's Standard Terms and Conditions, except as modified within this Service Classification.

## *PAYMENT*

Unless otherwise specified, bills are due within ten days after the Company sends the bill and is subject to a late payment charge as set forth in Paragraph 8.9 of the Standard Terms and Conditions of this Tariff.

# *SERVICE CLASSIFICATIONS - EGS*

## *ELECTRIC GENERATION SERVICE (continued)*

### *CONTRACT*

A written service agreement on the Company's Standard Application Form shall be required for Electric Generation Customers. The service agreement will be in effect for a minimum term of 10 years and a maximum term of 20 years. The Tariff rates in effect at the beginning of a Customer's service agreement shall remain applicable to the Customer's service during the term of the agreement. If the agreement is renewed at the end of the term, the rates applicable to the Customer in the new service agreement shall be the rates effective at that time for this Service Classification.

### *CREDIT REQUIREMENTS*

If the customer is not deemed creditworthy by the Company, a parental guaranty, letter of credit, cash deposit or other security acceptable to Company will be required. The amount will equal six (6) months of demand charges and three (3) months of delivery charges.

### *TERMS AND CONDITIONS*

Service is subject to the Standard Terms and Conditions of this Tariff and the service agreement.

NEW JERSEY NATURAL GAS COMPANY

~~First Revised Sheet No. 76~~

BPU No. 11~~10~~ - Gas ~~Superseding~~ Original Sheet No. 76

# SERVICE CLASSIFICATION - NGV

## NATURAL GAS VEHICLE SERVICE

### AVAILABILITY

This service is available to any residential or commercial customer for the purpose of fueling natural gas vehicles at Company owned and operated compressed natural gas ("CNG") re-fueling facilities ("Company facilities") and at separately metered Customer owned and operated CNG re-fueling facilities ("Customer owned facilities").

### CONDITIONS PRECEDENT

The Customer must sign a service agreement which sets forth the vehicles to be served to be eligible for this service.

### DEFINITION OF TERM USED HEREIN

"GGE" is the Gasoline Gallon Equivalent for converting a price per therm of natural gas to a price per gallon of gasoline. The GGE shall be determined in accordance with local standards.

### CHARACTER OF SERVICE

Firm sales gas service where Customer who uses Company facilities purchases gas supply pursuant to the Company's Rider "A" for Basic Gas Supply Service ("BGSS"). Firm sales or transportation gas service where Customer who uses Customer owned facilities purchases gas supply pursuant to the Company's Rider "A" for BGSS or from a Third Party Supplier, respectively.

### LICENSING, PERMITS AND LEGAL REQUIREMENTS

Customers installing CNG re-fueling facilities on their premises must meet all applicable licensing, permitting and other legal requirements associated with owning and operating CNG refueling facilities. The failure of the customer to comply with this provision may result in the Company suspending or terminating gas service to such facilities without further liability.

### MONTHLY RATES

| | Gas Available at Company Facilities | Customer Owned Facilities |
|---|---|---|
| ***Customer Charge:*** | | |
| Residential Customer Charge per meter per month | N/A | $~~10.14~~12.10 |
| Commercial Customer Charge per meter per month | N/A | $~~82.85~~104.49 |
| ***Delivery Charge:*** | | |
| Delivery Charge per therm | $~~0.2831~~0.3480 ($~~0.354~~0.435 per GGE) | $~~0.2831~~0.3480 ($~~0.354~~0.435 per GGE) |

# *SERVICE CLASSIFICATION - NGV*

## *NATURAL GAS VEHICLE SERVICE (continued)*

| | Gas Available at Company Facilities | Customer Owned Facilities |
|---|---|---|
| ***Compression Charge:*** | | |
| Compression Charge per therm | $0.4958 ($0.620 per GGE) | N/A |

***BGSS Charge:***

Monthly BGSS Charge per therm for Sales Customers — See "Summary of Rate Components" at the end of this Tariff

These rates are inclusive of all applicable taxes and riders with the exception of the State of New Jersey Motor Vehicle fuel tax and Federal excise tax. These rates are subject to adjustment for all other applicable riders, taxes, assessments or similar charges lawfully imposed by the Company. See "Summary of Rate Components" at the end of this Tariff for a summary of components incorporated in these rates.

## *MINIMUM MONTHLY CHARGE*

The minimum monthly charge shall be the Customer Charge.

Where service is taken for less than one month, the minimum charge will be prorated.

## *SPECIAL PROVISIONS*

*I. Applicable to All Customers in this Service Classification*

1. ***Taxes, Assessments and Surcharges***
   The Customer shall pay all riders, taxes, assessments and surcharges that are lawfully imposed upon the Company in providing service under this classification.

# *SERVICE CLASSIFICATION - NGV*

## *NATURAL GAS VEHICLE SERVICE (continued)*

II. *Applicable to All Customers Who Use Customer Owned Facilities*

1. ***Facilities***

The Company shall install gas main extensions and service line connections at the Customer's location (collectively, the "Extension Cost") to serve the customer free of charge where the Extension Cost does not exceed ten (10) times the estimated annual distribution revenue. An applicant shall be required to provide an Extension Cost Deposit for the value of any Extension Cost that is greater than ten (10) times the annual distribution revenue. The Extension Cost for which the Company receives a deposit shall include the tax consequences incurred by the Company.

The Extension Cost Deposit, as defined above, shall remain, without interest, in the possession of the Company, subject to an annual review of the Customer's actual annual distribution revenue for up to ten years from when the Customer began receiving service. Annually, if the Customer's actual annual distribution revenue for the prior year is greater than the estimated annual distribution revenue used to determine the Extension Cost or greater than any prior year's actual distribution revenue, the Company shall provide a refund in the amount of the remaining years of the ten (10) years times the difference between that year's actual distribution revenue and the greater of the estimated annual distribution revenue used to determine the Extension Cost Deposit and the highest prior year's actual distribution revenue. No further calculation shall be performed when accumulated refunds are equal to the Extension Cost Deposit and in no event shall refunds exceed the initial deposit.

All deposits not returned to the applicant within a period of ten (10) years after the Company first makes gas service available shall remain the property of the Company with no further obligation of refund. The Company and applicant may agree upon a satisfactory revenue guarantee in lieu of a deposit or contribution.

Where it is necessary to provide additional facilities to serve increased requirements of an existing Customer, the Company reserves the right to require the Customer to contribute or deposit an amount equal to the cost of such additional facilities. This amount shall be subject to refund as outlined earlier in this section except that refunds shall be a function of the incremental distribution revenue generated by the increased requirements over a predetermined base.

2. ***Separately Metered***

Gas delivered hereunder will be separately metered and shall not be used interchangeably with gas supplied under any other service classification.

# *SERVICE CLASSIFICATION - NGV*

## *NATURAL GAS VEHICLE SERVICE (continued)*

3. ***Automated Meter Reading Device***
For Commercial customers, metering shall include an automated meter reading device (AMR), which shall be furnished and installed by the Company at the Customer's expense. The Customer shall furnish an electrical supply and phone line or data plan, as needed, for the operation of the device, in an area acceptable to the Company. The Company shall provide technical assistance in order to minimize the Customer's expense for such installation.

The Customer may reimburse the Company for the AMR expense, either in a lump sum payment when service is initiated or over a twelve-month period~~the life of the initial NGV agreement~~ with the prime interest rate used to calculate carrying costs~~ on the unpaid balance~~. Payments made by the Customer shall not give the Customer ownership of the AMR equipment. The AMR equipment is and shall remain the sole property of the Company.

For Residential customers, an AMR device will not be required for this service. However, upon prior notice to the Customer, the Company reserves the right to install an AMR at its own expense. Should the Company decide to install the AMR, the Customer shall furnish an electrical supply and phone line or data plan, as needed, for the operation of the device, in an area acceptable to the Company. Should the Customer request an AMR, the installation shall be in accordance with Paragraph 6.10 of the Standard Terms and Conditions.

4. ***Maximum Quantities***
The maximum monthly and hourly quantities of gas to be delivered shall be specified in the service agreement and may be changed only with approval of the Company.

5. ***Incremental Expenses***
The Customer shall reimburse the Company for any out-of-pocket expenses (including, but not limited to, permitting, licensing, and legal expenses) incurred in connection with the initiation and rendering of service under this service classification. The Company shall provide an estimate of such expenses prior to their incurrence and may include these expenses as part of the Facilities cost referenced in Section I of this Service Classification.

6. ***Resale of Vehicle Fuel***
If the Customer provides natural gas for resale as a vehicle fuel, the Customer will be responsible for collecting and paying all applicable taxes on the gas compressed for resale and for the metering of such sale in accordance with all applicable standards and regulations.

## *III. Applicable to All Customers Purchasing Gas Supply from a Third Party Supplier*

1. ***Customer Responsibility***
The Company may require the Customer to provide, to the Company's satisfaction, proof of a firm gas supply having marketable title of gas with firm transportation capacity to the Company's distribution system. In the event the Customer designates a Third Party Supplier in accordance with Service Classification TPS, the Customer will remain responsible for a pro rata share of any Charges which such Third Party Supplier fails to pay to the Company including payments for Delivery Shortfall or for Monthly Imbalance.

# *SERVICE CLASSIFICATION - NGV*

## *NATURAL GAS VEHICLE SERVICE (continued)*

2. ***Additional Requirements***
   Service is subject to the terms and conditions of the Third Party Supplier Requirements section of this Tariff (Service Classification – TPS) and Section 10 of the Company's Standard Terms and Conditions.

## *PAYMENT*

Unless otherwise specified, bills are due within 10 days after the Company sends the bill and subject to a late payment charge as set forth in Paragraph 8.9 of the Standard Terms and Conditions of this Tariff.

## *CONTRACT*

A written service agreement shall be required for Natural Gas Vehicle Service Customers.

## *TERMS AND CONDITIONS*

Service is subject to the Standard Terms and Conditions of this Tariff and the service agreement.

*NEW JERSEY NATURAL GAS COMPANY*

*~~First Revised Sheet No. 81~~*

*BPU No. 1~~10~~ - Gas* *~~Superseding~~ Original Sheet No. 81*

# *SERVICE CLASSIFICATION - IS*

## *INTERRUPTIBLE SERVICE*

### *AVAILABILITY*

This service is applicable to Commercial and Industrial Customers whose minimum connected load is not less than 150 therms per hour, provided that gas is used only at locations where the Company has 1) adequate distribution facilities and 2) an adequate supply of natural gas. Customers will be required to specify that they have alternate fuel facilities installed in operating condition with an adequate fuel supply, as discussed in Special Provision 1.

### *CHARACTER OF SERVICE*

Interruptible gas sales and transportation service.

### *MONTHLY RATES*

***Customer Charge:***

| | |
|---|---|
| Customer Charge per meter per month | $572.98 |

***Delivery Charge:***

**Customers with Alternate Fuel**

| | |
|---|---|
| Delivery Charge per therm | $0.1172 |

**Customers without Alternate Fuel**

| | |
|---|---|
| Delivery Charge per therm | $0.3580 |

***BGSS Charge:***

| | |
|---|---|
| BGSS Charge per therm for Sales Customers | See "Rate Summaries" at the end of this Tariff |

These rates are inclusive of all applicable taxes and riders and are subject to adjustment for all other applicable riders, taxes, assessments or similar charges lawfully imposed by the Company. See Rate Summaries at the end of this Tariff for a summary of components incorporated in these rates.

### *MINIMUM MONTHLY CHARGE*

The minimum monthly charge applicable shall be the Customer Charge. Where service is taken for less than one month, the minimum charge will be prorated.

# *SERVICE CLASSIFICATION - IS*

## *INTERRUPTIBLE SERVICE (continued)*

## *SPECIAL PROVISIONS*

I. *Applicable to All Customers in this Service Classification*

1. ***Alternate Fuel Certification***
If the Customer desires to be categorized as a customer with alternate fuel then, as of November 1st of each year, the Customer must certify in a signed affidavit that the installation being served is physically and legally capable of using the fuel oil and the specific sulfur content as indicated or that it may legally and physically use propane at the Customer's end-use facility. The alternate fuel certification and related details will be held confidential except as same information shall be utilized by the Company for preparation of periodic reports to the Board. It is the Customer's full responsibility to have standby equipment installed and maintained in operating condition and a fuel supply adequate for its operation at all times. Adequate supply requirements for customers using No. 2 fuel oil, No. 4 fuel oil, jet fuel or kerosene are seven (7) days of alternate fuel either on hand or, if a customer's on-site storage capacity is less than seven (7) days, then full storage capacity plus additional firm contractual supply arrangements to equal seven (7) days. No customer is required to build additional storage. All customers that use non-distillate fuels as an alternate supply, or will agree to suspend operations during an interruption, are exempt from the alternate fuel requirement, but must file a certification with the Company indicating the alternate fuel used or their intention to discontinue operations.

If the Customer does not file a certification with the Company, the Customer will be served and billed as an Interruptible Customer without Alternate Fuel.

2. ***Separately Metered***
Gas delivered hereunder will be separately metered and shall not be used interchangeably with gas supplied under any other service classification.

3. ***Automated Meter Reading Device***
Metering shall include an automated meter reading device (AMR) with daily meter reads**,** which shall be furnished and installed by the Company at the Customer's expense. The Customer shall furnish the necessary infrastructure to support the AMR, including, but not limited to, an electrical supply and phone line or data plan for the operation of the device, in an area acceptable to the Company. The Company shall provide technical assistance in order to minimize the Customer's expense for such installation.

The Customer may reimburse the Company for the AMR expense, either in a lump sum payment when service is initiated or over a twelve-month period~~the life of the initial IS agreement~~ with the prime interest rate used to calculate carrying costs ~~on the unpaid balance~~.

# *SERVICE CLASSIFICATION - IS*

## *INTERRUPTIBLE SERVICE (continued)*

4. ***Service Interruption***
The Customer agrees to discontinue the use of gas service at any time, and from time to time upon notice from the Company. The Company shall notify the Customer of the date and time of a service interruption by telephone and e-mail or fax. The Company's determination to discontinue service or to reinstate service following a discontinuance shall be conclusive.

5. ***Unauthorized Use***
In the event the Company notifies the Customer to discontinue the use of gas service at any time and the Customer fails to do so, the Company shall have the right to terminate service, to transfer the Customer to a firm service classification and/or to bill the Customer for usage occurring during the interruption period at the applicable "Unauthorized Use" charge in effect.

6. ***Incremental Gas Service***
During periods of gas service interruption, Customers in need of gas may request service under the Incremental Gas Service ("IGS") Classification.

II. *Applicable to All Customers Purchasing Gas Supply Under Rider "A" BGSS*

1. ***Maximum Quantities***
The maximum monthly and hourly quantities of gas to be delivered shall be specified in the service agreement and may be changed only with approval of the Company.

2. ***Service Nominations***
Upon request by the Company on any day, the Customer shall furnish an estimate of the amount of gas to be taken under this Service Classification during the next 24-hour period. The Customer must notify the Company in writing at least twenty-four (24) hours before it plans to discontinue the use of gas service.

# *SERVICE CLASSIFICATION - IS*

## *INTERRUPTIBLE SERVICE (continued)*

3. ***BGSS***
   Customers will be supplied under the Monthly BGSS service which will be applied to all therms billed each month. See "Rate Summaries" for the current price.

III. *Applicable to All Customers Purchasing Gas Supply from a Third Party Supplier*

1. ***Return to Sales Classification***
   Upon a Customer's election to return to sales service under the IS Service Classification, it shall be required to provide the Company with no less than 30 days' notice of the Customer's intention to return to sales service under Service Classification IS. The Company may accept less than thirty (30) days' notice if gas is available to serve the Customer.

2. ***Incremental Expenses***
   The Customer will reimburse the Company for any out-of-pocket expenses (including, but not limited to legal and travel expenses) incurred in connection with the initiation and rendering of service under this service classification. The Company shall provide an estimate of such expenses prior to their incurrence.

3. ***Service Charge Waiver***
   The Customer charge for IS sales service will be waived in months when a Customer uses IS transportation service to meet all its gas needs.

4. ***Customer Responsibility***
   In the event the Customer designates a Third Party Supplier in accordance with Service Classification TPS, the Customer will remain responsible for a pro rata share of any Charges which such Third Party Supplier fails to pay to the Company including payments for Unauthorized Use or for Monthly Imbalances.

5. ***Additional Requirements***
   Service is subject to the terms and conditions of the Third Party Supplier Requirements section of this Tariff (Service Classification – TPS) and Section 10 of the Company's Standard Terms and Conditions.

## *CONTRACT*

A written service agreement on the Company's Standard Application Form for a minimum one-year period may be required for IS Customers. Successive one-year terms will be in effect unless terminated by written notice at least two (2) months prior to the expiration of the service agreement. The Company reserves the right to require an updated written service agreement.

## *TERMS AND CONDITIONS*

Service is subject to the Standard Terms and Conditions of this Tariff and the service agreement.

*NEW JERSEY NATURAL GAS COMPANY*

*BPU No. 1110 - Gas* *Original Sheet No. 85*

# *SERVICE CLASSIFICATION - IGS*

## *INCREMENTAL GAS SERVICE*

### *AVAILABILITY*

This service is available when requested by a Customer, and when the Company has the capability to deliver incrementally purchased gas supplies. The service will be available for a limited term to Customers served under Service Classification IS.

### *CONDITIONS PRECEDENT*

The Customer shall request IGS and provide the expected time period of service and the estimated volume of sales. If IGS is available, the Company will authorize service under IGS. The request and authorization may be made by telephone and agreed to in writing (fax, e-mail, etc. are acceptable).

### *CHARACTER OF SERVICE*

Gas service will be provided only to the extent that gas supplies may be incrementally purchased and are offered for sale by the Company.

The Company reserves the right to curtail or interrupt this service immediately if, in the Company's sole discretion, continuance of this service would adversely affect service to other Customers.

### *OFFERING OF SERVICE*

This service will be offered to customer classes as follows:

***Non-Firm***

December through March - rates must be at least the level of otherwise applicable tariff rates.
April through November - rates may be below otherwise applicable tariff rates.

When rates are offered below otherwise applicable tariff rates, this service is offered only for volumes of gas that are incremental and which would not be used except for the existence of this offer.

*NEW JERSEY NATURAL GAS COMPANY*

*BPU No. 1110 - Gas* *Original Sheet No. 86*

# *SERVICE CLASSIFICATION - IGS*

## *INCREMENTAL GAS SERVICE (continued)*

### *RATES*

The rates for service will be set by the Company and will include a commodity charge equal to the highestgreater of:

A. -The "Company's Replacement Cost of Gas" (See Special Provision 5 of this Service Classification);
B. ,tThe Monthly BGSS price applicable to Service Classification IS;
C. , or tThe highest price of the daily ranges that are published in Platts Gas Daily on the table "DailyGas Price Survey" for delivery in Texas Eastern Zone M-3; and
D. The highest price of the daily ranges that are published in Platts Gas Daily on the table "Daily Price Survey" for delivery in Transco Zone 6 NNY North.

In addition, such rates shall include all applicable riders, taxes, assessments and surcharges that are lawfully imposed upon the Company in providing service under this classification. The Customer will continue to be charged the Customer Charge and Delivery Charge under Service Classification IS.

### *SPECIAL PROVISIONS*

1. ***Service Interruption***
   The Customer agrees to discontinue the use of gas service at any time, and from time to time upon notice from the Company. The Company shall notify the Customer of the date and time of a service interruption by telephone and e-mail or fax. The Company's determination to discontinue service or to reinstate service following a discontinuance shall be conclusive.

