



# Financial Analysis Report

## 2021 SAA Proposal Window to Support NJ OSW

September 19, 2022

For Public Use

*The information contained herein is based on information provided in project proposals submitted to PJM by third parties through its 2021 SAA Proposal Window. PJM analyzed such information for the purpose of identifying potential solutions for NJ BPU's consideration as contemplated under the SAA Agreement, FERC Rate Schedule No. 49. Any decision made using this information should be based upon independent review and analysis, and shall not form the basis of any claim against PJM.*

# Table of Contents

**TABLE OF CONTENTS..... 2**

**EXECUTIVE SUMMARY ..... 5**

    BACKGROUND .....5

    OBJECTIVE .....5

    SUMMARY OF THE FINANCIAL ANALYSIS.....6

**DATA COLLECTION AND REVIEW..... 7**

    KEY DOCUMENTS REVIEWED .....7

    CREATION OF A COMMON TEMPLATE TO FACILITATE COMPARISON.....7

    PROPOSAL RECONCILIATION .....8

**COST CONTAINMENT ..... 10**

    PROPOSAL COST CONTAINMENT OVERVIEW .....11

    COMMON CAPPING MECHANISMS .....11

    OTHER CAPPING MECHANISMS.....12

    LEGAL REVIEW OF COST CONTAINMENT PROVISIONS .....1

**CONTINGENCY ..... 1**

**MODELING APPROACH ..... 2**

    MODELING ASSUMPTIONS .....3

*Modeling Period Assumptions* .....3

*CapEx & Depreciation Assumptions:* .....3

*O&M/A&G Assumptions:* .....3

*Tax Assumptions:* .....4

**MODEL SCENARIOS..... 4**

**RESULTS & KEY OBSERVATIONS..... 6**

    OPTION 1A PROPOSALS: PEACH BOTTOM - CONASTONE .....7

*Base Case* .....7

*Scenario Analysis*.....7

    OPTION 1B-ONLY PROPOSALS.....10

*Base Case* .....10

*Scenario Analysis*.....12

    OPTION 1B/2 PROPOSALS .....15

*Base Case* .....15

*Scenario Analysis*.....17

    OPTION 3 PROPOSALS:.....20

*Base Case* .....20

*Scenario Analysis*.....21

**CONCLUSION ..... 23**

**APPENDIX A – DETAILS ON PROPOSALS MODELED ..... 24**

OPTION 1A PROPOSALS: PEACH BOTTOM – CONASTONE PROJECTS ..... 24

OPTION 1B & 1B/2 PROPOSALS ..... 25

**APPENDIX B – COST REVIEW BY PROPOSAL ..... 26**

A. TRANSOURCE..... 26

*North Delta Option A (#63)* ..... 26

*North Delta Option B (#296)* ..... 27

*Peach Bottom – Conastone (#345)*..... 28

B. NEETMH..... 29

*Platform Connections - (#359)* ..... 29

*Deans 3,000 MW DC Injection & Oceanview 1,500 MW DC Injection (#461 & 27)* ..... 30

*1A-Wiley 3 (#587)* ..... 31

*Deans 4,500 MW DC Injection (#860)*..... 32

C. LS POWER ..... 33

*Broad Creek – Robinson Run (#203)*..... 33

*Clean Energy Gateway – Solution A Light (#294)*..... 34

*Clean Energy Gateway – Offshore (#594)*..... 35

*Clean Energy Gateway Solution B – Light (#627)*..... 36

*Clean Energy Gateway – Offshore & Clean Energy Gateway Solution B – Light (#627 & 594)*..... 37

*Clean Energy Gateway – Solution A Light & Clean Energy Gateway – Offshore (#294 & 594)*..... 37

*Clean Energy Gateway – Solution B (#629)*..... 38

*Clean Energy Gateway – Solution A (#781)*..... 39

D. ACE..... 40

*ACE 03 - (#127)*..... 40

*ACE 04 & ACE 05 (#929 & 797)* ..... 41

E. RILPOW ..... 42

*Outerbridge Renewable Connector Project – Base Offer 2 – 2400 MW Proposal (#490 & 171)*..... 42

F. JCPL..... 43

*SAA Proposal to Support NJ OSW: Option 1B (#453)* ..... 43

*MAOD Proposal 3 & SAA Proposal to Support NJ OSW: Option 1B (#321 & 453)*..... 44

G. MAOD ..... 45

*MAOD Proposal 3 (#321)* ..... 45

*MAOD Proposal 3 & SAA Proposal to Support NJ OSW: Option 1B (#321 & 453)*..... 46

H. ANBARIC..... 47

*Sewaren to Atlantic Shores 3 (SM Cable), Deans to Hudson South 2, Deans to Hudson South 1, & Larrabee to Atlantic Shores 2 (#131, 831, 841, & 921)*..... 47

*Hudson South 1 to Hudson South 2 HVDC Platform Interlink (#428)* ..... 48

*Hudson South 2 to Atlantic Shores HVDC Platform Interlink (#748)* ..... 50

*Deans to Hudson South 2, Deans to Hudson South 1, & Larrabee to Atlantic Shores 2 (#831, 841 & 921)* ..... 51

*Hudson South 1 to Atlantic Shores 3 HVDC Platform Interlink (#889)* ..... 52

*Atlantic Shores 2 to Atlantic Shores 3 HVDC Platform Interlink (#896)*..... 53

I. CONED..... 54

*Clean Link New Jersey - Larrabee & Smithburg (#990)* ..... 54

*Clean Link New Jersey - Deans x2 (#990)* ..... 55

J. PSEG-ORSTED ..... 57

*Coastal Wind Link – 7 Sewaren/Deans/Larrabee Tri Collector (#683)* ..... 57

*Coastal Wind Link – 5 Sewaren-Deans Twin Collector (#871)*..... 58

K. APT.....	59
<i>APT First, Second, &amp; Third (#172, 210, 769)</i> .....	59
<b>APPENDIX C – QUALITATIVE RISK ASSESSMENT OF COST CONTAINMENT LANGUAGE .....</b>	<b>60</b>
ONSHORE (OPTION 1B ONLY) PROPOSALS.....	60
<i>LS Power Grid Mid-Atlantic, LLC (72, 294, 627, 629, 781)</i> .....	60
<i>Rise Light &amp; Power / Outbridge Renewable Connector (171, 376, 490, 582)</i> .....	61
OFFSHORE (OPTION 2 ONLY AND 1B/2) PROPOSALS.....	62
<i>NextEra Energy Transmission MidAtlantic Holdings, LLC (15, 27, 250, 298, 461, 604, 860)</i> .....	62
<i>Anbaric Development Partners, LLC (131, 145, 183, 285, 568, 574, 802, 831, 841, 882, 921, 944)</i> .....	63
<i>Atlantic Power Transmission LLC (172, 210, 769)</i> .....	64
<i>PSEG/Orsted (208, 214, 230, 397, 613, 683, 871)</i> .....	65
<i>Mid-Atlantic Offshore Development (321, 431, 551)</i> .....	66
<i>LS Power Grid Mid-Atlantic, LLC (594)</i> .....	67
<i>Con Edison (990)</i> .....	67
OPTION 1A PROPOSALS.....	69
<i>NextEra Energy Transmission MidAtlantic Holdings, LLC (11, 587, 982)</i> .....	69
<i>Rise Light &amp; Power / Outbridge Renewable Connector (21)</i> .....	69
OPTION 3 PROPOSALS.....	71
<i>Anbaric Development Partners, LLC (137, 243, 248, 428, 748, 889, 896)</i> .....	71
<i>NextEra Energy Transmission MidAtlantic Holdings, LLC (359)</i> .....	72

# Executive Summary

## Background

As part of the 2021 SAA Proposal Window to support NJ Offshore Wind (“OSW”), PJM received proposals to meet New Jersey’s goal of interconnecting up to 7,500 MW of offshore wind. The proposals were categorized into four options according to the function and location of the proposal.

- Option 1a proposals: Onshore transmission upgrades to resolve potential reliability criteria violations on PJM facilities in accordance with all applicable planning criteria (PJM, NERC, SERC, RFC, and Local Transmission Owner criteria).
- Option 1b proposals: Onshore new transmission connection facilities
- Option 2 proposals: Offshore new transmission connection facilities
- Option 3 proposals: Offshore new transmission network facilities

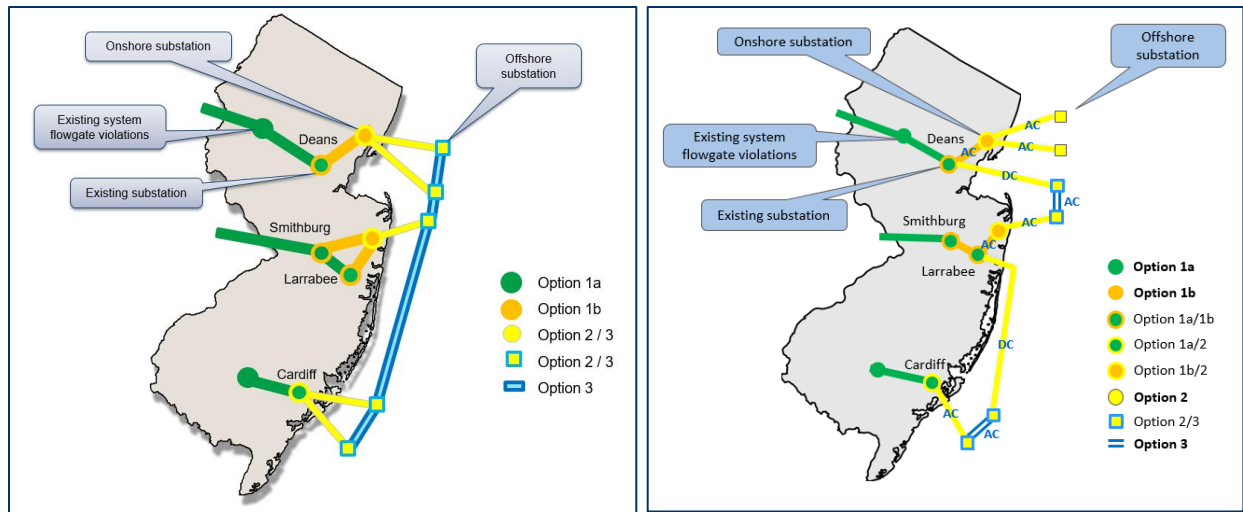


Figure 1 Potential Options for the NJ Offshore Wind Transmission Solution (Concepts depicted are for illustration purposes only; details of new lines and facilities are to be provided by sponsors in proposals to meet objectives of this solicitation.)

Altogether, PJM received a diverse set of 80 proposals submitted by 13 different entities each falling into one or more of the four Options described above. It is expected that the New Jersey Board of Public Utilities (NJ BPU) may select some combination of these proposals or sub-parts of these proposals to be considered under the SAA. Each proposal was reviewed for completeness and consistency of cost information. Ultimately, 36 proposals were selected for a more detailed cost analysis, and are representative of the solutions being offered by the participating entities.

## Objective

This report describes the process used by PJM and its financial consultant for the financial evaluation of the submitted proposals for this SAA Proposal Window and the results of that evaluation, from the point of the receipt of the proposal documents to the results of a comparative evaluation of the proposals’ net present value revenue

requirements under base case and other scenarios. These results are intended to illustrate the lifetime costs to ratepayers for the proposals, and the effectiveness of their cost containment mechanisms.

## ***Summary of the Financial Analysis***

In terms of the project cost estimates provided in each proposal, Option 1B and 2 proposals addressing new onshore or offshore transmission facilities incur significantly higher costs than Option 1A and 3 proposals. Specifically, Option 1B and 2 proposals range from half a billion to approximately \$7 billion, depending on the amount of offshore wind injection it can accommodate, while Options 1A and 3 are much less, with most in the \$100M-\$200M range.

In addition to comparing project cost estimates as provided in each proposal, PJM conducted a detailed cost analysis to compare the lifetime cost to ratepayers of 36 proposals. The analysis model calculates a bottom-up revenue requirement for each of the solutions utilizing the bidders' cost and financial assumptions, as well as a number of standardized model inputs. The Net Present Value Revenue Requirement (NPVRR) represents the discounted total cost of the proposed project over its lifetime.

PJM also evaluated various cost containment mechanisms offered by bidders. Particularly, for high-cost Option 1B and 2 proposals, a well-capped proposal could considerably lower cost overrun risks while a poorly capped or uncapped proposal could result in millions or even billions of extra ratepayer dollars over the lifetime of the project if actual project costs are higher than proposed. All bidders who submitted Option 2 and 3 proposals offer some form of cost containment. Two out of four bidders offer capping for Option 1B proposals, and only three out of eight bidders offer capping for Option 1A proposals. Higher-cost Option 1B and 2 proposals often include multiple caps, while both capped Option 1A proposals only include a project capital cost cap. Option 3 capping mechanisms are similar to their Option 2 counterparts.

In addition to a base case NPVRR, PJM modeled six scenarios that alter one or multiple model inputs. Five of the scenarios alter a single variable (setting the return on equity to 12%, increasing the cost of debt to 6%, increasing project costs by 25%, increasing O&M by 50%, and setting the capital structure at 50% debt and 50% equity) A sixth, referred to as "downside", combines the impacts of the 5 single variable scenarios. The use of the scenarios provided insight into the impact of potential cost increases as well as the effectiveness of the proposed cost containment mechanisms.

As detailed in Results & Key Observations section of this report, PJM compared base case and scenario NPVRR results for each option group, namely, Option 1A, Option 1B, Option 1B/2, and Option 3, to best provide like-for-like project cost-of-service comparisons. For each proposal, we measured the percentage and dollar increase in each of the six scenarios compared to the base case NPVRR, then compared the total cost of each scenario across the option group. While the percentage increase serves as a good indicator of the effectiveness of various cost caps, the dollar increase measure provides a more holistic picture which factors in the proposals' different base cost levels. Well-capped proposals may result in a higher dollar increase in certain scenarios due to their high base costs, whereas the opposite could be true for uncapped, lower base cost proposals. We also noticed that the number of different capping mechanisms does not necessarily increase overall effectiveness of cost containment. The results are not intended to declare winners and losers. Rather, they provide useful information about the expected cost impacts over time, and the related impact on customer rates, as well as the ability of the proposals' cost containment mechanisms to mitigate unexpected increases in costs.



## Data Collection and Review

### *Key Documents Reviewed*

Each proposal received by PJM was accompanied by a number of supporting documents, all of which PJM reviewed in detail. Some of these documents were more fundamental to the financial analysis and therefore were required for all proposals. The key documents relevant to the financial analysis are described below:

- **PJM Competitive Planner Proposal Form** – This document contains general information about the proposal, including project title, proposal ID number, a brief project description, and key dates (construction start, capital spend start, and in-service). Also included is a detailed description of the components in the proposal, broken into elements (i.e., materials & equipment, engineering & design, etc.) and an indication of which components are the responsibility of the proposer, or the responsibility of another entity (such as an incumbent utility), often referred to as “work by others”. Finally, this form provides the amount of the capital cost cap (if applicable) and a list of elements to which the cap applies.
- **BPU Supplemental Document** – While the proposal form seeks a high-level snapshot of the proposal, the BPU supplemental document collects more in-depth data necessary to evaluate the proposals. Though the full supplemental document was reviewed for each proposal, there were a few key sections most relevant to the financial analysis, including the Proposal Costs, Containment Provisions, and Cost Recovery section. This section contains a detailed characterization of the cost containment mechanisms, project costs, and key assumptions for the revenue requirement (such as ROE, capital structure, book life, and tax assumptions).
- **Project Financial Information Schedule** – Developers completed the financial information schedule for each proposed project. The financial information schedule depicts annual capital spend by project element.
- **Revenue Requirement Schedule** – Developers completed the revenue requirement schedule for each proposed project. The revenue requirement schedule depicts the estimated annual revenue requirement for the project over its life. We used a consistent revenue requirement modeling process, described later in this report, to ensure comparability. However, the proposer’s revenue requirement models were used to obtain model inputs, such as O&M, property taxes, and working capital, if not provided elsewhere in their submitted proposal documents.

Additional documents submitted by some proposers included:

- **Cost Containment Document** – Developers proposing projects with cost capping mechanisms submitted a separate document describing their cost containment in detail in addition to mentioning them in their BPU Supplemental Document
- **Project schedule** – Some developers submitted documents with more detailed construction schedules than what they provided in the BPU Supplemental document or the Project Financial Information Schedule.

### *Creation of a Common Template to Facilitate Comparison*

The PJM team created a template covering all proposals other than those initially eliminated due to technical issues. Each tab of the template covers a different proposal option (1A, 1B, 2, 3), and within a tab there are various sections



of information described below. The most important sections used for comparison and the eventual revenue requirement modeling are:

- **General Information** – Consists of the project description and project components from the Proposal Form, as well as key dates (i.e., construction start, capital spend start, and in-service date)
- **Capital Costs** – Contains proposer estimates for total capital expenditures as well as some checks for consistency between the various proposer documents
- **Cost Containment** – Contains various binary indicators based on whether the overall project and certain components are capped, dollar amounts for those caps, further descriptions of the capping mechanisms, and separate cost containment summaries. Key cost containment information such as the project components and elements were included as well.
- **Financial Inputs & Assumptions** – Contains information about the proposal’s capital structure, tax assumptions, depreciation schedule, and O&M
- **Interdependency** – Describes any issues, benefits, or requirements related to modularity and pairing with other proposals
- **Risks & Mitigations** – Describes any uncertainties in timeline or other disruptions in the project that arise from major risks, with special attention included to any impacts on cost projections

To the extent that the missing or inconsistently provided information was required for our cost analysis model, PJM issued data requests to the developers.

PJM reviewed responses from the developers to ensure it had collected sufficient information to model each selected proposal accurately. Overall, the data requests were helpful in refining our initial understanding of the projects based on the developer’s documents.

### Proposal Reconciliation

Overall, PJM received 80 proposals from 13 different developers. Some of the proposals were eliminated for reliability or other technical considerations. Ultimately, 36 proposals were modeled using the revenue requirement model.

Table 1 below lists the 13 developers that submitted proposals and the abbreviations used throughout the remainder of this report.

Table 1. **Proposer Abbreviations**

Proposer	PJM Abbrev.
Anbaric Development Partners	Anbaric
Atlantic City Electric Company	ACE
Atlantic Power Transmission	APT
Con Edison Transmission	ConEd
Jersey Central Power & Light	JCPL
LS Power Grid Mid-Atlantic	LS Power
Mid-Atlantic Offshore Development	MAOD

NextEra Energy Transmission MidAtlantic Holdings, LLC	NEETMH
PPL Electric Utilities	PPLEU
Public Service Electric and Gas / Orsted	PSEGRT (PSEG-Orsted)
Public Service Electric and Gas	PSEG
Rise Light & Power	RILPOW
Transource	TRNSRC

Table 2 below shows the proposals that were modeled, either individually, or paired with another proposal. Refer to Appendix A for more details on Option 1A, 1B and Option 1B/2 proposals modeled.

Table 2. **Modeled Proposals<sup>1</sup>**

Option	Proposer	PJM ID
<b>1A</b>	LS Power	203
	NEETMH	587
	ACE	127
	Transource	63
	Transource	296
	Transource	345
<b>1B</b>	ACE	929 & 797
	JCPL	453
	RILPOW	171 & 490
	LS Power	629
	LS Power	781
	LS Power	627
	LS Power	294
Option	Proposer	PJM ID
<b>1B+2</b>	JCPL; MAOD	453 ; 321 (op.2)

<sup>1</sup> We only modeled Option 1A proposals which address the Peach Bottom – Conastone upgrades.

	LS Power	627 ; 594 (op.2)
	LS Power	294 ; 594 (op.2)
<b>1B/2</b>	Anbaric	831 & 841 & 921 & 131
	Anbaric	831 & 841 & 921
	APT	210 & 172 & 769
	ConEd	990 (Larrabee & Smithburg)
	ConEd	990 (Deans x2)
	NEETMH	860
	NEETMH	461 & 27
	PSEG-Orsted	683
	PSEG-Orsted	871
<b>3</b>	Anbaric	428
	Anbaric	748
	Anbaric	889
	Anbaric	896
	NEETMH	359
<b>2/3</b>	MAOD	321
	PSEG-Orsted	683
	PSEG-Orsted	871

## Cost Containment

Cost containment refers to limits or caps that bidders may choose to use to limit the impact of potential project cost increases beyond what is proposed. These mechanisms are an essential part of any proposal, due to their ability to reduce capital overruns and other cost or schedule-related risks. The use of cost containment mechanisms limits the amount of project cost a bidder can recover in excess of its original bid, which in turn reduces potential rate increases for ratepayers in the event of cost overruns. Proposers are strongly encouraged, but not required, to offer cost containment measures. Although proposal details, such as construction capital and operations and maintenance (O&M) estimates, allow PJM and other stakeholders to understand and compare total project costs among different proposals, these cost assumptions reflect current best estimates. In reality, projects often experience cost overruns,

higher-than-expected financing costs, schedule delays, and other scenarios where the total project cost incurred becomes higher than what was originally proposed by the developer. In these scenarios, ratepayers would be exposed to higher rates due to the various risks if there were no cost containment mechanisms in place.

As explained in more detail below, most proposers offer a variety of caps on their proposed costs that serve to partially mitigate the risk of cost overruns. To evaluate the cost and revenue requirement of different proposals in a comprehensive manner, it is important for PJM and other stakeholders to review each proposal's capping mechanisms in detail and reflect these caps in the cost analysis modeling process. As noted in the Model Scenario section of this report, the effectiveness of the various cost containment mechanisms is tested through our scenario modeling. The Results section details the impact of cost containment on the proposals' cost recovery under different scenarios. We took a conservative approach to the evaluation of proposed capping mechanisms. In proposals where caps are loosely defined (stated as "target" rather than "cap/limit"), where project cost caps are provided but the proposer still seeks to recover the overrun portion of CapEx, or where multiple uncommon exceptions are included in the cap, we did not consider these capping mechanisms to be effective.

### ***Proposal Cost Containment Overview***

PJM evaluated proposals from a total of 13 bidders. Eight of those, Anbaric, APT, Con Edison, LS Power, MAOD, NEETMH, RILPOW, and PSEG-Orsted, offer some form of capping mechanism. Proposers tend to provide multiple capping mechanisms for Option 1B and 2 proposals, which often exceed \$1 billion in project costs, whereas most Option 1A proposals with much lower costs (\$100-200 million) are not capped or have very few capping mechanisms. More specifically, the five proposers who offer no capping (ACE, Transource, PSEG, PPL, and JCPL) submitted bids for predominantly Option 1A projects. Option 3 proposals are often provided in conjunction with Option 2 proposals, therefore they tend to have similar, if not exactly the same, capping as their corresponding Option 2 proposals.

### ***Common Capping Mechanisms***

Many aspects of a proposal can be capped fully or partially. The most common caps offered are the capital cost cap, ROE cap, and equity ratio cap. All seven bidders who proposed project capital cost caps offer to cover only the costs they incur, and exclude "work by others," which usually refers to upgrades provided by incumbent utilities. Some project capital cost caps were "hard caps," while others were "soft" or "partial." LS Power and MAOD are the only two developers to provide a full "hard" cap, meaning any costs exceeding the proposer's cap will not be recovered in any form, unless the cost increases are due to PJM-directed change to the scope of work or "Uncontrollable Force", such as natural disasters or war. These "hard" caps tend to be 5-15 % more than the bid project costs.

"Soft" caps were proposed by NEETMH, Anbaric, and PSEG-Orsted, where the proposer established a nominal or real dollar figure as a project cost cap, but still plan to recover some portion of the cost overrun. NEETMH and Anbaric both seek to recover the capital cost overruns and the debt financing costs, but offer a lower equity return or zero equity return on the capital overrun. PSEG-Orsted allowed itself the flexibility to adjust their "soft" cap limit as inflation rates and foreign exchange rates change, with additional provisions regarding uncontrollable force events. When compared to "hard" caps, these less committed "soft" caps tend to result in higher risk and cost for ratepayers in the event of cost overruns. As shown in Table 3 below, ConEd and RILPOW both provided partial caps, where only a portion of their costs were capped. For RILPOW, the partial cap is a "hard" cap that only applies to a portion of

the project cost, namely, “material & equipment” costs and “construction & commissioning” costs. ConEd, on the other hand, proposed to share in 30 % of the capital overrun, but this mechanism did not go into effect unless the project overrun is 5 % higher than the proposed cost. In summary, there are various types of capping mechanisms to limit project capital cost. Some are strict while others are less committed. Their effectiveness is tested and compared in the scenario modeling process.

Common methods to limit financing risks include ROE and equity ratio caps, as shown in Table 3 below. The equity ratio caps were often straightforward, aiming to limit equity financing to between 30% to 50% of the capital structure, since equity financing is more costly compared to debt. The ROE caps, however, tended to include many caveats. RILPOW, for example, proposed a fixed ROE cap for the first few years of a project’s operation. Other developers (Anbaric, NEETMH, and PSEG-Orsted) included adjustments where the ROE becomes higher when actual project costs are lower than proposed, or the ROE becomes lower when project cost exceeds the cost cap or when the project in-service date is delayed. For NEETMH, ROE also becomes lower if the equity ratio exceeds the proposed ratio. These adjustments to ROE reflect the interdependencies of different variables and add complexity to cost containment modeling.

### ***Other Capping Mechanisms***

A few proposers have additional capping mechanisms that are less common, such as an O&M cap, debt cost cap, and Annual Transmission Revenue Requirement (ATRR) caps. The effectiveness of these caps in their ability to reduce costs to ratepayers across various scenarios varies. For instance, LS Power’s ATRR cap contains all cost-of-service risks in the first ten years of operation, which significantly reduces the chance of cost increases for ratepayers. APT also limits its ATRR by proposing a fixed, 40-year revenue requirement schedule. An O&M cap, on the other hand, only pertains to O&M costs and is not effective in limiting other costs. Nevertheless, proposals with multiple capping mechanisms tend to be more successful in reducing cost risks to ratepayers in a worst-case scenario.

Table 3 below provides a summary of the Capping mechanisms offered by each developer.

Table 3. Cost Containment by Developer

## Cost Containment by Developer<sup>1</sup>

Category	Anbaric (2&3)	NEETMH (1A,2&3)	LS Power <sup>3</sup> (1B&2)	PSEG-Orsted <sup>4</sup> (2&3)	MAOD (2&3)	RILPOW <sup>5</sup> (1B)	ConEd (2)	APT <sup>6</sup> (2)
<b>Project Cost Cap (\$2021)</b>	\$84M-\$2.2B (125-130% of bid cost; range applies to PJM modeled proposals)	\$84M-\$5.3B (range applies to PJM modeled proposals)	\$1.3-2.2B (range applies to PJM modeled proposals)	\$4.8-7.1B (range applies to PJM modeled proposals)	\$6.6B (115% of bid cost; applies to MAOD #321)	\$28M-1.3B (partial cap; range applies to PJM modeled proposals)	\$824M (soft cap, 30% of bid cost)	
<b>ATRR Cap</b>			Capped for first 10 yrs					Capped for entire 40-yrs
<b>ROE Cap (inclusive of adders)</b>	8.5% (relieved from the cap if Anbaric can't secure financing with current cap. Structure)	9.8%	8.95%	9.9% Capped for first 15 yrs		9.75% Capped for first 6 yrs		
<b>Equity Ratio Cap</b>	45%	40% (1A) 30% <sup>2</sup> (2&3)	40%	48.35%		50%		
<b>O&amp;M Cap</b>		Capped for first 15 yrs						
<b>Exceptions</b>	Taxes, AFUDC, Escalation, Uncontrollable force, SOW change	Taxes, AFUDC, Uncontrollable force, SOW change	Property Tax, Uncontrollable force, SOW change,	Taxes, AFUDC, Escalation, Uncontrollable force, SOW change, Award Delay, Forex risk	Taxes, AFUDC, Escalation, Uncontrollable force, SOW change	Taxes, AFUDC, Escalation, Uncontrollable force, SOW change	Taxes, AFUDC, ROW, Uncontrollable force, SOW change	Uncontrollable force, SOW/change, One-time adjustment factor
<b>Other Mechanism/Issues</b>	ROE to be increased or reduced based on actual project cost and schedule delays; ROE cap applies to AFUDC	Debt expense sharing mechanism; Seek recovery of Depreciation, Cost of Debt if actual project cost exceeds cap; AFUDC capped by 100% debt	If actual costs in any given year are lower than TRR Cap, the difference is rolled forward; ROE cap applies to AFUDC	Project cost cap subject to change based on inflation, foreign exchange rates; ROE to be increased if actual cost is lower; ROE cap applies to AFUDC	Open to alternatives, e.g., multiple-tier cost allocation structure with higher hard cap	Project cost cap applies to the material & equipment and construction & commission cost of certain components; ROE cap applies to AFUDC	Sharing mechanism only effective when cost is 5% higher than bid amount.	ATRR schedule subject to change based on foreign exchange rates and commodity price fluctuations

Note: (1) AE, Transource, PPL, PSEG, and JCPL proposals are not included in this table due to lack of cost containment.