2. ***Unauthorized Use***
   In the event the Company notifies the Customer to discontinue the use of gas service at any time and the Customer fails to do so, the Company shall have the right to terminate service and/or to bill the Customer for usage occurring after the expiration of the period of notice specified in the service agreement at the applicable "Unauthorized Use" charge in effect.

3. ***Service Nominations***
   Upon request by the Company on any day, the Customer shall furnish an estimate of the amount of gas to be taken under this Service Classification during the next 24-hour period. The Customer must notify the Company in writing at least 24 hours before it plans to discontinue the use of gas service.

4. ***Required Purchases***
   When the Customer requests IGS service and the Company commits to an incremental purchase of gas, the Customer will be required to pay for the contracted gas service whether or not the Customer uses the gas.

# *SERVICE CLASSIFICATION - IGS*

## *INCREMENTAL GAS SERVICE (continued)*

5. ***Company's Replacement Cost of Gas***

"Company's Replacement Cost of Gas" means the highest of:

A. (1) Company's LNG inventory and gasification costs adjusted for all appropriate taxes, assessments and surcharges;,

B. T(2) the prevailing market price, as determined by the Company based on a published index or independent trading platform, for delivered gas to any NJNG citygate during the period of IGS service;, and or

C. T(3) the cost of gas purchased by the Company;

The Company's Replacement Cost of Gas shall also include plus any pipeline penalties or other charges or damages assessed on the Company.

## *REPORTS*

The Company will provide 48 hours' notice to the Board prior to any sales being made which would occur at rates that are less than the Customer's applicable Service Classification. The Company will submit a monthly report providing details of all IGS sales in any month sales are made.

# *SERVICE CLASSIFICATION - TPS*

## *THIRD PARTY SUPPLIER REQUIREMENTS*

### *AVAILABILITY*

This service classification is for Third Party Suppliers (formerly referred to as Marketers or Brokers) who have been engaged by transportation customers using RS, GSS, GSL, FT, DGC, CNG, NGV or IS Services to be responsible for delivering natural gas to the Company's designated delivery meters on behalf of those Customers. All Third Party Suppliers who wish to act on behalf of Customers will be required to be authorized by the Company. Pursuant to this authorization, the Third Party Suppliers will be required to sign a service agreement and post a deposit or letter of credit in order to have the Company accept its natural gas at the designated delivery meters.

### *CONDITIONS PRECEDENT*

The Third Party Supplier shall execute a service agreement with the Company.

The Third Party Supplier shall provide a written or electronic notification to the Company of the identity of Customer(s) on whose behalf they are acting.

The Third Party Supplier shall post an Initial Deposit, consisting of cash or letter of credit in the amount of $50,000 to serve RS customers and/or $25,000 to serve commercial customers including GSS, GSL, FT, DGC, CNG, NGV or IS customers. If the Third Party Supplier initially plans to serve only RS customers, the Initial Deposit shall be in the amount of $50,000 and if that Third Party Supplier later also serves commercial customers, an additional deposit of $25,000 shall be required for a total Initial Deposit of $75,000. If the Third Party Supplier initially plans to serve only commercial customers, the Initial Deposit shall be in the amount of $25,000 and if that Third Party Supplier later also serves RS customers, an additional deposit of $50,000 shall be required for a total Initial Deposit of $75,000. The total deposit provided by the Third Party Supplier shall be the greater of:

A. the Initial Deposit; or
B. an amount equal to the total of:
   i. at least three (3) times the estimated usage for one (1) day in January times the most current January's price for the higher of Texas Eastern ~~z~~Zone M-3 and Transco Zone 6 NNY North for any and all Customers on whose behalf the Third Party Supplier is acting;
   ii. for Customers using Billing Option 3, an additional amount equal to at least two (2) times the January delivery charges for each service classification for any and all Customers on whose behalf the Third Party Supplier is acting; and
   iii. the value of the Third Party Supplier's imbalance which is determined by multiplying the aggregate imbalance position for RS, GSS, GSL, DGC, and NGV residential customers on whose behalf the Third Party Supplier is acting by the midpoint price of daily ranges for the applicable delivery zone that are published in Platts Gas Daily on the table, "Daily Price Survey."

The deposit held from the Third Party Supplier will not bear interest. The Third Party Supplier shall agree the Company has the right to access and apply the cash deposit or letter of credit to any payment obligations which are deemed to be late or in arrears. In lieu of a cash deposit or letter of credit from a Third Party Supplier, the Company may, in its sole discretion, agree to accept a guaranty from such financially responsible parent or parent companies of the Third Party Supplier for the payment of any liabilities or obligations to be incurred by the Third Party Supplier. If any negative change in the financial condition of the guaranteeing party occurs, the Company reserves its right to request a deposit from the Third Party Supplier.

*NEW JERSEY NATURAL GAS COMPANY*

*BPU No. 1110 - Gas* *Original Sheet No. 8887*

*Date of Issue:* *November 13, 2019*
*Issued by:* *Mark G. Kahrer, Senior Vice President*
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*Wall, NJ 07719*

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*NEW JERSEY NATURAL GAS COMPANY*

*BPU No. 1110 - Gas* *Original Sheet No. 8988*

# *SERVICE CLASSIFICATION - TPS*

## *THIRD PARTY SUPPLIERS REQUIREMENTS (continued)*

### *RATES*

| | | |
|---|---|---|
| Basic Service | $65.00 per month | includes administration of nominations, balancing, inquiry, customer enrollment changes and security review |

### *BILLING OPTIONS*

#### *Option 1 - Utility Consolidated Billing*

The Third Party Supplier will provide the Company with the billing parameters for the "commodity charge" to be included in the calculation of each Customer's bill and the Company will send the total bill to each customer. The Company will purchase the receivable from the Third Party Supplier and be solely responsible for the processing of payments, collections and basic customer inquiries. Each Third Party Supplier operating under this option will be required to execute an agreement summarizing the terms and conditions of their services. This option includes electronic summaries for each cycle. The following charges are applicable to Billing Option 1:

| | | |
|---|---|---|
| Billing Option 1 | $ 0.75 | per bill |

#### *Option 2 – Dual Billing*

The Company will provide a bill to the Customer for the transportation services provided on its distribution system. The Company will provide to the Third Party Supplier a summary of the usage and transportation charges for each customer during each billing period.

#### *Option 3 - Third Party Supplier Consolidated Billing*

The Third Party Supplier will send the total bill to each Customer and remit to the Company the transportation charges associated with the Customer. Third Party Supplier shall receive a total annual credit of $3.60 per customer for each FT, GSL, RS and GSS Customer billed according to this option. Such credit shall be applied monthly on a pro-rated basis.

# *SERVICE CLASSIFICATION - TPS*

## *THIRD PARTY SUPPLIERS REQUIREMENTS (continued)*

### *DELIVERIES TO COMPANY'S DESIGNATED DELIVERY METERS*

1. ***FT, DGC-FT, CNG, NGV Commercial, and IS Service***

The Third Party Supplier agrees to deliver gas to the Company's designated delivery meters for each Customer on whose behalf it is operating. The Company may offer a Third Party Supplier the option to deliver a specified volume to the Company's designated delivery meter on the Transcontinental Gas Pipeline. If the Third Party Supplier accepts the offer but fails to deliver the specified volume to the designated delivery meter on the Transcontinental Gas Pipeline, the Third Party Supplier will be billed at the applicable "Delivery Shortfall" charge in effect for the volume not delivered.

The Third Party Supplier shall use its best efforts to achieve a balance between its deliveries (net of Special Provision 3, Fuel Use and Unaccounted for Gas) and its aggregate customer requirements on a daily basis. The Company reserves the right to require a Third Party Supplier to balance deliveries and takes of transported gas. If the Third Party Supplier has an accumulated imbalance between deliveries and takes of transported gas, the Company reserves the right to reject the Third Party Supplier's requested deliveries in whole or in part.

If at any time during the month, the aggregate Third Party Supplier's account is out of balance by more than 30%, the Third Party Supplier may be required, upon 2 business days' prior notice from the Company, to initiate corrective action to balance its account within the following 5-day period. Third Party Suppliers who fail to adhere to this requirement and have a positive cumulative imbalance (in aggregate the Third Party Supplier delivered more gas than was used in aggregate by its Customers), will have their subsequent nominations, on days with no Operational Flow Orders or IS Daily Balancing restrictions, rejected until they are returned to at or below a 10% imbalance. Third Party Suppliers who fail to adhere to this requirement and have a negative cumulative imbalance (in aggregate the Customers used more gas than was delivered in aggregate by the Third Party Supplier), will be charged at the ~~d~~"Delivery Shortfall" c~~C~~harge for the volume required to bring them to a 10% imbalance. Third Party Suppliers who fail to take corrective action to balance their account may not be permitted to continue to operate on the system.

The Company reserves the right to reject nominations, in whole or in part, for a Third Party Supplier's deliveries in excess of its estimated aggregate customer requirements, plus Special Provision 3, Fuel Use and Unaccounted for Gas. This restriction will not apply to days with an Operational Flow Order or IS Daily Balancing in place and can be issued as a blanket for the entire system or for a single Third Party Supplier. The Company will provide written notice to a Third Party Supplier of the Company's rejection of the Third Party Supplier's deliveries prior to implementing the reductions on the affected pipeline.

~~2. IS Service~~

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# *SERVICE CLASSIFICATION - TPS*

## *THIRD PARTY SUPPLIERS REQUIREMENTS (continued)*

~~The Company reserves the right to curtail IS Service at any time upon notice to the Customer(s) receiving the service. This requirement may be issued as a blanket for the entire system or for a single Third Party Supplier or Customer.~~

~~In the event the Company notifies a Customer to discontinue the use of IS service at any time, and the Customer fails to do so, the Company shall have the right to terminate service, to transfer the Customer to a firm service classification and/or to bill the Customer for usage occurring during the curtailment period at the applicable "Unauthorized Use" charge in effect.~~

# *SERVICE CLASSIFICATION - TPS*

## *THIRD PARTY SUPPLIERS REQUIREMENTS (continued)*

2. ***IS Service***

The Company reserves the right to curtail IS Service at any time upon notice to the Customer(s) receiving the service. This requirement may be issued as a blanket for the entire system or for a single Third Party Supplier or Customer.

In the event the Company notifies a Customer to discontinue the use of IS service at any time, and the Customer fails to do so, the Company shall have the right to terminate service, to transfer the Customer to a firm service classification and/or to bill the Customer for usage occurring during the curtailment period at the applicable "Unauthorized Use" charge in effect.

3. ***RS, GSS, GSL, DGC-Balancing, and NGV Residential Service***

The Third Party Supplier agrees to deliver to the Company's designated delivery meters a volume of gas for each day of the month equal to the average daily usage for that month for each Customer on whose behalf it is operating as specified by the Company ("Daily Delivery Volume"). The Company will provide the Third Party Supplier with the Daily Delivery Volume by month in advance during the year.

If the Third Party Supplier fails to deliver the Daily Delivery Volume, the Third Party Supplier will be billed at the applicable "Delivery Shortfall" charge in effect.

In the event that, at any time, the sum of a Third Party Supplier's cumulative imbalances, for non-Force Majeure reasons and for the time period which the Company has not yet received payment (including period since last bill), are under-deliveries that exceed three (3) times the Daily Delivery Volume, the Company will notify the Third Party Supplier. If such under-deliveries exceed five (5) times the Daily Delivery Volume, the Third Party Supplier will have four (4) business days to post and maintain for a one (1) year period a cash deposit or letter of credit in an amount equal to two (2) times that otherwise required pursuant to the Conditions Precedent of this Service Classification. At the conclusion of the one (1) year period, if the Third Party Supplier has had no additional occurrence of under-deliveries, the Third Party Supplier's credit requirement will be reduced to the amount required in the Conditions Precedent of this Service Classification. If the Third Party Supplier has had an additional under-delivery event during the one (1) year period, the Third Party Supplier will maintain the cash deposit or letter of credit in an amount equal to two (2) times that otherwise required pursuant to the Conditions Precedent of this Service Classification for an additional one (1) year period. The Company has the right to remove the Third Party Supplier from the New Jersey Natural Gas system for continued non-performance.

# *SERVICE CLASSIFICATION - TPS*

## *THIRD PARTY SUPPLIERS REQUIREMENTS (continued)*

## *SPECIAL PROVISIONS*

1. ***Monthly Imbalances***

   a. ***FT, DGC-FT, CNG, NGV Commercial and IS Transportation Services***

The Third Party Supplier shall use its best efforts to achieve a balance between its Customers' deliveries and requirements on a daily basis. Monthly imbalances in the volumes of gas delivered for the aggregate Customers' accounts (net of Special Provision 3, Fuel Use and Unaccounted for Gas) and the volumes of gas used in the aggregate by the Customers, will be cashed-out each month so that no imbalances will be carried into the next month. The cashout will be charged to the Third Party Supplier each month. The Company will use the average weekly spot index price for New York City citygate, as published by *Natural Gas Week's "Major Market Prices"*.

If the imbalance is negative (in aggregate the Customers used more gas than was delivered in aggregate by the Third Party Supplier), the Third Party Supplier will purchase gas from the Company at the rates below:

| ***Imbalance Level*** | ***Calculation*** |
|---|---|
| 0% - ≤ 5% | quantity * Highest Weekly Index Price |
| >5% - ≤ 10% | quantity >5% * Highest Weekly * 1.1 + level above |
| >10% - ≤ 15% | quantity >10% * Highest Weekly * 1.2 + levels above |
| >15% - ≤ 20% | quantity >15% * Highest Weekly * 1.3 + levels above |
| >20% - ≤ 25% | quantity >20% * Highest Weekly * 1.4 + levels above |
| >25% | quantity >25% * Highest Weekly * 1.5 + levels above |

If the imbalance is positive (in aggregate the Third Party Supplier delivered more gas than was used in aggregate by its Customers), the Company will purchase gas from the Third Party Supplier at the rates below:

| ***Imbalance Level*** | ***Calculation*** |
|---|---|
| 0% - ≤ 5% | quantity * Lowest Weekly Index Price |
| >5% - ≤ 10% | quantity >5% * Lowest Weekly * .90 + level above |
| >10% - ≤ 15% | quantity >10% * Lowest Weekly * .80 + levels above |
| >15% - ≤ 20% | quantity >15% * Lowest Weekly * .70 + levels above |
| >20% - ≤ 25% | quantity >20% * Lowest Weekly * .60 + levels above |
| >25% | quantity >25% * Lowest Weekly * .50 + levels above |

All revenues and purchases derived from imbalances will be credited to the BGSS.

# *SERVICE CLASSIFICATION - TPS*

## *THIRD PARTY SUPPLIERS REQUIREMENTS (continued)*

### *SPECIAL PROVISIONS (continued)*

*b.* ***RS, GSS, GSL, DGC-Balancing , and NGV Residential Service***

For each Third Party Supplier, imbalances in the volumes of gas delivered for the Customer's account (net of Special Provision 3, Fuel Use and Unaccounted for Gas) and the volumes of gas used by the Customer, will be rolled over each month so that any imbalance will be carried into the next month. The Company will select the time period to net any imbalances with the monthly Daily Delivery Volume.

If the Third Party Supplier's account is out of balance by more than 30% of the total amount transported in the prior month, the Third Party Supplier may be required to modify its deliveries for the following month. In addition, the Company reserves the right to require additional volumes to be delivered for the following month for any volumes owed to the Company.

*2.* ***Daily Balancing***

*a.* ***FT and DGC-FT Services***

The Company may issue an Operational Flow Order (OFO) requiring delivery by the Third Party Supplier of at least the volume of gas the Customers, in aggregate, use on the affected gas day ("OFO Required Volume") plus Special Provision 3, Fuel Use and Unaccounted for Gas. An OFO may be issued as a blanket for the entire system or for a single Third Party Supplier or Customer.

Third Party Suppliers who fail to deliver the OFO Required Volumes of gas may not be permitted to continue to operate on the system. In addition, the Third Party Supplier will be billed at the applicable "Delivery Shortfall" charge in effect during the OFO period for the volume difference between the OFO Required Volume and the actual delivered volume.

There will be no daily or monthly penalties for delivering gas in excess of an OFO Required Volume. If the Third Party Supplier ends the month with a positive imbalance (in aggregate the Third Party Supplier delivered more gas than was used by its Customers), the portion of the imbalance related to overdeliveries on OFO days will be carried forward to the following month and be included in that month's cashout determination pursuant to Special Provision 1.a. of this Service Classification. If the Company issues additional OFOs in the month of the cashout determination, the Company, in its sole discretion, may waive the tiering of the cashout prices for positive imbalances greater than 5 percent initially incurred on OFO days.

# *SERVICE CLASSIFICATION - TPS*

## *THIRD PARTY SUPPLIERS REQUIREMENTS (continued)*

### *SPECIAL PROVISIONS (continued)*

b. ***CNG and NGV Commercial Services***

The Company may issue an Operational Flow Order (OFO) requiring delivery by the Third Party Supplier of at least the volume of gas the Customers, in aggregate, use on the affected gas day ("OFO Required Volume") plus Special Provision 3, Fuel Use and Unaccounted for Gas. An OFO may be issued as a blanket for the entire system or for a single Third Party Supplier or Customer.

Third Party Suppliers who fail to deliver the OFO Required Volumes of gas ("Delivery Shortfall") may not be permitted to continue to operate on the system. In addition, the Third Party Supplier will be billed at the highest~~higher~~ of:

i. -T~~t~~he "Company's Replacement Cost of Gas" (defined below);

ii. ~~or~~ T~~t~~he highest price of daily ranges for delivery in Texas Eastern ~~z~~Zone M-3 that are published in Platts Gas Daily on the table, "Daily Price Survey" in effect during the OFO period for the volume difference between the OFO Required Volume and the actual delivered volume; and

—The highest price of daily ranges for delivery in Transco Zone 6 NNY North that are published in Platts Gas Daily on the table, "Daily Price Survey" in effect during the OFO period for the volume difference between the OFO Required Volume and the actual delivered volume.

iii.

However, in a month that the Company does not allow Third Party Suppliers to deliver to the Company on the Transcontinental Gas Pipeline, the Company shall bill the Third Party Supplier at the higher of:

i. The "Company's Replacement Cost of Gas" (defined below); and

ii. The highest price of daily ranges for delivery in Texas Eastern Zone M-3 that are published in Platts Gas Daily on the table, "Daily Price Survey" in effect during the OFO period for the volume difference between the OFO Required Volume and the actual delivered volume.

There will be no daily or monthly penalties for delivering gas in excess of an OFO Required Volume. If the Third Party Supplier ends the month with a positive imbalance (in aggregate the Third Party Supplier delivered more gas than was used by its Customers), the portion of the imbalance related to overdeliveries on OFO days will be carried forward to the following month and be included in that month's cashout determination pursuant to Special Provision 1.a. of this Service Classification. If the Company issues additional OFOs in the month of the cashout determination, the Company, in its sole discretion, may waive the tiering of the cashout prices for positive imbalances greater than 5 percent initially incurred on OFO days.

"Company's Replacement Cost of Gas" means the highest of:

i. The ~~(1)~~ Company's LNG inventory and gasification costs adjusted for all appropriate taxes, assessments and surcharges;

ii. ~~, (2) t~~The prevailing market price, as determined by the Company based on a published index or independent trading platform, for delivered gas to any NJNG citygate during the OFO period; and~~, or~~

iii. ~~(3) t~~The cost of gas purchased by the Company

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## *SERVICE CLASSIFICATION - TPS*

### *THIRD PARTY SUPPLIERS REQUIREMENTS (continued)*

***SPECIAL PROVISIONS** (continued)*

~~;~~ The Company's Replacement Cost of Gas shall also include ~~plus~~ any pipeline penalties or other charges or damages assessed on the Company.

# *SERVICE CLASSIFICATION - TPS*

## *THIRD PARTY SUPPLIERS REQUIREMENTS (continued)*

## *SPECIAL PROVISIONS (continued)*

c. ***IS Services***

The Company may issue an IS Daily Balancing Restriction (IS-DB) requiring delivery by the Third Party Supplier of at least the volume of gas the Customers, in aggregate, use on the affected gas day ("IS Daily Balancing Volume") plus Special Provision 3, Fuel Use and Unaccounted for Gas. This requirement may be issued as a blanket for the entire system or for a single Third Party Supplier or Customer.

Third Party Suppliers who fail to deliver the IS Daily Balancing Volumes of gas may not be permitted to continue to operate on the system. In addition, the Third Party Supplier will be billed at the applicable "Delivery Shortfall" charge in effect during the IS-DB period for the volume difference between the IS Daily Balancing Volume and the actual delivered volume.

There will be no daily or monthly penalties for delivering gas in excess of an IS Daily Balancing Volume. If the Third Party Supplier ends the month with a positive imbalance (in aggregate the Third Party Supplier delivered more gas than was used by its Customers), the portion of the imbalance related to overdeliveries on IS-DB days will be carried forward to the following month and be included in that month's cashout determination pursuant to Special Provision 1.a. of this Service Classification. If the Company issues additional IS-DB restrictions in the month of the cashout determination, the Company, in its sole discretion, may waive the tiering of the cashout prices for positive imbalances greater than 5 percent initially incurred on IS-DB restriction days.

3. ***Fuel Use and Unaccounted for Gas***

A 2% adjustment for fuel use and unaccounted for gas will be made to the quantity of gas received for the Customers' accounts. The quantity of gas ultimately delivered to the Customers shall be reduced by 2% from the level received by the Company for the Customers' account.

4. ***Taxes, Assessments And Surcharges***

The Third Party Supplier shall pay all taxes or surcharges that are lawfully imposed upon the Company in providing service under this service classification.

5. ***Incremental Expenses***

The Third Party Supplier shall reimburse the Company for any out-of-pocket expenses (including, but not limited to, legal and travel expenses) incurred in connection with the initiation and rendering of service under this service classification. The Company shall provide an estimate of such expenses prior to their incurrence. Reimbursements for any costs associated with special non-recurring projects requested by a Third Party Supplier may be collected through this special provision. These special projects represent a level of service not anticipated in any of our administrative charges. The price for these projects shall be mutually agreed to prior to the initiation of any work related to the special project.

# *SERVICE CLASSIFICATION - TPS*

## *THIRD PARTY SUPPLIERS REQUIREMENTS (continued)*

### *SPECIAL PROVISIONS (continued)*

6. ***Unauthorized Use Charge***

In the event the Company notifies a Customer to discontinue the use of transportation service at any time, and the Customer fails to do so ("Unauthorized Use"), the Company shall bill the Customer for usage occurring during the period of Unauthorized Use at the rate of ten (10) times the highest price of daily ranges for delivery in Texas Eastern ~~z~~Zone M-3 or Transco Zone 6 NNY North which are published in Platts Gas Daily on the table, "Daily Price Survey". The Company reserves the right to bill a rate equal to the maximum penalty charge for unauthorized daily overruns as provided for in the FERC-approved gas tariffs of the interstate pipelines that deliver gas to the Company. The Company shall also have the right to terminate the Customer's service.

The Company has the right to recover proportionately from undelivered Customers any penalties or other charges or damages assessed on the Company as a result of any Unauthorized Use by the Customers.

# *SERVICE CLASSIFICATION - TPS*

## *THIRD PARTY SUPPLIERS REQUIREMENTS (continued)*

## *SPECIAL PROVISIONS (continued)*

7. ***Delivery Shortfall Charge***

In the event that the Third Party Supplier fails to deliver the Daily Delivery Volume, OFO Required Volume, or IS Daily Balancing Volume as directed by the Company (a "Delivery Shortfall"), the Company shall bill the Third Party Supplier for the volume of the Delivery Shortfall at a rate equal to the higher of:

i. Tten (10) times the highest price of daily ranges for delivery in Texas Eastern zZone M-3 that are published in Platts Gas Daily on the table, "Daily Price Survey"; and

ii. Ten (10) times the highest price of daily ranges for delivery in Transco Zone 6 NNY North that are published in Platts Gas Daily on the table, "Daily Price Survey.". -

However, in a month that the Company does not allow Third Party Suppliers to deliver to the Company on the Transcontinental Gas Pipeline, the Company shall bill the Third Party Supplier for the volume of the Delivery Shortfall at a rate equal to ten (10) times the highest price of daily ranges for delivery in Texas Eastern Zone M-3 that are published in Platts Gas Daily on the table, "Daily Price Survey."

However, iIf such Delivery Shortfall occurs when the Company has issued an OFO or required daily balancing, the Company reserves the right to bill a rate equal to the maximum penalty charge for unauthorized daily overruns as provided for in the FERC-approved gas tariffs of the interstate pipelines that deliver gas to the Company. In the event of a Delivery Shortfall, the Company shall have the right to recover *pro rata* from all under-delivering Third Party Suppliers any penalties or other charges or damages assessed on the Company because of such under-deliveries for the days the Third Party Suppliers under-delivered.

Notwithstanding the above, if contemporaneously with a Delivery Shortfall, an interstate pipeline that delivers to an NJNG delivery meter has declared a force majeure on its pipeline system curtailing primary, in-path transportation in the delivery meter's zone of delivery, the Company may waive the above charges and may bill the Third Party Supplier for the Company's Replacement Cost of Gas (defined below) provided that the under-delivering Third Party Supplier is able to demonstrate to the Company's reasonable satisfaction that the transportation contract on which the Third Party Supplier had scheduled deliveries to the Company's delivery meter during the period in which the OFO was in effect entitled the Third Party Supplier to firm transportation rights through the point at which the force majeure was declared and that the pipeline curtailed Third Party Supplier's deliveries pro rata with deliveries to other similarly situated delivery meters on the contract. The Third Party Supplier must notify the Company in writing of the anticipated Delivery Shortfall before the nomination deadline for the next North American Energy Standards Board ("NAESB") nomination cycle. If there are no additional cycles, they must notify the Company in writing before the gas day ends. "Company's Replacement Cost of Gas" means the highest of: (

i. The 1) Company's LNG inventory and gasification costs adjusted for all appropriate taxes, assessments and surcharges;

ii. , (2) tThe prevailing market price, as determined by the Company based on a published index or independent trading platform, for delivered gas to any NJNG citygate during the time period of the force majeure; and, or

iii. (3) tThe cost of gas purchased by the Company.;

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## *SERVICE CLASSIFICATION - TPS*

### *THIRD PARTY SUPPLIERS REQUIREMENTS (continued)*

### *SPECIAL PROVISIONS (continued)*

The Company's Replacement Cost of Gas shall also include~~plus~~ any pipeline penalties or other charges or damages assessed on the Company.

# *SERVICE CLASSIFICATION - TPS*

## *THIRD PARTY SUPPLIERS REQUIREMENTS (continued)*

## *SPECIAL PROVISIONS (continued)*

8. ***Individual Customer Responsibility***
Customers taking service under Service Classifications RS, FT, GSL, GSS, DGC and IS may elect to designate one Third Party Supplier per account to have responsibility for nominations, daily balancing and/or monthly balancing on behalf of the Customer. The Company will provide both individual and summary bills to each such Third Party Supplier, with a summary of usage and associated charges provided for each Customer. If a Customer's designated Third Party Supplier should default on any obligation for payment under this Service Classification, the Customer will be responsible for its proportional share of charges, including payment for "Unauthorized Use", "Delivery Shortfall" or for monthly imbalances.

9. ***Nominations***
By the deadline specified on the Company's electronic bulletin board (EBB), the Third Party Supplier shall enter nominations onto the Company's EBB on the day prior to gas flow for the next calendar day. The Third Party Supplier's nomination shall contain its Customers' transportation volumes, the name of the supplier and the contract number, along with the pipeline transporter. The Third Party Supplier may change any daily or monthly nominations in a timely manner on the Company's EBB by the time of the day prior to gas flow specified on the Company's EBB. The Third Party Supplier may request changes to nominations after the time specified on the Company's EBB in writing by e-mailing the Company, however any late changes are completely at the discretion of the Company. Any agreed to changes will have to be formally requested in writing.

The Company will not be required to accept any gas rendered by the pipeline transporter that: (a) does not conform to the Third Party Supplier's currently effective nominations or (b) is not delivered to a mutually agreeable delivery meter. The Company shall not be obligated to provide transportation service during an hourly, daily or monthly period in excess of the levels specified in the service agreement.

## *PAYMENT*

Unless otherwise specified, bills are due within 10 days after the Company sends each Third Party Supplier's individual bill and is subject to a late payment charge as set forth in Paragraph 8.9 of the Standard Terms and Conditions of this Tariff. The Company may elect to utilize the deposit to satisfy any payments deemed to be late and to notify the Third Party Supplier of the need to replenish the deposit. Additionally, if a Third Party Supplier's account is in arrears, the Company reserves the right to cease new enrollments for the Third Party Supplier and has the right to remove the Third Party Supplier from the New Jersey Natural Gas system.

## *CONTRACT*

The term of the initial Service Agreement will be for a minimum of one year. Thereafter, successive one-year terms will be in effect until terminated by written notice at least two (2) months prior to the expiration of the service agreement.

## *TERMS AND CONDITIONS*

Service is subject to the Standard Terms and Conditions of this Tariff, the applicable transportation Service Classification and the service agreement.

*NEW JERSEY NATURAL GAS COMPANY*

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## *SERVICE CLASSIFICATION - TPS*

### *THIRD PARTY SUPPLIERS REQUIREMENTS (continued)*

***SPECIAL PROVISIONS** (continued)*

*NEW JERSEY NATURAL GAS COMPANY*

*~~First Revised Sheet No. 97~~*

*BPU No. 11~~10~~ - Gas* *~~Superseding~~ Original Sheet No. 99~~97~~*

# *SERVICE CLASSIFICATION - CNG*

## *COMPRESSED NATURAL GAS*

### *AVAILABILITY*

This service is available to any customer who would otherwise qualify for service under Service Classifications RS, GSS, GSL, FT, IS, or NGV and who will utilize natural gas for the purpose of fueling natural gas vehicles at Company owned compressed natural gas re-fueling facilities operated by the Customer on its property ("Host Customer").

Availability of this Service Classification is subject to the terms and conditions approved in BPU Docket No. GR11060361. This Service Classification is closed.

### *CONDITIONS PRECEDENT*

The Host Customer must sign an Agreement with the Company. The Host Customer must provide assurance that it will use initially at least twenty (20) percent of the re-fueling facility's capacity. The Host Customer must agree to provide the general public with reasonable access to a re-fueling facility for purposes of fueling the general public's natural gas vehicles.

### *DEFINITION OF TERM USED HEREIN*

"GGE" is the Gasoline Gallon Equivalent for converting a price per therm of natural gas to a price per gallon of gasoline. The GGE shall be determined in accordance with local standards.

### *CHARACTER OF SERVICE*

Firm gas service where Host Customer may purchase gas supply pursuant to the Company's Rider "A" for Basic Gas Supply Service ("BGSS"), from the Company through a contract, or from a Third Party Supplier.

### *MONTHLY RATES*

***Customer Charge:***

| | |
|---|---|
| Customer Charge per meter per month | $~~82.85~~104.49 |

***Delivery Charge:***

| | |
|---|---|
| Delivery Charge per therm | $~~0.4963~~0.5613<br>($~~0.620~~0.702 per GGE) |

***BGSS Charge:***

| | |
|---|---|
| Monthly BGSS Charge per therm for Sales Customers without a gas supply contract | See "Rate Summaries" at the end of this Tariff |

These rates are inclusive of all applicable taxes and riders and are subject to adjustment for all other applicable riders, taxes, assessments or similar charges lawfully imposed by the Company. See Rate Summaries at the end of this Tariff for a summary of components incorporated in these rates.

### *MINIMUM MONTHLY CHARGE*

The minimum monthly charge shall be the Customer Charge.

Where service is taken for less than one month, the minimum charge will be prorated.

# *SERVICE CLASSIFICATION - CNG*

## *COMPRESSED NATURAL GAS (continued)*

## *SPECIAL PROVISIONS*

I. *Applicable to All Customers in this Service Classification*

1. ***CNG Re-Fueling Facilities***
The Company shall install and own Compressed Natural Gas ("CNG") re-fueling facilities on the Host Customer's property. The Company shall maintain these facilities. The Host Customer is required to monitor and operate these facilities at its own expense. The Host Customer is also required to provide reasonable access to the re-fueling station to the general public and non-host customer fleets.

2. ***Automated Meter Reading Device***
Metering shall include an automated meter reading device (AMR), which shall be furnished and installed by the Company at the Host Customer's expense. The Host Customer shall furnish an electrical supply and phone line for the operation of the device, in an area acceptable to the Company. The Company shall provide technical assistance in order to minimize the Host Customer's expense for such installation.

The Host Customer may reimburse the Company for the AMR expense, either in a lump sum payment when service is initiated or over the life of the initial CNG agreement with the prime interest rate used to calculate carrying costs on the unpaid balance.

3. ***Incremental Expenses***
The Host Customer shall reimburse the Company for any out-of-pocket expenses (including, but not limited to, legal and travel expenses) incurred in connection with the initiation and rendering of service under this service classification. The Company shall provide an estimate of such expenses prior to their incurrence.

4. ***Taxes, Assessments and Surcharges***
The Customer shall pay all riders, taxes, assessments and surcharges that are lawfully imposed upon the Company in providing service under this classification.

# *SERVICE CLASSIFICATION - CNG*

## *COMPRESSED NATURAL GAS (continued)*

5. ***Pricing to the General Public***

The Host Customer shall post the charge to the general public for its re-fueling volume at a price per GGE provided by the Company. Prior to the beginning of each month, the Company will notify the Host Customer of the price, the components of which are defined below:

a. Monthly BGSS Charge as set forth in Rider "A" converted to a price per GGE
b. CNG Delivery Charge as set forth in Service Classification CNG converted to a price per GGE
c. Applicable state and federal excise taxes
d. $0.20 per GGE for the Host Customer's expenses to operate the facilities.

The Host Customer shall display the price per GGE at the re-fueling station. The Company shall credit the Host Customer for the monthly volume sold to the general public at the price per GGE for the Host Customer's expenses to operate the facilities as defined in 5(d) above.

6. ***Pricing to Non-Host Company Fleets***

Other fleets re-fueling vehicles at the Company owned CNG re-fueling facilities operated by the Host Customer on its property may purchase gas supply from the Company's Rider "A" for Basic Gas Supply Service ("BGSS"), from the Company through a contract, or from a Third Party Supplier pursuant to Section II herein. The Company shall charge other fleets for re-fueling volumes at a price per GGE, the components of which are defined below:

a. Monthly BGSS Charge as set forth in Rider "A" or a gas supply contract price or the price provided by a Third Party Supplier, converted to a price per GGE
b. CNG Delivery Charge as set forth in Service Classification CNG converted to a price per GGE
c. Applicable state and federal excise taxes
d. $0.20 per GGE for the Host Customer's expenses to operate the facilities.

The Company shall credit the Host Customer for the monthly volume sold to the other fleets at the price per GGE for the Host Customer's expenses to operate the facilities as defined in 6(d) above.

# *SERVICE CLASSIFICATION - CNG*

## *COMPRESSED NATURAL GAS (continued)*

II. *Applicable to All Customers Purchasing Gas Supply from a Third Party Supplier*

1. ***Customer Responsibility***
The Company may require the Customer to provide, to the Company's satisfaction, proof of a firm gas supply having marketable title of gas with firm transportation capacity to the Company's distribution system. In the event the Customer designates a Third Party Supplier in accordance with Service Classification TPS, the Customer will remain responsible for a pro rata share of any Charges which such Third Party Supplier fails to pay to the Company including payments for Delivery Shortfall or for Monthly Imbalance.

2. ***Billing***
Customers purchasing gas supply from a Third Party Supplier can only be billed through Billing Option 1 as defined in Service Classification-TPS.

3. ***Additional Requirements***
Service is subject to the terms and conditions of the Third Party Supplier Requirements section of this Tariff (Service Classification – TPS) and Section 10 of the Company's Standard Terms and Conditions.

## *CONTRACT*

A written agreement shall be required for Compressed Natural Gas Host Customers and non-Host Customers Fleets.

## *TERMS AND CONDITIONS*

Service is subject to the Company's Standard Terms and Conditions of this Tariff.

RESERVED FOR FUTURE USE

# *RIDER "A"*

# *BASIC GAS SUPPLY SERVICE - BGSS*

Applicable to the following service classifications:

| | | | |
|---|---|---|---|
| RS | Residential Service | | |
| DGR | Distributed Generation - Residential | ED | Economic Development |
| DGC | Distributed Generation - Commercial | NGV | Natural Gas Vehicles |
| GSS | General Service - Small | IS | Interruptible Service |
| GSL | General Service - Large | CNG | Compressed Natural Gas |

## I. Periodic Basic Gas Supply Service Charge

By June 1 of each year, the Company shall file with the Board, a request for an October 1 implementation of a Periodic Basic Gas Supply Service ("Periodic BGSS") Charge, which shall be applicable to customers on the RS, GSS, and DGR, service classifications listed above and to customers on the ED service classification listed above who are eligible to receive service under Service Classification GSS.

### A. Determination of the Initial Periodic BGSS Factor for the BGSS Year

The Periodic BGSS Factor shall be derived in the following manner:

(1) An estimate shall be made of the total volume of prospective gas supplies from all sources, including pipeline natural gas and all substitute and supplement gas supplies, and of the estimated overall commodity cost of all such prospective supplies, including pipeline refunds and other credits, excluding Company labor costs, for the remainder of the BGSS year ending September 30. The estimated overall commodity costs of prospective supplies will be comprised of 1) the value of gas withdrawn from storage; 2) the value of volumes whose price was previously set by hedges or other financial instruments; 3) current flowing gas, which will be priced at the arithmetic average of (i) the NYMEX closing price for the last trading day prior to each respective month and (ii) the average of the estimated Inside FERC prices for the producing locations that relate to the Company's purchases; and 4) the variable cost of transportation and fuel.

(2) An estimate shall be made of the total volume of prospective firm sales of gas (in therms) for the BGSS year ending September 30.

## *RIDER "A"*

## *BASIC GAS SUPPLY SERVICE – BGSS (continued)*

(3) The cost of prospective gas supplies (per paragraph (1)) shall be adjusted upward or downward to the extent of the cumulative amount of any prior under-recovery or over-recovery of gas commodity costs to determine the total commodity gas costs to be recovered and then shall be divided by the estimated total volume of prospective firm sales (per paragraph (2)), to determine the per unit commodity cost recovery rate.

(4) An estimate shall be made of the fixed pipeline, fixed storage, and supplier demand costs for the BGSS year ending September 30. The estimated fixed demand shall be adjusted upward or downward to the extent of the cumulative amount of any prior under-recovery or over-recovery of fixed costs and then shall be divided by the estimated total volume of prospective firm sales (per paragraph (2)), to determine the per unit demand cost recovery rate.