(2) NEETMH option 2 & 3 proposals offer a soft equity cap of 30% - stated as a target.

(3) Only LS Power option 1B & 2 proposals offer the caps above, option 1A proposals capped only project cost.

(4) PSEG-Orsted only offers the above cost containment for the combined Option 2 and 3 proposals. The above cost cap applies to #683 and 871. PSEG Option 1A have no capping mechanism.

(5) RILPOW offers partial project cost cap for #171 and #490.

(6) APT's ATRR cap increases by 0.5% annually, based on the first COD year RR cap.

## Legal Review of Cost Containment Provisions

In addition to the foregoing, PJM also performed a qualitative assessment of the risks associated with the cost commitment provisions submitted by the eight developers from a legal perspective. In performing the qualitative assessment, PJM reviewed the legal language submitted by the developers to determine:

- (i) Whether any aspect of the language could lead to a delay in the negotiation of a Designated Entity Agreement, including, for instance, whether the developer submitted proposed legal language for inclusion in Schedule E of a Designated Entity Agreement, and if so, whether the proposal included any unclear or ambiguous language, or that would otherwise make the developer's commitment under the cost commitment language less firm;
- (ii) Potential risks associated with third party challenges when the Designated Entity Agreement is filed at FERC; and
- (iii) Potential risks associated with third party challenges when the proposed cost of service rate is filed at FERC. Proposals that included clear legal language including firm commitments with respect to costs, ROE and capital structure tended to be considered low risk, whereas proposals that did not include legal language, or that did not include firm commitments with respect to costs, ROE and capital structure tended to be considered medium risk.

Appendix C includes: (i) a summary of the cost commitment language included in the developers' proposals; (ii) issues that could, in PJM's view, lead to potential DEA negotiation delays or third party challenges; and (iii) PJM's qualitative assessment of the relative risk related to DEA negotiation delays or third party challenges.

## Contingency

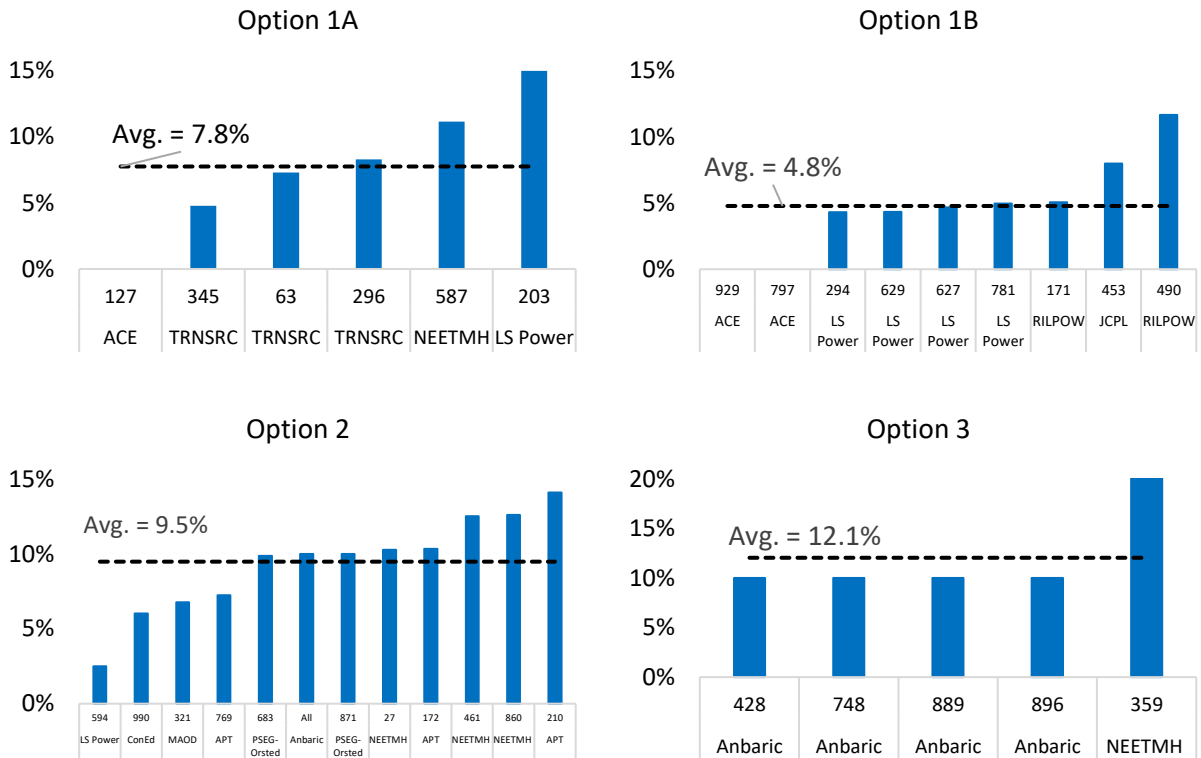
All proposers, with the exception of ACE, provided some level of contingency in their cost estimates. Our modeling provides a vehicle to compare the revenue requirement resulting from the various proposals' submitted costs. We did not choose to standardize contingency, reasoning that each proposer chose the level of contingency that it was comfortable with and wished to include in its cost estimates. Nonetheless, a brief analysis of the various levels of contingency proposed is useful, in addition to the information available in the selection process.

A low level of contingency allows the total costs to be lower than similar proposals with higher contingencies. However, that cost advantage comes with a greater risk of exceeding cost estimates and risking the ability to recover costs when cost containment measures are in place. Table 4 below provides a comparison of contingency levels by option type and proposer. All contingency amounts apply only to costs incurred by the proposer and exclude costs incurred by other entities. The percentages are calculated by dividing the contingency amount by the total proposer Capex less the contingency.

The average contingency percentage across all proposals modeled is 8.3 %, however significant variations exist from that average. Among Option 1A and 1B proposers, ACE is the only one with zero contingency costs. On average, Option 1B proposals have the lowest contingency (4.8 %) since only RILPOW #490 proposed a contingency above 10 %. Besides ACE proposals, LS Power Option 2 has the lowest contingency (2.5 %) among all modeled proposals, followed by LS Power Option 1B proposals, with 4-5 % contingency. NEETMH Option 3 proposal has the highest contingency (20.3 %) among all modeled proposals, but its Option 2 proposals have a considerably lower contingency, at 10-12 %. Finally, while other proposers' contingencies vary by option type and proposal, Anbaric's contingency level is consistent at 10 % across all proposals.



Table 4. Contingency Percentages Across Proposals



## Modeling Approach

To evaluate a proposal's lifetime cost to ratepayers, we computed the NPVR. In our model, the revenue requirement in each modeling period is calculated as the sum of O&M (including A&G) expenses, depreciation on capital investment, income and property taxes, interest, and equity return on rate base. Our model was developed using a standard FERC-accepted cost recovery approach.

We built up the various components of revenue requirement for every month during the project's useful life, then discounted future streams of revenue requirements using a common discount rate for all proposals. The cost-of-service inputs used in our model are mostly provided directly by bidders. For fair comparison, we also made a number of common assumptions that may be different from bidders' inputs, such as inflation rate and discount rate. These assumptions will be explained in more detail in the Modeling Assumptions section.

All proposers other than APT provided revenue requirement estimates using the standard cost recovery approach. APT selected a pre-determined approach, which is discussed in the Model Scenarios section.

## Modeling Assumptions

Throughout our modeling process, we intend to reflect bidder's project cost, O&M, financing assumptions, and other inputs as they are proposed. However, we recognize certain assumptions and modeling approaches need to be standardized to ensure fair comparisons. Below, we list the common approach and assumptions used when developing our model and explain how proposer inputs could be modified, where appropriate. Standardized rates are provided in Table 5.

### Modeling Period Assumptions

- **Modeling Start:** We estimate that the earliest possible date for capital spending to commence is April 1, 2023. Accordingly, if any proposal contemplated an earlier start date, we shifted that date to April 1, 2023, and modeled each year on a 12-month<sup>2</sup> basis, rather than a calendar year. If the proposal included a phased structure, we maintained the time difference between phases, consistent with the proposal. If no capital spend start date was specified for later phases, we assumed January 1 of the year when the Capex was scheduled to be spent.
- **Cost Recovery Period:** Cost Recovery is measured over the project's initial investment's useful life and does not include the full useful life of ongoing capital expenditures that were included in some proposals.
- **Construction Financing Period:** Allowance for Funds Used During Construction (AFUDC) is calculated for the period from the capital spend start date to the in-service date, using the weighted average cost of capital (WACC), based on costs of debt and equity provided by the proposers. AFUDC was separately calculated by project phase, where applicable.

### CapEx & Depreciation Assumptions:

- **Capital Expenditure:** We directly use the bidder's annual capital projections that were provided in 2021 real dollars. Recognizing different proposers assumed different inflation rates, we applied a constant 2.5% annual inflation to all proposals. No additional changes are made to the bidder's capital projections.
- **Book Depreciation:** We use the straight-line depreciation method based on the provided useful life of the project, assuming no salvage value or cost of removal. If proposers assume different lives for the initial capital and ongoing capital, those differences are modeled accordingly.
- **Tax Depreciation:** We calculate tax depreciation using the Modified Accelerated Cost Recovery System (MACRS). The MACRS schedule identified by each proposer is applied in our model.

### O&M/A&G Assumptions:

- **O&M and A&G costs:** Operations & Maintenance, Administrative & General are modeled based on the proposer's forecast for the useful life of the project. In some cases, the provided estimates were for a

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<sup>2</sup> Each model year starts on April 1<sup>st</sup> and ends in the following March 31<sup>st</sup>.

shorter period than the full life of the project. In such cases, the out-year costs were based on the O&M escalation rate provided by the proposer.

**Tax Assumptions:**

- **Property Tax:** When property tax dollar forecasts were provided by proposers, we directly use the tax schedule provided. When the property tax amount was not provided, it is modeled as 0.2% of the ending rate base in each modeling period.
- **Income Tax:** The current federal income tax rate of 21% and New Jersey state tax rate of 9% were used to derive a blended tax rate of 28.11%. For proposals spanning multiple jurisdictions, we apply a weighted average state income tax rate, as indicated by the bidder.
- **Investment Tax Credit (ITC):** We did not model any scenarios with ITC due to its uncertainty and lack of ITC assumptions provided by bidders. NEETMH was the only proposer to include a separate scenario with ITC in its revenue requirement.

Table 5. **Rate Assumptions**

Rates	Assumption(s)
Federal Tax Rate	21 %
State Tax Rate (NJ)	9 %
Effective/Blended Tax Rate	28.11 %
Property Tax Rate <i>(If property tax \$ not provided)</i>	0.2 % of Rate Base
PJM Discount Rate	7.24 %
Inflation Rate	2.5 %

**Model Scenarios**

In order to evaluate the impact of cost overruns and financing risks, as well as the effectiveness of cost containment mechanisms, we modeled a base case and six additional scenarios for each modeled proposal<sup>3</sup>, as described in Table 6 below. The scenarios were designed to stress test the proposals against unanticipated increases in costs. These scenarios allowed us to measure the effectiveness of the various cost containment mechanisms offered by the proposers.

Scenarios 2 to 6 are single-variable scenarios, where we changed only one type of input in the model in order to distinguish the impact of that input on cost-of-service. Scenarios such as “Project Cost +25 %” and “O&M +50 %” reflect typical cost-related risks, while “ROE 12 %” and “Cost of Debt 6 %” scenarios intend to stress test proposals

<sup>3</sup> As noted, the below, APT proposals were not modeled or measured according to the six alternative scenarios due to their pre-determined approach.

under extreme financing conditions. The high debt rate scenario is especially relevant, given the current rising interest rate environment. The “Equity 50 %” scenario resembles the capital structure of most utilities as opposed to developers, who may have higher debt leverage. This scenario provides insight on how cost-of-service may change if the bidder’s proposed capital structure is not approved by FERC.

Certain proposers have capping mechanisms where altering one variable leads to a change in another variable. For instance, in the case of a capital cost overrun, NEETMH offers to earn a lower equity return on the portion of cost exceeding its proposed amount. When translated into our model, we would apply a lower ROE (specified by NEETMH) to the extra 25 % of capital cost in our “Project Cost +25 %” scenario. Lastly, the “Downside” scenario simulates a future where all capital, operational, and financing costs are considerably higher than expected. Though this rarely occurs in reality, “Downside” results indicate the overall effectiveness of all caps combined.

#	Scenario	Variable	Description
1	<b>Base Case</b>	None	Model the proposal as submitted by developer
2	<b>ROE 12 %</b>	Single Variable	Return on Equity raised to 12 % for all periods ( <i>unless capped</i> )
3	<b>Proposer CapEx +25 %</b>	Single Variable (Changes to CapEx may affect ROE for some developers)	Proposer’s project cost increased by 25 % for all periods ( <i>unless capped at lower cost</i> )
4	<b>O&amp;M +50 %</b>	Single Variable	O&M expense increased by 50 % for all periods ( <i>unless capped</i> )
5	<b>Cost of Debt 6 %</b>	Single Variable	Cost of Debt raised to 6 % for all periods ( <i>unless capped</i> )
6	<b>Equity 50 %</b>	Single Variable (Changes to Debt-to-Equity ratio may affect ROE for some developers)	Equity thickness set to 50 % for all periods ( <i>unless capped</i> )
7	<b>Downside</b> (Includes all changes above)	Multiple Variables (Changes to CapEx and equity percent may affect ROE for some developers)	Proposer’s project cost +25 % ( <i>unless capped at lower cost</i> ) O&M +50 % ( <i>unless capped</i> ) ROE 12 % ( <i>unless capped</i> ) COD 6 % ( <i>unless capped</i> ) Equity 50 % ( <i>unless capped</i> )

We were unable to evaluate APT proposals using the scenarios above, because unlike other bidders, APT proposed a pre-determined revenue requirement approach instead of the standard FERC cost-of-service approach. APT provided a fixed, 40-year<sup>4</sup>, annual transmission revenue requirement (ATRR) schedule, starting with a first-year value that is lower than what would be the case if the standard approach was used. From years 2 to 40, the revenue requirement grows by 0.5 % annually, resulting in a gradually increasing ATRR schedule. APT's proposal also includes a one-time adjustment factor to the ATRR schedule, where the adjustment factor itself and the approach APT would use to determine this factor are both unknown. APT stated that the proposed revenue schedule improves the intergenerational equity of cost recovery and allows for a much lower initial impact on ratepayers. Because the APT schedule was not calculated using the standard cost-of-service methodology, our scenario comparisons, described above, could not be applied to the APT proposals. The one-time adjustment factor meant to reflect changes in commodity prices, foreign exchange rates, etc., would also result in increases in cost recovery by an unknown percentage, given the vagueness of its definition.

## Results & Key Observations

As indicated previously in this report, each of the 36 proposals selected for analysis were modeled using a base case and six scenarios. The base case revenue requirement is calculated using each bidder's proposed Capex, O&M, capital structure, and other proposed assumptions, with no changes to any input. In each of the six scenarios, one or multiple input assumptions are changed to reflect various cost overrun risks. For proposals with capping mechanisms, the scenario analysis is intended to test whether the proposed cost containment mechanisms are able to mitigate the impact of different cost increase scenarios. For proposals without containment, the scenario results reflect the key risks that the proposed projects may be exposed to, in the case of a cost overrun or an unfavorable financing environment.

Once we modeled all individual proposals, we analyzed the results by option type to facilitate relevant comparisons. The remainder of this segment provides comparative analyses by four groupings (Option 1A, 1B-only, 1B/2, and 3). For each grouping, we show four charts that convey comparative results. The first chart compares the base case NPVRR for all proposals in the option group. For Option groups 1B-only and 1B/2, we also show two versions of the first chart, denoted as 1.1 and 1.2. The first version follows the same format as the first chart in the other option groups. The second version provides the unit cost comparison for NPVRR (in million dollars per MW). The second chart depicts the six scenario results for each proposal, expressed as a percentage increase from the base case NPVRR. This percentage chart largely reflects the effectiveness of different capping mechanisms, regardless of base case project costs. Lower percentage increases tend to reflect successful risk mitigation. The third chart similarly compares the scenario results to the base case for each proposal but expresses the differences in dollar amounts rather than percentages. This chart is most helpful when base costs vary significantly because, when compared to uncapped proposals, well-capped proposals with a low percentage increase could still result in a large additional dollar increase, due to high base costs. Finally, the fourth chart in each section shows the total cost of each proposal under each scenario. This chart illustrates the ranking of total NPVRR in each scenario, where the rankings tend to remain the same as in the base case, regardless of cost capping.

Appendix B provides additional details on the cost review and results for each proposal.

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<sup>4</sup> Useful life of the project.

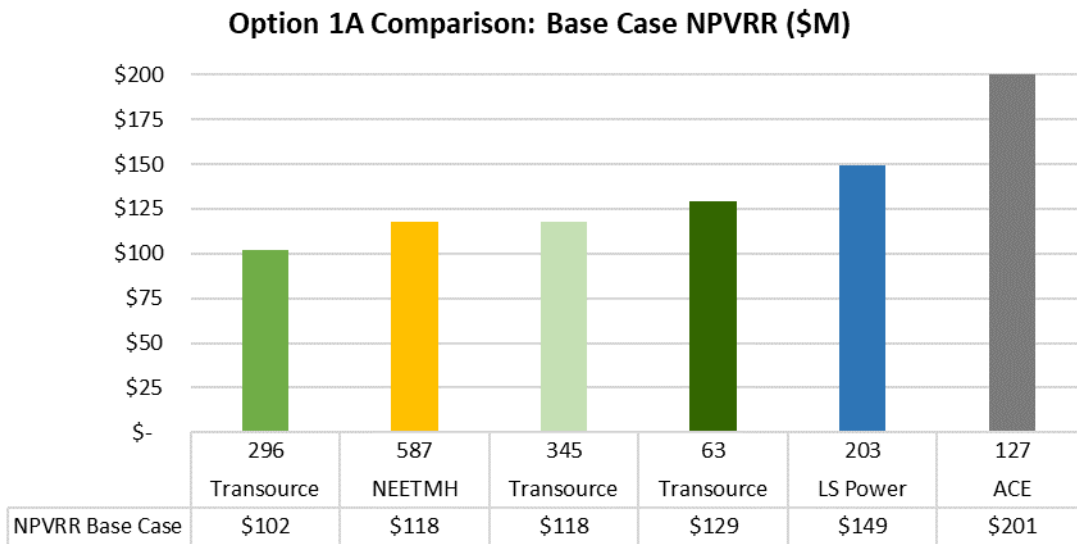
### Option 1A Proposals: Peach Bottom - Conastone

Six Option 1A proposals were considered for our NPVRR evaluation of base case and alternate scenarios. Since our intent was to model necessary transmission upgrades from Peach Bottom station to Conastone station, only project components related to the Peach Bottom – Conastone upgrades are included in the cost-of-service modeling. For all three TRNSRC proposals, all components proposed meet that criterion and were included, whereas for the NEETMH, LS Power, and ACE proposals, a sub-set of project components were evaluated. These components include both proposer responsibilities and “work by others.”

#### Base Case

As shown in Figure 1A-1, TRNSRC proposal #296 (North Delta B) has the lowest NPVRR in the base case, at \$102 million, followed by NEEMH #587 and TRNSRC #345, both at \$118 million. The highest-cost proposal in this Option 1A group is ACE #127, at \$201 million NPVRR.

Figure 1A -1



#### Scenario Analysis

The scenario performance of uncapped Option 1A proposals is similar in terms of percentage change from the base case. In Figure 1A-2, the x-axis lists different scenarios modeled, while the y-axis measures the NPVRR percentage increase from the base case in each of the six scenarios. Each proposal is represented by a different line. NEETMH #587 (yellow solid line) for instance, shows a 12 % increase in NPVRR in the “Cost of Debt 6 %” scenario due to its higher leverage, whereas in the “ROE 12%” scenario, NEETMH #587’s NPVRR only increases by 1.3 % due to its ROE cap. In Figure 1A-3, the dollar increase from the base case is shown for each scenario, instead of the percentage increase. In Figure 1A-4, the total NPVRR is shown by proposal by scenario, instead of just the increased portion.

It is important to consider both the dollar and percentage metrics when comparing scenario performance because a well-capped proposal with high base costs could have a higher NPVRR dollar increase and/or a higher total NPVRR

compared to an uncapped proposal with lower base costs. For example, LS Power 203 may have the lowest percent increase, 11 %, in the “Proposer CapEx +25 %” scenario (Figure 1A-2); however, due to its high base costs, its total NPVRR in this scenario is still the second highest among peers (Figure 1A-4). Similarly, although ACE #127 appears to have a similar NPVRR percent increase compared to the TRNSRC proposals, as illustrated by the overlapping green and grey colored lines in Figure 1A-2, ACE’s dollar increase is the highest in almost all scenarios (Figure 1A-3). It’s worth noting that, for all proposals other than NEETMH #587, the total NPVRR ranking (in dollar terms) does not change regardless of scenario. In most scenarios, if a well-capped proposal has significantly higher base case costs compared to peers, its capping mechanisms would not be able to limit or lower its total cost to a level below that of other proposals.

Figure 1A-2

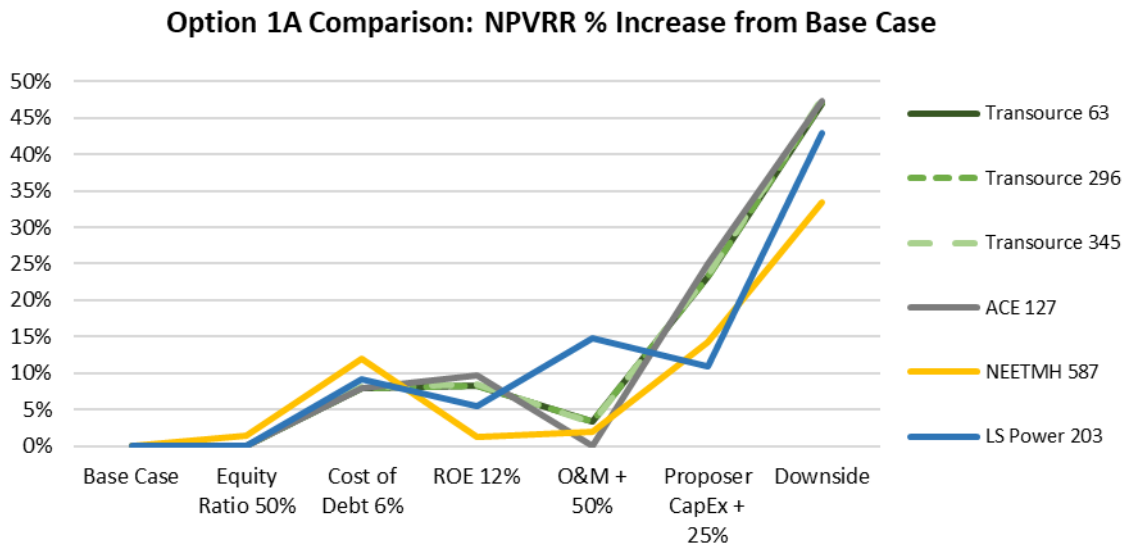




Figure 1A-3

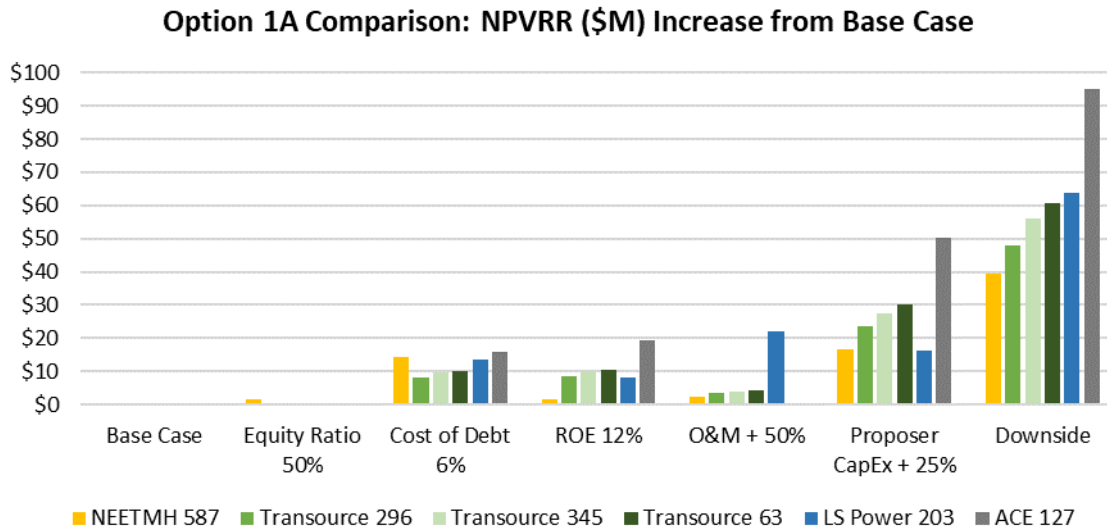
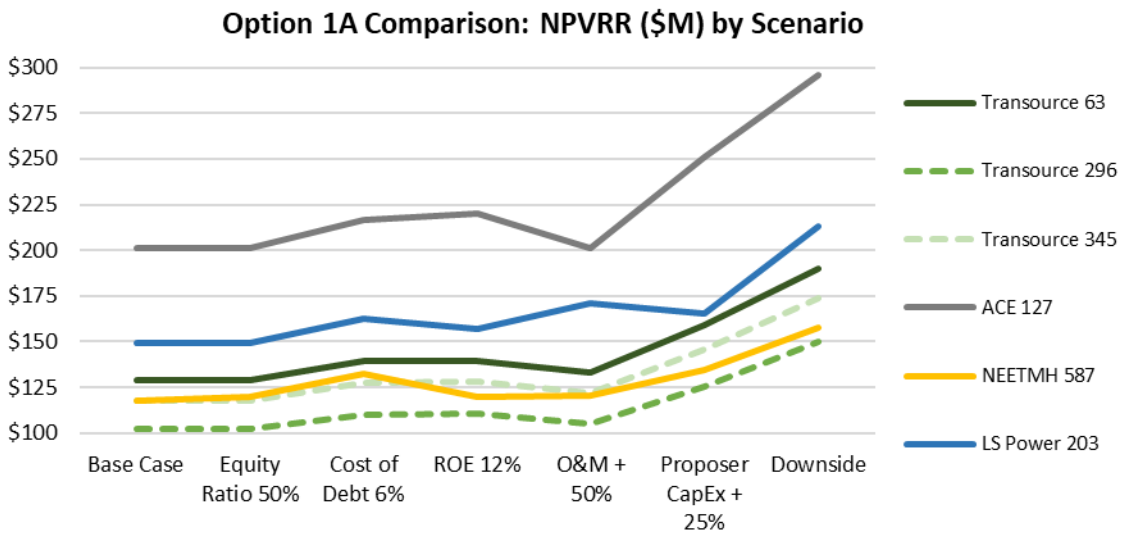


Figure 1A-4



- **Equity Ratio - 50 %** - All proposals except NEETMH #587 have an equity ratio of 50 % as their base case assumption, resulting in no changes in this scenario. NEETMH #587 caps the equity ratio at 40 % for its

proposer cost but the additional “work by other” component is not capped, resulting in a slight increase in NPVRR.

- **Cost of Debt - 6 %** - The base case cost of debt assumption ranges from 2.99 % to 4.4 % for this group. No debt caps are offered by any proposer. ACE #127’s dollar increase in NPVRR is highest due to its high base case costs, while NEETMH #587’s percentage increase is the highest due to its 60 % debt leverage.
- **ROE - 12 %** - The base case ROE assumption ranges from 9.8 % to 10.85 % for this group, inclusive of adders. ACE #127 has the highest dollar increase due to its high base costs, while NEETMH #587’s percentage and dollar increases are the lowest due to its 9.8 % ROE cap. Besides NEETMH, no other proposer offers ROE caps, so the percentage increase in NPVRR is very similar while the dollar increase is largely proportional to each proposal’s base case cost.
- **O&M - +50 %** - NEETMH offers an O&M cap for the first 15 years of its project life, which effectively lowers both the dollar and percentage increases from the base case. LS Power’s O&M relative to its capital cost is much higher compared to other proposals, which results in the highest dollar and percentage increase from the base case. TRNSRC offers no cap on O&M, but its O&M projections are relatively low. ACE assumes negligible O&M costs in its proposal.
- **Proposer CapEx - +25 %** - Since TRNSRC and ACE offer no cost caps, their scenario performances are almost identical in terms of percentage increase (Figure 1A-2) while the dollar increase is proportional to base costs for each proposal (Figure 1A-3). Despite having the second highest base costs, LS Power’s “hard” cost cap effectively limits the dollar and percentage increase in this scenario. NEETMH also reduces cost overrun risks by seeking no equity return on any capital cost above its cost cap.
- **Downside** - Due to lack of cost containment, the dollar increase for TRNSRC #296 is no longer the lowest, despite its lowest base case NPVRR. NEETMH #587 has the lowest percentage and dollar increase from the base case, due to multiple capping mechanisms in place. With high base cost and lack of caps, ACE #127 exposes ratepayers to more risk than its peers.

### Option 1B-Only Proposals

For the Option 1B-Only group comparison, we selected seven proposals or proposal pairs from four bidders, namely, ACE, JCPL, LS Power, and RILPOW. The four LS Power proposals and JCPL #453 are standalone proposals, while the two pairings consist of ACE proposals #929, 797, and RILPOW proposals #490, 171, respectively. Offshore wind capacity to be accommodated by this Option 1B-Only group ranges from 2,658MW to 4,890MW, including injections from New Jersey’s Offshore Wind Solicitation 2 (both at Cardiff and Smithburg points of interconnection (POI)), 3, 4, and 5.

### Base Case

To compare the base cost of proposals that accommodate different offshore wind capacities, we included a unit cost metric calculated by dividing base case NPVRR (\$ million) by wind injection capacity<sup>5</sup> (MW). Although differences in transmission technology and location may cause inherent cost differences, the unit cost is a useful indicator when comparing proposals of various scales. Since Option 1B proposals alone do not include the entire scope of facilities

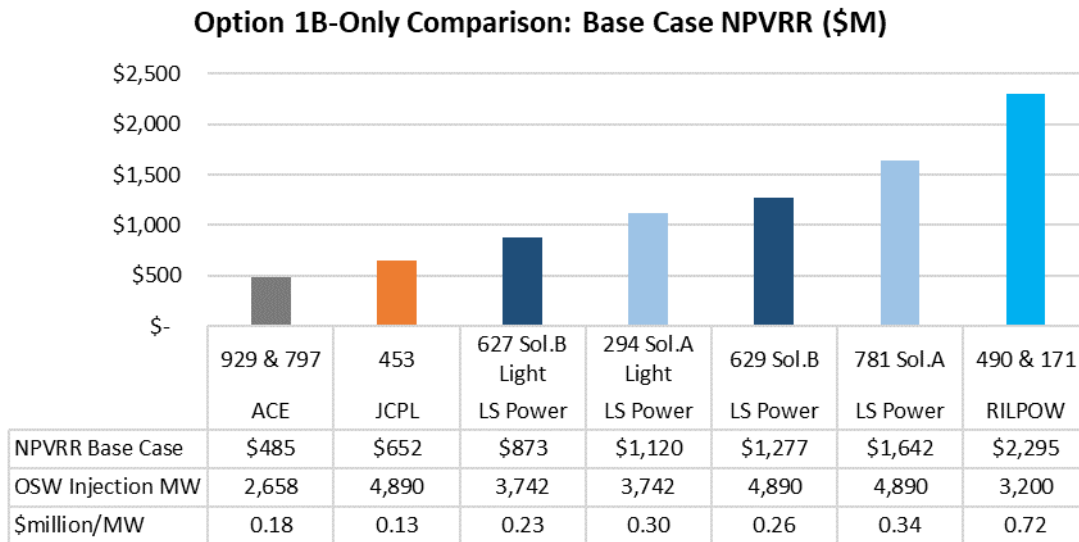
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<sup>5</sup> The offshore wind capacities used as denominators are based on the capacity planned in NJ’s solicitations 2-5. They are not necessarily the same as what proposers claim to be the maximum injection they can accommodate.

to deliver offshore wind to New Jersey, the revenue requirement results in this section only cover Option 1B project cost.

As shown in Figure 1B-1.1 and Figure 1B-1.2, RILPOW's combined proposals (#490 + #171) have the highest total NPVRR and unit cost, while JCPL<sup>6</sup> has the lowest unit cost. The ACE<sup>7</sup> pairing has the lowest total NPVRR, however ACE may require numerous transmission upgrades to be constructed by other Exelon entities or other incumbents, totaling \$500 million in “work by other” costs. Since ACE’s proposed cost doesn’t include the significant work by other upgrades, its base case NPVRR shown here may be understating the actual project cost. Regarding LS Power proposals, both Solution A and Solution A Light (less capacity) propose more transmission line undergrounding. Compared to Solution B and B Light, more undergrounding results in both higher total cost and unit cost than in Solution A and A Light when the expected injection is equal.

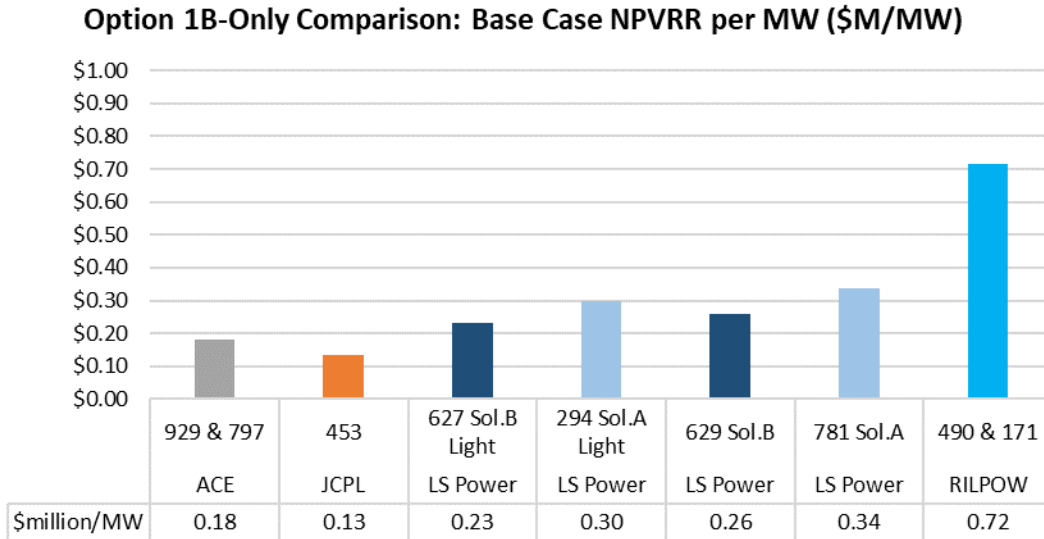
**Figure 1B -1.1**



<sup>6</sup> Both JCPL and ACE solutions are limited in scope. The JCPL solution does not reach the shore and additional costs would be incurred by the generation developer to reach the JCPL substation.

<sup>7</sup> ACE proposals are designed for a vault at the shore – it is most conducive to an AC lead line but presents unique challenges for a DC lead line.

Figure 1B -1.2



### Scenario Analysis

Among this Option 1B-only group, ACE and JCPL proposals have no capping mechanisms, while LS Power and RILPOW have multiple caps. From a total cost perspective, ACE and JCPL, despite a lack of caps, have the lowest NPVRR in all scenarios (Figure 1B-4) due to their considerably lower base costs when compared to the rest of the group. The opposite is true for RILPOW. It's worth noting that ACE and JCPL perform poorly in the capital overrun and downside scenarios, resulting in the highest percentage increase (Figure 1B-2) from the base case, and more dollar increase (Figure 1B-3) than the LS Power proposals with higher base costs.

Figure 1B-2

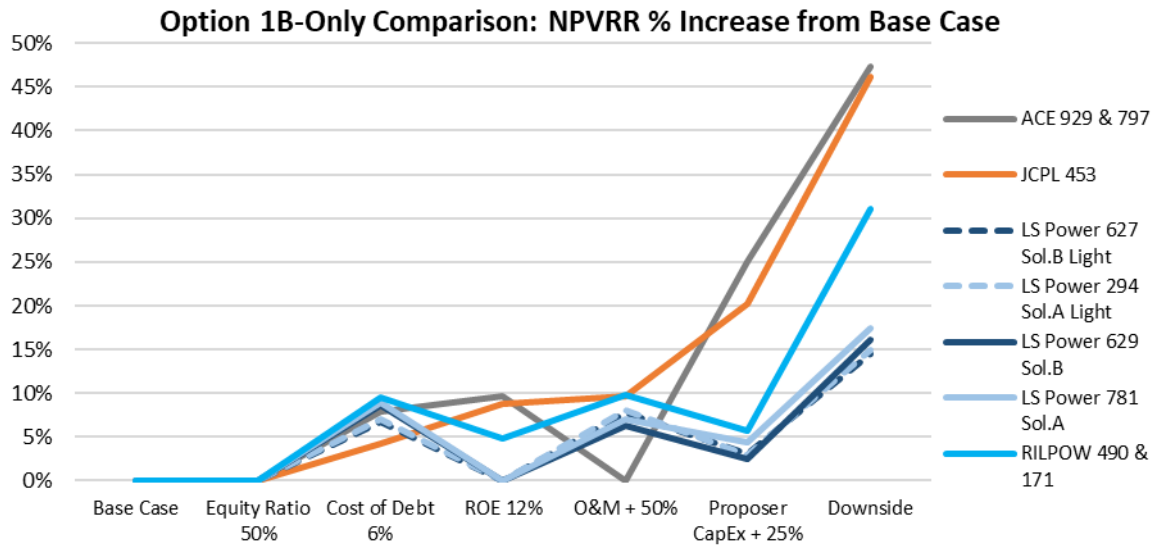


Figure 1B-3

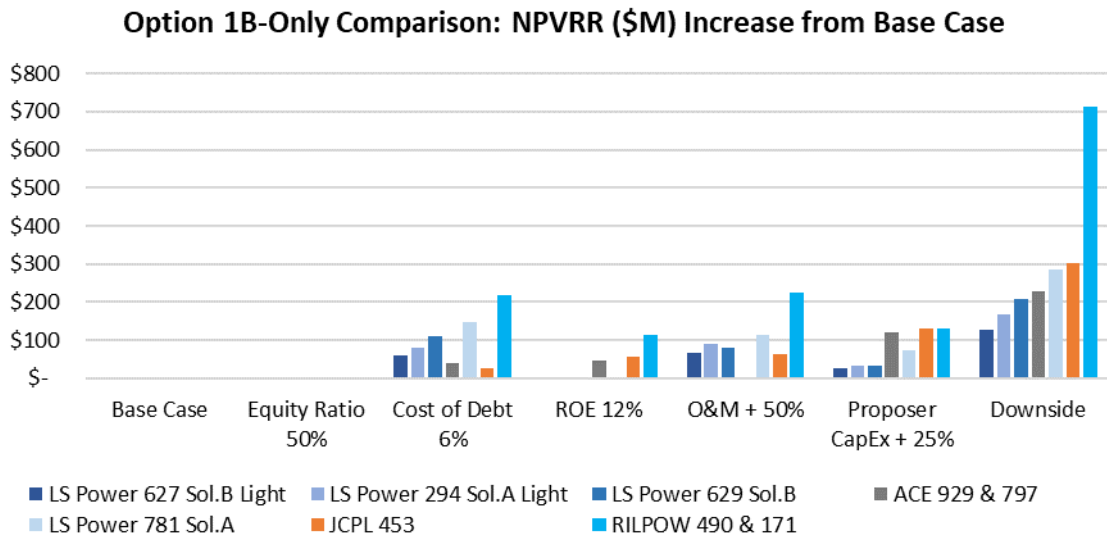
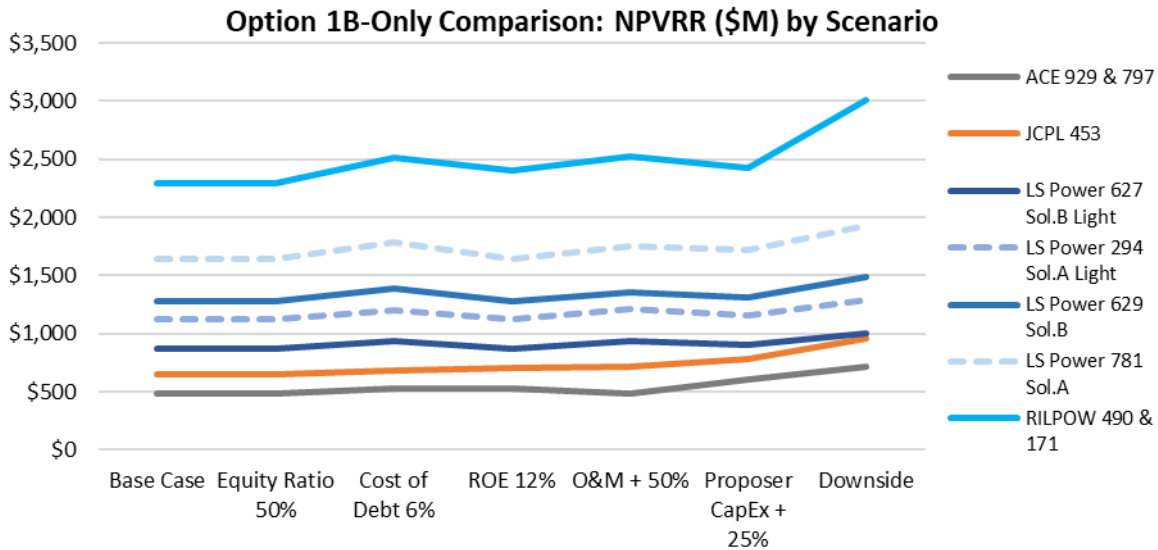


Figure 1B-4



- Equity Ratio - 50 %** - All bidders except LS Power propose a 50 % equity ratio in the base case. LS Power proposes 40 % equity and 40 % cap for all initial investments. RILPOW also offers an equity cap at 50 %. Consequently, all proposals experience no change in cost in this scenario.
- Cost of Debt - 6 %** -The base case cost of debt assumption ranges from 3.0 % to 4.8 % for this group. No debt caps are offered by any proposer. JCPL shows the lowest percentage and dollar increase because it already assumes a high debt rate at 4.8 %, so the increase from the base case is less notable. LS Power has higher percent and dollar increases due to its higher leverage and base costs, however, ATRR caps in the first ten years effectively limit risks to ratepayers. RILPOW shows the largest dollar increase due to its significantly higher base costs.
- ROE - 12 %**- The base case ROE assumptions range from 8.95 % to 10.5 % for this group, inclusive of adders. RILPOW and LS Power both offer ROE caps that apply to operational periods as well as AFUDC determination. For RILPOW, despite a 9.75 % ROE cap for the first six years, its high base cost still leads to a large dollar increase. LS Power caps ROE at 8.95 % for the useful life of the project, resulting in no change in costs. ACE and JCPL have no caps, resulting in an approximate 10 % increase in NPVRR.
- O&M - +50 %** - Although JCPL and RILPOW both experience a 9.8 % increase in NPVRR, RILPOW's dollar increase is much larger due to high base costs. For LS Power, a small portion of O&M overrun is limited by the ATRR caps, slightly reducing potential rate increases. Similar to its Option 1A proposals, ACE assumes negligible O&M.
- Proposer CapEx - +25 %** - With both "hard" project cost caps and ATRR caps, LS Power's percentage increase is limited to 2.5-4.4 % of base NPVRR, depending on the proposal. This percentage increase is the lowest among all proposals in the CapEx +25 % scenario. ACE and JCPL proposals have 25 % and 20 % increases from the base case, respectively. In dollar terms, LS Power proposals (with \$0.9-1.6 billion base cost) result in a \$20-70 million NPVRR increase in this overrun scenario. Whereas ACE and JCPL proposals (with \$0.5-0.6 billion base cost), result in a \$120-130 million NPVRR increase. Notably, despite having the highest base cost, RILPOW's partial "hard" cap effectively reduces the NPVRR increase to less than 6 %. Its partial cap on materials & equipment and construction & commissioning cost covers more than 70 % of total project costs.

- **Downside** - Downside scenario performance is comparable to a combination of the effects described above. For low-cost proposals without cost containment, NPVRR can increase as much as 47 % for ACE and 46 % for JCPL. However, due to their low base cost, ACE and JCPL's total NPVRR are still the two lowest among this group. For higher cost LS Power proposals with very effective caps, NPVRR percentage increases are limited to 15-18 % of base cost and NPVRR dollar increases are notably lower than ACE and JCPL. For RILPOW, its NPVRR dollar increase spikes up to \$700 million due to high base cost. Though RILPOW offers multiple caps, they were not as successful in reducing downside risks.

### **Option 1B/2 Proposals**

For the Option "1B and 2" group comparisons, we evaluated 12 proposals or proposal pairs from eight bidders. Offshore wind capacity to be accommodated by this Option 1B/2 group ranges from 2,400MW to 4,890MW, including injection from New Jersey's Offshore Wind Solicitation 2 (both at Cardiff and Smithburg POI), 3, 4, and 5. LS Power #627, #294, and JCPL #453 are modeled as Option 1B-only proposals and detailed in Section B above; they are paired with Option 2-only proposals LS Power # 594 and MAOD #321, respectively. Other proposers in this group, namely, Anbaric, APT, ConEd, NEETMH, and PSEG-Orsted, provide solutions to both Option 1B and 2 problem statements, thus their proposals are treated as combined 1B/2 proposals. For NEETMH, Anbaric, and APT, multiple proposals are paired together to address total injection around or above 4,000MW. In addition, MAOD and PSEG-Orsted include offshore interlinks in their original proposals. Since offshore interlinks address the Option 3 problem statement, we removed the interlink costs from MAOD and PSEG-Orsted proposals to ensure fair comparison for the Option 1B/2 group.

### **Base Case**

From the lowest cost<sup>8</sup> proposal pair - LS Power #627 & #594, to the highest-cost<sup>9</sup> proposal - PSEG-Orsted #683, the Option 1B/2 group has a large spread of \$4.4 billion in base costs. While they both accommodate 3,742 MW of offshore injection, proposal #683 is almost three times the cost of proposals #627 & #594. From a unit cost perspective, LS Power proposals are the least costly (0.59-0.65 \$ million/MW), followed by NEETMH (0.81-0.85 \$ million /MW), and Anbaric (0.98-0.99 \$ million/MW). All other proposers' unit costs exceed one million dollars per MW, with PSEG-Orsted, MAOD + JCPL, and ConEd (Deans) proposals being the most expensive. Regarding the MAOD + JCPL pair, MAOD #321 makes up 89 % of the total project cost. From a total NPVRR perspective, low-cost solutions also include ConEd #990's Larrabee and Smithburg proposal (3<sup>rd</sup> lowest), in addition to LS Power and NEETMH. Notably, ConEd's alternative solution (Dean's double circuit) has a 24 % higher base NPVRR, despite addressing the same offshore capacity of 2,400MW.

APT opted for the "Pre-determined Revenue Requirement" approach instead of standard cost-of-service modeling. APT's base case NPVRR and unit cost are both above the group median. The NPVRR is derived from the bidder's projected annual revenue requirement schedule, using the same discount rate of 7.24 % as applied to all other proposals. Since the developer states that its fixed ATRR schedule is not calculated using a standard model, we did not include APT in the following scenario analysis. We recognize a fixed ATRR schedule may reduce certain project

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<sup>8</sup> In terms of both total NPVRR and unit cost.

<sup>9</sup> In terms of both total NPVRR and unit cost.



cost overrun risks, however, it is impossible to measure the NPVRR impact of APT's one-time adjustment factor since the amount of the adjustment is not defined nor is it binding.

Figure 1B/2-1.1

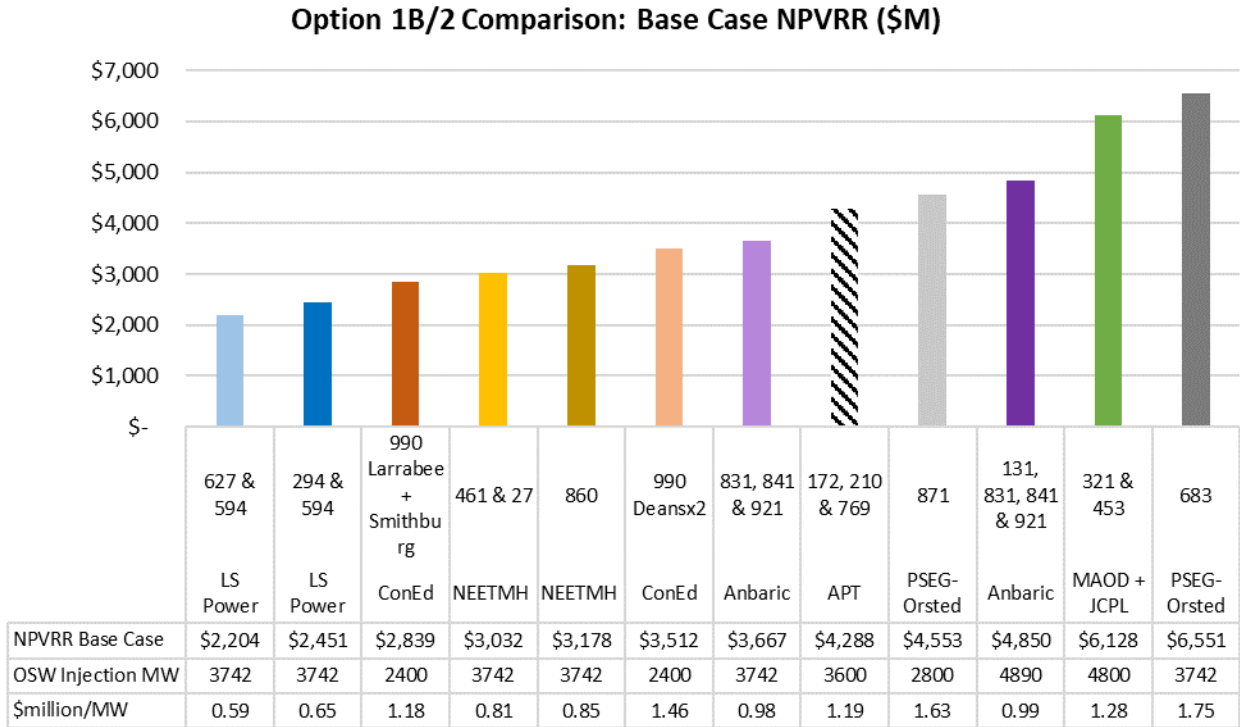
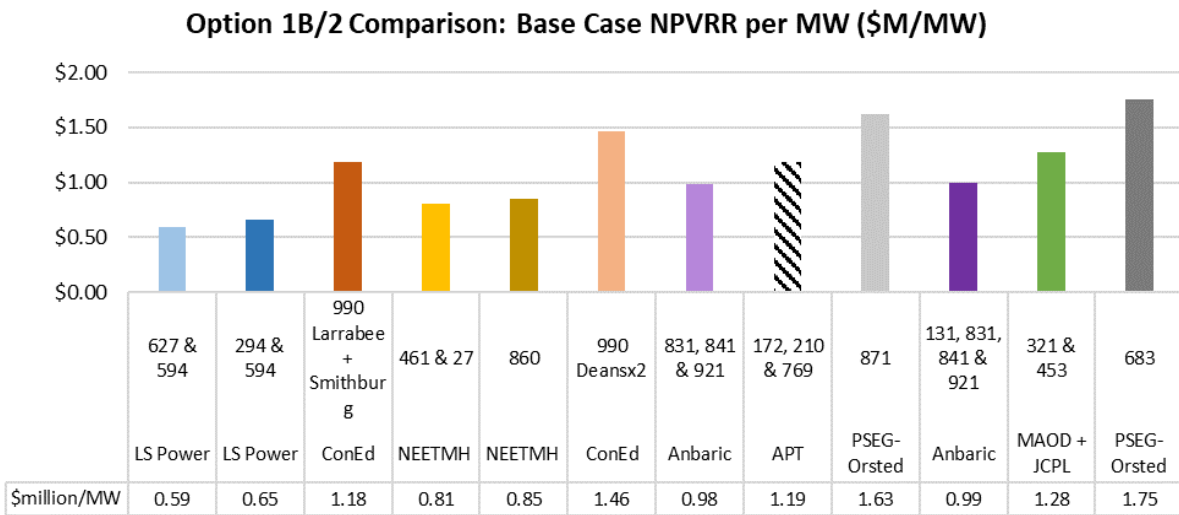


Figure 1B/2-1.2



### Scenario Analysis

All Option 1B/2 proposals or proposal pairs offer some cost containment mechanisms. Overall, due to its multiple effective caps and low base costs, LS Power has the lowest dollar and percentage cost increase in almost all scenarios. PSEG-Orsted #683 and MAOD+JCPL, despite having various caps, experience the largest dollar increases and remain the two costliest proposals in all scenarios. The JCPL standalone proposal has no capping mechanisms, so the impact of MAOD #321's cost caps are slightly diluted when the two proposals are evaluated as a combination.

As shown in Figure 1B/2-2, LS Power outperforms the group in almost all scenarios, in terms of percentage increase from base costs. NEETMH, despite having many caps, is not effective in limiting cost overrun risks, other than in the "ROE 12 %" and "O&M +50 %" scenarios. MAOD and ConEd are both effective in reducing capital overrun risks, due to their respective cost caps, however, the lack of capping ROE and O&M exposes ratepayers to high risk levels in the downside scenario. Other scenario and proposal details are discussed below. Overall, we still observe the same total NPVRR rankings in most scenarios as they are in the base case (Figure 1B/2-4), regardless of the impact of cost containment. However, when comparing the dollar increase from the base case instead of total NPVRR, Figure 1B/2-3 shows that some proposals (e.g., NEETMH) result in a higher dollar increase despite their lower base costs, due to ineffective containment mechanisms.