(5) The adjusted commodity gas costs to be recovered, as determined per paragraph (3), shall then be added to the per unit demand cost recovery as determined per paragraph (4) and the result carried for four (4) decimal places.

**B. Determination of Revised Periodic BGSS Factors**

(1) Following Board approval of the initial Periodic BGSS Charge, the Company shall have the opportunity to implement increases to be effective December 1 and February 1 on a self-implementing basis subject to a maximum rate increase of up to 5% of the average residential customer total bill.

(2) The Company may implement, at its discretion, bill credits, refunds, or self-implementing rate reductions during the BGSS year ending September 30.

# *RIDER "A"*

## *BASIC GAS SUPPLY SERVICE - BGSS (continued)*

### II. Monthly Basic Gas Supply Service Charge

On the second day following the close of the trading of the NYMEX Henry Hub natural gas contracts for the prospective month, the Company shall submit to the Board, a Monthly Basic Gas Supply Service ("BGSS") Charge, which shall be applicable to customers in the GSL, DGC, NGV, CNG, and IS service classifications, and to customers in the ED service classification listed above who are eligible to receive service under Service Classification GSL.

### A. Derivation of the Monthly BGSS Factor

The Monthly BGSS Factor shall be derived in the following manner:

(1) An estimate shall be made of the fixed pipeline, fixed storage, and supplier demand costs for the BGSS year ending September 30. An estimate shall be made of the total volume of prospective firm sales of gas (in therms) for the BGSS year ending September 30. The estimated fixed demand shall then be divided by the estimated total volume of prospective firm sales to determine the per unit demand cost recovery rate.

(2) The overall Monthly BGSS Charge will be established prior to the beginning of each month based on the sum of: 1) the arithmetic average of (i) the NYMEX closing price for the last trading day prior to each respective month and (ii) the average of the estimated Inside FERC prices for the producing locations that relate to the Company's purchases; 2) the variable cost of transportation and fuel; and 3) the per unit demand cost recovery rate as determined in accordance with paragraph (1). The Monthly BGSS Factor shall be adjusted for taxes, assessments or surcharges. The result shall be carried for four (4) decimal places.

(3) The Monthly Gas Cost Recovery Charge shall be added to all tariff rates then in effect, effective for service rendered commencing the first day of such month of such year, and continuing in effect until the effective date of the subsequent monthly or other filing of a revision of modification thereof.

## *RIDER "A"*

## *BASIC GAS SUPPLY SERVICE - BGSS (continued)*

### III. Tracking the Operation of the BGSS

The net amount of gas costs and recoveries, including pipeline refunds and other credits, if any, shall be maintained in a separate clearing account which will be reviewed as part of the annual filing.

Interest shall be computed monthly, at the overall annual rate of return as authorized by the Board of Public Utilities, on the average monthly balances of over or under-recovery of excess purchased gas costs and supplier refunds. In the event such interest computations result in a cumulative net interest credit at the end of the year, such credit shall be applied against the gas costs in calculating the Periodic BGSS factor for the following year.

In accordance with P.L., 1997 c. 162, the charges applicable under this Rider include provision for the New Jersey Sales and Use Tax ("SUT"), and when billed to customers exempt from this tax, as set forth in Rider "B", shall be reduced by the amount of such tax included therein.

NEW JERSEY NATURAL GAS COMPANY

~~First Revised Sheet No. 155~~

BPU No. 11~~10~~ - Gas ~~Superseding~~ Original Sheet No. 155

# RIDER "A"

## BASIC GAS SUPPLY SERVICE - BGSS(continued)

### PERIODIC BASIC GAS SUPPLY SERVICE (BGSS) CHARGE

| SERVICE CLASSIFICATION | APPLICATION | CHARGE |
|---|---|---|
| RS and GSS sales customers, and ED sales customers eligible for service under Service Classification GSS | Included in the Basic Gas Supply Charge | $0.3320 per therm |

### BALANCING CHARGE

| SERVICE CLASSIFICATION | APPLICATION | CHARGE |
|---|---|---|
| RS, GSS, GSL, DGR, DGC-Balancing, and ED customers eligible for service under Service Classifications GSS and GSL | Included in the Delivery Charge | $0.1026 per therm |

NEW JERSEY NATURAL GAS COMPANY

~~Sixteenth Revised Sheet No. 156~~

BPU No. 11~~10~~ - Gas ~~Superseding Fifteenth Revised~~ Original Sheet No. 156

# RIDER "A"

## BASIC GAS SUPPLY SERVICE - BGSS(continued)

### MONTHLY BASIC GAS SUPPLY SERVICE (BGSS) CHARGE

| SERVICE CLASSIFICATION | APPLICATION |
|---|---|
| GSL, DGC-Balancing, and CNG sales customers, and ED sales customers eligible for service under Service Classification GSL | Included in the Basic Gas Supply Charge |

| Effective Date | Charge Per Therm for IS, CNG, NGV | Charge Per Therm for GSL, DGC-Balancing[1] |
|---|---|---|
| March 1, 2020 | $0.4527 | $0.3439 |
| April 1, 2020 | $0.4207 | $0.3119 |
| May 1, 2020 | $0.4486 | $0.3398 |
| June 1, 2020 | $0.4291 | $0.3203 |
| July 1, 2020 | $0.4152 | $0.3064 |
| August 1, 2020 | $0.4266 | $0.3178 |
| September 1, 2020 | $0.4031 | $0.2943 |
| October 1, 2020 | $0.3485 | $0.2459 |
| November 1, 2020 | $0.4505 | $0.3479 |
| December 1, 2020 | $0.4523 | $0.3497 |
| January 1, 2021 | $0.4895 | $0.3869 |
| February 1, 2021 | $0.5391 | $0.4365 |
| March 1, 2021 | $0.5312 | $0.4286 |

[1] For GSL and DGC customers, the BGSS charge per therm is reduced by the Balancing Charge which is included in the Delivery Charge.

*NEW JERSEY NATURAL GAS COMPANY*

*~~Third Revised Sheet No. 157~~*

*BPU No. 11~~10~~ - Gas* *~~Superseding Second Revised~~ Original Sheet No. 157*

## *RIDER "A"*

## *BASIC GAS SUPPLY SERVICE - BGSS(continued)*

### *BGSS SAVINGS COMPONENT RELATED TO THE CONSERVATION INCENTIVE PROGRAM (CIP) IN RIDER "I"*

| *SERVICE CLASSIFICATION* | *APPLICATION* | *CREDIT* |
|---|---|---|
| RS, GSS, GSL, and ED sales customers | Embedded within the Periodic Basic Gas Supply Charge and the Monthly Basic Gas Supply Charge | ($0.0270) per therm |

### *TEMPORARY BGSS RATE CREDIT ADJUSTMENT*

***Applicable to RS and GSS sales customers and ED customers eligible for service under Service Classification GSS***

| *EFFECTIVE DATES* | *CREDIT PER THERM* |
|---|---|
| November 1, 2015 through February 29, 2016 | ($0.2640) |
| November 1, 2016 through December 31, 2016 | ($0.1666) |
| January 1, 2017 through February 28, 2017 | ($0.1664) |
| December 1, 2020 through January 31, 2021 | ($0.1220) |

# *RIDER "B"*

## *NEW JERSEY SALES AND USE TAX (SUT)*

Applicable to the following service classifications:

| | | | |
|---|---|---|---|
| RS | Residential Service | ED | Economic Development |
| DGR | Distributed Generation Residential | EGS | Electric Generation Service |
| GSS | General Service - Small | NGV | Natural Gas Vehicle |
| GSL | General Service - Large | IS | Interruptible Service |
| FT | Firm Transportation | IGS | Incremental Gas Service |
| DGC | Distributed Generation Commercial | CNG | Compressed Natural Gas |

*NEW JERSEY NATURAL GAS COMPANY*

*BPU No. 1110 - Gas* *Original Sheet No. 159*

## *RIDER "B"*

## *NEW JERSEY SALES AND USE TAX (SUT) (continued)*

In accordance with P.L. 1997, c. 162 (the "energy tax reform statute"), as amended by P.L. 2006, c. 44, P.L. 2009, c. 240, and P.L. 2016, c. 57, provision for the New Jersey Sales and Use Tax ("SUT") has been included in all charges applicable under this Tariff by multiplying the charges that would apply before application of the SUT by the factor 1.06625. The energy tax reform statute exempts the following customers from the SUT provision, and when billed to such customers, the charges otherwise applicable under this Tariff shall be reduced by the provision for the SUT) included therein:

1. Franchised providers of utility services (gas, electricity, water, waste water and telecommunications services provided by local exchange carriers) within the State of New Jersey. [P.L. 1997, c.162]

2. Natural gas or utility service that is used to generate electricity that is sold for resale or to an end user other than the end user located on the property the cogeneration or self-generation unit that generated the electricity is located. [P.L. 2009, c. 240]

3. Cogenerators in operation, or which have filed an application for an operating permit or a construction permit and a certificate of operation in order to comply with air quality standards under P.L. 1954, c. 212 (C.26:2C-1 et seq.) with the New Jersey Department of Environmental Protection, on or before March 10, 1997. [P.L. 1997, c.162]

4. Natural gas and utility service that is used for cogeneration facility that is constructed after January 1, 2010. Any cogeneration facility that was in operation prior to January 1, 2010 and was subject to New Jersey SUT for the purchase and use of natural gas and utility service for cogeneration purposes shall continue to be subject to, and responsible for payment of, such tax. [P.L. 2009, c. 240]

5. Special contract customers for which a customer-specific tax classification was approved by a written Order of the New Jersey Board of Public Utilities prior to January 1, 1998. [P.L. 1997, c.162]

6. Agencies or instrumentalities of the federal government. [P.L. 1997, c.162]

7. International organizations of which the United States of America is a member. [P.L. 1997, c.162]

8. Cemetery companies, pursuant to N.J.S.A 8A:5-10. (must provide an Exempt Use Certificate (ST-4) to seller).

*NEW JERSEY NATURAL GAS COMPANY*

*BPU No. 1110 - Gas* *Original Sheet No. 159*

# *RIDER "B"*

*NEW JERSEY NATURAL GAS COMPANY*

*BPU No. 1110 - Gas* *Original Sheet No. 160*

## *RIDER "B"*

## *NEW JERSEY SALES AND USE TAX (SUT) (continued)*

9. Amtrak (National Railroad Passenger Corporation) and New Jersey Transit Rail Operations.

10. Limited Dividend Housing Corporations organized under N.J.S.A. 55:16-1 seq., for use at the qualified housing project. (must provide an Exempt Use Certificate (ST-4) to seller).

In addition, the Business Retention and Relocation Assistance Act (P.L. 2004, c. 65) and subsequent amendment (P.L. 2005, c.374) exempts the following customers from the SUT provision, and when billed to such customers, the charges otherwise applicable shall be reduced by the provision for the SUT included therein:

1. a qualified business that employs at least 250 people within an enterprise zone, at least 50% of whom are directly employed in a manufacturing process, for the exclusive use or consumption of such business within an enterprise zone, and

2. a group of two or more persons:

   a) each of which is a qualified business that are all located within a single redevelopment area adopted pursuant to the "Local Redevelopment and Housing Law," P.L.1992, c.79 (C.40A:12A-1 et seq.);

   b) that collectively employ at least 500 people within an enterprise zone, at least 50% of whom are directly employed in a manufacturing process;

   c) are each engaged in a vertically integrated business, evidenced by the manufacture and distribution of a product or family of products that, when taken together, are primarily used, packaged and sold as a single product; and

   d) collectively use the energy and utility service for the exclusive use or consumption of each of the persons that comprise a group within an enterprise zone;

## *RIDER "B"*

## *NEW JERSEY SALES AND USE TAX (SUT) (continued)*

3. a business facility located within a county that is designated for the 50% tax exemption under section 1 of P.L. 1993, c.373 (C.54:32B-8.45) provided that the business certifies that it employs at least 50 people at that facility, at least 50% of whom are directly employed in a manufacturing process, and provided that the energy and utility services are consumed exclusively at that facility.

A business that meets the requirements in (1), (2) or (3) above shall not be provided the exemption described in this section until it has complied with such requirements for obtaining the exemption as may be provided pursuant to P.L.1983, c.303 (C.52:27H-60 et seq.) and P.L.1966, c.30 (C.54:32B-1 et seq.) and the Company has received a sales tax exemption letter issued by the New Jersey Department of Treasury, Division of Taxation.

# *RIDER "C"*

# *REMEDIATION ADJUSTMENT (RA)*

Applicable to the following service classifications:

| | | | |
|---|---|---|---|
| RS | Residential Service | ED | Economic Development |
| DGR | Distributed Generation Residential | EGS | Electric Generation Service |
| GSS | General Service - Small | NGV | Natural Gas Vehicle |
| GSL | General Service - Large | IS | Interruptible Service |
| FT | Firm Transportation | IGS | Incremental Gas Service |
| DGC | Distributed Generation Commercial | CNG | Compressed Natural Gas |

In accordance with P.L. 2011, c. 9, societal benefits charges pursuant to section 12 of P.L. 1999, c.23 (C.48:3-60), or any other charge designed to recover the costs for societal, energy efficiency, conservation, environmental or renewable energy programs, are not applicable to natural gas delivery service or commodity that is used to generate electricity that is sold for resale. Natural gas used to generate electricity that is sold for resale by customers served under the above Service Classifications is exempt from costs associated with the Remediation Adjustment ("RA") and shall not be billed for such charges. In order to qualify for this exemption, a customer who uses natural gas to generate electricity for resale must complete an Annual Certification form, provided by the Company, to certify the percentage of natural gas used at the customer's New Jersey generation facilities during the previous calendar year to generate electricity that was sold for resale. For a new customer or a customer with less than twelve months of usage history, estimates supported by engineering and operational plans may be used to determine the percentage of natural gas used to generate electricity sold for resale.

The RA Factor will be determined as follows:

## *I. DEFINITION OF TERMS USED HEREIN*

1. ***"Remediation Costs"*** are all investigation, testing, land acquisition if appropriate, remediation and/or litigation costs/expenses or other liabilities excluding personal injury claims and specifically relating to former gas manufacturing facility sites, disposal sites, or sites to which material may have migrated, as a result of the earlier operation or decommissioning of gas manufacturing facilities.

2. ***"Recovery Year"*** is each October 1 to September 30 year and is the time period over which the amortized expenses shall be received from Customers.

3. ***"Remediation Year"*** is each July 1 to June 30 year and is the time period over which the remediation costs are incurred.

# *RIDER "C"*

## *REMEDIATION ADJUSTMENT (RA) (continued)*

***DEFINITIONS OF TERMS USED HEREIN (continued)***

4. ***"Third Party Claims"*** are all claims by New Jersey Natural Gas Company against any entity including insurance companies, from which recoveries may be received and will be charged through the RA factor as follows:

   a) Fifty percent of the reasonable transaction costs and expenses in pursuing Third Party Claims shall be included as Remediation Costs and shall be recovered as part of the RA clause. The remaining 50% shall be deferred until such time as the specific claim is resolved.

   b) In the event that the Company is successful in obtaining a reimbursement from any Third Party, the Company shall be permitted to retain the deferred 50% as specified in 4a. The balance of the reimbursement, if any, shall be applied against the Remediation Costs in the year it is received and will be amortized over seven years.

5. ***Sale of Property*** shall be calculated by taking the proceeds of any sale of a former manufacturing gas plant site, less all reasonable expenses associated with selling the site, and subtracting the total costs that were incurred in cleaning up the site and amortized through rates. The proceeds associated with the total costs that were incurred in cleaning up the site will be included as a credit to the remediation costs incurred in the year of the sale. The remainder shall be equally shared between the Company and ratepayers.

# *RIDER "C"*

## *REMEDIATION ADJUSTMENT (RA) (continued)*

### *II. DETERMINATION OF THE REMEDIATION ADJUSTMENT*

At the end of the remediation year, the Company shall file with the Board all bills and receipts relating to the amount of any remediation costs incurred in the preceding remediation year for which it seeks to begin recovery. In the same filing, the Company shall include similar material and information to support any expenses and/or recoveries resulting from Third Party claims. The Company shall also submit in its annual filing a projection of remediation costs for the following remediation year.

The RA factor shall be calculated by taking one seventh of the Actual Remediation Costs plus applicable Third Party Claims and Sale of Property allocations incurred each year, until fully amortized, plus the prior years' RA over or under-recovery plus appropriate carrying costs and dividing this amount by the Company's total volume of prospective sales for the upcoming recovery year. The result shall be carried for four (4) decimal places.

The RA will be calculated as the difference between revenues calculated by multiplying the RA factor times actual monthly firm sales and remediation costs allowable per the formula.

The total annual charge to the Company's ratepayers for remediation costs during any recovery year shall not exceed five (5%) percent of the Company's total revenues from gas sales during the preceding Remediation Year. If this limitation results in the Company recovering less than the amount that would otherwise be recovered in a particular Recovery Year and the mechanism is not reopened at the request of any party, then the remediation costs in excess of the 5% shall be included in the subsequent year's collection. The Company shall calculate carrying costs on any under-or over-recovered RA cost balances, and the deferred tax benefit associated with those balances, using the same interest rate, which rate will be adjusted each August 31 based upon the seven-year constant maturity Treasury rate, shown in the Federal Reserve Statistical Release, plus 60 basis points. Interest applicable to the Company's unamortized RA balance shall be calculated and will accrue on a monthly basis and shall be rolled into the RA balance at the beginning of each recovery year.

*NEW JERSEY NATURAL GAS COMPANY*

*~~First Revised Sheet No. 165~~*

*BPU No. 11~~10~~ - Gas* *~~Superseding~~ Original Sheet No. 165*

# *RIDER "C"*

## *REMEDIATION ADJUSTMENT (RA) (continued)*

### *III. TRACKING THE OPERATION OF THE REMEDIATION ADJUSTMENT CLAUSE*

The revenues billed, net of taxes and assessments through the application of the Remediation Adjustment factor shall be accumulated for each month and be applied against the total amortized Remediation Costs calculated for that year. Any over or under collection at the end of the Recovery Year will be included in the determination of the following year's RA factor.

In accordance with P.L. 1997, c. 162, as amended by P.L. 2006, c. 44, P.L. 2009, c. 240, and P.L. 2016, c. 57, the charges applicable under this Rider include provision for the New Jersey Sales and Use Tax ("SUT") and when billed to customers exempt from this tax, as set forth in Rider "B", shall be reduced by the amount of such tax included therein.

The RA factor shall be collected through the SBC on a per-therm basis within the Delivery Charge for all service classifications to which Rider "A" applies. The RA factor is set forth below:

$0.0145

*NEW JERSEY NATURAL GAS COMPANY*

*~~First Revised Sheet No. 166~~*

*BPU No. 11~~10~~ - Gas* *~~Superseding~~ Original Sheet No. 166*

# *RIDER "D"*

# *INFRASTRUCTURE INVESTMENT PROGRAM - IIP*

Applicable to the following service classifications:

| | | | |
|---|---|---|---|
| RS | Residential Service | DGC | Distributed Generation Commercial |
| DGR | Distributed Generation Residential | ED | Economic Development |
| GSS | General Service - Small | NGV | Natural Gas Vehicle |
| GSL | General Service - Large | CNG | Compressed Natural Gas |
| FT | Firm Transportation | | |

## *INCREMENTAL BASE RATE CHARGES*

| *Service Classification* | | *Pre-Tax Rate* | *After-tax Rate* |
|---|---|---|---|
| **RS** | | | |
| IIP Customer Charge | per meter per month | $0.00 | $0.00 |
| IIP Base Rate Charge | per therm | $0.0000 | $0.0000 |
| | | | |
| **DGR** | | | |
| IIP Customer Charge | per meter per month | $0.00 | $0.00 |
| IIP Base Rate Charge | per therm | $0.0000 | $0.0000 |
| | | | |
| **GSS** | | | |
| IIP Customer Charge | per meter per month | $0.00 | $0.00 |
| IIP Base Rate Charge | per therm | $0.0000 | $0.0000 |
| | | | |
| **GSL** | | | |
| IIP Customer Charge | per meter per month | $0.00 | $0.00 |
| IIP Demand Charge | per therm per month applied to HMAD | $0.00 | $0.00 |
| IIP Base Rate Charge | per therm | $0.0000 | $0.0000 |
| | | | |
| **FT** | | | |
| IIP Customer Charge | per meter per month | $0.00 | $0.00 |
| IIP Demand Charge | per therm per month applied to MDQ | $0.00 | $0.00 |
| IIP Base Rate Charge | per therm | $0.0000 | $0.0000 |
| | | | |
| **DGC** | | | |
| IIP Customer Charge | per meter per month | $0.00 | $0.00 |
| IIP Demand Charge | per therm per month applied to PBQ | $0.00 | $0.00 |
| IIP Base Rate Charge | per therm | $0.0000 | $0.0000 |

*Date of Issue:* *~~October 28, 2020~~*
*Issued by:* *Mark G. Kahrer, Senior Vice President*
*29, ~~, 2020~~2021*
*Wall, NJ 07719*

*Effective for service rendered on and after ~~November 1~~ April*

*Filed pursuant to Order of the Board of Public Utilities entered in Docket No. ~~GO19020278~~*

*NEW JERSEY NATURAL GAS COMPANY*

*~~First Revised Sheet No. 167~~*

*BPU No. 11~~10~~ - Gas* *~~Superseding~~ Original Sheet No. 167*

## *RIDER "D"*

## *INFRASTRUCTURE INVESTMENT PROGRAM - IIP (continued)*

| *Service Classification* | | *Pre-Tax Rate* | *After-tax Rate* |
|---|---|---|---|
| **NGV** | | | |
| IIP Customer Charge | per meter per month | $0.00 | $0.00 |
| IIP Base Rate Charge | per therm | $0.0000 | $0.0000 |
| | | | |
| **CNG** | | | |
| IIP Customer Charge | per meter per month | $0.00 | $0.00 |
| IIP Base Rate Charge | per therm | $0.0000 | $0.0000 |

The above IIP Customer Charges will be included in the total Customer Charge on customer bills. The above IIP Demand Charges will be included in the total Demand Charge on customer bills. The above IIP Base Rate Charges will be included in total Delivery Charges on customer bills.

**DETERMINATION OF THE IIP**

The purpose of the Infrastructure Investment Program Rider is to set forth the base rate adjustments associated with the Company's approved Infrastructure Investment Program pursuant to N.J.A.C. 14:3-2A.1 et seq. The Company shall file periodic requests with the Board for implementation of IIP charges applicable to customers on service classifications to which Rider "D" applies. Filings will be made according to the Company's recovery periods approved in BPU Docket No. GR19020278.

*NEW JERSEY NATURAL GAS COMPANY*

*~~First Revised Sheet Nos. 168-169~~*

*BPU No. 11~~10~~ - Gas* *~~Superseding~~ Original Sheet Nos. 168-169*

## *RIDER "D"*

## *INFRASTRUCTURE INVESTMENT PROGRAM - IIP (continued)*

RESERVED FOR FUTURE USE

# *RIDER "E"*

# *NEW JERSEY'S CLEAN ENERGY PROGRAM*

## AVAILABILITY

Applicable to the following service classifications:

| | | | |
|---|---|---|---|
| RS | Residential Service | ED | Economic Development |
| DGR | Distributed Generation Residential | EGS | Electric Generation Service |
| GSS | General Service - Small | NGV | Natural Gas Vehicle |
| GSL | General Service - Large | IS | Interruptible Service |
| FT | Firm Transportation | IGS | Incremental Gas Service |
| DGC | Distributed Generation Commercial | CNG | Compressed Natural Gas |

In accordance with P.L. 2011, c. 9, societal benefits charges pursuant to section 12 of P.L. 1999, c.23 (C.48:3-60), or any other charge designed to recover the costs for societal, energy efficiency, conservation, environmental or renewable energy programs, are not applicable to natural gas delivery service or commodity that is used to generate electricity that is sold for resale. Natural gas used to generate electricity that is sold for resale by customers served under the above Service Classifications is exempt from costs associated with NJ's Clean Energy Program and shall not be billed for such charges. In order to qualify for this exemption, a customer who uses natural gas to generate electricity for resale must complete an Annual Certification form, provided by the Company, to certify the percentage of natural gas used at the customer's New Jersey generation facilities during the previous calendar year to generate electricity that was sold for resale. For a new customer or a customer with less than twelve months of usage history, estimates supported by engineering and operational plans may be used to determine the percentage of natural gas used to generate electricity sold for resale.

The Company shall file with the Board, an annual NJ's Clean Energy Program factor concurrent with the Company's SBC filing, which shall be derived in the following manner:

1. The Company's funding obligation based upon the most recently BPU approved NJ's Clean Energy Program, previously referred to as the Comprehensive Resource Analysis ("CRA") Plan.

2. The difference between the approved funding obligation for the preceding year and the actual recovery of the NJ's Clean Energy Program costs plus appropriate carrying costs.

3. An estimate shall be made of the total volume of prospective jurisdictional therm sales of gas for the applicable service classifications for the twelve (12) months of the recovery year.

*NEW JERSEY NATURAL GAS COMPANY*

*~~First Revised Sheet No. 171~~*

*BPU No. 11~~10~~ - Gas* *~~Superseding~~ Original Sheet No. 171*

## *RIDER "E"*

## *NEW JERSEY'S CLEAN ENERGY PROGRAM (continued)*

4. The total NJ's Clean Energy Program costs to be recovered, as determined per paragraphs (1), (2) and (3) shall then be divided by the total volume of prospective jurisdictional therm sales (per paragraph (3)), and the result carried to four (4) decimal places. Such result shall constitute the NJ's Clean Energy Program factor effective for service rendered commencing the effective date of approval, and continuing in effect until the effective date of any subsequent annual or other filing of a revision of modification thereof.

The net amount shall be maintained in a separate deferred account. In the event that the Company determines that an existing NJ's Clean Energy Program rate, if left unchanged, would result in a material over- or under-collection of amounts incurred or expected to be incurred during the current NJ's Clean Energy Program Recovery Year, the Company may file with the BPU for approval of an interim revision of the NJ's Clean Energy Program rate. Such interim revision shall be designed to minimize or eliminate the over- or under-collection expected to result absent such revision either over: (a) the remaining billing months of the current NJ's Clean Energy Program Recovery Year or (b) over such other time period as the BPU shall determine.

The Company shall calculate carrying costs on the average monthly balances of under-or over-recovery of deferred costs, and the deferred tax benefit associated with those balances, using the same interest rate, which will be adjusted each August 31 based upon the seven-year constant maturity Treasury rate, shown in the Federal Reserve Statistical Release, plus 60 basis points. Interest will accrue on a monthly basis and shall be rolled into the balance each October 1.

In accordance with P.L. 1997, c. 162, as amended by P.L. 2006, c. 44, P.L. 2009, c. 240, and P.L. 2016, c. 57, the charges applicable under this Rider include provision for the New Jersey Sales and Use Tax ("SUT") and when billed to customers exempt from this tax, as set forth in Rider SUT, shall be reduced by the amount of such tax included therein.

The NJ's Clean Energy Program factor shall be collected through the SBC on a per therm basis within the Delivery Charge for all service classifications to which this Rider "E" applies. The NJ's Clean Energy Program factor is as set forth below:

$0.0213

# *RIDER "F"*

# *ENERGY EFFICIENCY - EE*

## AVAILABILITY

Applicable to the following service classifications:

| | | | |
|---|---|---|---|
| RS | Residential Service | ED | Economic Development |
| DGR | Distributed Generation Residential | EGS | Electric Generation Service |
| GSS | General Service - Small | NGV | Natural Gas Vehicle |
| GSL | General Service - Large | IS | Interruptible Service |
| FT | Firm Transportation | IGS | Incremental Gas Service |
| DGC | Distributed Generation Commercial | CNG | Compressed Natural Gas |

In accordance with P.L. 2011, c. 9, societal benefits charges pursuant to section 12 of P.L. 1999, c.23 (C.48:3-60), or any other charge designed to recover the costs for societal, energy efficiency, conservation, environmental or renewable energy programs, are not applicable to natural gas delivery service or commodity that is used to generate electricity that is sold for resale. Natural gas used to generate electricity that is sold for resale by customers served under the above Service Classifications is exempt from costs associated with the Energy Efficiency ("*EE")* Rider and shall not be billed for such charges. In order to qualify for this exemption, a customer who uses natural gas to generate electricity for resale must complete an Annual Certification form, provided by the Company, to certify the percentage of natural gas used at the customer's New Jersey generation facilities during the previous calendar year to generate electricity that was sold for resale. For a new customer or a customer with less than twelve months of usage history, estimates supported by engineering and operational plans may be used to determine the percentage of natural gas used to generate electricity sold for resale.

The EE rate is for recovering authorized expenditures related to the energy-efficiency programs as approved in BPU Docket Nos. GO09010057, GO10030225, GR11070425, GO12070640 and GO14121412, and GO18030355.

## DETERMINATION OF THE EE

The Company shall file an annual request with the Board for implementation of an EE charge, which shall be applicable to customers on all service classifications to which Rider "F" applies. The EE recovery year is intended to run from October 1st to September 30th of each year.

*NEW JERSEY NATURAL GAS COMPANY*

*~~First Revised Sheet No. 173~~*

*BPU No. 11~~10~~ - Gas* *~~Superseding~~ Original Sheet No. 173*

# *RIDER "F"*

## *ENERGY EFFICIENCY – EE (continued)*

### I. Determination of the Rate

The EE rate shall be derived in the following manner:

1. An estimate shall be made of the total annual cost related to the programs. This rider will include only expenses for energy-efficiency programs approved by the Board in BPU Docket Nos. GO09010057, GO10030225, GR11070425, GO12070640, GO14121412, and GO18030355 unless modified further by Board Order.

2. An estimate shall be made of the total annual volume of prospective jurisdictional sales of gas (in therms) to NJNG's sales and transportation customers.

3. The prospective costs (per paragraph (1)) shall be adjusted upward or downward to the extent of the amount of any prior under-recovery or over-recovery to determine the total costs to be recovered and then shall be divided by the estimated total volume of prospective sales (per paragraph (2)), to determine the per unit cost recovery rate. The result shall be carried for four (4) decimal places.

### II. Tracking the Operation of the EE

The Company shall calculate carrying costs on the average monthly balances of under-or over-recovery of deferred costs based upon the Company's monthly commercial paper rate. The carrying cost calculation shall be based on the net of tax beginning and end average monthly balance. The carrying costs shall accrue on a monthly basis and shall be rolled into the balance at the end of each EE recovery year.

In accordance with P.L., 1997 c. 162, the charges applicable under this Rider include provision for the New Jersey Sales and Use Tax ("SUT"), and when billed to customers exempt from this tax, as set forth in Rider "B", shall be reduced by the amount of such tax included therein.

The EE factor shall be credited/collected on a per therm basis within the Delivery Charge for all service classifications to which Rider "F" applies. The EE factor is as set forth below:

$0.0171

*NEW JERSEY NATURAL GAS COMPANY*

*BPU No. 1110 - Gas* *Original Sheet Nos. 174-175*

# *RIDER "G"*

RESERVED FOR FUTURE USE

# *RIDER "H"*

# *UNIVERSAL SERVICE FUND – USF*

## AVAILABILITY

Applicable to the following service classifications:

| | | | |
|---|---|---|---|
| RS | Residential Service | ED | Economic Development |
| DGR | Distributed Generation Residential | EGS | Electric Generation Service |
| GSS | General Service - Small | NGV | Natural Gas Vehicle |
| GSL | General Service - Large | IS | Interruptible Service |
| FT | Firm Transportation | IGS | Incremental Gas Service |
| DGC | Distributed Generation Commercial | CNG | Compressed Natural Gas |

In accordance with P.L. 2011, c. 9, societal benefits charges pursuant to section 12 of P.L. 1999, c.23 (C.48:3-60), or any other charge designed to recover the costs for societal, energy efficiency, conservation, environmental or renewable energy programs, are not applicable to natural gas delivery service or commodity that is used to generate electricity that is sold for resale. Natural gas used to generate electricity that is sold for resale by customers served under the above Service Classifications is exempt from costs associated with the Universal Service Fund ("USF") and shall not be billed for such charges. In order to qualify for this exemption, a customer who uses natural gas to generate electricity for resale must complete an Annual Certification form, provided by the Company, to certify the percentage of natural gas used at the customer's New Jersey generation facilities during the previous calendar year to generate electricity that was sold for resale. For a new customer or a customer with less than twelve months of usage history, estimates supported by engineering and operational plans may be used to determine the percentage of natural gas used to generate electricity sold for resale.

The USF is a fund established by the New Jersey Board Public Utilities ("NJBPU") to provide affordable access for electric and natural gas service to all residential customers in the State. The Electric Discount and Energy Competition Act mandated the establishment of the USF in New Jersey.

Revenues collected through this rider are used to fund the State's USF program for qualified low-income customers and the Lifeline Credit program, a special program for qualified low-income elderly and disable citizens. The USF is administered by the State of New Jersey Department of Community Affairs and the Lifeline Credit Program is administered by the State of New Jersey Department of Human Resources. The USF program Year is intended to run from October 1st to September 30th of each year.

*NEW JERSEY NATURAL GAS COMPANY*

*~~First Revised Sheet No. 177~~*

*BPU No. 11~~10~~ - Gas* *~~Superseding~~ Original Sheet No. 177*

## *RIDER "H"*

## *UNIVERSAL SERVICE FUND – USF (continued)*

### DETERMINATION OF THE USF

On an annual basis, the NJBPU shall consider the following: estimated USF benefits for upcoming USF program Year; Lifeline budget for upcoming USF program year; estimated administrative expenses; the projected current year under/over recovery position, and annual forecasted volumes in order to establish a USF rate for the upcoming USF program year. This state wide rate shall be adjusted for all applicable taxes and assessments and shall be provided to all utilities to be included in their annual SBC filings for notice and public hearing purposes.

The Company shall calculate carrying costs on any under-or over-recovered USF balances based upon the two-year constant maturity Treasury rate, as published in the Federal Reserve Statistical Release on the first day of each month, or the closest day thereafter on which rates are published, plus sixty (60) basis points; provided, however, that this interest rate does not exceed the overall rate of return as authorized by the Board. The interest rate shall be reset each month. The carrying cost calculation shall be based on the net of tax beginning and end average monthly balance. The carrying costs shall accrue on a monthly basis and shall be rolled into the USF balance at the end of each USF year.

The USF shall be collected on a per therm basis and shall remain in effect until changed by order of the NJBPU:

| | |
|---|---|
| Lifeline | $0.0057 |
| USF | $0.0059 |
| USF Billing Factor | $0.0116 |

In accordance with P.L. 1997, c. 162, as amended by P.L. 2006, c. 44, P.L. 2009, c. 240, and P.L. 2016, c. 57, the charges applicable under this Rider include provision for the New Jersey Sales and Use Tax ("SUT"), and when billed to customer exempt from this tax, as set forth in Rider "B", shall be reduced by the amount of such tax included therein.

*NEW JERSEY NATURAL GAS COMPANY*

*BPU No. 1110 - Gas* *Original Sheet No. 178*

# *RIDER "I"*

# *CONSERVATION INCENTIVE PROGRAM – CIP*

Applicable to the following service classifications:

| | |
|---|---|
| RS | Residential Service |
| GSS | General Service - Small |
| GSL | General Service - Large |
| ED | Economic Development |

## *I. DEFINITION OF TERMS AS USED HEREIN*

1. ***Actual Number of Customers*** – The Actual Number of Customers ("ANC") shall be determined on a monthly basis for each of the Customer Class Groups to which the Conservation Incentive Program ("CIP") ~~Clause~~ applies. The ANC shall equal the aggregate actual booked number of customers for the month as recorded on the Company's books, plus any Incremental Large Customer Count Adjustment.

2. ***Actual Usage per Customer*** – the Actual Usage per Customer ("AUC") shall be determined in therms on a monthly basis for each of the Customer Class Groups to which the CIP applies. The AUC shall equal the aggregate actual booked sales for the month as recorded on the Company's books divided by the Actual Number of Customers for the corresponding month.

3. ***Adjustment Period*** - shall be the year beginning immediately following the conclusion of the Annual Period.

4. ***Annual Period*** – shall be the twelve consecutive months from October 1 of one calendar year through September 30 of the following calendar year.

5. ***Average 13 Month Common Equity Balance*** - shall be the common equity balance at the beginning of the Annual Period (i.e., October 1) and the month ending balances for each of the twelve months in the Annual Period divided by thirteen (13).

6. ***Baseline Usage per Customer*** – the Baseline Usage per Customer ("BUC") shall be stated in therms on a monthly basis for each of the Customer Class Groups to which the CIP applies. The BUC shall be rounded to the nearest one tenth of one therm.

*NEW JERSEY NATURAL GAS COMPANY*

~~*First Revised Sheet No. 179*~~

*BPU No. 11~~10~~ - Gas* ~~*Superseding*~~ *Original Sheet No. 179*

## *RIDER "I"*

## *CONSERVATION INCENTIVE PROGRAM – CIP (continued)*

7. ***Customer Class Group*** – For purposes of determining and applying the CIP, customers shall be aggregated into four separate recovery class groups. The Customer Class Groups shall be as follows:

   Group I: RS (non-heating customers only)
   Group II: RS (heating customers only)
   Group III: GSS, ED using less than 5,000 therms annually
   Group IV: GSL, ED using 5,000 therms or greater annually

8. ***Forecast Annual Usage*** – the Forecast Annual Usage ("FAU") shall be the projected total annual throughput for all customers within the applicable Customer Class Group. The FAU shall be estimated based on normal weather.

9. ***Incremental Large Customer Count Adjustment*** – the Company shall maintain a list of incremental commercial and industrial customers added to its system on or after September 1, 2021~~2019~~ whose connected load is greater than that typical for the Company's average commercial and industrial customer. For purposes of the CIP, large incremental customers shall be those customers whose connected load exceeds 5,400~~5,500~~ cubic feet per hour ("CFH"). A new customer at an existing location previously connected to NJNG's facilities shall not be considered an incremental customer. The Actual Number of Customers for the Customer Class Group shall be adjusted to reflect the impact of all such incremental commercial or industrial customers. Specifically, the Incremental Large Customer Count Adjustment for the applicable month shall equal the aggregate connected load for all active customers that exceed the 5,400~~5,500~~ CFH threshold divided by 2,700~~2,750~~ CFH less the number of active customers, rounded to the nearest whole number.