Figure 1B/2-2

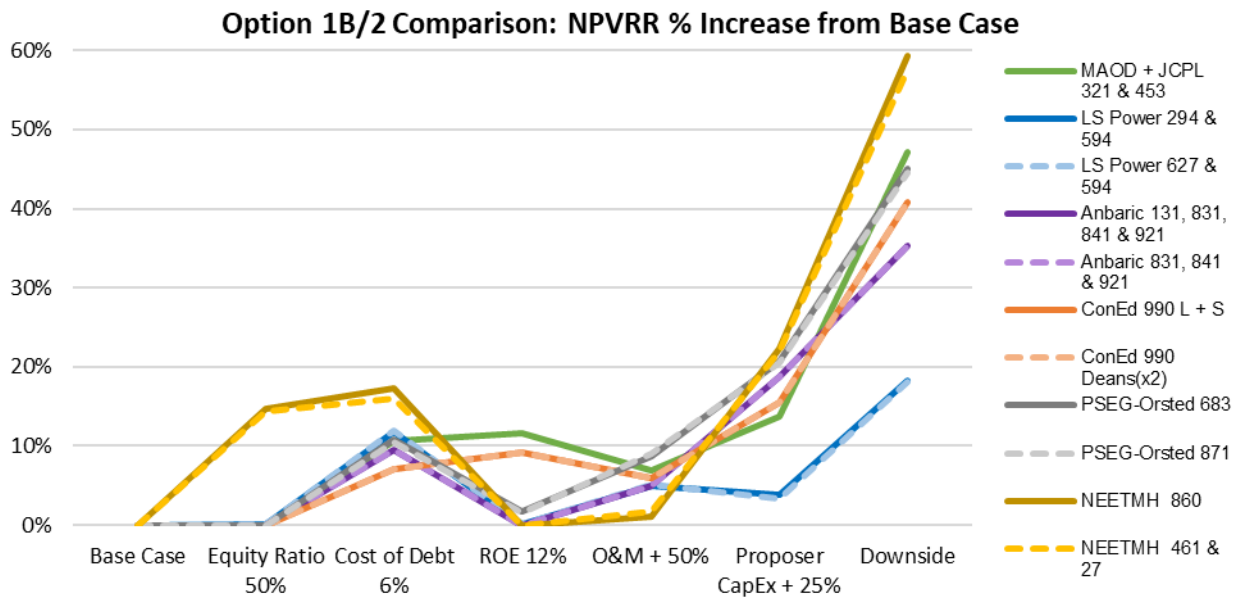


Figure 1B/2-3

### Option 1B/2 Comparison: NPVRR (\$M) Increase from Base Case

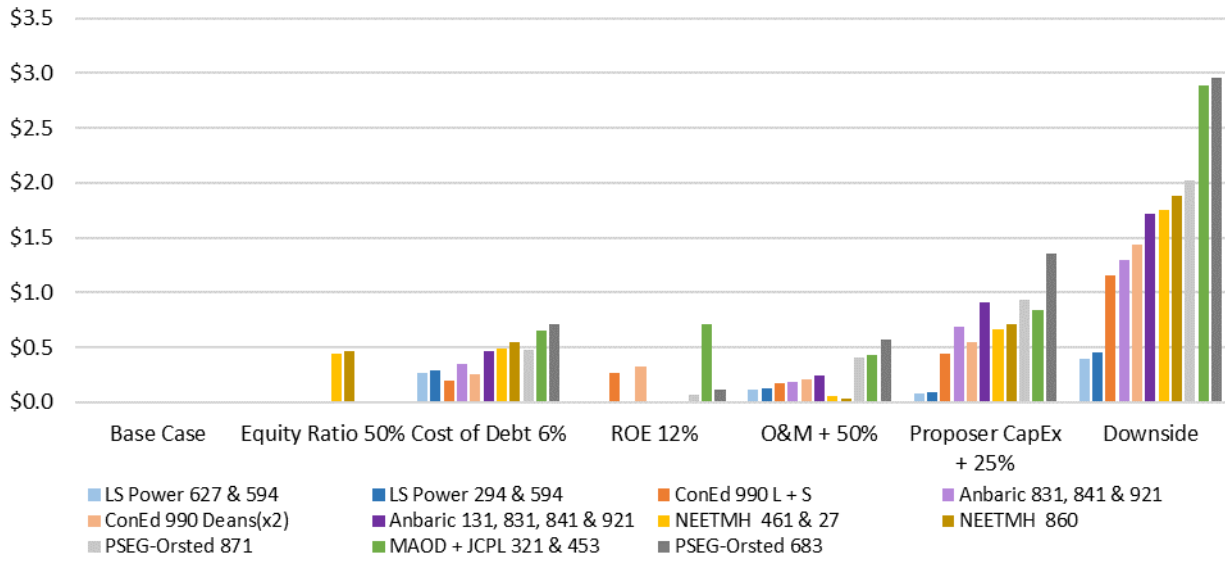
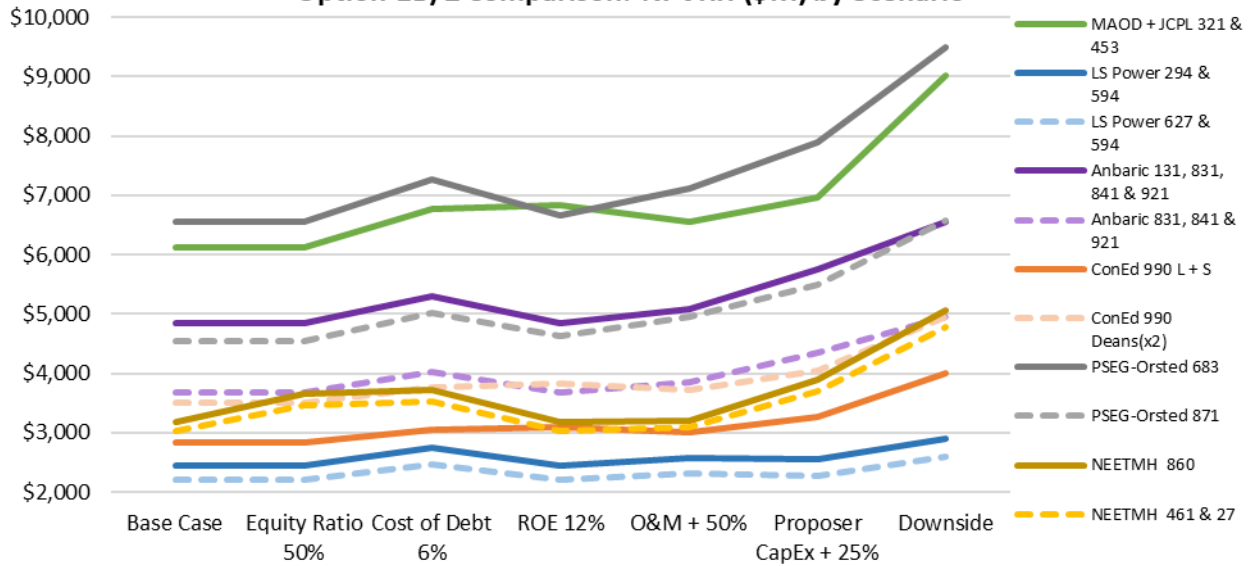


Figure 1B/2-4

### Option 1B/2 Comparison: NPVRR (\$M) by Scenario



- Equity Ratio - 50 %** - All bidders other than NEETMH either assume 50 % equity ratio in the base case (MAOD, ConEd) or cap its equity ratio for the useful life of the asset (LS Power, Anbaric, PSEG-Orsted). Consequently, most proposals experience no changes in cost in this scenario. NEETMH provides a 30 % equity target but does

not state a “hard” cap, resulting in considerable dollar and percentage increase in equity costs. Anbaric could be relieved of its capped structure if it cannot obtain financing with the proposed capital structure; however, we believe Anbaric’s proposed 45 % equity ratio is within a normal range compared to peers and to historical data. Thus, Anbaric’s equity ratio cap is modeled as effective in this scenario.

- Cost of Debt - 6 %** - The base case cost of debt assumption ranges from 3.0 % to 4.5 % for this group. NEETMH is the only proposer to offer a debt cap, sharing in debt cost in excess of a 3.75 % debt rate by refunding 20 % of the excess debt expenses. However, due to its significant debt leverage (70 %), NEETMH’s NPVRR percentage increase is over 16 %, while the dollar increase is higher than the Anbaric and ConEd proposals, which have higher base costs. ConEd has the lowest percentage and dollar increases because it already assumes a high cost of debt at 4.5 %, so the change from the base case is less notable. All other proposals have similar performance (in percentage), while their dollar increases are proportional to total base case costs.
- ROE - 12 %** - The base case ROE assumption ranges from 8.5 % to 10.5 % for this group, inclusive of adders. Besides MAOD, JCPL, and ConEd, all other proposers in this group offer ROE caps. As shown in Figures 1B/2-2 and 1B/2-3, Anbaric, NEETMH, and LS Power proposals have no cost increases in this scenario due to ROE caps for the useful life of the asset (ROE capped at base case level). PSEG-Orsted proposals have a small amount of exposure to high ROE risks since ROE is only capped for the first 15 years. The MAOD+JCPL pair has the highest dollar increase from the base case due to its high base case costs. In comparison, ConEd proposals have slightly lower percentage change and less dollar increase due to its lower base costs.
- O&M - +50 %** - NEETMH is the only developer to offer an O&M cap (annual cap for first 15 years), so both NPVRR percentage and dollar increases are lowest among this group. For LS Power, a small portion of O&M overrun is limited by the ATRR caps, slightly reducing potential rate impacts. For all other proposers in this group, there are no mechanisms to contain O&M, so the NPVRR percentage increase is similar, depending on how much O&M is projected relative to project capital costs. The dollar increases are largely proportional to each proposal’s base case NPVRR.
- Proposer CapEx - +25 %** - Every developer in this group offers project cost caps but most “soft” caps are much less effective in limiting cost overrun risks, compared to “hard” caps. NEETMH, Anbaric, and PSEG-Orsted all have “soft” caps. PSEG-Orsted proposed various exceptions to the cost caps aside from uncontrollable force events, whereas NEETMH and Anbaric still plan to recover some portion of capital beyond the cap, albeit with lower or no equity returns. For these bidders, the NPVRR percentage increase falls around 20 % from the base case. In contrast, LS Power offers both “hard” project cost caps and ATRR caps in Option 2, which limit the percentage increase to 4 % for the combined solutions. Given that LS Power’s base case costs are lowest among peers (\$2.2-2.4 billion), the overall dollar increase (\$80-90 million) is substantially lower than the rest of the group. ConEd offers to share 30 % of its capital overrun<sup>10</sup>, which reduces both percentage and dollar increases. Notably, MAOD’s “hard” cap limits its percentage increase to 13 %. Although the impact of MAOD’s cap is diluted by the uncapped JCPL proposal, the MAOD+JCPL pairing still has a lower dollar increase compared to PSEG-Orsted and Anbaric pairings (which have lower base case costs). Though PSEG-Orsted proposed a project cost cap, the cap is subject to changes in inflation, and foreign exchange rates, as well as any delay in project award date beyond July of 2022. PSEG-Orsted also indicated a significant portion of its projects will be purchased in foreign currency. Given the current high inflation rate environment, high exposure to foreign exchange risks, and a later-than-July award date, we believe PSEG-Orsted’s various exceptions to the cost cap may result in considerable increase to its project cost and ultimately, revenue requirement.
- Downside** - The downside scenario tests the overall effectiveness of various cost caps. LS Power has multiple “hard” caps and low base costs, resulting in the lowest dollar and percentage increase by far. NEETMH also has multiple caps, but most are “soft” caps or non-binding targets, resulting in the highest percentage increase and

<sup>10</sup> The mechanism is activated once actual costs are 5% higher than the originally proposed cost.

high dollar increase (\$1.7-1.9 billion), especially when compared to its lower base costs (\$3.0-3.1 billion). Anbaric also offers multiple caps. While some are “hard” caps, its project capital cost caps are not as effective. The overall outcome is still less costly than NEETMH. ConEd only offers a project cost cap with no caps on financing rates, however, due to its lower base cost, the dollar increase in the downside scenario is lower than most. For MAOD+JCPL and PSEG-Orsted, though their caps reduce certain costs or financing risks, the high base costs result in significantly higher dollar increases in this scenario.

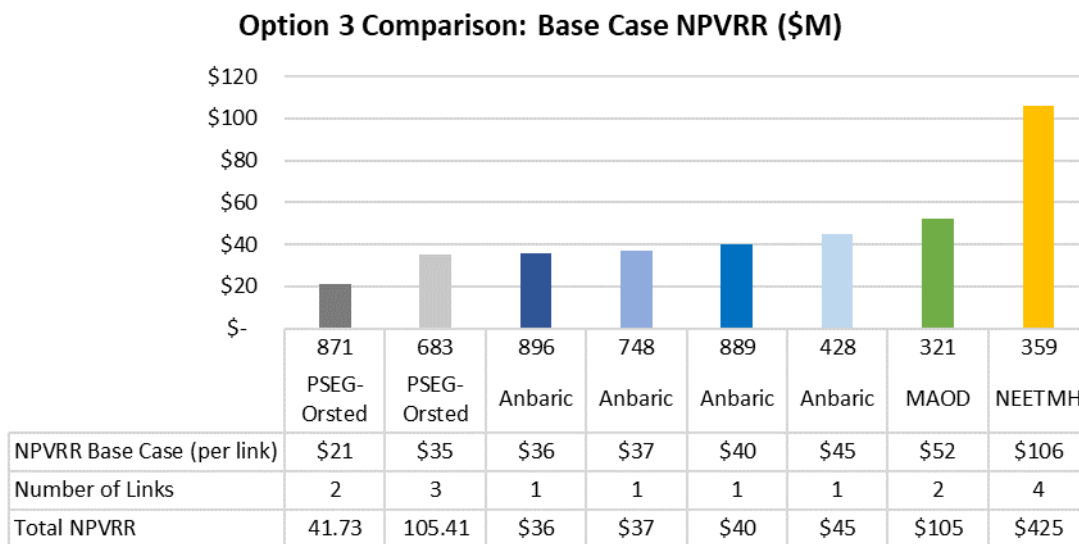
### Option 3 Proposals:

Anbaric and NEETMH are the only two bidders to submit independent Option 3 proposals. NEETMH #359 includes four offshore links in one proposal, each connecting two different offshore platforms. Anbaric submitted seven Option 3 bids, proposing one individual link in each bid. The Anbaric interlinks modeled below all connect offshore platforms that are proposed in Anbaric’s Option 2 solutions which are of interest. In addition to standalone proposals, MAOD and PSEG-Orsted both include offshore interlinks as part of their Option 2 proposal, as mentioned in the above section. These interlinks are separately modeled, using the bidders’ cost estimates for interlinks only and applying the same cost capping mechanism as offered in their corresponding Option 2 proposals.

### Base Case

On a “cost per link” basis, all PSEG-Orsted and Anbaric interlinks are below \$50 million per link, while NEETMH costs are significantly higher. As shown in Figure 3-1, the total NPVRR for each proposal is notably different since each proposal includes different numbers of links. Although Figure 3-1 attempts to compare different proposals fairly by using a “unit cost”, it doesn’t capture factors such as the length of different links. Since the connection of two offshore platforms farther apart naturally results in higher cost, additional details regarding the length and location of interlinks may be required for a more comprehensive evaluation.

Figure 3-1



### Scenario Analysis

All bidders who provide Option 3 solutions offer the same capping mechanism in their Option 2 and 3 proposals. For NEETMH, high debt leverage and loose cost caps result in the overall highest percentage and dollar increase in four out of six scenarios, especially in capital overrun and downside scenarios. MAOD also experiences a larger NPVRR dollar increase, except for in the “CapEx +25 %” scenario, due to its “hard” cost cap. Anbaric proposals also display similar scenario performance as its Option 2 counterparts. The only notable difference is that Anbaric assumes no additional O&M costs in Option 3 solutions if their corresponding Option 2 proposals are selected. PSEG-Orsted interlinks have the lowest dollar increase in almost all scenarios due to their low base costs.

Figure 3-2

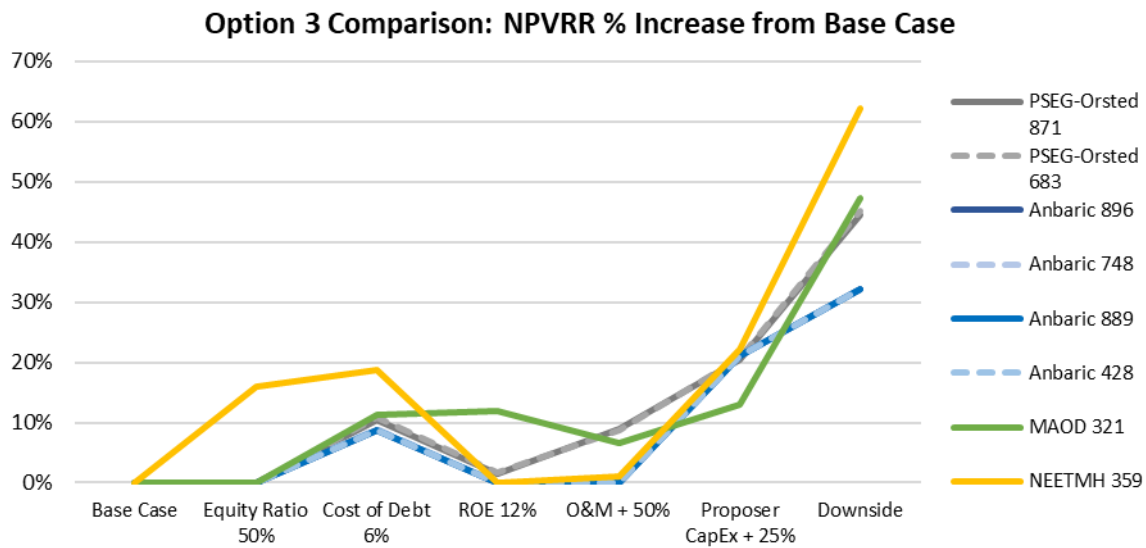


Figure 3-3

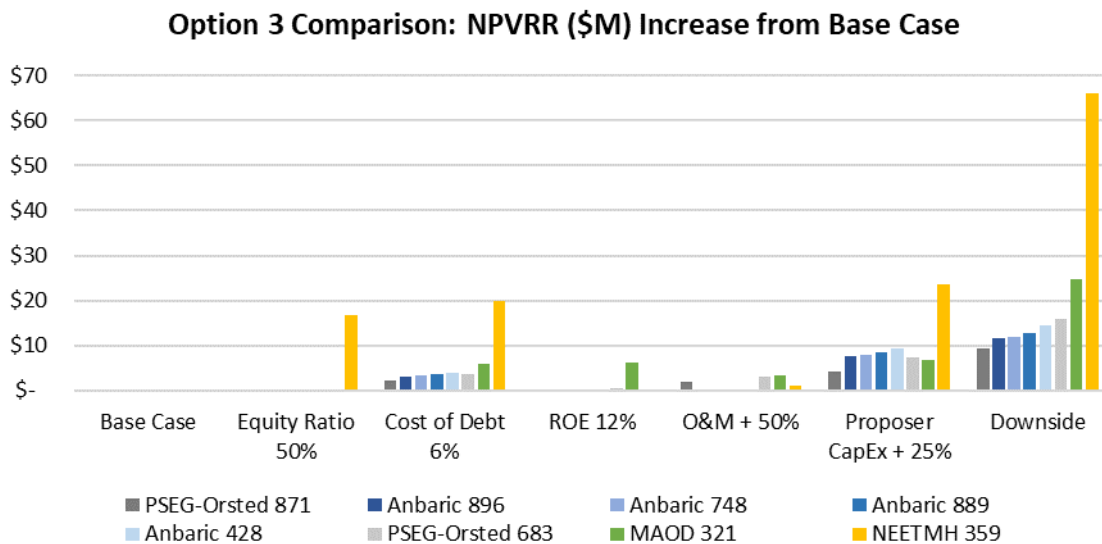
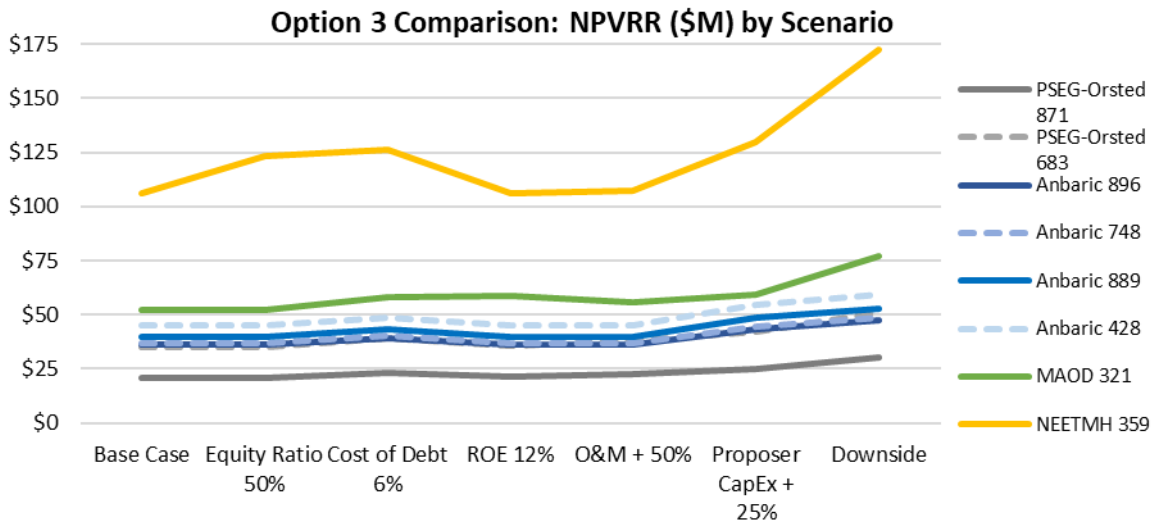


Figure 3-4



- Equity Ratio - 50 %** - All bidders other than NEETMH either assume a 50 % equity ratio in the base case (MAOD) or cap its equity ratio for the useful life of the project (Anbaric, PSEG-Orsted). NEETMH provides a 30 % equity target but does not state a “hard” cap, resulting in considerable dollar and percentage increase in equity costs.
- Cost of Debt - 6 %** - The base case cost of debt assumption ranges from 3.6 % to 4.3 % for this group. NEETMH is the only proposer to offer a debt cap, sharing in debt cost in excess of a 3.75 % debt rate by refunding 20 % of the excess debt expenses. However, due to its significant debt leverage (70 %), NEETMH's NPVRR percentage increase is over 16 %. All other proposals have similar performance (in percentage), while their dollar increases are proportional to total base costs.
- ROE - 12 %** - The base case ROE assumption ranges from 8.5 % to 10 % for this group, inclusive of adders. Besides MAOD, all other proposers in this group offer ROE caps. As shown in Figures 3-2 and 3-3, Anbaric and NEETMH proposals have no cost increases due to ROE caps for the useful life of the asset (ROE capped at base case level). PSEG-Orsted proposals have limited exposure to high ROE risks since ROE is only capped for the first 15 years.
- O&M - +50 %** - NEETMH is the only developer to offer O&M caps (annual cap for first 15 years), so both NPVRR percentage and dollar increases are lowest among this group. Anbaric's cost increase is zero because the bidder assumes no additional O&M costs for interlinks if its corresponding Option 2 bids are selected. MAOD and PSEG-Orsted have no mechanisms to contain O&M, so the NPVRR percentage increases are similar, depending on how much O&M is projected relative to project capital costs.
- Proposer CapEx - +25 %** - Every developer in this group offers project cost caps. NEETMH, Anbaric, and PSEG-Orsted all have less effective “soft” caps resulting in an approximate 20 % increase in NPVRR, similar to their Option 1B/2 proposals. On the other hand, although MAOD has the second highest base cost, its “hard” cap successfully reduces cost overrun risks to 13 %.
- Downside** - On a percentage basis, Anbaric's multiple caps are most effective in limiting downside risks. The opposite is true for NEETMH, where the bidder offers various “soft” caps or non-binding targets, resulting in the highest percentage increase and high dollar increase. For MAOD, although its “hard” project cost cap reduces cost overrun risks, its high base costs and lack of other caps result in a higher dollar increase in the downside



scenario. PSEG-Orsted #871, on the other hand, may not have the most effective caps, but NPVRR dollar increases are low due to its lowest base cost.

## Conclusion

While this report is not meant to declare winners and losers, there are several key observations and findings worth noting from our cost analysis. Given the complexity of this SAA Window, we recognize the differences in proposed technology and scope of work, among other differences. For an overall comprehensive cost analysis, we have evaluated each proposal's base case cost-of-service, effectiveness of cost containment mechanism in various cost overrun scenarios, and the total cost-of-service to be recovered from ratepayers under these scenarios. We observe that developers tend to propose more capping mechanisms for high-cost Option 1B and 2 proposals, where cost caps could potentially reduce ratepayers' burden by hundreds of millions. However, a multitude of caps don't necessarily lead to lower cost recovery. One or few clearly and strictly defined caps with less exceptions are often more effective in mitigating risk than multiple loosely defined caps with many caveats. When evaluating different cost containment methods, we considered their dollar and percentage impact to a proposal's base case NPVRR, under various cost overrun scenarios. While some proposals include effective cost caps, which result in low percentage increases from base case NPVRR (in different scenarios), their dollar increase and total project costs may still be substantial, if the proposals' base case costs are higher than their lesser capped peers.

## Appendix A – Details on Proposals Modeled

### Option 1a Proposals: Peach Bottom – Conastone Projects

Developer	Project ID	PB-Conastone Components	Cost Cap	Component Current-year costs (\$M)						Total (\$M)	
LS Power	203	1. Broad Creek 230/500kV Substation 2. Robinson Run 500kV Switching Station 3. Broad Creek - Robinson Run 230/500kV Transmission Line 4. Graceton - Bagley #1 230kV Interconnection 5. Graceton - Bagley #2 230kV Interconnection 6. Delta Power Plant - Peach Bottom 500kV Interconnection	Yes (red components only)	57.578	11.81	32.262	0.69	0.69	1.15		104.18
Transource	63	All	No	1.551	76.266	28.741	1.559	1.559			109.676
Transource	296	All	No	54.03	24.259	2.616	2.616	3.5			87.021
Transource	345	All	No	86.758	4.682	12.854					104.294
NEETMH	587	1. Wiley Rd Substation 500 kV 2. Wiley Rd - Conastone 500 kV OH 5. Conastone 500kV Substation Upgrade 6. Loop in existing Peach Bottom - Delta 500 kV OH	Yes (red components only)	40.788	43.57	6.08	3	3			96.438
ACE	127	4. Upgrade Peach Bottom-Conastone 500 kV line 5. Upgrade Peach Bottom South substation 6. Upgrade Conastone substation 7. Upgrade Peach Bottom-Furnace Run 500 kV line 11. Upgrade Peach Bottom North substation PJM identified Incumbent Upgrade: Replace Furnace Run 500/230 kV Transformers 1 & 2 PJM identified Incumbent Upgrade: Reconductor Furnace Run-Conastone 230 kV 1 & 2	No	36.289	49.598	2.078	23	0.13	50	40	201.095

### Option 1b & 1b/2 Proposals

						Red Text indicates Proposing Entity Injections Black Text indicates Other Entity injections	Injections >6400 MW Negative if <6400 MW	Use for \$/MW Calculation					
#	Developer	Option 1a	Option 1b	Option 2	Option 3	Notes	Cardiff (Sol#2) (1510 MW)	Smithburg (Sol#2) (1148 MW)	Solicitations 3,4&5 (3742 MW)	Unused MW	SAA MW	Groups	
Pairing 1	AE	No Option 1a pairings except for AE(929)	AE (929, 797)			Combine AE Option 1a (#929) and Option 1b (#797) to allow 1148 MW and 1510 MW injections at Cardiff from Transition Vault. 2658 MW Total	2658	Moved	0	-3742	2658	Option 1b Only Group. No Offshore Component	
Pairing 2	JCPL		JCPL (453)			Allows transfer from Larrabee CS to Smithburg 2490MW, to Larrabee1200 MW, to Atlantic1200 MW. 4890 MW Total	1510	2490	2400	0	4890		
Pairing 3	RILPOW		RILPOW (171 & 490)			Combine Base Offer 2 - 2400MW into Deans (#490) and Additional Offer B - 800 MW into Werner (#171). 3200 MW Total	1510	1148	3200	-542	3200		
Pairing 4	LS Power		LS Power (629) LS Power (781) LS Power (627) LS Power (294)			Four Separate LS Power Option 1Bs - 629, and 781. Two options to allow transfer of 6000 MW from Lighthouse. Two options for transfer of 4200 MW from Lighthouse.	1510 1510 1510 1510	Moved Moved 1148 1148	4890 4890 3742 3742	1110 710 458 458	4890 4890 3742 3742		
Pairing 5	JCPL-MAOD		JCPL (453)	MAOD (321)			Combine JCPL 1b (#453) and MAOD option 2 proposal 3 (#321) to inject 2400 MW at Smithburg, 1200 MW at Larrabee, and 1200 MW at Atlantic.	1510	2400	2400	-90	4800	Option 1b/2 and 2 combinations for full solutions
Pairing 6	LS Power		LS Power (627) LS Power (294)	LS Power (594)		No Option 3 pairings	2 Pairings of LS Power Option 1b (#627, #294) and Option 2 (#594) - i.e. #627 & 594, #s 294 & 594, for 4000 MW injections each at Lighthouse.	1510 1510	1148 1148	3742 3742	258 258	3742 3742	
Pairing 7	Anbaric		Anbaric (831, 841, 921, 131) Anbaric (831, 841, 921)				First Anbaric Option 2 combo (#s 831, 841, 921, & 131) for 2800 MW injection at Deans, 1200 MW at Larrabee, 1400 MW at Sewaren. 5400 MW Total. Second Anbaric Option 2 combo ( #s 831, 841, 921) for 2800 MW injection at Deans, and 1200 MW at Larrabee.	1510 1510	1148 1148	4890 3742	510 258	4890 3742	
Pairing 8	APT		APT (210, 172, & 769)				Combine APT First, Second, and Third (#s 210, 172, & 769) for 3600MW injection at Deans.	1510	1148 1200	3600	-142	3600	
Pairing 9	ConEd		ConEd (990) ConEd-Lite (990)				Injection of 2400 MW at Larrabee & Deans, or Deans (x2) Injection of 2400 MW at Larrabee & Smithburg, or Smithburg & Deans	1510 1510	1148 1200	2400 1200	-1342 -2490	2400 2400	
Pairing 10	NEETMH		NEETMH(860) NEETMH(461 & 27)				NEETMH Option 2 (#860) for injection of 4500 MW injection at Deans NEETMH Option 2s (#s 461, and 27) for 3000 MW at Deans, and 1500 MW at Oceanview	1510 1510	1148 1148	3742 3742	758 758	3742 3742	
Pairing 11	PSEG-Orsted		PSEG-Orsted (683) PSEG-Orsted (871)				2 Separate PSEG-Orsted scenarios. (#683) Provides 1400 MW injections each at Sewaren, Deans and Larrabee for 4200 MW total. (#871) 1400 MW injections each at Sewaren and Deans for 2800 MW total	1510 1510	1148 1148	3742 2800	458 -942	3742 2800	

## Appendix B – Cost Review by Proposal

### A. Transource

#### North Delta Option A (#63)

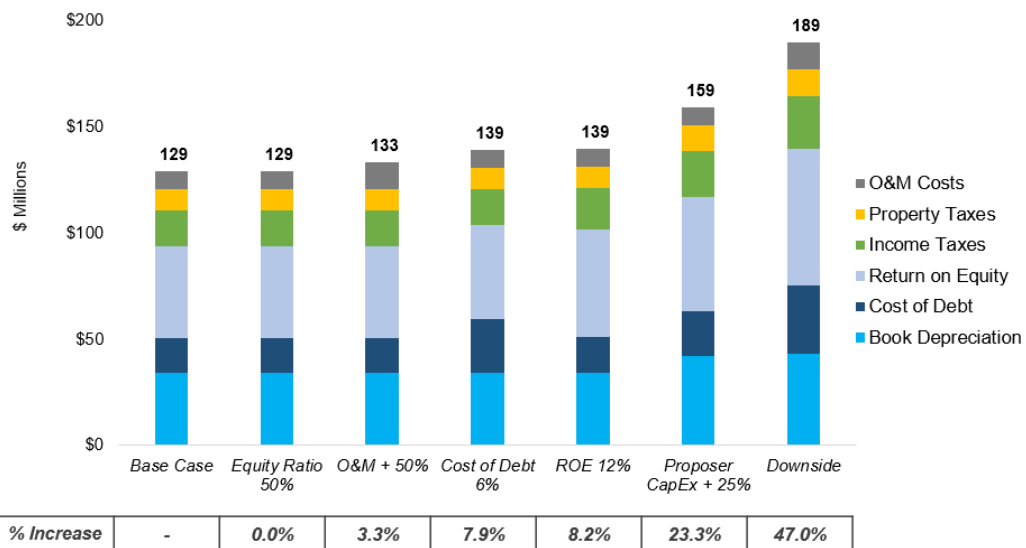
**Option 1A:** Transource propose to build a new station, "North Delta"; bring two existing lines, Peach Bottom – Delta Power Plant 500 kV and Cooper - Graceton 230 kV, "in and out" of North Delta. The proposal also includes a new North Delta – Graceton 230 kV line.