10. ***Margin Revenue Factor*** – the Margin Revenue Factor ("MRF") shall be the weighted-average margin rate as quoted in the individual service classes to which the CIP applies. The MRFs by Customer Class Group are as follows:

| | |
|---|---|
| Group I (RS non-heating): | $~~0.4690~~0.7139 |
| Group II (RS heating): | $~~0.4690~~0.7139 |
| Group III (GSS, ED using less than 5,000 therms annually) | $~~0.4153~~0.6641 |
| Group IV (GSL, ED using 5,000 therms or greater annually) | $~~0.2711~~0.3213 |

The MRF shall be reset each time new base rates are placed into effect.

# *RIDER "I"*

## *CONSERVATION INCENTIVE PROGRAM – CIP (continued)*

### *II. BASELINE USAGE PER CUSTOMER*

The BUC for each Customer Class Group by month are as follows:

| Month | Group I: RS Non-Heating | Group II: RS Heating | Group III: GSS, ED using less than 5,000 therms annually | Group IV: GSL, ED using 5,000 therms or greater annually |
|---|---|---|---|---|
| Oct. | 17.513.2 | 43.443.7 | 47.549.8 | 879.9901.2 |
| Nov. | 13.910.8 | 100.494.9 | 124.2117.5 | 1,738.11,678.0 |
| Dec. | 17.415.4 | 160.8163.9 | 208.6212.6 | 2,593.42,611.5 |
| Jan. | 20.416.9 | 191.2191.4 | 270.3259.1 | 3,041.63,002.3 |
| Feb. | 16.515.9 | 162.9163.3 | 221.9228.5 | 2,574.12,514.6 |
| Mar. | 13.013.7 | 131.5122.3 | 173.0165.1 | 2,057.01,879.5 |
| Apr. | 8.511.0 | 65.778.0 | 72.491.4 | 1,065.01,413.6 |
| May | 9.99.7 | 31.739.8 | 34.337.2 | 673.6898.1 |
| Jun. | 17.216.8 | 21.825.9 | 21.722.6 | 530.0602.8 |
| Jul. | 15.516.4 | 21.222.5 | 22.723.9 | 548.5551.6 |
| Aug. | 13.112.0 | 20.319.7 | 22.820.5 | 548.3516.0 |
| Sep. | 17.913.5 | 23.018.7 | 20.119.7 | 490.5483.0 |
| Total Annual | 180.8165.3 | 973.9984.1 | 1,239.51,247.9 | 16,740.017,052.2 |

The BUC shall be reset each time new base rates are placed into effect.

### *III. DETERMINATION OF THE CONSERVATION INCENTIVE PROGRAM RATE*

1. At the end of the Annual Period, a calculation shall be made that determines for each Customer Class Group the deficiency or excess to be surcharged or credited to customers pursuant to the CIP mechanism. The deficiency or excess shall be calculated each month by multiplying the result obtained from subtracting the Baseline Usage per Customer from the Actual Usage per Customer by the Actual Number of Customers and then multiplying the resulting therms by the Margin Revenue Factor.

## *RIDER "I"*

## *CONSERVATION INCENTIVE PROGRAM – CIP (continued)*

2. The normal degree days and degree day consumption factors per customer to be used for the calculation of the weather related change in customer usage, are set forth below:

| | | Consumption Factors per customer (therms per customer per degree day) | | |
|---|---|---|---|---|
| **Month** | **Degree Days** | **Group II- Residential Heating** | **Group III- GSS** | **Group IV- GSL** |
| October | 244238 | 0.12370.1260 | 0.18280.1858 | 1.74621.7779 |
| November | 510524 | 0.16440.1677 | 0.22600.2298 | 2.26562.3094 |
| December | 811813 | 0.18820.1919 | 0.26800.2726 | 2.60262.6513 |
| January | 977968 | 0.19810.2020 | 0.28210.2872 | 2.73952.7882 |
| February | 818814 | 0.19590.1998 | 0.27580.2810 | 2.66862.7160 |
| March | 676674 | 0.18960.1934 | 0.25810.2631 | 2.42352.4674 |
| April | 347346 | 0.17410.1776 | 0.18930.1927 | 1.86711.8978 |
| May | 126122 | 0.14290.1458 | 0.16910.1721 | 1.62621.6534 |

These consumption factors per customer shall be multiplied by the actual number of customers to determine the consumption factors. The weather related change in customer usage shall be calculated as the difference between actual degree days and the above normal degree days multiplied by the consumption factors, and multiplying the result by the margin revenue factors as defined in Section I.10. of this Rider.

3. Recovery of margin deficiency associated with non-weather related changes in customer usage will be subject to a BGSS savings test and a Margin Revenue recovery limitation ("recovery tests"). Recovery of non-weather related margin deficiency will be limited to the smaller of (1) the level of BGSS savings achieved when such savings are less than 75 percent of the non-weather related margin deficiency, i.e. BGSS savings test, and (2) 6.5 percent of variable margins for the CIP Annual Period, i.e., Margin Revenue recovery limitation. Any amount that exceeds the above limitations may be deferred for future recovery and is subject to either or both of the recovery tests in a future year consistent with the amount by which either or both of the non-weather related margin deficiency exceeded the recovery tests. For the purposes of this calculation, the value of the weather related portion shall be calculated as set forth in Section III.2. of this Rider I.

## *RIDER "I"*

## *CONSERVATION INCENTIVE PROGRAM – CIP (continued)*

4. In addition, the CIP shall not operate to permit the Company to recover any portion of a deficiency that will cause the Company to earn in excess of a 10.59.60% return on common equity for the Annual Period; any portion which is not recovered shall not be deferred. For purposes of this section, the Company's rate of return on common equity shall be calculated by dividing the Company's regulated jurisdictional net income for the Annual Period by the Company's average 13-month common equity balance for such Annual Period, all as reflected in the Company's monthly reports to the Board of Public Utilities. The Company's regulated jurisdictional net income shall be calculated by subtracting from total net income (1) other income, net of associated taxes, (2) margins retained from Off-System Sales and Capacity release, net of associated taxes, (3) margins retained from the Storage Incentive Program, net of associated taxes, and (4) margins retained from the energy efficiency programs of Rider "F", net of associated taxes. The Company's average thirteen-month common equity balance for any Annual Period shall be the Company's average total common equity less the Company's average common equity investment in unregulated subsidiaries.
5. The amount to be surcharged or credited shall equal the eligible aggregate deficiency or excess for all months during the Annual Period determined in accordance with the provisions herein, divided by the Forecast Annual Usage for the Customer Class Group.

## *IV. TRACKING THE OPERATION OF THE CONSERVATION INCENTIVE PROGRAM*

The revenues billed, or credits applied, net of taxes and assessments, through the application of the Conservation Incentive Program Rate shall be accumulated for each month of the Adjustment Period and applied against the CIP excess or deficiency from the Annual Period and any cumulative balances remaining from prior periods.

In accordance with P.L. 1997, c. 192, as amended by P.L. 2006, c. 44, P.L. 2009, c. 240, and P.L. 2016, c. 57, the charges applicable under this Rider include provision for the New Jersey Sales and Use Tax ("SUT") and when billed to customers exempt from this tax, as set forth in Rider "B", shall be reduced by the amount of such tax included therein.

*NEW JERSEY NATURAL GAS COMPANY*

*~~First Revised Sheet No. 183~~*

*BPU No. 11~~10~~ - Gas* *~~Superseding~~ Original Sheet No. 183*

## *RIDER "I"*

## *CONSERVATION INCENTIVE PROGRAM – CIP (continued)*

The annual filing for the adjustment to the CIP rate shall be concurrent with the annual filing for BGSS. The CIP factor shall be credited/collected on a basis within the Delivery Charge for all service classifications stated above.

The currently effective CIP factor by Customer Class Group are as follows:

| | |
|---|---|
| Group I (RS non-heating): | ($0.0334) |
| Group II (RS heating): | $0.0304 |
| Group III (GSS, ED using less than 5,000 therms annually): | $0.0400 |
| Group IV (GSL, ED using 5,000 therms or greater annually): | $0.0303 |

For the recovery of the October 2019 through September 2020 CIP margin deficiency, the recovery of the margin deficiency associated with non-weather related change in customer usage included in the above factors are offset by the BGSS savings component, as set forth in Rider A. The BGSS savings component is embedded within the Periodic BGSS Charge and the Monthly BGSS Charge.

RESERVED FOR FUTURE USE

# SUMMARY OF RATE COMPONENTS

**NEW JERSEY NATURAL GAS COMPANY**

~~Second Revised Sheet No. 252~~

**BPU No. 1110 - Gas** ~~Superseding First Revised~~ Original **Sheet No. 252**

## SUMMARY OF RESIDENTIAL RATE COMPONENTS

### Residential Heating Customers

| | | Bundled Sales | Transport | Reference |
|---|---|---|---|---|
| ***Customer Charge*** | | | | |
| Customer Charge per meter per month | | ~~10.14~~12.10 | ~~10.14~~12.10 | |
| IIP Customer Charge per meter per month | | 0.00 | 0.00 | Rider D |
| **Total Customer Charge** | | **~~10.14~~12.10** | **~~10.14~~12.10** | |
| ***Delivery Charge ("DEL") per therm*** | | | | |
| Pre-tax Base Rate | | ~~0.4690~~0.7139 | ~~0.4690~~0.7139 | |
| Pre-tax IIP Base Rate | | 0.0000 | 0.0000 | Rider D |
| Total Pre-tax Base Rate (Margin Revenue Factor) | | ~~0.4690~~0.7139 | ~~0.4690~~0.7139 | |
| SUT | | ~~0.0311~~0.0473 | ~~0.0311~~0.0473 | Rider B |
| After-tax Base Rate | | ~~0.5001~~0.7612 | ~~0.5001~~0.7612 | |
| CIP | | 0.0304 | 0.0304 | Rider I |
| EE | | 0.0171 | 0.0171 | Rider F |
| *Subtotal* | a | *~~0.5476~~0.8087* | *~~0.5476~~0.8087* | |
| *Balancing Charge* | b | *0.1026* | *0.1026* | Rider A |
| *Societal Benefits Charge ("SBC"):* | | | | |
| NJ's Clean Energy | | 0.0213 | 0.0213 | Rider E |
| RA | | 0.0145 | 0.0145 | Rider C |
| USF | | 0.0116 | 0.0116 | Rider H |
| *Total SBC* | c | *0.0474* | *0.0474* | |
| **Delivery Charge (DEL)** | a+b+c=d | **~~0.6976~~0.9587** | **~~0.6976~~0.9587** | |
| ***Basic Gas Supply Charge ("BGS")*** | | | | |
| **BGS** | e | **0.3320** | **x** | Rider A |

***Date of Issue:*** ~~*October 28, 2020*~~
***Issued by:*** ***Mark G. Kahrer, Senior Vice President***
***29, , 20202021***
***Wall, NJ 07719***

***Effective for service rendered on and after ~~November 1~~ April***

***Filed pursuant to Order of the Board of Public Utilities entered in Docket No~~s~~. ~~GO19020278 and GR20060377~~***

*NEW JERSEY NATURAL GAS COMPANY*

*~~Second Revised Sheet No. 252~~*

*BPU No. 11~~10~~ - Gas* *~~Superseding First Revised~~ Original Sheet No. 252*

## *SUMMARY OF RESIDENTIAL RATE COMPONENTS*

With the exception of the Customer Charge, these rates are on a per-therm basis.

Total Customer Charge, DEL rate and BGS rate are presented on customer bills.

*NEW JERSEY NATURAL GAS COMPANY*

~~*Second Revised Sheet No. 253*~~
*BPU No. 11~~10~~ - Gas* ~~*Superseding First Revised*~~ *Original Sheet No. 253*

## *SUMMARY OF RESIDENTIAL RATE COMPONENTS*

## Residential Non-Heating Customers

| | | Bundled Sales | Transport | Reference |
|---|---|---|---|---|
| ***Customer Charge*** | | | | |
| Customer Charge per meter per month | | ~~10.14~~12.10 | ~~10.14~~12.10 | |
| IIP Customer Charge per meter per month | | 0.00 | 0.00 | Rider D |
| **Total Customer Charge** | | **~~10.14~~12.10** | **~~10.14~~12.10** | |
| ***Delivery Charge ("DEL") per therm*** | | | | |
| Pre-tax Base Rate | | ~~0.4690~~0.7139 | ~~0.4690~~0.7139 | |
| Pre-tax IIP Base Rate | | 0.0000 | 0.0000 | Rider D |
| Total Pre-tax Base Rate (Margin Revenue Factor) | | ~~0.4690~~0.7139 | ~~0.4690~~0.7139 | |
| SUT | | ~~0.0311~~0.0473 | ~~0.0311~~0.0473 | Rider B |
| After-tax Base Rate | | ~~0.5001~~0.7612 | ~~0.5001~~0.7612 | |
| CIP | | (0.0334) | (0.0334) | Rider I |
| EE | | 0.0171 | 0.0171 | Rider F |
| *Subtotal* | a | *~~0.4838~~0.7449* | *~~0.4838~~0.7449* | |
| *Balancing Charge* | b | *0.1026* | *0.1026* | Rider A |
| *Societal Benefits Charge ("SBC"):* | | | | |
| NJ's Clean Energy | | 0.0213 | 0.0213 | Rider E |
| RA | | 0.0145 | 0.0145 | Rider C |
| USF | | 0.0116 | 0.0116 | Rider H |
| *Total SBC* | c | *0.0474* | *0.0474* | |
| **Delivery Charge (DEL)** | a+b+c=d | **~~0.6338~~0.8949** | **~~0.6338~~0.8949** | |

***Basic Gas Supply Charge ("BGS")***

*NEW JERSEY NATURAL GAS COMPANY*

*~~Second Revised Sheet No. 253~~*
*BPU No. 11~~10~~ - Gas* *~~Superseding First Revised~~ Original Sheet No. 253*

## *SUMMARY OF RESIDENTIAL RATE COMPONENTS*

| | | | | |
|---|---|---|---|---|
| **BGS** | e | **0.3320** | **x** | Rider A |

With the exception of the Customer Charge, these rates are on a per-therm basis.

Total Customer Charge, DEL rate and BGS rate are presented on customer bills.

*NEW JERSEY NATURAL GAS COMPANY*

~~*Second Revised Sheet No. 254*~~

*BPU No. 11~~10~~ - Gas* ~~*Superseding First Revised*~~ *Original Sheet No. 254*

## *SUMMARY OF RESIDENTIAL RATE COMPONENTS*

## Residential Distributed Generation Service

| | | Nov - Apr | May - Oct | Reference |
|---|---|---|---|---|
| ***Customer Charge*** | | | | |
| Customer Charge per meter per month | | ~~10.14~~12.10 | ~~10.14~~12.10 | |
| IIP Customer Charge per meter per month | | 0.00 | 0.00 | Rider D |
| **Total Customer Charge** | | **~~10.14~~12.10** | **~~10.14~~12.10** | |
| ***Delivery Charge ("DEL") per therm*** | | | | |
| Pre-tax Base Rate | | 0.1685 | 0.1185 | |
| Pre-tax IIP Base Rate | | 0.0000 | 0.0000 | Rider D |
| Total Pre-tax Base Rate | | 0.1685 | 0.1185 | |
| SUT | | 0.0112 | 0.0079 | Rider B |
| After-tax Base Rate | | 0.1797 | 0.1264 | |
| EE | | 0.0171 | 0.0171 | Rider F |
| *Subtotal* | a | *0.1968* | *0.1435* | |
| *Balancing Charge* | b | *0.1026* | *0.1026* | Rider A |
| *Societal Benefits Charge ("SBC"):* | | | | |
| NJ's Clean Energy | | 0.0213 | 0.0213 | Rider E |
| RA | | 0.0145 | 0.0145 | Rider C |
| USF | | 0.0116 | 0.0116 | Rider H |
| *Total SBC* | c | 0.0474 | 0.0474 | |
| **Delivery Charge (DEL)** | a+b+c=d | **0.3468** | **0.2935** | |
| ***Basic Gas Supply Charge ("BGS")*** | | | | |
| **BGS** | e | **0.3320** | **0.3320** | Rider A |

With the exception of the Customer Charge, these rates are on a per-therm basis.

Total Customer Charge, DEL rate and BGS rate are presented on customer bills.

*NEW JERSEY NATURAL GAS COMPANY*

*~~Second Revised Sheet No. 255~~*

*BPU No. 11~~10~~ - Gas* *~~Superseding First Revised~~ Original Sheet No. 255*

## *SUMMARY OF FIRM COMMERCIAL RATE COMPONENTS*

## General Service - Small (GSS)

| | | Bundled Sales | Transport | Reference |
|---|---|---|---|---|
| ***Customer Charge*** | | | | |
| Customer Charge per meter per month | | ~~34.85~~44.25 | ~~34.85~~44.25 | |
| IIP Customer Charge per meter per month | | 0.00 | 0.00 | Rider D |
| **Total Customer Charge** | | **~~34.85~~44.25** | **~~34.85~~44.25** | |
| ***Delivery Charge ("DEL") per therm*** | | | | |
| Pre-tax Base Rate | | ~~0.4153~~0.6641 | ~~0.4153~~0.6641 | |
| Pre-tax IIP Base Rate | | 0.0000 | 0.0000 | Rider D |
| Total Pre-tax Base Rate (Margin Revenue Factor) | | ~~0.4153~~0.6641 | ~~0.4153~~0.6641 | |
| SUT | | ~~0.0275~~0.0440 | ~~0.0275~~0.0440 | Rider B |
| After-tax Base Rate | | ~~0.4428~~0.7081 | ~~0.4428~~0.7081 | |
| CIP | | 0.0400 | 0.0400 | Rider I |
| EE | | 0.0171 | 0.0171 | Rider F |
| *Subtotal* | a | *~~0.4999~~0.7652* | *~~0.4999~~0.7652* | |
| *Balancing Charge* | b | *0.1026* | *0.1026* | Rider A |
| *Societal Benefits Charge ("SBC"):* | | | | |
| NJ's Clean Energy | | 0.0213 | 0.0213 | Rider E |
| RA | | 0.0145 | 0.0145 | Rider C |
| USF | | 0.0116 | 0.0116 | Rider H |
| *Total SBC* | c | *0.0474* | *0.0474* | |
| **Delivery Charge (DEL)** | a+b+c=d | **~~0.6499~~0.9152** | **~~0.6499~~0.9152** | |

***Basic Gas Supply Charge ("BGS")***

*NEW JERSEY NATURAL GAS COMPANY*

*~~Second Revised Sheet No. 255~~*

*BPU No. 11~~10~~ - Gas* *~~Superseding First Revised~~ Original Sheet No. 255*

## *SUMMARY OF FIRM COMMERCIAL RATE COMPONENTS*

| | | | | |
|---|---|---|---|---|
| **BGS** | e | **0.3320** | **x** | Rider A |

With the exception of the Customer Charge, these rates are on a per-therm basis.

Total Customer Charge, DEL rate and BGS rate are presented on customer bills.