Proposal Details	
Proposing Entity	Transource (TRNSC) Joint Venture between AEP & Evergy
Proposer Total CapEx (2021\$)	\$76 M
Work by Others (2021\$)	\$33 M
Useful Life	40 Yrs
In-Service Date (Shifted)	10/1/2025
Capital Structure	
ROE% (Inclusive of Adders)	10.4%
Cost of Debt%	3.96%
Equity%	50%
Notable Issues	
Proposer provided a blended state income tax rate of 9.12%, which is a 50-50 split between MD (8.25%) and PA (9.99%).	

#### Cost Containment Mechanisms

- Transource does not offer any cost caps on this proposal

TRNSC - 63 NPVRR Breakdown (\$M)



## North Delta Option B (#296)

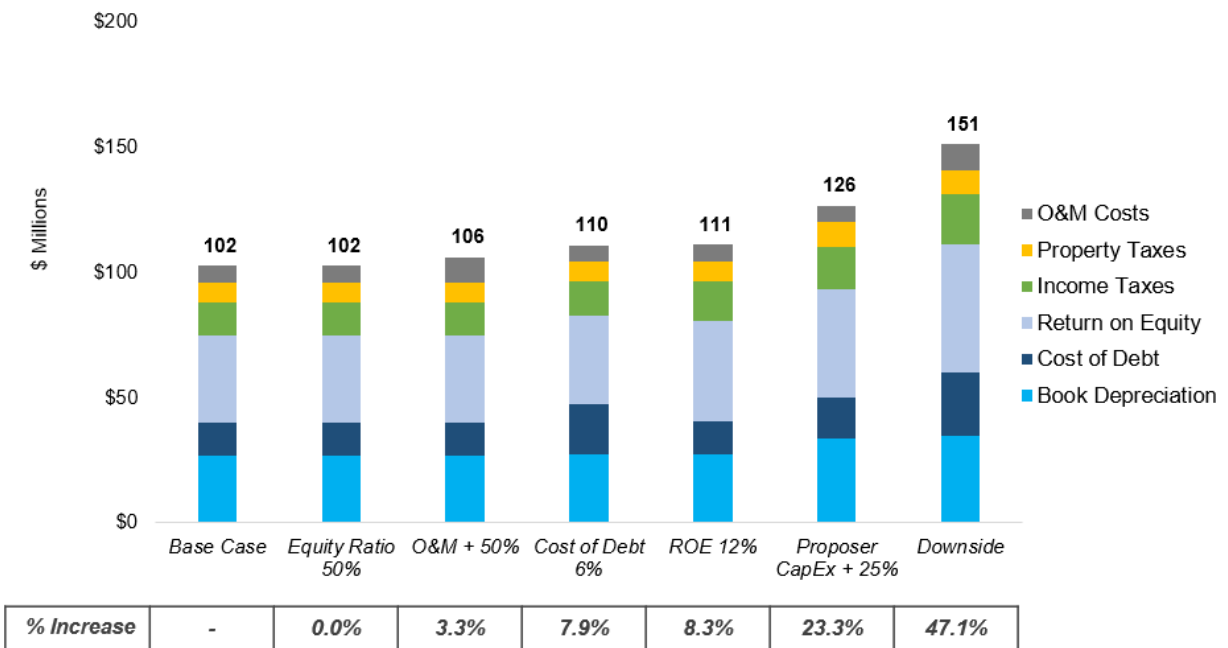
**Option 1A:** Transource propose to build a new station, “North Delta”; bring two existing lines, Peach Bottom – Delta Power Plant 500 kV and Cooper - Graceton 230 kV, “in and out” of North Delta. The proposal also includes a new series reactor on the rebuilt North Delta – Graceton line and plans to increase winter ratings of the existing Peach Bottom – Conastone 500 kV line.

Proposal Details	
Proposing Entity	Transource (TRNSC) Joint Venture between AEP & Evergy
Proposer Total CapEx (2021\$)	\$58 M
Work by Others (2021\$)	\$29 M
Useful Life	40 Yrs
In-Service Date (Shifted)	10/1/2025
Capital Structure	
ROE% (Inclusive of Adders)	10.4%
Cost of Debt%	3.96%
Equity%	50%
Notable Issues	
Proposer provided a blended state income tax rate of 9.12%, which is a 50-50 split between MD (8.25%) and PA (9.99%).	

### Cost Containment Mechanisms

- Transource does not offer any cost caps on this proposal

### TRNSC - 296 NPVRR Breakdown (\$M)



## Peach Bottom – Conastone (#345)

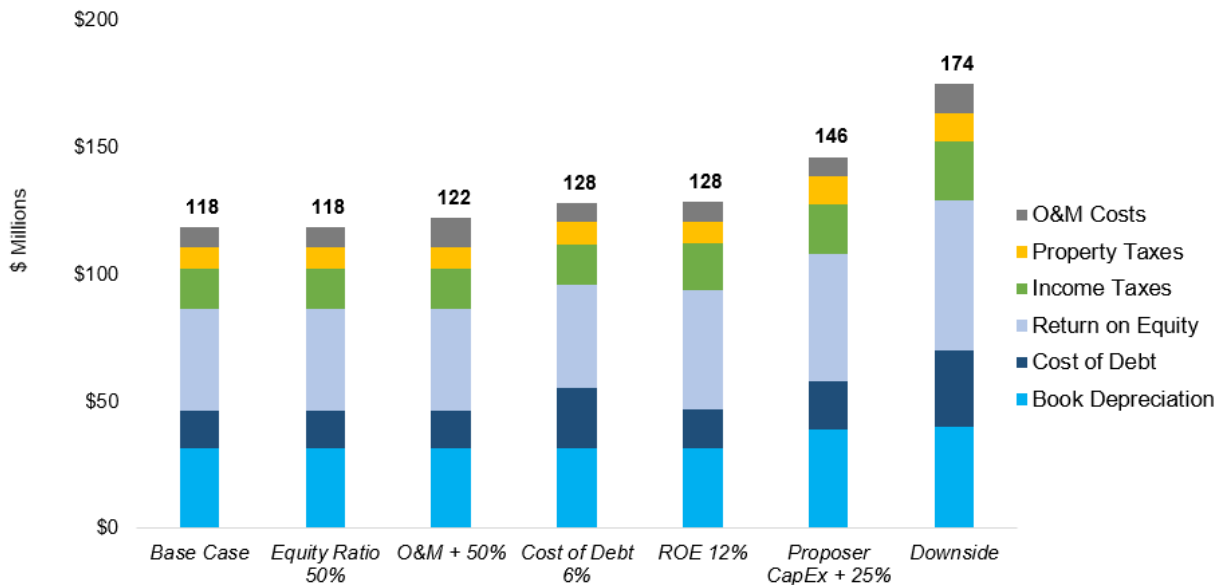
**Option 1A:** Transource propose to build a new 17.23 mile 500 kV line from Peach Bottom station (PECO) to Conastone station (BG&E). Major equipment upgrades include the installation of 2 breakers at Peach Bottom 500 kV and 1 breaker at Conastone 500 kV to terminate the proposed line.

Proposal Details	
Proposing Entity	Transource (TRNSC) Joint Venture between AEP & Evergy
Proposer Total CapEx (2021\$)	\$87 M
Work by Others (2021\$)	\$17 M
Useful Life	40 Yrs
In-Service Date (Shifted)	6/1/2026
Capital Structure	
ROE% (Inclusive of Adders)	10.4%
Cost of Debt%	3.96%
Equity%	50%
Notable Issues	
Proposer provided a blended state income tax rate of 9.12%, which is a 50-50 split between MD (8.25%) and PA (9.99%).	

### Cost Containment Mechanisms

- Transource does not offer any cost caps on this proposal

### TRNSC - 345 NPVRR Breakdown (\$M)



% Increase	-	0.0%	3.2%	8.1%	8.4%	23.4%	47.6%
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## B. NEETMH

### Platform Connections - (#359)

**Option 3:** NEETMH proposes an offshore platform interconnection in which each of the four components is a 230 kV AC connection between two platforms (connecting a total of six platforms).

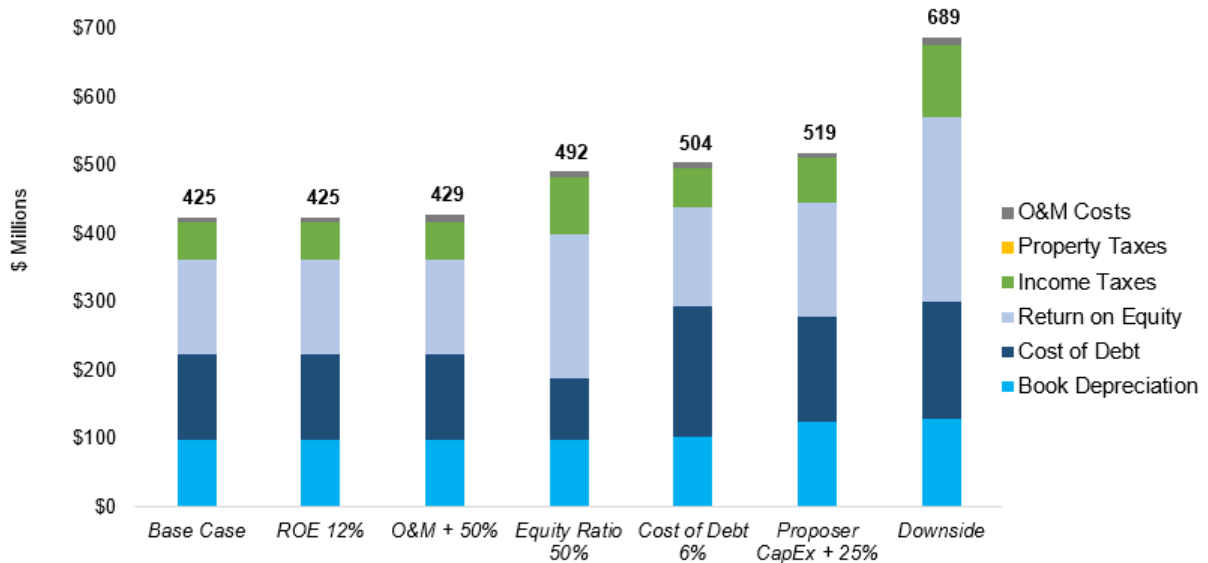
Proposal Details	
Proposing Entity	NextEra Energy Transmission MidAtlantic Holdings, LLC (NEETMH)
Proposer Total CapEx (2021\$)	\$739 M
Work by Others (2021\$)	-
Useful Life	70 Yrs
In-Service Date (Shifted)	9/1/2030
Capital Structure	
ROE% (Inclusive of Adders)	9.8%
Cost of Debt%	3.75%
Equity%	0% (construction) 30% (operation)
Notable Issues	

### Cost Containment Mechanisms

- Cost Cap (soft)**
  - NEETMH offers project cost caps for all proposals; the cap is identical to the original/bid proposer total cost.
- ROE Cap**
  - Capped at 9.8% for the life of the project;
    - If actual project cost falls between 100%-125% of bid project cost, ROE is set to 7.84% for the cost overrun up to 125%;
    - If actual project cost falls beyond 125% of bid project cost, ROE is set to 5% for the overrun above 125%;
    - 7.84% is the overall ROE floor.
- Equity % Cap**
  - Equity target is 30% (not a hard cap);
    - If actual equity % is higher than 30%, ROE of 7.84% will be used for the excess equity return
- Debt Expense Cap**
  - NEETMH will share in debt costs in excess of 3.75% by refunding 20% of annual debt expense in excess of 3.75%
    - AFUDC was not included in the cost cap but has been cost contained by accruing 100% debt at a 3.75% debt rate
- O&M Cap**
  - O&M costs are capped for the first 15 years of the project life (A&G not capped).

4 Private and Confidential

### NEETMH-359 NPVRR Breakdown (\$M)



% Increase	-	0.0%	1.0%	15.9%	18.8%	22.2%	62.2%
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## Deans 3,000 MW DC Injection & Oceanview 1,500 MW DC Injection (#461 & 27)

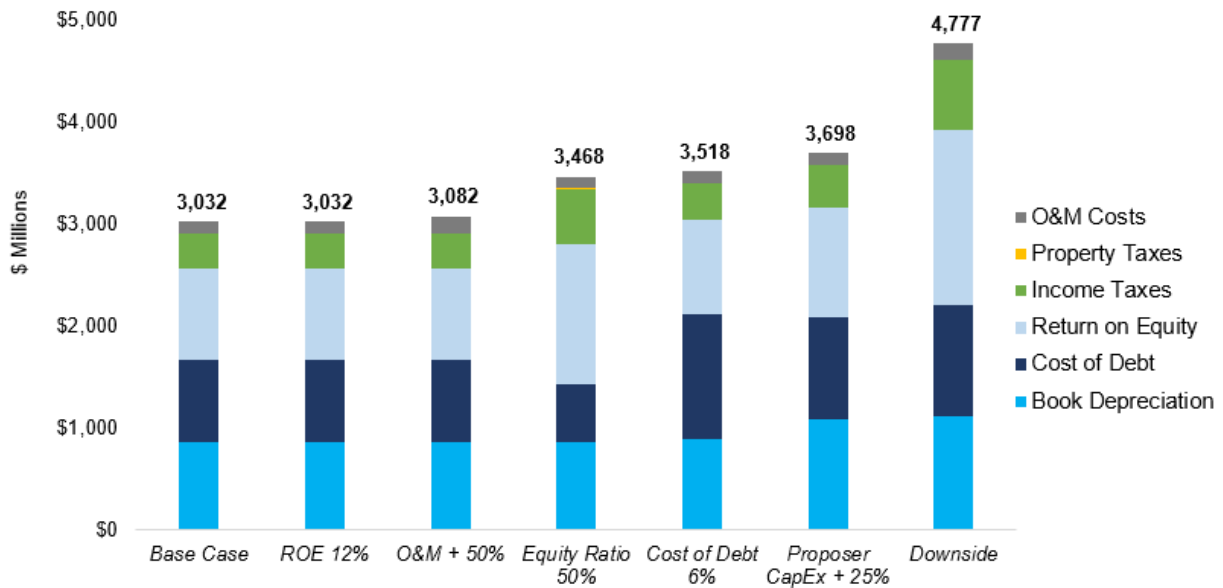
**Option 1B/2:** Combine two NEETMH Option 2 proposals (#461, and 27) for a total of 4500MW OSW injection - 3000 MW at Deans substation and 1500 MW at Oceanview substation.

Proposal Details	
Proposing Entity	NextEra Energy Transmission MidAtlantic Holdings, LLC (NEETMH)
Proposer Total CapEx (2021\$)	\$4.81 B
Work by Others (2021\$)	\$17 M
Useful Life	50 Yrs
In-Service Date (Shifted)	2/1/2029 (Oceanview 1500) 9/1/2029 (Deans 3000)
Capital Structure	
ROE% (Inclusive of Adders)	9.8%
Cost of Debt%	3.75%
Equity%	0% (construction) 30% (operation)
Notable Issues	
A 5% reduction on project cost has been applied to all option 2 proposals when paired together (based on NEETMH's estimates). \$4.81B is the post-reduction total. Similarly, NEETMH provided reduced O&M projections for both pairings.	

### Cost Containment Mechanisms

- Cost Cap**
  - NEETMH offers project cost caps for all proposals; the cap is identical to the original/bid proposer total cost.
- ROE Cap**
  - Capped at 9.8% for the life of the project;
    - If actual project cost falls between 100%-125% of bid project cost, ROE is set to 7.84% for the cost overrun up to 125%;
    - If actual project cost falls beyond 125% of bid project cost, ROE is set to 5% for the overrun above 125%;
    - 7.84% is the overall ROE floor.
- Equity % Cap**
  - Equity target is 30% (not a hard cap);
    - If actual equity % is higher than 30%, ROE of 7.84% will be used for the excess equity return
- Debt Expense Cap**
  - NEETMH will share in debt costs in excess of 3.75% by refunding 20% of annual debt expense in excess of 3.75%
    - AFUDC was not included in the cost cap but has been cost contained by accruing 100% debt at a 3.75% debt rate
- O&M Cap**
  - O&M costs are capped for the first 15 years of the project life (A&G not capped).

### NEETMH-461 & 27 NPVRR Breakdown (\$M)



% Increase	-	0.0%	1.7%	14.4%	16.0%	22.0%	57.6%
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### 1A-Wiley 3 (#587)

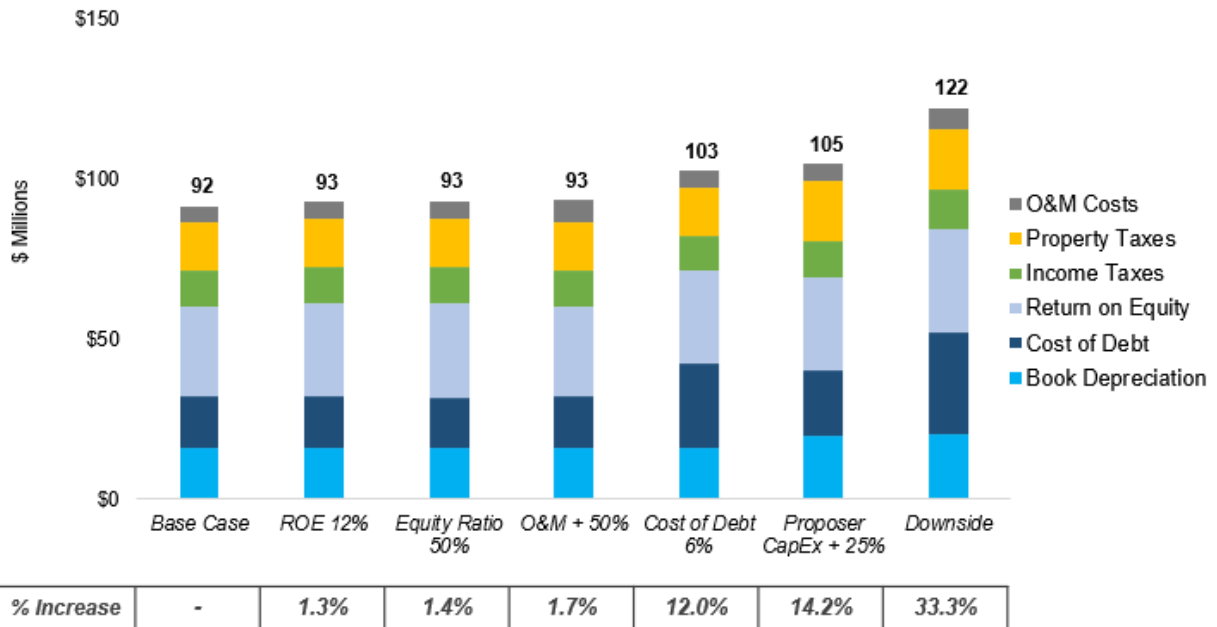
**Option 1A:** NEETMH proposes creating a Wiley Rd Substation (500kV) and Wiley Rd – Conastone 500 kV line, as well as a Conastone substation upgrade and looping in the existing Peach Bottom – Delta line.

Proposal Details	
Proposing Entity	NextEra Energy Transmission MidAtlantic Holdings, LLC (NEETMH)
Proposer Total CapEx (2021\$)	\$84 M
Work by Others (2021\$)	\$12 M
Useful Life	67 Yrs
In-Service Date (Shifted)	1/1/2027
Capital Structure	
ROE% (Inclusive of Adders)	9.8%
Cost of Debt%	3.75%
Equity%	0% (construction) 40% (operation)
Notable Issues	
100% debt during construction only applied to NEETMH's capital, not work by others.	

#### Cost Containment Mechanisms

- **Cost Cap (soft)**
  - NEETMH offers project cost caps for all proposals; the cap is identical to the original/bid proposer total cost.
- **ROE Cap**
  - Capped at 9.8% for the life of the project
- **Equity % Cap**
  - Equity target is 40%
  - Debt to equity ratio is capped for first 15 years
- **O&M Cap**
  - O&M costs are capped for the first 15 years of the project life (A&G not capped).
- **Note – The mechanisms are only applicable to proposer total CapEx**

#### NEETMH-587 NPVRR Breakdown (\$M)



## Deans 4,500 MW DC Injection (#860)

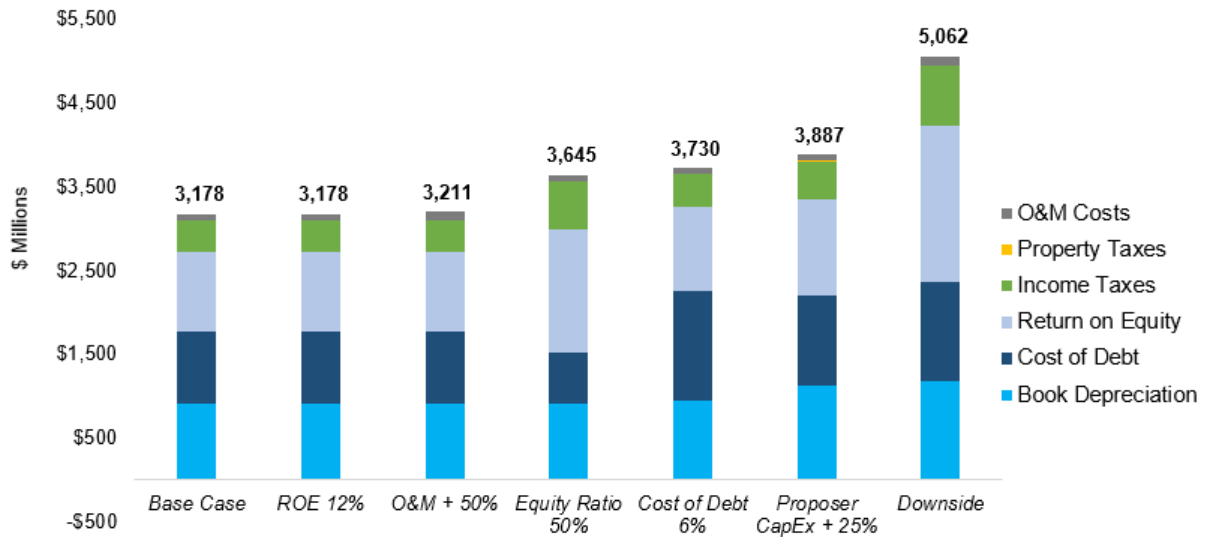
**Option 1B/2:** NEETMH Option 2 proposal #860 plans for a total OSW injection of 4500 MW at Deans substation.

Proposal Details	
Proposing Entity	NextEra Energy Transmission MidAtlantic Holdings, LLC (NEETMH)
Proposer Total CapEx (2021\$)	\$5.26 B
Work by Others (2021\$)	\$12 M
Useful Life	50 Yrs
In-Service Date (Shifted)	3/1/2030 (Deans 4500)
Capital Structure	
ROE% (Inclusive of Adders)	9.8%
Cost of Debt%	3.75%
Equity%	0% (construction) 30% (operation)
Notable Issues	
(1) No project cost or O&M savings were applied since this proposal is not combined with other NEETMH solutions. (2) All NEETMH proposals have very low O&M expense (2-5% of revenue requirement).	

### Cost Containment Mechanisms

- Cost Cap**
  - NEETMH offers project cost caps for all proposals; the cap is identical to the original/bid proposer total cost.
- ROE Cap**
  - Capped at 9.8% for the life of the project;
    - If actual project cost falls between 100%-125% of bid project cost, ROE is set to 7.84% for the cost overrun up to 125%;
    - If actual project cost falls beyond 125% of bid project cost, ROE is set to 5% for the overrun above 125%;
    - 7.84% is the overall ROE floor.
- Equity % Cap**
  - Equity target is 30% (not a hard cap);
    - If actual equity % is higher than 30%, ROE of 7.84% will be used for the excess equity return
- Debt Expense Cap**
  - NEETMH will share in debt costs in excess of 3.75% by refunding 20% of annual debt expense in excess of 3.75%
    - AFUDC was not included in the cost cap but has been cost contained by accruing 100% debt at a 3.75% debt rate
- O&M Cap**
  - O&M costs are capped for the first 15 years of the project life (A&G not capped).

### NEETMH-860 NPVRR Breakdown (\$M)



% Increase	-	0.0%	1.1%	14.7%	17.4%	22.3%	59.3%
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### C. LS Power

#### Broad Creek – Robinson Run (#203)

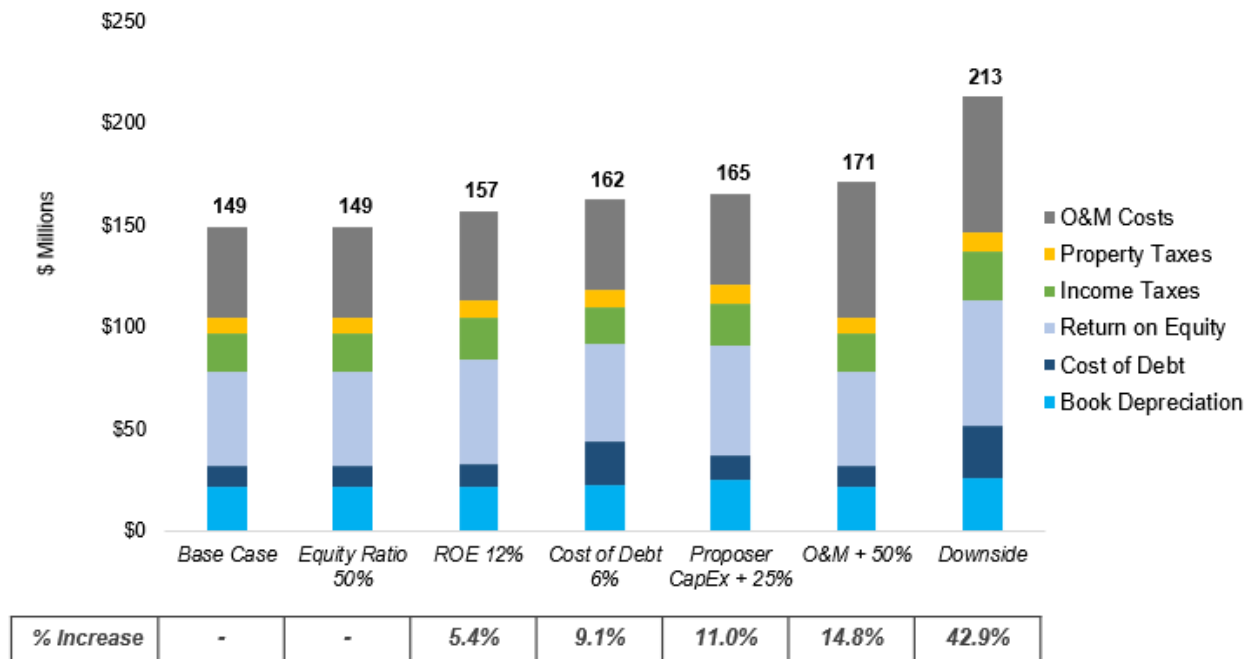
**Option 1A:** LS Power's 203 proposal establishes a 500/230 kV substation, a 500 KV substation, and a new 500 kV transmission line. A 500 kV line will be built in the existing corridor that contains Graceton - Cooper line and Conastone - Peach Bottom line.

Proposal Details	
Proposing Entity	LS Power
Proposer Total CapEx (2021\$)	\$102 M
Work by Others (2021\$)	\$2.5 M
Useful Life	55 Yrs
In-Service Date (Shifted)	5/1/2028
Capital Structure	
ROE% (Inclusive of Adders)	10.85%
Cost of Debt%	2.99%
Equity%	54.75%
Notable Issues	
LS Power's provided RR buildup, including O&M/A&G projections, Property Tax, and Working Capital, end after 51 years instead of the 55 years stated	

#### Cost Containment Mechanisms

- Cost Cap (Hard)**
  - Binding cost cap of **\$130.8M (nominal \$145.4M)** inclusive of all development and construction costs, which covers AFUDC, inflation rates etc.
- Note – The mechanisms are only applicable to proposer total CapEx**

#### CNTLTM - 203 NPVRR Breakdown (\$M)



## Clean Energy Gateway – Solution A Light (#294)

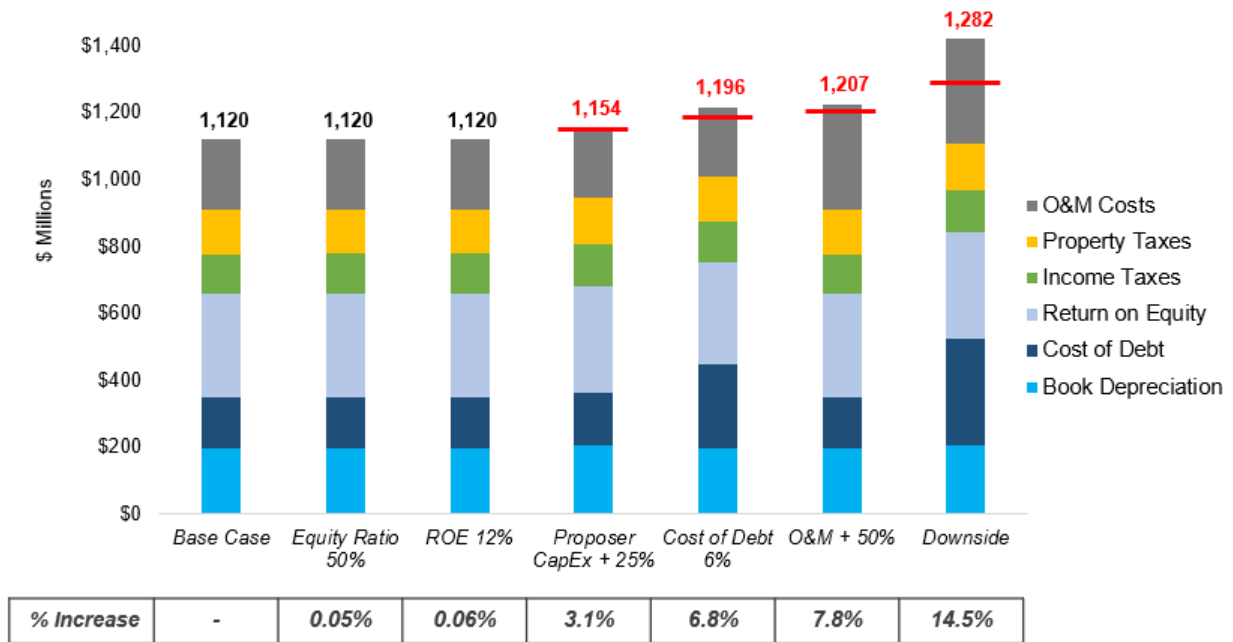
**Option 1B:** LS Power's Clean Energy Gateway Solution A Light accommodates 4200 MW initial injection, which is lower compared to Solution A #781. The proposal has three phases instead of four.

Proposal Details	
Proposing Entity	LS Power
Proposer Total CapEx (2021\$)	\$1.54 B
Work by Others (2021\$)	\$2.7 M
Useful Life	68 Yrs
In-Service Date (Shifted)	9/1/2030 (phase 1); 9/1/2031 (phase 2); 9/1/2033 (phases 3)
Capital Structure	
ROE% (Inclusive of Adders)	8.95% (apply to initial investments)
Cost of Debt%	3.0%
Equity%	40% (apply to initial investments)
Notable Issues	
LS Power's provided RR buildup, including O&M/A&G projections, Property Tax, and Working Capital, end after 50 years instead of the 68 years stated.	

### Cost Containment Mechanisms

- **Cost Cap (Hard)**
  - Binding cost cap of **\$1.5B (nominal)** inclusive of all development and construction costs, which covers AFUDC, inflation rates etc.
- **ROE Cap**
  - 8.95% capped for initial investments (exclude ongoing capex); also applies to the determination of AFUDC.
- **Equity % Cap**
  - 40% capped for initial investments (exclude ongoing capex).
- **ATRR Cap**
  - Annual RR capped from 2033 to 2042 (first ten full in-service years); RR cap is ~7% higher than LS Power's projected RR.
  - ATRR cap excludes property tax
  - ATRR cap can "roll forward"

### LSPower-294 NPVRR Breakdown (\$M)



## Clean Energy Gateway – Offshore (#594)

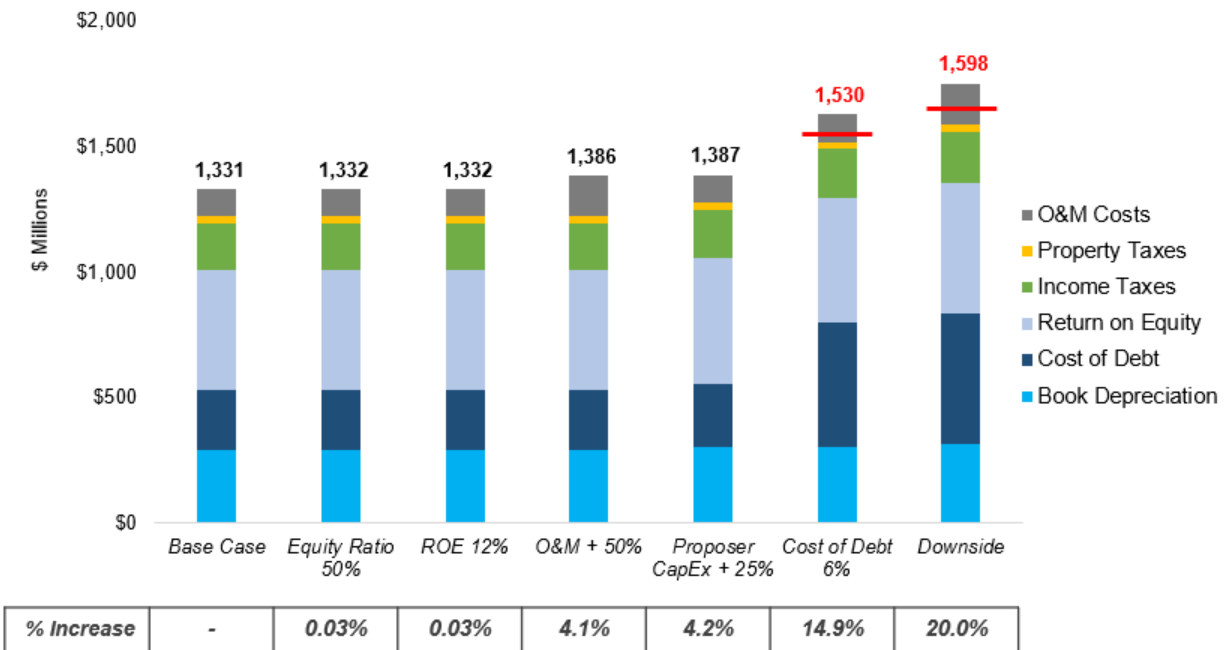
**Option 2:** LS Power is proposing a **base project** that is capable of interconnecting **4000 MW of OSW** at two offshore substations to Lighthouse (LS option 1B). The Project provides an offshore 345 kV AC network capable of delivering up to 6000 MW of OSW (depending on whether the BPU elects an expansion option).

Proposal Details	
Proposing Entity	LS Power
Proposer Total CapEx (2021\$)	\$1.97 B (project cost only covers the base 4000MW solution)
Work by Others (2021\$)	-
Useful Life	68 Yrs
In-Service Date (Shifted)	9/1/2030 (phase 1); 9/1/2031 (phase 2)
Capital Structure	
ROE% (Inclusive of Adders)	8.95% (apply to initial investments)
Cost of Debt%	3.0%
Equity%	40% (apply to initial investments)
Notable Issues	
LS Power's provided RR buildup, including O&M/A&G projections, Property Tax, and Working Capital, end after 50 years instead of the 68 years stated	

### Cost Containment Mechanisms

- Cost Cap (Hard)**
  - Binding cost cap of **\$2.2B (nominal \$2.6B)** inclusive of all development and construction costs, which covers AFUDC, inflation rates etc. The cap is effectively ~5% above proposed cost.
- ROE Cap**
  - Capped at 8.95% for initial investments (exclude ongoing capex); also applies to the determination of AFUDC.
- Equity % Cap**
  - Capped at 40% for initial investments (exclude ongoing capex).
- ATRR Cap**
  - Annual RR capped from 2031 to 2040 (first ten full in-service years); RR cap is ~7% higher than LS Power's projected RR.
  - ATRR cap excludes property tax
  - ATRR cap can "roll forward"

### LSPower-594 NPVRR Breakdown (\$M)



## Clean Energy Gateway Solution B – Light (#627)

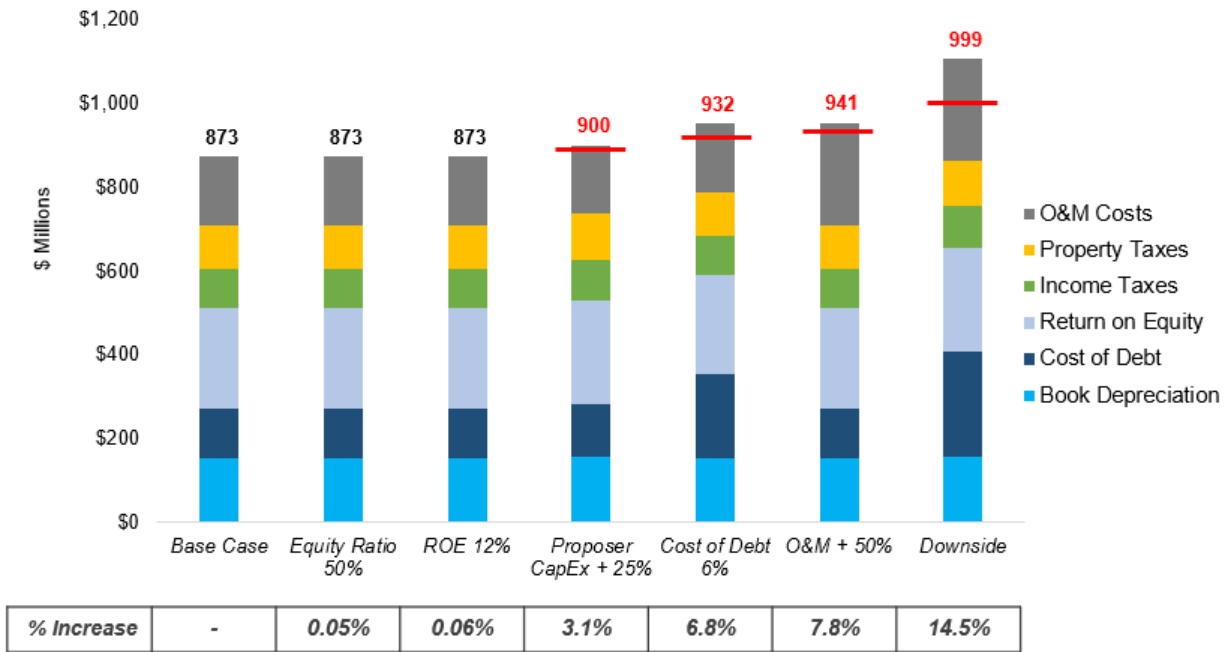
**Option 1B:** LS Power’s Clean Energy Gateway Solution B **Light** accommodates 4200 MW initial injection, which is lower compared to Solution B #629. The proposal has three phases instead of four.

Proposal Details	
Proposing Entity	LS Power
Proposer Total CapEx (2021\$)	\$1.20 B
Work by Others (2021\$)	\$189 M
Useful Life	65 Yrs
In-Service Date (Shifted)	9/1/2030 (phase 1); 9/1/2031 (phase 2); 9/1/2033 (phases 3)
Capital Structure	
ROE% (Inclusive of Adders)	8.95% (apply to initial investments)
Cost of Debt%	3.0%
Equity%	40% (apply to initial investments)
Notable Issues	
LS Power’s provided RR buildup, including O&M/A&G projections, Property Tax, and Working Capital, end after 50 years instead of the 65 years stated	

### Cost Containment Mechanisms

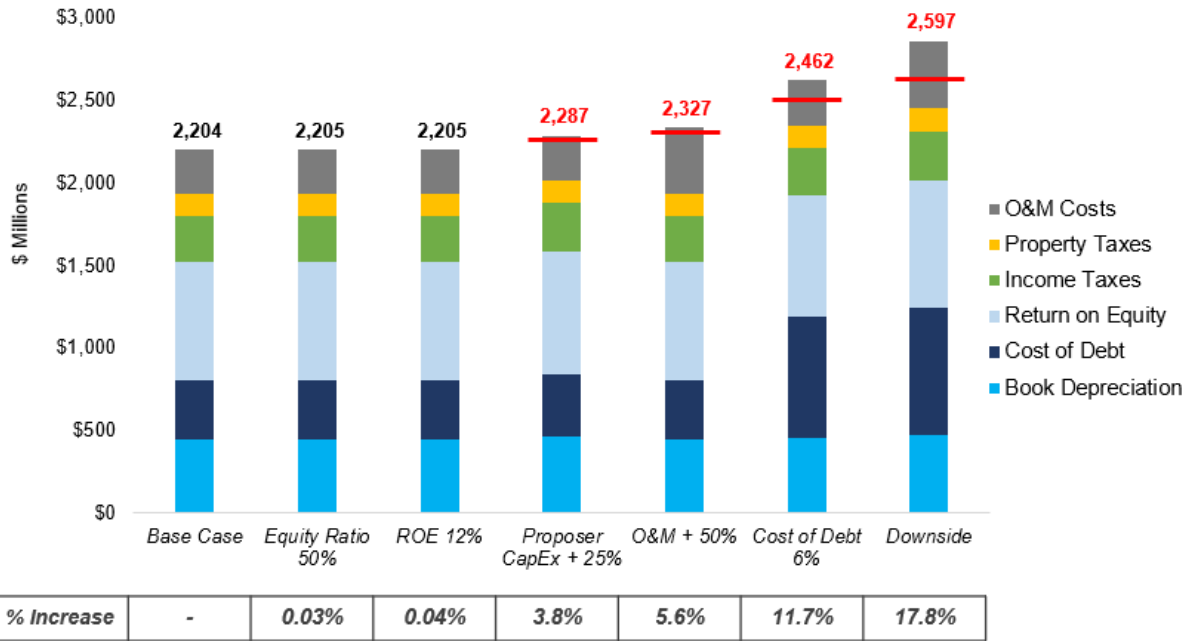
- Cost Cap (Hard)**
  - Binding cost cap of **\$1.5B (nominal)** inclusive of all development and construction costs, which covers AFUDC, inflation rates etc.
- ROE Cap**
  - 8.95% capped for initial investments (exclude ongoing capex); also applies to the determination of AFUDC.
- Equity % Cap**
  - 40% capped for initial investments (exclude ongoing capex).
- ATTR Cap**
  - Annual RR capped from 2033 to 2042 (first ten full in-service years); RR cap is ~7% higher than LS Power’s projected RR.
  - ATTR cap excludes property tax
  - ATTR cap can “roll forward”

### LSPower-627 NPVRR Breakdown (\$M)

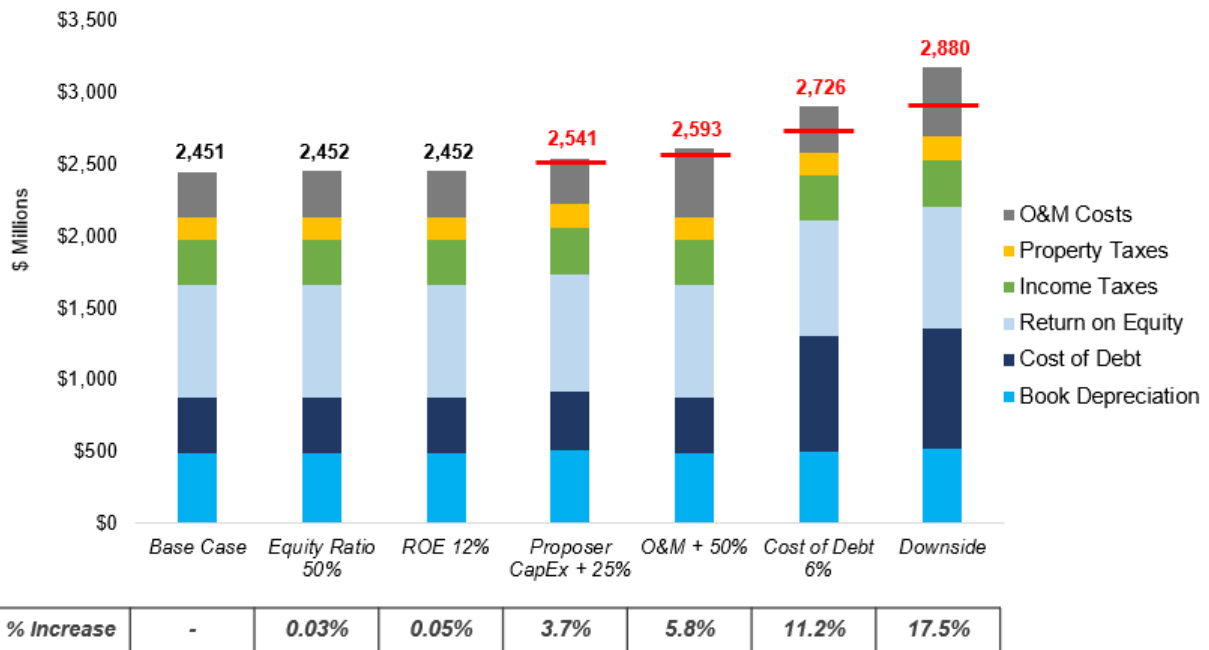




### Clean Energy Gateway – Offshore & Clean Energy Gateway Solution B – Light (#627 & 594)

**LSPower-627 & 594 NPVRR Breakdown (\$M)**


### Clean Energy Gateway – Solution A Light & Clean Energy Gateway – Offshore (#294 & 594)

**LSPower-294 & 594 NPVRR Breakdown (\$M)**


## Clean Energy Gateway – Solution B (#629)

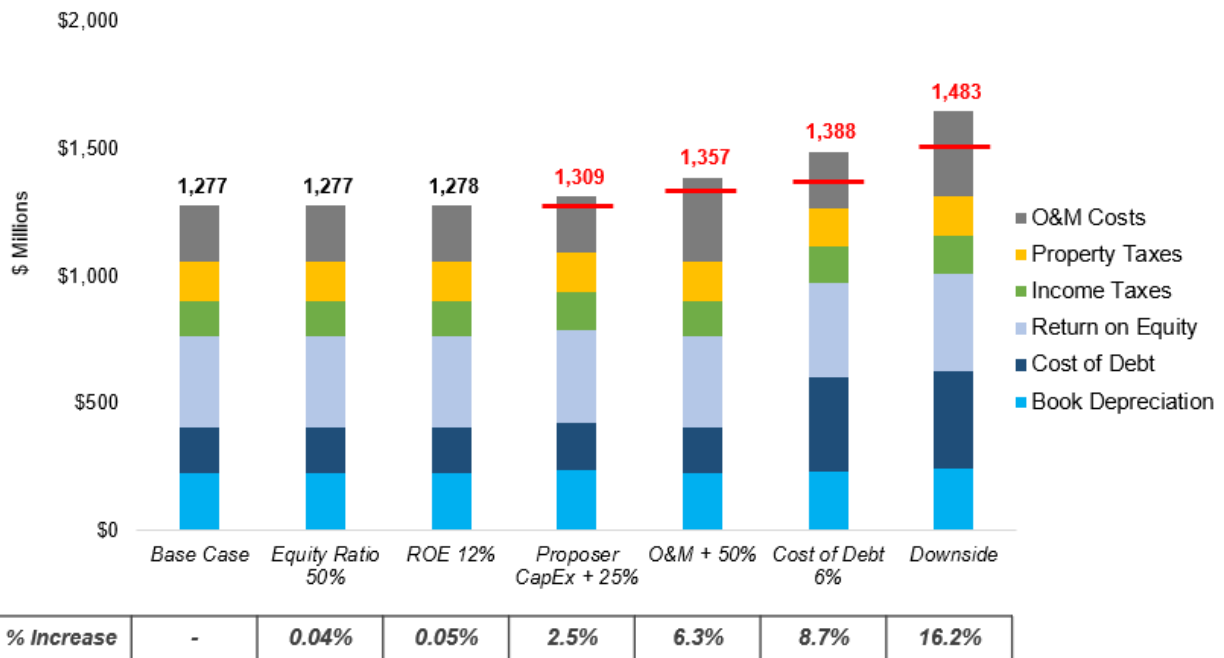
**Option 1B:** LS Power's Clean Energy Gateway **Solution B** will allow 5600MW injection at a new substation (Lighthouse) near shore. The OSW energy will be delivered through new underground transmission further inland to a new substation (Crossroads) located close to the existing Larrabee 230 kV substation. This proposal will replace existing 230 kV lines with new 500 kV lines.

Proposal Details	
Proposing Entity	LS Power
Proposer Total CapEx (2021\$)	\$1.39 B
Work by Others (2021\$)	\$178 M
Useful Life	65 Yrs
In-Service Date (Shifted)	12/1/2028 (phase 1); 6/1/2029 (phase 2); 9/1/2031 (phases 3&4)
Capital Structure	
ROE% (Inclusive of Adders)	8.95% (apply to initial investments)
Cost of Debt%	3.0%
Equity%	40% (apply to initial investments)
Notable Issues	
LS Power's provided RR buildup, including O&M/A&G projections, Property Tax, and Working Capital, end after 50 years instead of the 65 years stated	

### Cost Containment Mechanisms

- **Cost Cap (Hard)**
  - Binding cost cap of **\$1.5B (nominal \$1.7B)** inclusive of all development and construction costs, which covers AFUDC, inflation rates etc.
- **ROE Cap**
  - 8.95% capped for initial investments (exclude ongoing capex); also applies to the determination of AFUDC.
- **Equity % Cap**
  - 40% capped for initial investments (exclude ongoing capex).
- **ATRR Cap**
  - Annual RR capped from 2031 to 2040 (first ten full in-service years); RR cap is ~7% higher than LS Power's projected RR.
  - ATRR cap excludes property tax
  - ATRR cap can "roll forward"

### LSPower-629 NPVRR Breakdown (\$M)



## Clean Energy Gateway – Solution A (#781)

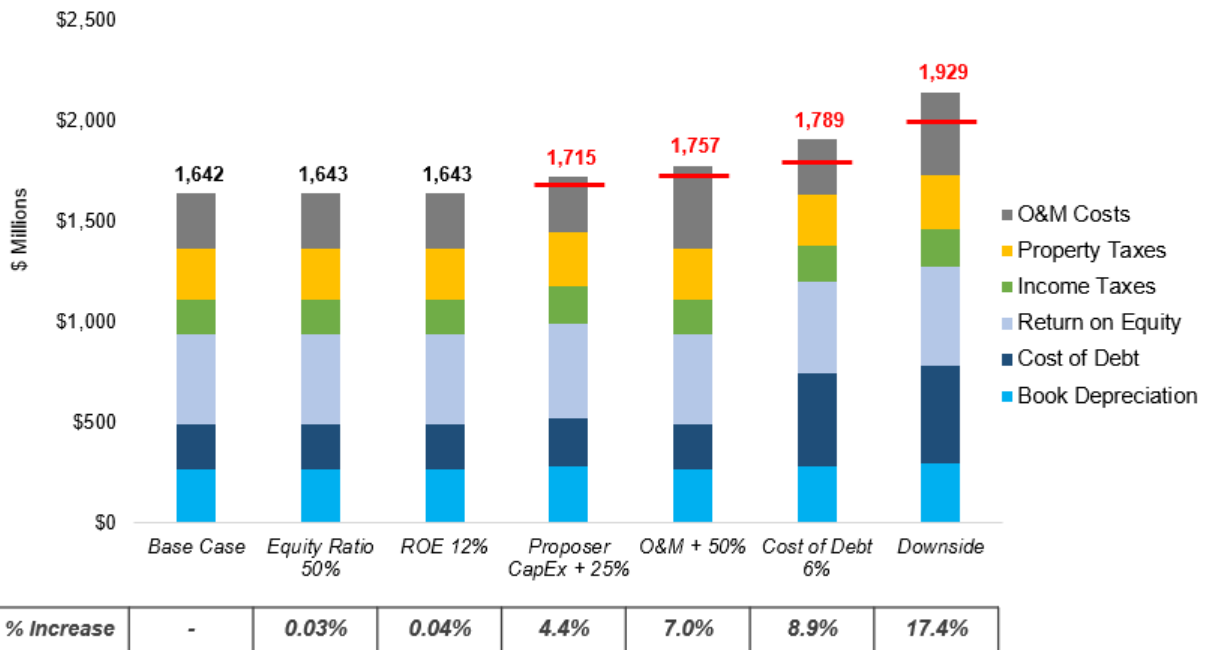
**Option 1B:** LS Power’s Clean Energy Gateway **Solution A** will deliver up to 6000MW OSW. Unlike Solution B, this proposal will place all new transmission underground with no need to rebuild existing infrastructure.