NEW JERSEY NATURAL GAS COMPANY

~~Eighteenth Revised Sheet No. 256~~

BPU No. 11~~10~~ - Gas ~~Superseding Seventeenth Revised~~ Original Sheet No. 256

## SUMMARY OF FIRM COMMERCIAL RATE COMPONENTS

## General Service - Large (GSL)

| | | Bundled Sales | Transport | Reference |
|---|---|---|---|---|
| ***Customer Charge*** | | | | |
| Customer Charge per meter per month | | ~~80.79~~104.49 | ~~80.79~~104.49 | |
| IIP Customer Charge per meter per month | | 0.00 | 0.00 | Rider D |
| **Total Customer Charge** | | **~~80.79~~104.49** | **~~80.79~~104.49** | |
| ***Demand Charge*** | | | | |
| Demand Charge per month applied to HMAD | | ~~2.63~~3.41 | ~~2.63~~3.41 | |
| IIP Demand Charge per month applied to HMAD | | 0.00 | 0.00 | Rider D |
| **Total Demand Charge** | | **~~2.63~~3.41** | **~~2.63~~3.41** | |
| ***Delivery Charge ("DEL") per therm*** | | | | |
| Pre-tax Base Rate | | ~~0.2711~~0.32013 | ~~0.2711~~0.32013 | |
| Pre-tax IIP Base Rate | | 0.0000 | 0.0000 | Rider D |
| Total Pre-tax Base Rate (Margin Revenue Factor) | | ~~0.2711~~0.32013 | ~~0.2711~~0.32013 | |
| SUT | | ~~0.0180~~0.02013 | ~~0.0180~~0.02013 | Rider B |
| After-tax Base Rate | | ~~0.2891~~0.34026 | ~~0.2891~~0.34026 | |
| CIP | | 0.0303 | 0.0303 | Rider I |
| EE | | 0.0171 | 0.0171 | Rider F |
| *Subtotal* | a | *~~0.3365~~0.3900* | *~~0.3365~~0.3900* | |
| *Balancing Charge* | b | *0.1026* | *0.1026* | Rider A |
| *Societal Benefits Charge ("SBC"):* | | | | |
| NJ's Clean Energy | | 0.0213 | 0.0213 | Rider E |
| RA | | 0.0145 | 0.0145 | Rider C |
| USF | | 0.0116 | 0.0116 | Rider H |
| *Total SBC* | c | *0.0474* | *0.0474* | |

*NEW JERSEY NATURAL GAS COMPANY*

*~~Eighteenth Revised Sheet No. 256~~*

*BPU No. 11~~10~~ - Gas* *~~Superseding Seventeenth Revised~~ Original* *Sheet No. 256*

## *SUMMARY OF FIRM COMMERCIAL RATE COMPONENTS*

| | | | | |
|---|---|---|---|---|
| **Delivery Charge (DEL)** | a+b+c=d | ~~0.4865~~0.5400 | ~~0.4865~~0.5400 | |
| ***Basic Gas Supply Charge ("BGS")*** | | | | |
| **BGS** | e | 0.4286 | **X** | Rider A |

With the exception of the Customer Charge and Demand charges, these rates are on a per-therm basis.

Total Customer, Total Demand, DEL, and BGS charges are presented on customer bills.

**NEW JERSEY NATURAL GAS COMPANY**

~~Second Revised Sheet No. 257~~

BPU No. 11~~10~~ - Gas ~~Superseding First Revised~~ Original Sheet No. 257

## SUMMARY OF FIRM COMMERCIAL RATE COMPONENTS

### FIRM TRANSPORTATION (FT)

| | | Transport | Reference |
|---|---|---|---|
| ***Customer Charge*** | | | |
| Customer Charge per meter per month | | ~~271.28~~389.18 | |
| IIP Customer Charge per meter per month | | 0.00 | Rider D |
| **Total Customer Charge** | | **~~271.28~~389.18** | |
| ***Demand Charge*** | | | |
| Demand Charge per therm per month applied to MDQ | | ~~1.98~~2.83 | |
| IIP Demand Charge per month applied to the MDQ | | 0.00 | Rider D |
| **Total Demand Charge** | | **~~1.98~~2.83** | |
| ***Delivery Charge ("DEL") per therm*** | | | |
| Pre-tax Base Rate | | ~~0.0748~~0.1118 | |
| Pre-tax IIP Base Rate | | 0.0000 | Rider D |
| Total Pre-tax Base Rate | | ~~0.0748~~0.1118 | |
| SUT | | ~~0.0050~~0.0074 | Rider B |
| After-tax Base Rate | | ~~0.0798~~0.1192 | |
| EE | | 0.0171 | Rider F |
| *Subtotal* | a | *~~0.0969~~0.1363* | |
| *Societal Benefits Charge ("SBC"):* | | | |
| NJ's Clean Energy | | 0.0213 | Rider E |
| RA | | 0.0145 | Rider C |
| USF | | 0.0116 | Rider H |
| *Total SBC* | b | *0.0474* | |
| **Delivery Charge (DEL)** | a+b=c | **~~0.1443~~0.1837** | |

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*29, ~~, 2020~~2021*
*Wall, NJ 07719*

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*NEW JERSEY NATURAL GAS COMPANY*

*~~Second Revised Sheet No. 257~~*

*BPU No. 11~~10~~ - Gas* *~~Superseding First Revised~~ Original Sheet No. 257*

## *SUMMARY OF FIRM COMMERCIAL RATE COMPONENTS*

With the exception of the Customer Charge and Demand charges, these rates are on a per-therm basis.

Total Customer, Total Demand, and DEL, charges are presented on customer bills.

**NEW JERSEY NATURAL GAS COMPANY**

~~Eighteenth Revised Sheet No. 258~~

BPU No. 11~~10~~ - Gas ~~Superseding Seventeenth Revised~~ Original Sheet No. 258

## SUMMARY OF FIRM COMMERCIAL RATE COMPONENTS

## Commercial Distributed Generation Service – DGC-Balancing

| | | Nov - Apr | May - Oct | Reference |
|---|---|---|---|---|
| ***Customer Charge*** | | | | |
| Customer Charge per meter per month | | ~~82.43~~104.49 | ~~82.43~~104.49 | |
| IIP Customer Charge per meter per month | | 0.00 | 0.00 | Rider D |
| **Total Customer Charge** | | **~~82.43~~104.49** | **~~82.43~~104.49** | |
| ***Demand Charge*** | | | | |
| Demand Charge per therm per month applied to PBQ | | ~~1.94~~2.45 | ~~1.94~~2.45 | |
| IIP Demand Charge per therm per month applied to PBQ | | 0.00 | 0.00 | Rider D |
| **Total Demand Charge** | | **~~1.94~~2.45** | **~~1.94~~2.45** | |
| ***Delivery Charge ("DEL") per therm*** | | | | |
| Pre-tax Base Rate | | ~~0.0616~~0.0643 | ~~0.0310~~0.0337 | |
| Pre-tax IIP Base Rate | | 0.0000 | 0.0000 | Rider D |
| Total Pre-tax Base Rate | | ~~0.0616~~0.0643 | ~~0.0310~~0.0337 | |
| SUT | | ~~0.0041~~0.0043 | ~~0.0021~~0.0022 | Rider B |
| After-tax Base Rate | | ~~0.0657~~0.0686 | ~~0.0331~~0.0359 | |
| EE | | 0.0171 | 0.0171 | Rider F |
| *Subtotal* | a | ~~0.0828~~0.0857 | ~~0.0502~~0.0530 | |
| *Societal Benefits Charge ("SBC"):* | | | | |
| NJ's Clean Energy | | 0.0213 | 0.0213 | Rider E |
| RA | | 0.0145 | 0.0145 | Rider C |
| USF | | 0.0116 | 0.0116 | Rider H |
| *Total SBC* | b | *0.0474* | *0.0474* | |
| Balancing Charge | c | *0.1026* | *0.1026* | |
| **DGC-Balancing Delivery Charge (DEL)** | a+b+c=d | **~~0.2328~~0.2357** | **~~0.2002~~0.2030** | |
| ***Basic Gas Supply Charge ("BGS")*** | | | | |
| **BGS** | e | **0.4286** | **0.4286** | Rider A |

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*NEW JERSEY NATURAL GAS COMPANY*

*~~Eighteenth Revised Sheet No. 258~~*

*BPU No. 11~~10~~ - Gas* *~~Superseding Seventeenth Revised~~ Original Sheet No. 258*

## *SUMMARY OF FIRM COMMERCIAL RATE COMPONENTS*

The Delivery Charges for DGC-Balancing above include the Balancing Charge as reflected in Rider "A" of this Tariff for customers whose Third Party Supplier delivers gas on their behalf pursuant to paragraph (3) under Deliveries to Company's Designated Delivery Meters section of Service Classification TPS.

With the exception of the Customer Charge and Demand Charge, these rates are on a per-therm basis.

Total Customer Charge, Total Demand Charge, DEL, and BGS charges are presented on customer bills.

*NEW JERSEY NATURAL GAS COMPANY*

*~~Second Revised Sheet No. 259~~*

*BPU No. 11~~10~~ - Gas* *~~Superseding First Revised~~ Original Sheet No. 259*

## *SUMMARY OF FIRM COMMERCIAL RATE COMPONENTS*

## Commercial Distributed Generation Service – DGC-FT

| | | Nov - Apr | May - Oct | Reference |
|---|---|---|---|---|
| ***Customer Charge*** | | | | |
| Customer Charge per meter per month | | ~~82.43~~104.49 | ~~82.43~~104.49 | |
| IIP Customer Charge per meter per month | | 0.00 | 0.00 | Rider D |
| **Total Customer Charge** | | **~~82.43~~104.49** | **~~82.43~~104.49** | |
| ***Demand Charge*** | | | | |
| Demand Charge per therm per month applied to PBQ | | ~~1.94~~2.45 | ~~1.94~~2.45 | |
| IIP Demand Charge per therm per month applied to PBQ | | 0.00 | 0.00 | Rider D |
| **Total Demand Charge** | | **~~1.94~~2.45** | **~~1.94~~2.45** | |
| ***Delivery Charge ("DEL") per therm*** | | | | |
| Pre-tax Base Rate | | ~~0.0616~~0.0643 | ~~0.0310~~0.0337 | |
| IIP Pre-tax Base Rate | | 0.0000 | 0.0000 | Rider D |
| Total Pre-tax Base Rate | | ~~0.0616~~0.0643 | ~~0.0310~~0.0337 | |
| SUT | | ~~0.0041~~0.0043 | ~~0.0021~~0.0022 | Rider B |
| After-tax Base Rate | | ~~0.0657~~0.0686 | ~~0.0331~~0.0359 | |
| EE | | 0.0171 | 0.0171 | Rider F |
| *Subtotal* | a | *~~0.0828~~0.0857* | *~~0.0502~~0.0530* | |
| *Societal Benefits Charge ("SBC"):* | | | | |
| NJ's Clean Energy | | 0.0213 | 0.0213 | Rider E |
| RA | | 0.0145 | 0.0145 | Rider C |
| USF | | 0.0116 | 0.0116 | Rider H |
| *Total SBC* | b | *0.0474* | *0.0474* | |
| **DGC-FT Delivery Charge (DEL)** | a+b=c | **~~0.1302~~0.1331** | **~~0.0976~~0.1004** | |

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**NEW JERSEY NATURAL GAS COMPANY**

~~Second Revised Sheet No. 259~~

**BPU No. 11~~10~~ - Gas** ~~Superseding First Revised~~ Original **Sheet No. 259**

## SUMMARY OF FIRM COMMERCIAL RATE COMPONENTS

For DGC-FT customers whose Third Party Supplier delivers gas on their behalf pursuant to paragraph (1) under Deliveries to Company's Designated Delivery Meters section of Service Classification TPS, the DGC-FT Delivery Charges above exclude the Balancing Charge reflected in Rider "A" of this Tariff.

With the exception of the Customer Charge and Demand Charge, these rates are on a per-therm basis.

Total Customer Charge, Total Demand Charge, and DEL rate are presented on customer bills

**NEW JERSEY NATURAL GAS COMPANY**

~~Second Revised Sheet No. 260~~

**BPU No. 1~~10~~ - Gas** ~~Superseding First Revised~~ Original **Sheet No. 260**

## SUMMARY OF FIRM COMMERCIAL RATE COMPONENTS

### Electric Generation Service (EGS)

| | | Without SUT | With SUT | Reference |
|---|---|---|---|---|
| ***Customer Charge*** | | | | |
| Customer Charge per meter per month | | 877.26 | 935.38 | |
| ***Demand Charge*** | | | | |
| Demand Charge per therm per month applied to MDQ | | 1.5132 | 1.6134 | |
| ***Delivery Charge ("DEL") per therm*** | | | | |
| Pre-tax Base Rate | | 0.0047 | 0.0047 | |
| SUT | | 0.0000 | 0.0003 | Rider B |
| Delivery Charge excluding Riders C, E, F and H | a | 0.0047 | 0.0050 | |
| EE | b | 0.0160 | 0.0171 | Rider F |
| *Societal Benefits Charge ("SBC"):* | | | | |
| NJ's Clean Energy | | 0.0200 | 0.0213 | Rider E |
| RA | | 0.0136 | 0.0145 | Rider C |
| USF | | 0.0108 | 0.0116 | Rider H |
| *Total SBC* | c | *0.0444* | *0.0474* | |
| **Delivery Charge (DEL) including Riders C, E, F and H** | a+b+c=d | **0.0651** | **0.0695** | |

With the exception of the Customer Charge and Demand charges, these rates are on a per-therm basis.

Customer, Demand, and DEL charges are presented on customer bills.

Natural gas used to generate electricity that is sold for resale by customers served under this Service Classification is exempt from Riders B, C, E, F, and H and shall not be billed for such charges subject to the Customer's submission of an Annual Certification form.

*NEW JERSEY NATURAL GAS COMPANY*

*~~Eighteenth Revised Sheet No. 261~~*
*BPU No. 11~~10~~ - Gas* *~~Superseding Seventeenth Revised~~ Original Sheet No. 261*

## *SUMMARY OF INTERRUPTIBLE RATE COMPONENTS*

## INTERRUPTIBLE SALES AND TRANSPORTATION

### With Alternate Fuel

| | | Bundled Sales | Transport | Reference |
|---|---|---|---|---|
| ***Customer Charge*** | | | | |
| Customer Charge per meter per month | | 572.98 | 572.98 | |
| ***Delivery Charge ("DEL") per therm*** | | | | |
| Pre-tax Base Rate | | 0.0494 | 0.0494 | |
| SUT | | 0.0033 | 0.0033 | Rider B |
| After-tax Base Rate | | 0.0527 | 0.0527 | |
| EE | | 0.0171 | 0.0171 | Rider F |
| *Subtotal* | a | *0.0698* | *0.0698* | |
| *Societal Benefits Charge ("SBC"):* | | | | |
| NJ's Clean Energy | | 0.0213 | 0.0213 | Rider E |
| RA | | 0.0145 | 0.0145 | Rider C |
| USF | | 0.0116 | 0.0116 | Rider H |
| *Total SBC* | b | *0.0474* | *0.0474* | |
| **Delivery Charge (DEL)** | a+b=c | **0.1172** | **0.1172** | |
| ***Basic Gas Supply Charge ("BGS")*** | | | | |
| Monthly BGSS | d | 0.5312 | X | Rider A |
| **BGS** | d | **0.5312** | **X** | |

With the exception of the Customer Charge, these rates are on a per-therm basis.

Customer Charge, DEL rate and BGS rate are presented on customer bills.

*NEW JERSEY NATURAL GAS COMPANY*

*~~Eighteenth Revised Sheet No. 262~~*
*BPU No. 11~~10~~ - Gas* *~~Superseding Seventeenth Revised~~ Original Sheet No. 262*

## *SUMMARY OF INTERRUPTIBLE RATE COMPONENTS*

## INTERRUPTIBLE SALES AND TRANSPORTATION

### Without Alternate Fuel

| | | Bundled Sales | Transport | Reference |
|---|---|---|---|---|
| ***Customer Charge*** | | | | |
| Customer Charge per meter per month | | 572.98 | 572.98 | |
| ***Delivery Charge ("DEL") per therm*** | | | | |
| Pre-tax Base Rate | | 0.2753 | 0.2753 | |
| SUT | | 0.0182 | 0.0182 | Rider B |
| After-tax Base Rate | | 0.2935 | 0.2935 | |
| EE | | 0.0171 | 0.0171 | Rider F |
| *Subtotal* | a | *0.3106* | *0.3106* | |
| *Societal Benefits Charge ("SBC"):* | | | | |
| NJ's Clean Energy | | 0.0213 | 0.0213 | Rider E |
| RA | | 0.0145 | 0.0145 | Rider C |
| USF | | 0.0116 | 0.0116 | Rider H |
| *Total SBC* | b | *0.0474* | *0.0474* | |
| **Delivery Charge (DEL)** | a+b=c | **0.3580** | **0.3580** | |
| ***Basic Gas Supply Charge ("BGS")*** | | | | |
| Monthly BGSS | d | 0.5312 | X | Rider A |
| **BGS** | d | **0.5312** | **X** | |

With the exception of the Customer Charge, these rates are on a per-therm basis.

Customer Charge, DEL rate and BGS rate are presented on customer bills.

## SUMMARY OF FIRM COMMERCIAL RATE COMPONENTS

## Compressed Natural Gas (CNG)

| | | Bundled Sales | Transport | Reference |
|---|---|---|---|---|
| ***Customer Charge*** | | | | |
| Customer Charge per meter per month | | ~~82.85~~104.49 | ~~82.85~~104.49 | |
| IIP Customer Charge per meter per month | | 0.00 | 0.00 | Rider D |
| **Total Customer Charge** | | **~~82.85~~104.49** | **~~82.85~~104.49** | Rider D |
| ***Delivery Charge ("DEL") per therm*** | | | | |
| Pre-tax Base Rate | | ~~0.20500~~0.2659 | ~~0.20500~~0.2659 | |
| IIP Pre-tax Base Rate | | 0.0000 | 0.0000 | Rider D |
| CNG Charge | | 0.2000 | 0.2000 | |
| Total Pre-tax Base Rate | | ~~0.40500~~0.4659 | ~~0.40500~~0.4659 | Rider D |
| SUT | | ~~0.0268~~0.0309 | ~~0.0268~~0.0309 | Rider B |
| After-tax Base Rate | | ~~0.43180~~0.4968 | ~~0.43180~~0.4968 | |
| EE | | 0.0171 | 0.0171 | Rider F |
| *Subtotal* | a | *~~0.44890~~0.5139* | *~~0.44890~~0.5139* | |
| *Societal Benefits Charge ("SBC"):* | | | | |
| NJ's Clean Energy | | 0.0213 | 0.0213 | Rider E |
| RA | | 0.0145 | 0.0145 | Rider C |
| USF | | 0.0116 | 0.0116 | Rider H |
| *Total SBC* | b | *0.0474* | *0.0474* | |
| **Delivery Charge (DEL)** | a+b=c | **~~0.49630~~0.5613** | **~~0.49630~~0.5613** | |
| ***Basic Gas Supply Charge ("BGS")*** | | | | |
| Monthly BGSS | d | 0.5312 | X | Rider A |

## *SUMMARY OF FIRM COMMERCIAL RATE COMPONENTS*

## Compressed Natural Gas (CNG)

| | | | |
|---|---|---|---|
| **BGS** | d | **0.5312** | **X** |

With the exception of the Customer Charge, these rates are on a per-therm basis.

Total Customer, DEL, and BGSS charges are presented on customer bills.