Proposal Details	
Proposing Entity	LS Power
Proposer Total CapEx (2021\$)	\$1.76 B
Work by Others (2021\$)	\$10 M
Useful Life	68 Yrs
In-Service Date (Shifted)	12/1/2028 (phase 1); 6/1/2029 (phase 2); 9/1/2031 (phases 3&4)
Capital Structure	
ROE% (Inclusive of Adders)	8.95% (apply to initial investments)
Cost of Debt%	3.0%
Equity%	40% (apply to initial investments)
Notable Issues	
LS Power’s provided RR buildup, including O&M/A&G projections, Property Tax, and Working Capital, end after 50 years instead of the 68 years stated	

### Cost Containment Mechanisms

- Cost Cap (Hard)**
  - Binding cost cap of **\$2.0B (nominal \$2.3B)** inclusive of all development and construction costs, which covers AFUDC, inflation rates etc. The cap is effectively ~6% above proposed cost.
- ROE Cap**
  - 8.95% capped for initial investments (exclude ongoing capex); also applies to the determination of AFUDC.
- Equity % Cap**
  - 40% capped for initial investments (exclude ongoing capex).
- ATRR Cap**
  - Annual RR capped from 2031 to 2040 (first ten full in-service years); RR cap is ~7% higher than LS Power’s projected RR.
  - ATRR cap excludes property tax
  - ATRR cap can “roll forward”

### LSPower-781 NPVRR Breakdown (\$M)



## D. ACE

### ACE 03 - (#127)

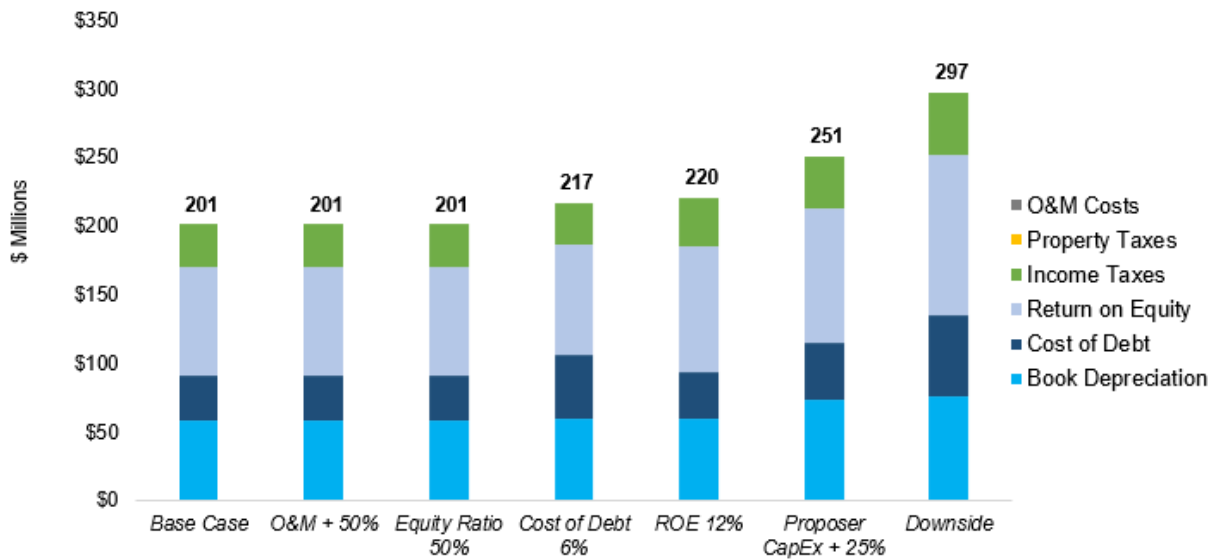
**Option 1A:** Upgrades to Peach Bottom South, Peach Bottom North, and Conastone substations; upgrades to Peach Bottom – Conastone and Peach Bottom – Furnace Run lines.

Proposal Details	
Proposing Entity	Atlantic City Electric Co. (ACE)
Proposer Total CapEx (2021\$)	None, as only Peach Bottom components were modelled, none of which are the proposer's responsibility
Work by Others (2021\$)	\$201 M
Useful Life	40 Yrs
In-Service Date (Shifted)	6/1/2028
Capital Structure	
ROE% (Inclusive of Adders)	10.5%
Cost of Debt%	4.4%
Equity%	50%
Notable Issues	
ACE assumes negligible O&M/A&G and no property tax on new assets for this proposal.	

### Cost Containment Mechanisms

- ACE does not offer any cost caps on this proposal

### ACE03-127 NPVRR Breakdown (\$M)



% Increase	-	-	-	8.1%	9.8%	25.0%	47.8%
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## ACE 04 & ACE 05 (#929 & 797)

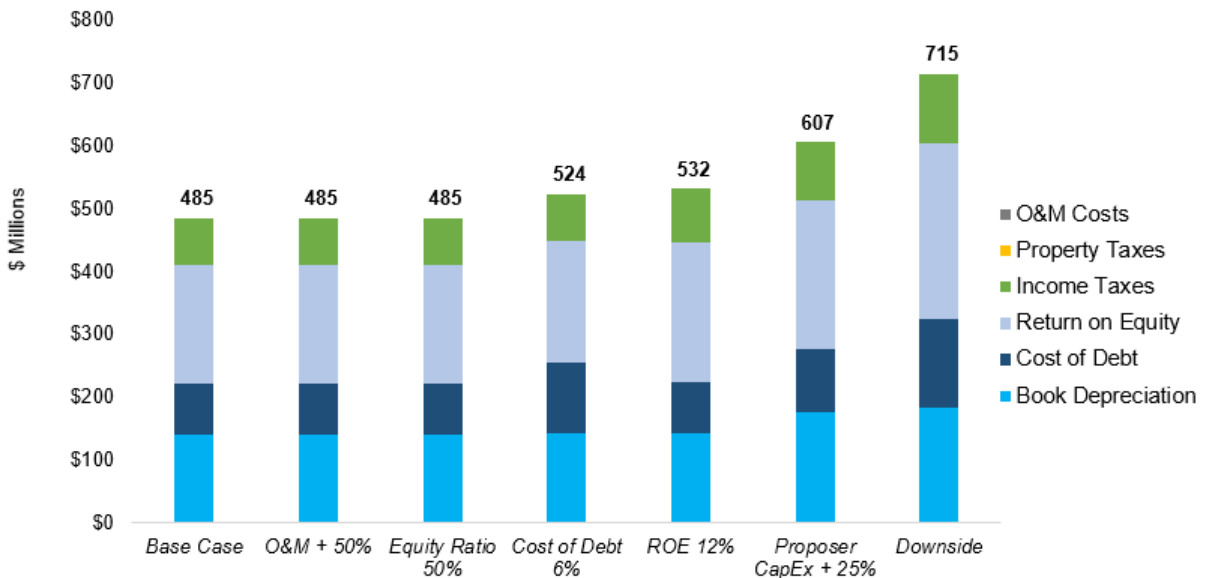
**Option 1B:** Combine ACE 04 (#929) and ACE 05 (#797) to allow 1148 MW and 1510 MW injections at Cardiff from Transition Vault (2658 MW Total). ACE 05 offers the ability to bring 1200MW of OSW from near the shore at Great Egg Harbor to the existing Cardiff substation.

Proposal Details	
Proposing Entity	Atlantic City Electric Co. (ACE)
Proposer Total CapEx (2021\$)	\$268 M (ACE 04) \$242 M (ACE 05)
Work by Others (2021\$)	\$506 M (ACE 04)
Useful Life	40 Yrs
In-Service Date (Shifted)*	11/1/2028 (ACE04); 7/1/2029 (ACE05)
Capital Structure	
ROE% (Inclusive of Adders)	10.5%
Cost of Debt%	4.4%
Equity%	50%
Notable Issues	
ACE assumes negligible O&M/A&G and no property tax on new assets for this proposal. ACE04 has significant amount of "work by others" that are required of both Exelon and non-Exelon incumbent utilities (these costs are not included as part of the ACE proposal).	

### Cost Containment Mechanisms

- ACE does not offer any cost caps

### ACE-929&797 NPVRR Breakdown (\$M)



% Increase	-	0.0%	0.0%	7.9%	9.6%	25.0%	47.3%
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## E. RILPOW

### Outerbridge Renewable Connector Project – Base Offer 2 – 2400 MW Proposal (#490 & 171)

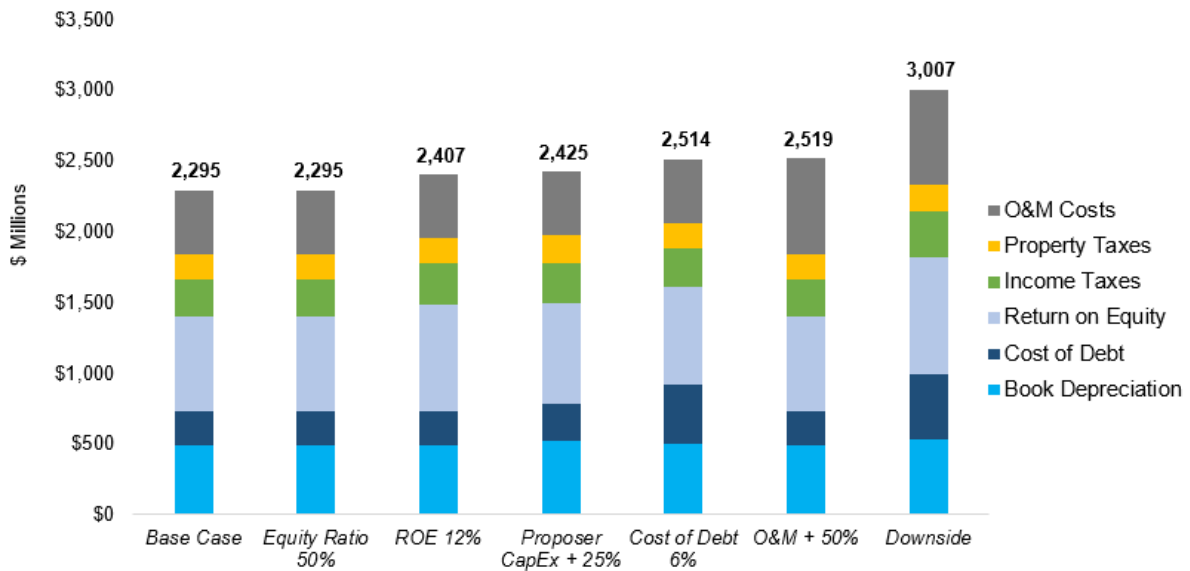
**Option 1B:** Combine Outerbridge Base Offer 2 - 2400MW into Deans (#490) and Additional Offer B - 800 MW into Werner (#171) to allow for a total of 3200 MW offshore injection.

Proposal Details	
Proposing Entity	Rise Light & Power (RILPOW)
Proposer Total CapEx (2021\$)	\$1.73 B (Base Offer 2) \$108 M (Add. Offer B)
Work by Others (2021\$)	-
Useful Life	45 Yrs
In-Service Date (Shifted)	4/1/2028
Capital Structure	
ROE% (Inclusive of Adders)	9.75%
Cost of Debt%	~2.3% (construction) 3.5% (operation)
Equity%	50%
Notable Issues	
Other incumbent utilities are listed under "Construction Responsibility" for Components 9-11, but RILPOW clarified it will assume full responsibility of all construction.	

#### Cost Containment Mechanisms

- Cost Cap (Hard)**
  - Base Offer 2:** \$1.29B cost cap applies to "Materials & Equipment" and "Construction & Commissioning" costs for the Half Acre Site Converter Station and the Werner Converter Station. "Materials & Equipment" costs for cables of the UG Transmission are also capped.
    - Effectively 74% of the proposer cost.
  - Add. Offer B:** \$28M cost cap applies to the "Materials & Equipment" costs for STATCOM and autotransformer at the Werner station.
    - Effectively 26% of the proposer cost.
- ROE Cap**
  - 9.75% for first 6 years of operation; also applies to the determination of AFUDC
- Equity % Cap**
  - 50% for the original life of the project

#### RILPOW-490&171 NPVRR Breakdown (\$M)



% Increase	-	0.0%	4.9%	5.7%	9.6%	9.8%	31.0%
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## F. JCPL

### SAA Proposal to Support NJ OSW: Option 1B (#453)

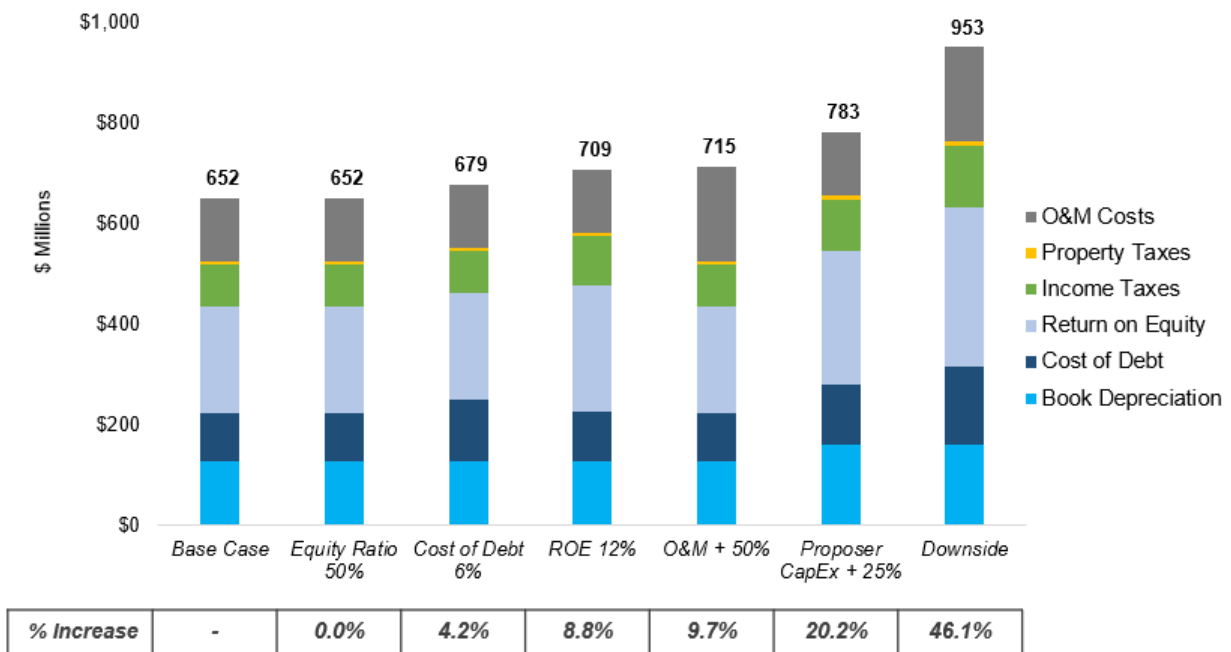
**Option 1B:** The proposal includes multiple upgrades to support injection at the existing JCPL-owned substations - Smithburg 2490MW, Larrabee 1200 MW, and Atlantic 1200 MW. A total of 4890 MW can be injected at the three stations.

Proposal Details	
Proposing Entity	Jersey Central Power & Light Co. (JCPL)
Proposer Total CapEx (2021\$)	\$620 M
Work by Others (2021\$)	-
Useful Life	50 Yrs
In-Service Date (Shifted)*	Project has 8 parts; final in-service date is 4/1/2033
Capital Structure	
ROE% (Inclusive of Adders)	10.2%
Cost of Debt%	4.8%
Equity%	50.8%
Notable Issues	
JCPL provided some CapEx in the year after operation (not ongoing capital) and some O&M/A&G/property tax are given in the year prior to commercial operation.	

### Cost Containment Mechanisms

- JCPL does not offer any cost caps

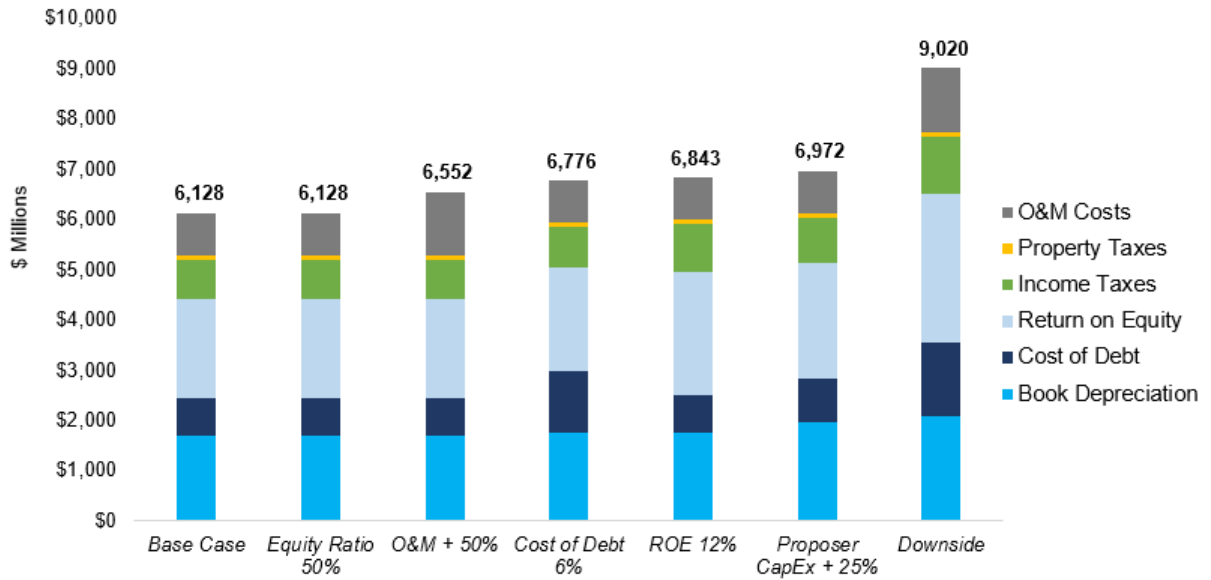
### JCPL-453 NPVRR Breakdown (\$M)





**MAOD Proposal 3 & SAA Proposal to Support NJ OSW: Option 1B (#321 & 453)**

**Combined MAOD-321 & JCPL-453 NPVRR Breakdown (\$M)**



<b>% Increase</b>	-	0.0%	6.9%	10.6%	11.7%	13.8%	47.2%
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## G. MAOD

### MAOD Proposal 3 (#321)

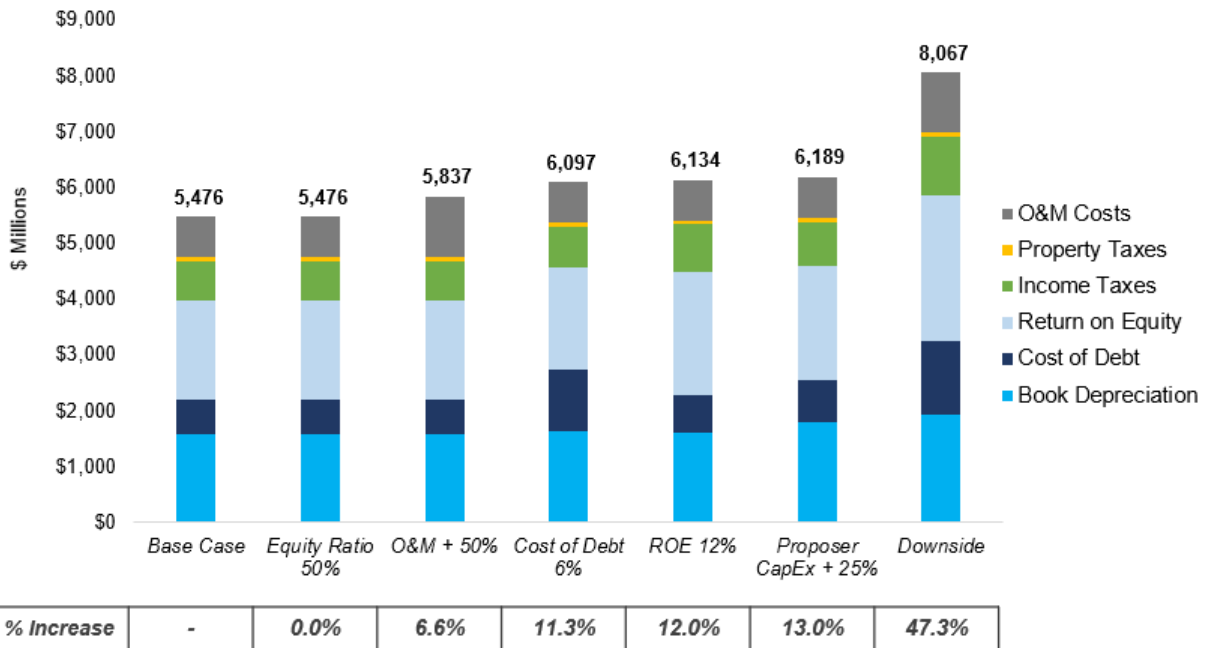
**Option 2:** This proposal offers four 1200 MW HVDC systems for a cumulative 4800 MW injection. It utilizes four connections to JCP&L's electrical grid, including one 230 kV connection to Larrabee, two 500 kV connections to Smithburg and one 230 kV connection to Atlantic substation - structured into 4 phases providing 1200 MW in each phase.

Proposal Details	
Proposing Entity	Mid-Atlantic Offshore Development (MAOD)
Proposer Total CapEx (2021\$)	\$5.62 B
Work by Others (2021\$)	-
Useful Life	40 Yrs (85% of asset) 20 Yrs (15% of asset)
In-Service Date (Shifted)	4/1/2030 (phase 1&2) 6/1/2031 (phase 3) 6/1/2033 (phase 4)
Capital Structure	
ROE% (Inclusive of Adders)	10%
Cost of Debt%	3.6%
Equity%	50%
Notable Issues	
MAOD did not provide any property tax – model assumed 0.20% of its rate base. The \$5.62 billion project cost excludes MAOD's two offshore interlinks (~\$107M)	

### Cost Containment Mechanisms

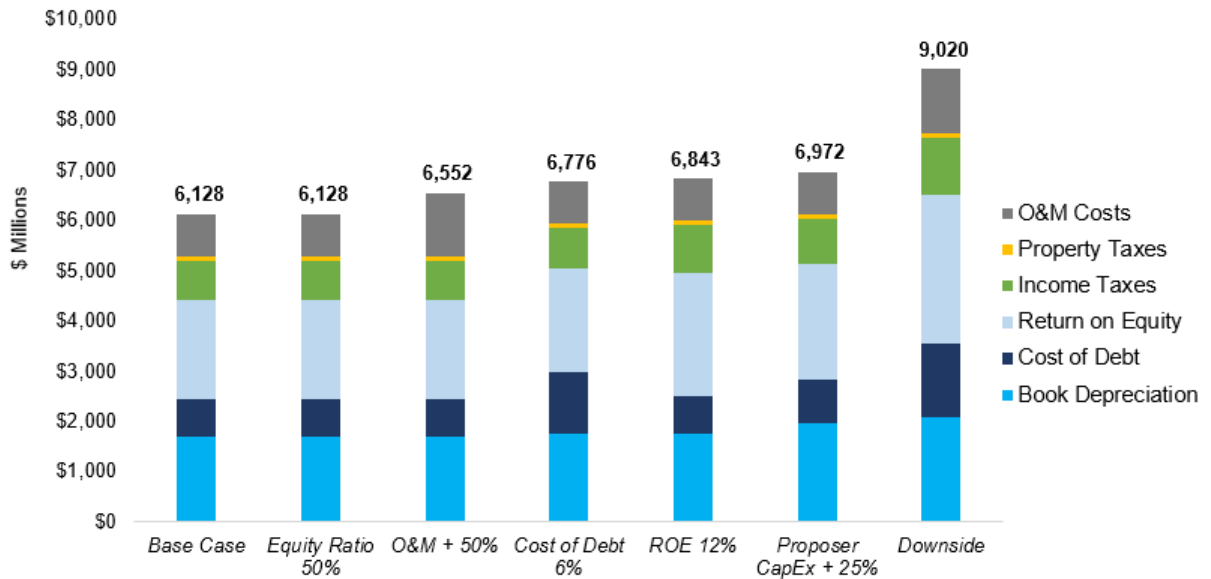
- **Cost Cap (Hard)**
  - MAOD offers a 15% cap on proposer total CapEx (\$6.58 B in 2021 dollars). Any costs overrun above 115% of the project's original/bid cost will not be recovered.
- **Alternative Cost Cap (Multi-tier)**
  - MAOD also suggests a soft and hard cap combined mechanism as an alternative. The tiers below are **subject to revision** based on MAOD's additional analysis and discussions with NJBPU.
    - CapEx overrun 0-5%: cost recovery 100%
    - CapEx overrun 5-10%: cost recovery 30%; MAOD's cost 70%
    - CapEx overrun 10-20%: cost recovery 20%; MAOD's cost 80%
    - CapEx overrun 20%+: MAOD's cost 100%
  - If MAOD commits to the above cost sharing tiers and percentages, then **the alternative mechanism will always be more effective** in capping capex than the original cap.
    - When overrun is less than 5%, effect of both caps are equal

### MAOD-321 NPVRR Breakdown (\$M)



### MAOD Proposal 3 & SAA Proposal to Support NJ OSW: Option 1B (#321 & 453)

#### Combined MAOD-321 & JCPL-453 NPVRR Breakdown (\$M)



<b>% Increase</b>	-	<b>0.0%</b>	<b>6.9%</b>	<b>10.6%</b>	<b>11.7%</b>	<b>13.8%</b>	<b>47.2%</b>
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## H. Anbaric

### Sewaren to Atlantic Shores 3 (SM Cable), Deans to Hudson South 2, Deans to Hudson South 1, & Larrabee to Atlantic Shores 2 (#131, 831, 841, & 921)

**Option 1B/2:** Combine 4 Anbaric Option 2 proposals: #831, 841, 921, and 131 for 2800 MW injection at Deans (from Hudson South 1 & 2), 1200 MW at Larrabee (from Atlantic Shores 2), and 1400 MW at Sewaren (from Atlantic Shores 3) for a total of 5400 MW OSW.

Proposal Details	
Proposing Entity	Anbaric Development Partner
Proposer Total CapEx (2021\$)	\$6.86 B
Work by Others (2021\$)	-
Useful Life	40 Yrs (Initial CapEx) 10 Yrs (Ongoing CapEx)
In-Service Date (Shifted)	4/1/2031 (Larrabee to AS2) 4/1/2032 (Deans to HS1) 4/1/2034 (Sewaren to AS3, Deans to HS2)
Capital Structure	
ROE% (Inclusive of Adders)	8.5%
Cost of Debt%	4.1% (construction) 4.31% (operation)
Equity%	45%
Notable Issues	
\$4-11M of upgrade/extension costs (per proposal) at the existing substations are included as part of Anbaric's cost, though construction responsibility is listed as "external".	

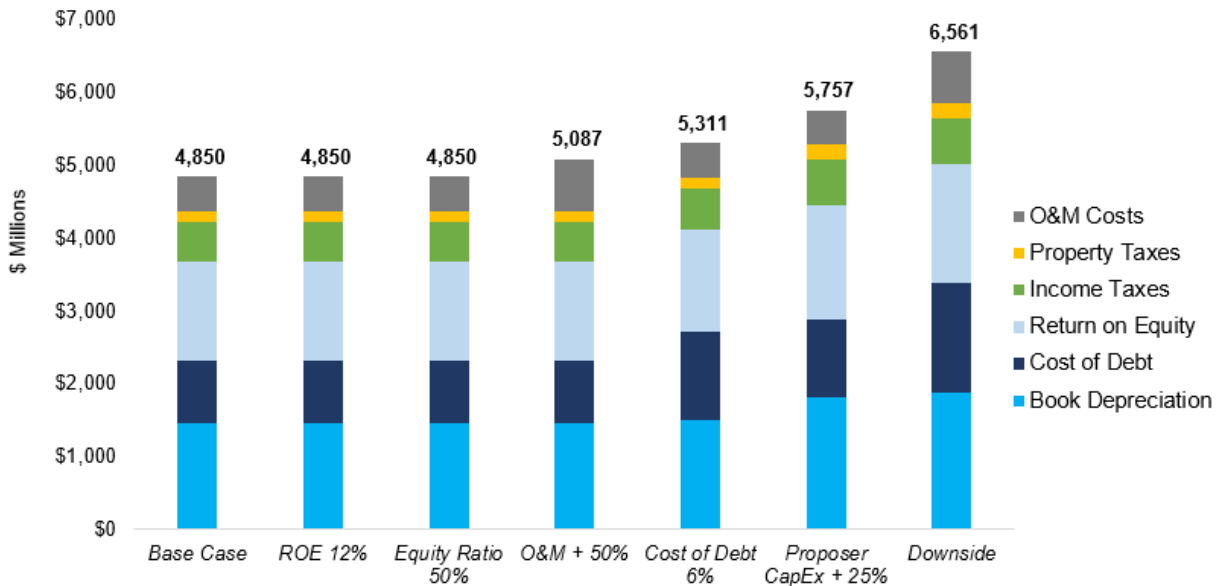
#### Cost Containment Mechanisms

- **Cost Cap**
  - Anbaric offers project cost caps that are 125-130% of the "indexed bid construction cost", which is project cost adjusted based on the Handy-Whitman index.
    - #831, 841 (Deans to HS2, HS1) – 125% cap.
    - #131, 921 (Sewaren to AS3, Larrabee to AS2) – 130% cap.
- **ROE Cap**
  - Capped at 8.5%; also applies to the determination of AFUDC.
  - A reduced ROE of 5.75% on costs that exceed the Indexed Bid Construction Costs, up to the Construction Cost Cap Amount; 0% recovery on costs beyond cost cap.
- **Equity % Cap**
  - Capped at 45%.

#### Cost Savings

- Project cost savings of 8.6% (per proposal) applied to the Deans to HS1 and 2 solutions (#831, 841). If a full "Boardwalk Power" pathway is awarded, 10% overall cost reduction can be achieved.
- O&M reduction of 30% applied to all four proposals in this pairing.