**NEW JERSEY NATURAL GAS COMPANY**

~~Eighteenth Revised Sheet No. 264~~

BPU No. 1~~10~~ - Gas ~~Superseding Seventeenth Revised~~ Original Sheet No. 264

## SUMMARY OF RESIDENTIAL AND FIRM COMMERCIAL RATE COMPONENTS

### Natural Gas Vehicles (NGV)

### Gas Available at Company Facilities

| | | $ per therm | $ per GGE | Reference |
|---|---|---|---|---|
| ***Delivery Charge ("DEL")*** | | | | |
| Pre-tax Base Rate | | ~~0.20500~~0.2659 | | |
| IIP Pre-tax Base Rate | | 0.0000 | | Rider D |
| Total Pre-tax Base Rate | | ~~0.20500~~0.2659 | | |
| SUT | | ~~0.01360~~0.0176 | | Rider B |
| After-tax Base Rate | | ~~0.21860~~0.2835 | | |
| EE | | 0.0171 | | Rider F |
| *Subtotal* | a | *~~0.23570~~0.3006* | | |
| *Societal Benefits Charge ("SBC"):* | | | | |
| NJ's Clean Energy | | 0.0213 | | Rider E |
| RA | | 0.0145 | | Rider C |
| USF | | 0.0116 | | Rider H |
| *Total SBC* | b | *0.0474* | | |
| **Delivery Charge (DEL)** | a+b=c | **~~0.28310~~0.3480** | **~~0.3540~~0.435** | |
| ***Compression Charge*** | d | **0.4958** | **0.620** | |
| ***Monthly Basic Gas Supply Charge ("BGS")*** | e | **0.5312** | **0.664** | Rider A |
| ***Total Variable Charge*** | c+d+e=f | **~~1.31011~~1.3750** | **~~1.6381~~1.719** | |
| New Jersey Motor Vehicle Fuel Tax | g | | **0.000** | |
| Federal Excise Fuel Tax * | h | | **0.185** | |
| Federal Excise Fuel Tax Credit * | i | | **(0.517)** | |

*NEW JERSEY NATURAL GAS COMPANY*

*~~Eighteenth Revised Sheet No. 264~~*

*BPU No. 11~~10~~ - Gas* *~~Superseding Seventeenth Revised~~ Original Sheet No. 264*

## *SUMMARY OF RESIDENTIAL AND FIRM COMMERCIAL RATE COMPONENTS*

## Natural Gas Vehicles (NGV)

| | | |
|---|---|---|
| ***Total Price*** | f+g+h+i =j | ~~1.306~~1.387 |

*Adjusted to reflect Internal Revenue Service GGE Conversion.

## *SUMMARY OF RESIDENTIAL AND FIRM COMMERCIAL RATE COMPONENTS*

## Natural Gas Vehicles (NGV)

### Customer Owned Facilities

| | | | | Reference |
|---|---|---|---|---|
| ***Customer Charge*** | | | | |
| Residential Customer Charge per month | | ~~10.14~~12.10 | | |
| Residential IIP Customer charge per month | | 0.00 | | Rider D |
| **Total Residential Customer Charge** | | **~~10.14~~12.10** | | |
| Commercial Customer Charge per meter per month | | ~~82.85~~104.49 | | |
| Commercial IIP Customer charge per month | | 0.00 | | Rider D |
| **Total Commercial Customer Charge** | | **~~82.85~~104.49** | | |
| ***Delivery Charge ("DEL")*** | | $ per therm | $ per GGE | |
| Pre-tax Base Rate | | ~~0.2050~~0.2659 | | |
| IIP Pre-tax Base Rate | | 0.0000 | | Rider D |
| Total Pre-tax Base Rate | | ~~0.2050~~0.2659 | | |
| SUT | | ~~0.0136~~0.0176 | | Rider B |
| After-tax Base Rate | | ~~0.2186~~0.2835 | | |
| EE | | 0.0171 | | Rider F |
| *Subtotal* | a | ~~0.2357~~0.3006 | | |
| *Societal Benefits Charge ("SBC"):* | | | | |
| NJ's Clean Energy | | 0.0213 | | Rider E |
| RA | | 0.0145 | | Rider C |
| USF | | 0.0116 | | Rider H |
| *Total SBC* | b | *0.0474* | | |
| **Delivery Charge (DEL)** | a+b=c | **~~0.2831~~0.3480** | **~~0.354~~0.435** | |

## *SUMMARY OF RESIDENTIAL AND FIRM COMMERCIAL RATE COMPONENTS*

## Natural Gas Vehicles (NGV)

| | | | | |
|---|---|---|---|---|
| ***Monthly Basic Gas Supply Charge ("BGS")*** | d | **0.5312** | **0.664** | Rider A |
| ***Total Variable Charge*** | c+d=e | **~~0.8143~~0.87 92** | **~~1.018~~1.099** | |

Customer, DEL, and BGS charges are presented on customer bills for Firm Sales Gas Service.
Customer and DEL charges are presented on customer bills for Firm Transport Gas Service
.

**NEW JERSEY NATURAL GAS COMPANY**

**Summary of Proposed Tariff Changes**

New Jersey Natural Gas Company Tariff – BPU No. 10 Gas is being replaced by New Jersey Natural Gas Company Tariff – BPU No. 11 Gas, which includes modifications to various Tariff sheets. Many of these changes represent minor changes in language to provide clarifications and necessary updates. Descriptions of the significant changes to the Tariff are presented in the following sections:

I. Standard Terms and Conditions
II. Firm and Non-Firm Service Classifications
III. Service Classification Third Party Supplier Requirements ("TPS")
IV. Riders

## I. Standard Terms and Conditions

- *Paragraph 6.10 Remote Meter Reading Equipment (Sheet No. 21)*
  Added language to clarify the customer's options for reimbursement of the meter installation expense when a customer requests a remote meter reading device.

## II. Firm and Non-Firm Service Classifications

- Addition of language to the Residential Service ("RS"), Distributed Generation Service – Residential ("DGR"), General Service – Small ("GSS"), General Service – Large ("GSL"), and residential Natural Gas Vehicles ("NGV") service classifications to clarify that AMR installation will be in accordance with Paragraph 6.10 of the Standard Terms and Conditions (Sheet Nos. 52, 54, 57 59, 79).

- Modified language in service classifications Firm Transportation ("FT"), Interruptible Service ("IS"), and for commercial Natural Gas Vehicles ("NGV") service to clarify that the customer has the option to reimburse the Company for the AMR expense over a twelve-month period (Sheet Nos. 62, 79, 82).

- Proposed modifications to clarify that any changes resulting from the annual review for the GSS and GSL service classifications and the GSL demand charge billing determinants will be on a prospective basis (Sheet Nos. 56, 59).

- Proposed modification to clarify that if the Company reduces an FT customer's demand charge billing determinant, the change will be on a prospective basis (Sheet No. 62).

- Modifying the pricing for Service Classification Incremental Gas Service ("IGS") to ensure that customers under Service Classification IGS will be charged for the highest price during the period when IGS service is provided, if applicable (Sheet No. 86).

## III. Service Classification TPS

The Company is proposing changes to Service Classification TPS to reflect the Southern Reliability Link ("SRL") interconnect with the Transcontinental Gas Pipe Line Company, LLC ("Transco").

- *Conditions Precedent (Current Sheet No. 87, New Sheet No. 88)*
  Modification for the determination of the deposit amount a TPS is required to post to serve customers on the Company's system to incorporate Transco pricing.

- *FT, DGC-FT, CNG, NGV Commercial, and IS (Current Sheet No. 89, New Sheet No. 90)*
  Addition of language to clarify that TPS agree to deliver gas to the Company's designated delivery meters for their customers and new language that the Company may offer a TPS the option to deliver a specified volume to a Transco meter and if the TPS accepts but fails to deliver, they will be subject to a penalty for the volume not delivered.

- *CNG and NGV Commercial Services (Current Sheet No. 93, New Sheet No. 94)*
  Modification to the determination of the penalty price to a TPS for a delivery shortfall during an Operational Flow Order ("OFO") to include Transco Zone 6 NNY North pricing. However, in a month that the Company does not allow deliveries on Transco, the determination of the penalty price will exclude Transco pricing.

- *Unauthorized Use Charge (Original Sheet No. 95, New Sheet No. 96)*
  Modification to the determination of the Unauthorized Use Charge to include Transco Zone 6 NNY North pricing.

- *Delivery Shortfall Charge (Old Sheet No. 95, New Sheet No. 97)*

  Modification to the determination of the Delivery Shortfall Charge to include Transco Zone 6 NNY North pricing. However, in a month that the Company does not allow deliveries on Transco, the determination of the penalty price will exclude Transco pricing.

## IV. Riders

- *Rider "I" CIP*
  - Revisions to the baseline use per customer for each class based on test year billing determinants, the margin factors based on the base rates, the large customer adjustment based on the GSL baseline use per customer, and weather consumption factors based on test year billing determinants (Sheet Nos. 179-181).
  - Revisions to the return on equity test language to reflect the proposed return on equity of 10.5 percent (Sheet No. 182).

**New Jersey Natural Gas Company**
**Calculation of Balancing Charge**

| | $000 |
|---|---|
| **Balancing Charge related to Inventory**[1] | |
| 12 month Average inventory balance (TETCO and Steckman Ridge storages and LNG) | $12,961 |
| Rate of Return | 9.86% |
| Storage Carrying Costs | $1,278 |
| % of Peak Related to Balancing | 52.7% |
| Balancing | $673 |
| Annual Firm Therms (excluding FT) (000) | 666,282 |
| Pre-tax Balancing Charge | $0.0010 |
| **Balancing Charge related to Demand Charges**[2] | |
| Pipeline Demand Charges | 140,940 |
| Adjustments (BGSS Incentive Credits) | ($20,574) |
| Total | $120,367 |
| % of Peak Related to Balancing | 52.7% |
| Balancing | $63,397 |
| Annual Firm Therms (000) | 666,282 |
| Pre-tax Balancing Charge | $0.0952 |
| **Total Balancing Charge** | |
| Pre-tax Balancing Charge related to Inventory | $0.0010 |
| Pre-tax Balancing Charge related to Demand Charges | $0.0952 |
| Total Pre-tax Balancing Charge | $0.0962 |
| **Total After-tax Balancing Charge** | **$0.1026** |
| 10/1/20 After-tax Balancing Charge | $0.1026 |
| Increase/(Decrease) to After-tax Balancing Charge | $0.0000 |

**Calculation of % of Peak Related to Balancing**

| | 000 therms |
|---|---|
| Peak Day Therms | 9,338 |
| Average Therms on a January Day | 4,420 |
| Balancing Therms | 4,918 |
| % of Peak | 52.7% |

[1] In accordance with the Board's November 13, 2019 Order in BPU Docket No. GR19030420 ("Rate Case Order"), the Balancing Charge related to Inventory is updated in a base rate case. The % of Peak Related to Balancing and the Total Firm Therms reflects the amounts included in the Company's 2021 BGSS filing approved in the Board's September 9, 2020 Order in BPU Docket No. GR20060378. The % of Peak Related to Balancing and the Total Firm Therms will be updated in the 12+0 to reflect the amounts included in the Company's 2022 BGSS filing to be submitted by June 1, 2021. The inventory balance will also be updated in the Company's 12+0 filing.

[2] The Balancing Charge related to Demand Charges is updated in the Company's annual BGSS filing and the above component was approved in the Board's September 9, 2020 Order in BPU Docket No. GR20060378. The Balancing Charge related to Demand Charges will be updated in the 12+0 to reflect the amounts included in the Company's 2022 BGSS filing to be submitted by June 1, 2021.

Storage and LNG balances

| | | TETCO SS | | |
|---|---|---|---|---|
| | | Storage Dth | Storage $ | Storage $/Dth |
| Sep-20 | a | 1,351,382 | 2,255,813 | 1.669 |
| Oct-20 | a | 1,915,394 | 2,718,694 | 1.419 |
| Nov-20 | a | 2,066,627 | 2,161,688 | 1.046 |
| Dec-20 | a | 1,877,170 | 1,964,913 | 1.047 |
| Jan-21 | a | 1,465,735 | 1,534,610 | 1.047 |
| Feb-21 | e | 769,906 | 806,084 | 1.047 |
| Mar-21 | e | 690,881 | 723,345 | 1.047 |
| Apr-21 | e | 903,614 | 1,215,036 | 1.345 |
| May-21 | e | 1,116,346 | 1,681,979 | 1.507 |
| Jun-21 | e | 1,329,079 | 2,131,693 | 1.604 |
| Jul-21 | e | 1,541,812 | 2,594,429 | 1.683 |
| Aug-21 | e | 1,754,545 | 3,025,394 | 1.724 |

| | | TETCO SS-1 | | |
|---|---|---|---|---|
| | | Storage Dth | Storage $ | Storage $/Dth |
| Sep-20 | a | 3,422,636 | 5,766,074 | 1.685 |
| Oct-20 | a | 3,836,473 | 6,106,346 | 1.592 |
| Nov-20 | a | 3,810,626 | 6,069,438 | 1.593 |
| Dec-20 | a | 3,528,809 | 5,623,331 | 1.594 |
| Jan-21 | a | 2,920,328 | 4,654,733 | 1.594 |
| Feb-21 | e | 1,751,120 | 2,791,124 | 1.594 |
| Mar-21 | e | 1,349,910 | 2,151,632 | 1.594 |
| Apr-21 | e | 1,724,658 | 3,017,790 | 1.750 |
| May-21 | e | 2,099,406 | 3,840,353 | 1.829 |
| Jun-21 | e | 2,474,154 | 4,632,564 | 1.872 |
| Jul-21 | e | 2,848,902 | 5,447,716 | 1.912 |
| Aug-21 | e | 3,223,650 | 6,206,900 | 1.925 |

| | | Steckman Ridge | | |
|---|---|---|---|---|
| | | Storage Dth | Storage $ | Storage $/Dth |
| Sep-20 | a | 2,575,380 | 4,643,912 | 1.803 |
| Oct-20 | a | 2,885,449 | 4,899,972 | 1.698 |
| Nov-20 | a | 2,897,377 | 4,847,415 | 1.673 |
| Dec-20 | a | 2,072,219 | 3,468,104 | 1.674 |
| Jan-21 | a | 1,545,886 | 2,587,223 | 1.674 |
| Feb-21 | e | 855,539 | 1,431,846 | 1.674 |
| Mar-21 | e | 740,684 | 1,239,622 | 1.674 |
| Apr-21 | e | 1,063,443 | 1,985,619 | 1.867 |
| May-21 | e | 1,386,203 | 2,694,068 | 1.943 |
| Jun-21 | e | 1,708,962 | 3,376,376 | 1.976 |
| Jul-21 | e | 2,031,722 | 4,078,443 | 2.007 |
| Aug-21 | e | 2,354,481 | 4,732,305 | 2.010 |

| | | LNG Dth | LNG $ | LNG $/Dth |
|---|---|---|---|---|
| Sep-20 | a | 771,979 | 3,659,332 | 4.740 |
| Oct-20 | a | 976,566 | 4,067,173 | 4.165 |
| Nov-20 | a | 955,120 | 4,107,499 | 4.301 |
| Dec-20 | a | 941,184 | 4,093,154 | 4.349 |
| Jan-21 | a | 829,522 | 3,620,454 | 4.365 |
| Feb-21 | e | 567,398 | 2,476,412 | 4.365 |
| Mar-21 | e | 550,398 | 2,402,215 | 4.365 |
| Apr-21 | e | 533,398 | 2,328,019 | 4.365 |
| May-21 | e | 516,398 | 2,253,822 | 4.365 |
| Jun-21 | e | 498,398 | 2,175,261 | 4.365 |
| Jul-21 | e | 481,398 | 2,101,064 | 4.365 |
| Aug-21 | e | 699,398 | 3,146,760 | 4.499 |

| | | Total Dth | Total $ | Total $/Dth |
|---|---|---|---|---|
| Sep-20 | a | 8,121,377 | 16,325,131 | 2.010 |
| Oct-20 | a | 9,613,882 | 17,792,185 | 1.851 |
| Nov-20 | a | 9,729,750 | 17,186,040 | 1.766 |
| Dec-20 | a | 8,419,382 | 15,149,501 | 1.799 |
| Jan-21 | a | 6,761,471 | 12,397,020 | 1.833 |
| Feb-21 | e | 3,943,963 | 7,505,465 | 1.903 |
| Mar-21 | e | 3,331,873 | 6,516,815 | 1.956 |
| Apr-21 | e | 4,225,113 | 8,546,464 | 2.023 |
| May-21 | e | 5,118,353 | 10,470,222 | 2.046 |
| Jun-21 | e | 6,010,593 | 12,315,895 | 2.049 |
| Jul-21 | e | 6,903,834 | 14,221,653 | 2.060 |
| Aug-21 | e | 8,032,074 | 17,111,359 | 2.130 |
| 12 month average | | 6,684,305 | 12,961,479 | 1.939 |

**New Jersey Natural Gas Company**
**Net impact of Proposed Rate Changes**

**Impact on Residential Non-Heating Customers**

| | | | | 25 therm bill |
|---|---|---|---|---|
| **3/1/21 Rates** | | | | |
| | Customer Charge | | $10.14 | $10.14 |
| | Delivery | | $0.6338 | $15.85 |
| | BGSS | | $0.3320 | $8.30 |
| | | Total | $0.9658 | $34.29 |
| **Proposed Rates** | | | | |
| | Customer Charge | | $12.10 | $12.10 |
| | Delivery | | $0.8949 | $22.37 |
| | BGSS | | $0.3320 | $8.30 |
| | | Total | $1.2269 | $42.77 |
| | **Increase** | | | $8.48 |
| | **Increase as a percent** | | | 24.7% |

**Impact on Residential Heating Customers**

| | | | | 100 therm bill | 1000 therm annual bill |
|---|---|---|---|---|---|
| **3/1/21 Rates** | | | | | |
| | Customer Charge | | $10.14 | $10.14 | $121.68 |
| | Delivery | | $0.6976 | $69.76 | $697.60 |
| | BGSS | | $0.3320 | $33.20 | $332.00 |
| | | Total | $1.0296 | $113.10 | $1,151.28 |
| **Proposed Rates** | | | | | |
| | Customer Charge | | $12.10 | $12.10 | $145.20 |
| | Delivery | | $0.9587 | $95.87 | $958.70 |
| | BGSS | | $0.3320 | $33.20 | $332.00 |
| | | Total | $1.2907 | $141.17 | $1,435.90 |
| | **Increase** | | | $28.07 | $284.62 |
| | **Increase as a percent** | | | 24.8% | 24.7% |

**Impact on Commercial GSS Customers**

| | | | | 100 therm bill |
|---|---|---|---|---|
| **3/1/21 Rates** | | | | |
| | Customer Charge | | $34.85 | $34.85 |
| | Delivery | | $0.6499 | $64.99 |
| | BGSS | | $0.3320 | $33.20 |
| | | Total | $0.9819 | $133.04 |
| **Proposed Rates** | | | | |
| | Customer Charge | | $44.25 | $44.25 |
| | Delivery | | $0.9152 | $91.52 |
| | BGSS | | $0.3320 | $33.20 |
| | | Total | $1.2472 | $168.97 |
| | **Increase** | | | $35.93 |
| | **Increase as a percent** | | | 27.0% |

**Impact on Commercial GSL Customers**

| | | | | 1200 therm bill |
|---|---|---|---|---|
| **3/1/21 Rates** | | | | |
| | Customer Charge | | $80.79 | $80.79 |
| | Demand Charge | | $2.63 | $252.48 |
| | Delivery | | $0.4865 | $583.80 |
| | BGSS (March 2021) | | $0.4286 | $514.32 |
| | | Total | $0.9151 | $1,431.39 |
| **Proposed Rates** | | | | |
| | Customer Charge | | $104.49 | $104.49 |
| | Demand Charge | | $3.41 | $327.36 |
| | Delivery | | $0.5400 | $648.00 |
| | BGSS (March 2021) | | $0.4286 | $514.32 |
| | | Total | $0.9686 | $1,594.17 |
| | **Increase** | | | $162.78 |
| | **Increase as a percent** | | | 11.4% |