### Anbaric-131, 831, 841 & 921 NPVRR Breakdown (\$M)



<b>% Increase</b>	-	0.0%	0.0%	4.9%	9.5%	18.7%	35.3%
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### Hudson South 1 to Hudson South 2 HVDC Platform Interlink (#428)

Option 3: Proposal #428, 700 MW offshore transmission link between Hudson South 1 and Hudson South 2.

Proposal Details	
Proposing Entity	Anbaric Development Partner
Proposer Total CapEx (2021\$)	\$81.0 M
Work by Others (2021\$)	-
Useful Life	40 Yrs (Initial CapEx) 10 Yrs (Ongoing CapEx)
In-Service Date (Shifted)	4/1/2033
Capital Structure	
ROE% (Inclusive of Adders)	8.5%
Cost of Debt%	4.1% (construction) 4.31% (operation)
Equity%	45%
Notable Issues	
No notable issues.	

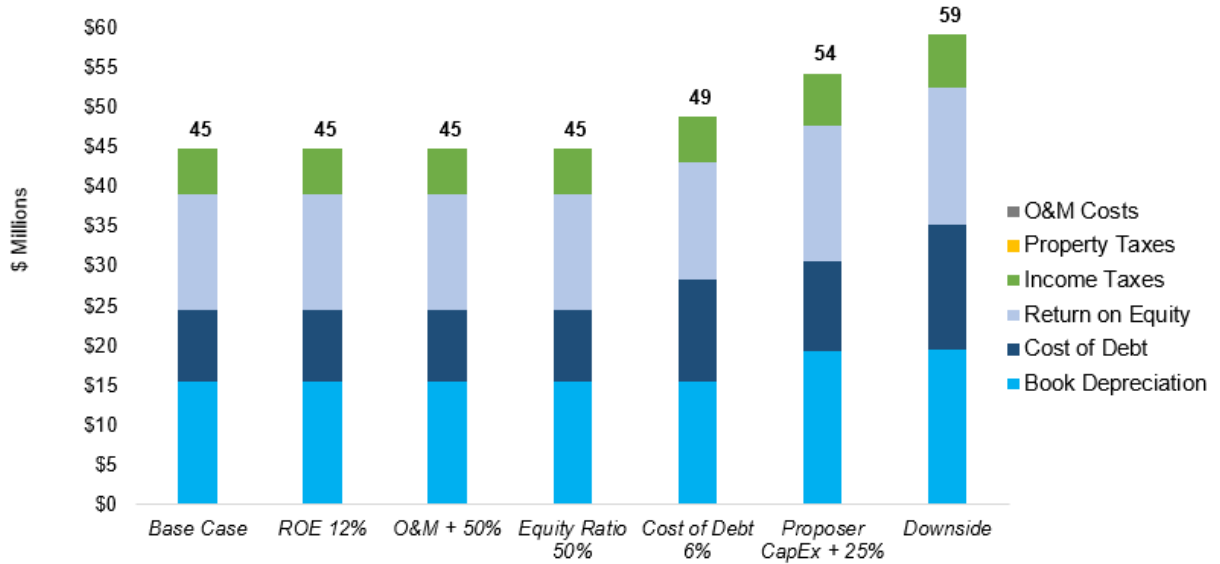
#### Cost Containment Mechanisms

- Cost Cap**
  - Anbaric offers project cost caps that are 125-130% of the "indexed bid construction cost", which is project cost adjusted based on the Handy-Whitman index.
    - #428 (HS1 to HS2) – 130% cap.
- ROE Cap**
  - Capped at 8.5%; also applies to the determination of AFUDC.
  - A reduced ROE of 5.75% on costs that exceed the Indexed Bid Construction Costs, up to the Construction Cost Cap Amount; 0% recovery on costs beyond cost cap.
- Equity % Cap**
  - Capped at 45%.

#### Cost Savings

- Project cost savings of 10% are applied (per proposal). Assuming if interlinks are selected, a full pathway is likely awarded.
- An O&M reduction of 100% is applied to all Option 3 proposals because, as Anbaric states, Option 2 O&M costs will cover all of Option 3 proposal O&M costs if a full pathway is awarded.

**Anbaric-428 NPVRR Breakdown (\$M)**



<b>% Increase</b>	-	-	-	-	<b>8.8%</b>	<b>21.1%</b>	<b>32.1%</b>
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## Hudson South 2 to Atlantic Shores HVDC Platform Interlink (#748)

*Option 3: Proposal #748, 700 MW offshore transmission link between Hudson South 2 and Atlantic Shores 2.*

Proposal Details	
Proposing Entity	Anbaric Development Partner
Proposer Total CapEx (2021\$)	\$66.7 M
Work by Others (2021\$)	-
Useful Life	40 Yrs (Initial CapEx) 10 Yrs (Ongoing CapEx)
In-Service Date (Shifted)	4/1/2033
Capital Structure	
ROE% (Inclusive of Adders)	8.5%
Cost of Debt%	4.1% (construction) 4.31% (operation)
Equity%	45%
Notable Issues	
No notable issues.	

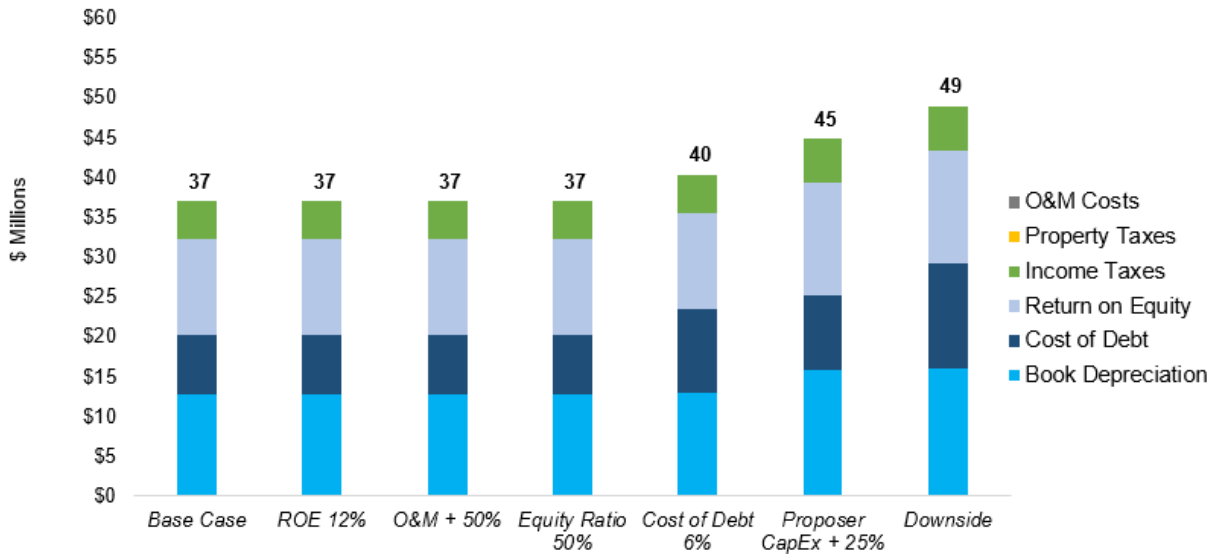
### Cost Containment Mechanisms

- Cost Cap**
  - Anbaric offers project cost caps that are 125-130% of the "indexed bid construction cost", which is project cost adjusted based on the Handy-Whitman index.
    - #748 (HS2 to AS2) – 130% cap.
- ROE Cap**
  - Capped at 8.5%; also applies to the determination of AFUDC.
  - A reduced ROE of 5.75% on costs that exceed the Indexed Bid Construction Costs, up to the Construction Cost Cap Amount; 0% recovery on costs beyond cost cap.
- Equity % Cap**
  - Capped at 45%.

### Cost Savings

- Project cost savings of 10% are applied (per proposal). Assuming if interlinks are selected, a full pathway is likely awarded.
- An O&M reduction of 100% is applied to all Option 3 proposals because, as Anbaric states, Option 2 O&M costs will cover all of Option 3 proposal O&M costs if a full pathway is awarded.

### Anbaric-748 NPVRR Breakdown (\$M)



% Increase	-	-	-	-	8.9%	21.1%	32.2%
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## Deans to Hudson South 2, Deans to Hudson South 1, & Larrabee to Atlantic Shores 2 (#831, 841 & 921)

**Option 1B/2:** Combine 3 Anbaric Option 2 proposals: #831, 841, and 921 for 2800 MW injection at Deans (from Hudson South 1 & 2) and 1200 MW at Larrabee (from Atlantic Shores 2) for a total of 4000 MW OSW.

Proposal Details	
Proposing Entity	Anbaric Development Partner
Proposer Total CapEx (2021\$)	\$5.22 B
Work by Others (2021\$)	-
Useful Life	40 Yrs (Initial CapEx) 10 Yrs (Ongoing CapEx)
In-Service Date (Shifted)	4/1/2031 (Larrabee to AS2) 4/1/2032 (Deans to HS1) 4/1/2034 (Deans to HS2)
Capital Structure	
ROE% (Inclusive of Adders)	8.5%
Cost of Debt%	4.1% (construction) 4.31% (operation)
Equity%	45%
Notable Issues	
<small>\$4-11M of upgrade/extension costs (per proposal) at the existing substations are included as part of Anbaric's cost, though construction responsibility is listed as "external".</small>	

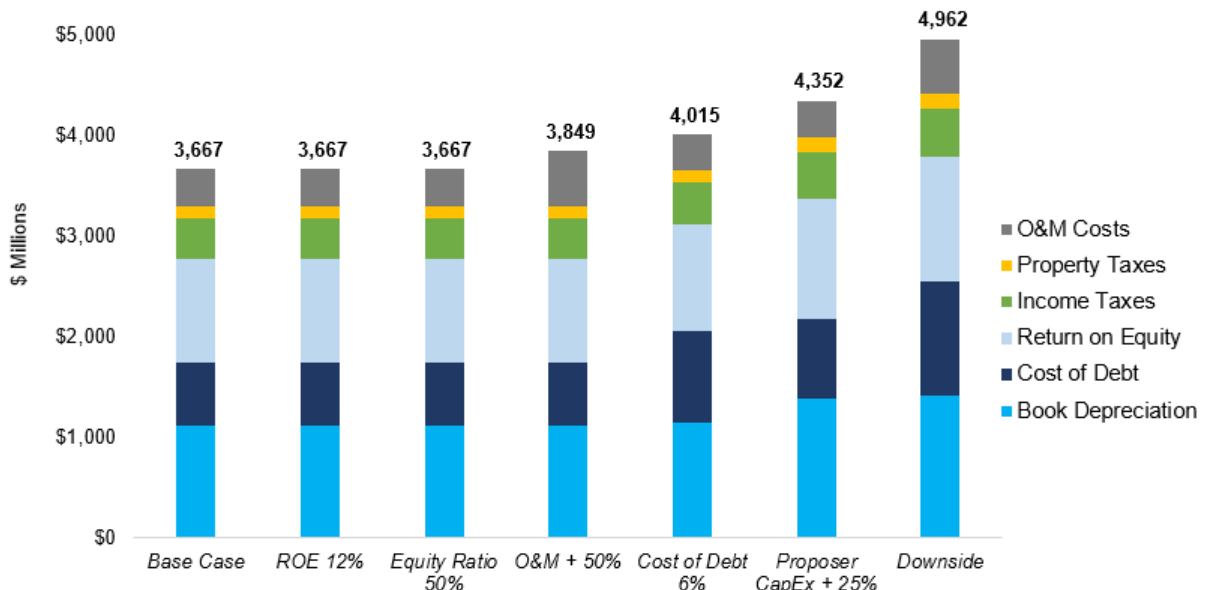
### Cost Containment Mechanisms

- Cost Cap**
  - Anbaric offers project cost caps that are 125-130% of the "indexed bid construction cost", which is project cost adjusted based on the Handy-Whitman index.
    - #831, 841 (Deans to HS2, HS1) – 125% cap.
    - #921 (Larrabee to AS2) – 130% cap.
- ROE Cap**
  - Capped at 8.5%; also applies to the determination of AFUDC.
  - A reduced ROE of 5.75% on costs that exceed the Indexed Bid Construction Costs, up to the Construction Cost Cap Amount; 0% recovery on costs beyond cost cap.
- Equity % Cap**
  - Capped at 45%.

### Cost Savings

- Project cost savings of 8.6% (per proposal) applied to the Deans to HS1 and 2 solutions (#831, 841). If a full "Boardwalk Power" pathway is awarded, 10% overall cost reduction can be achieved.
- O&M reduction of 30% applied to all three proposals in this pairing.

### Anbaric-831, 841 & 921 NPVRR Breakdown (\$M)



% Increase	-	0.0%	0.0%	4.9%	9.5%	18.7%	35.3%
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## Hudson South 1 to Atlantic Shores 3 HVDC Platform Interlink (#889)

**Option 3:** Proposal #889, 700 MW offshore transmission link between Hudson South 1 and Atlantic Shores 3.

Proposal Details	
Proposing Entity	Anbaric Development Partner
Proposer Total CapEx (2021\$)	\$72.2 M
Work by Others (2021\$)	-
Useful Life	40 Yrs (Initial CapEx) 10 Yrs (Ongoing CapEx)
In-Service Date (Shifted)	4/1/2033
Capital Structure	
ROE% (Inclusive of Adders)	8.5%
Cost of Debt%	4.1% (construction) 4.31% (operation)
Equity%	45%
Notable Issues	
No notable issues.	

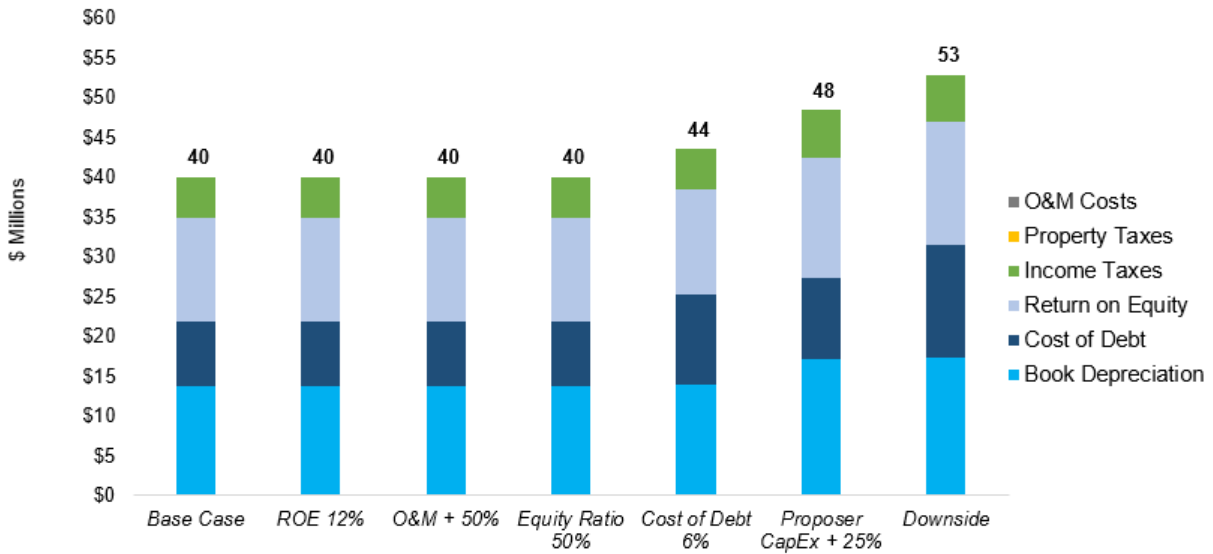
### Cost Containment Mechanisms

- **Cost Cap**
  - Anbaric offers project cost caps that are 125-130% of the "indexed bid construction cost", which is project cost adjusted based on the Handy-Whitman index.
    - #889 (HS1 to AS3) – 130% cap.
- **ROE Cap**
  - Capped at 8.5%; also applies to the determination of AFUDC.
  - A reduced ROE of 5.75% on costs that exceed the Indexed Bid Construction Costs, up to the Construction Cost Cap Amount; 0% recovery on costs beyond cost cap.
- **Equity % Cap**
  - Capped at 45%.

### Cost Savings

- Project cost savings of 10% are applied (per proposal). Assuming if interlinks are selected, a full pathway is likely awarded.
- An O&M reduction of 100% is applied to all Option 3 proposals because, as Anbaric states, Option 2 O&M costs will cover all of Option 3 proposal O&M costs if a full pathway is awarded.

### Anbaric-889 NPVRR Breakdown (\$M)



% Increase	-	-	-	-	8.9%	21.1%	32.1%
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## Atlantic Shores 2 to Atlantic Shores 3 HVDC Platform Interlink (#896)

Option 3: Proposal #896, 700 MW offshore transmission link between Atlantic Shores 2 to Atlantic Shores 3.

Proposal Details	
Proposing Entity	Anbaric Development Partner
Proposer Total CapEx (2021\$)	\$65.5 M
Work by Others (2021\$)	-
Useful Life	40 Yrs (Initial CapEx) 10 Yrs (Ongoing CapEx)
In-Service Date (Shifted)	4/1/2033
Capital Structure	
ROE% (Inclusive of Adders)	8.5%
Cost of Debt%	4.1% (construction) 4.31% (operation)
Equity%	45%
Notable Issues	
No notable issues.	

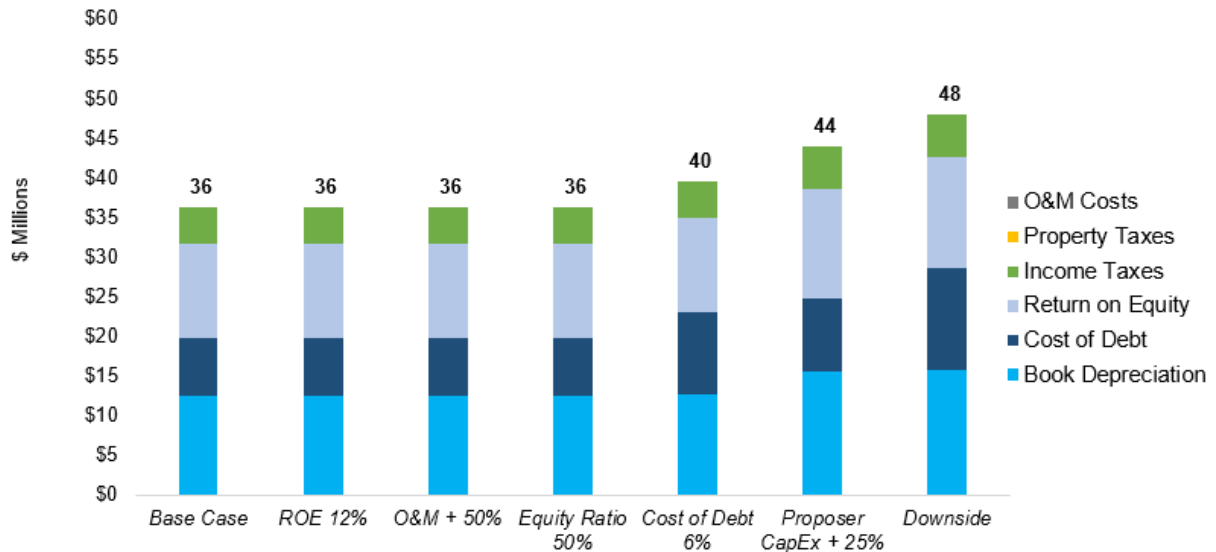
### Cost Containment Mechanisms

- **Cost Cap**
  - Anbaric offers project cost caps that are 125-130% of the "indexed bid construction cost", which is project cost adjusted based on the Handy-Whitman index.
    - #896 (AS2 to AS3) – 130% cap.
- **ROE Cap**
  - Capped at 8.5%; also applies to the determination of AFUDC.
  - A reduced ROE of 5.75% on costs that exceed the Indexed Bid Construction Costs, up to the Construction Cost Cap Amount; 0% recovery on costs beyond cost cap.
- **Equity % Cap**
  - Capped at 45%.

### Cost Savings

- Project cost savings of 10% are applied (per proposal). Assuming if interlinks are selected, a full pathway is likely awarded.
- An O&M reduction of 100% is applied to all Option 3 proposals because, as Anbaric states, Option 2 O&M costs will cover all of Option 3 proposal O&M costs if a full pathway is awarded.

### Anbaric-896 NPVRR Breakdown (\$M)



% Increase	-	-	-	-	8.9%	21.1%	32.2%
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## I. ConEd

### Clean Link New Jersey - Larrabee & Smithburg (#990)

**Option 1B/2:** Clean Link New Jersey’s power corridor solution proposes new transmission facilities linking 2400 MW of the anticipated offshore wind generation to the default POIs at the Larrabee and Smithburg Substations, with an optional extension or substitute link to the Deans Substation.

Proposal Details	
Proposing Entity	Consolidated Edison
Proposer Total CapEx (2021\$)	\$2.75 B
Work by Others (2021\$)	-
Useful Life	50 Yrs
In-Service Date (Shifted)	8/1/2029
Capital Structure	
ROE% (Inclusive of Adders)	10.5%
Cost of Debt%	4.5%
Equity%	50%
Notable Issues	
<p><i>ConEd estimated a 40-year physical and economic life for its facilities. However, ConEd believes the project may qualify for a 50-year average depreciation life. If selected, a depreciation study will be included in its FERC formula rate filing.</i></p>	

#### Cost Containment Mechanisms

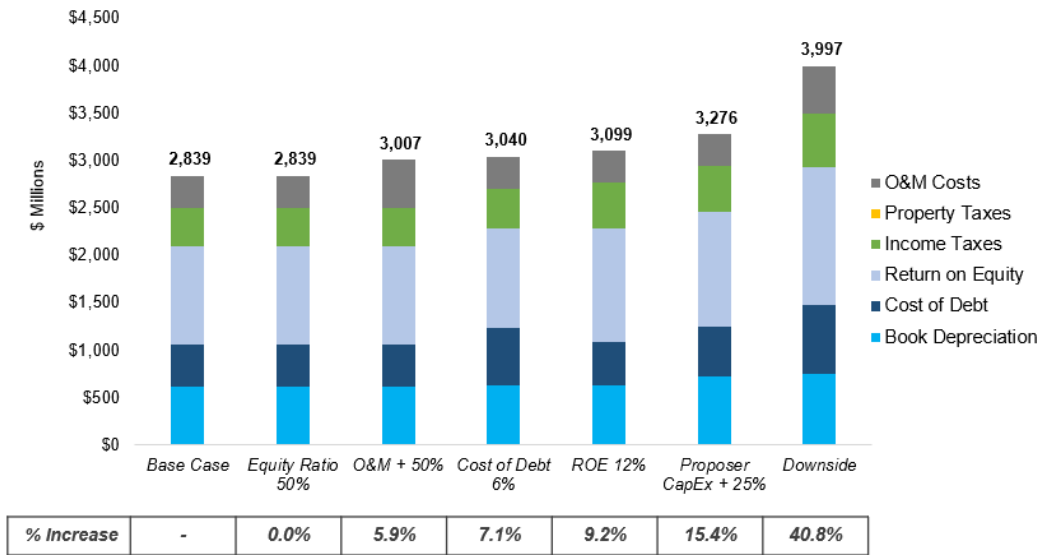
- Cost Cap (Soft)**
  - ConEd offers to share 30% of project capex overrun. However, this sharing mechanism does not go into effect unless there is a more than 5% deviation from the bid cost. This mechanism has been approved by FERC and used in NYISO.
  - [Example]** Assume total project cost is \$100M (bid):
    - If actual cost is \$104M, ConEd will seek to recover all \$104M from ratepayers.
    - If actual cost is \$110M, ConEd will seek to recover \$107M from ratepayers and expense \$3M.

#### Cost Savings

- ConEd states the Larrabee and Smithburg combination will lead to \$95M in cost savings, while other combinations of interconnection points could result in larger savings.
- \$2.75B project cost is the post-reduction total.

**Note:** Clean Link New Jersey assumes filing for a FERC formula rate upon selection based upon prudently incurred costs and market conditions for the actual capital structure. The capital structure components stated above and incorporated in this analysis are based on an illustrative example provided by ConEd.

### ConEd-990 NPVRR Breakdown (\$M)



### Clean Link New Jersey - Deans x2 (#990)

**Option 1B/2:** Clean Link New Jersey’s power corridor solution proposes new transmission facilities linking 2400 MW of the anticipated offshore wind generation to the default POIs at the Larrabee and Smithburg Substations, with an optional extension or substitute link to the Deans Substation.

Proposal Details	
Proposing Entity	Consolidated Edison
Proposer Total CapEx (2021\$)	\$3.40 B
Work by Others (2021\$)	-
Useful Life	50 Yrs
In-Service Date (Shifted)	8/1/2029
Capital Structure	
ROE% (Inclusive of Adders)	10.5%
Cost of Debt%	4.5%
Equity%	50%
Notable Issues	
ConEd estimated a 40-year physical and economic life for its facilities. However, ConEd believes the project may qualify for a 50-year average depreciation life. If selected, a depreciation study will be included in its FERC formula rate filing.	

#### Cost Containment Mechanisms

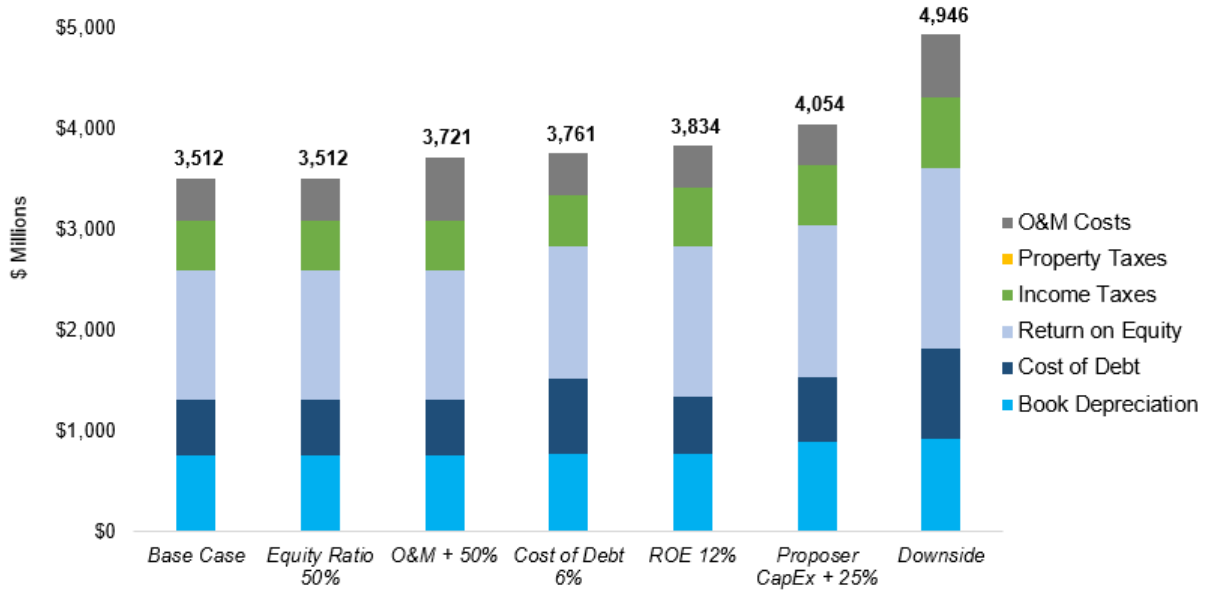
- Cost Cap (Soft)**
  - ConEd offers to share 30% of project capex overrun. However, this sharing mechanism does not go into effect unless there is a more than 5% deviation from the bid cost. This mechanism has been approved by FERC and used in NYISO.
  - [Example]** Assume total project cost is \$100M (bid):
    - If actual cost is \$104M, ConEd will seek to recover all \$104M from ratepayers.
    - If actual cost is \$110M, ConEd will seek to recover \$107M from ratepayers and expense \$3M.

#### Cost Savings

- ConEd states the Deans double circuit solution will lead to \$320M in cost savings since both circuits will be build in the same location (construction management, land, ROW, & permitting savings).
- \$3.40B project cost is the post-reduction total.

**Note:** Clean Link New Jersey assumes filing for a FERC formula rate upon selection based upon prudently incurred costs and market conditions for the actual capital structure. The capital structure components stated above and incorporated in this analysis are based on an illustrative example provided by ConEd.

**ConEd-990 Deans (x2) NPVRR Breakdown (\$M)**



<b>% Increase</b>	-	0.0%	5.9%	7.1%	9.2%	15.4%	40.8%
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## J. PSEG-Orsted

### Coastal Wind Link – 7 Sewaren/Deans/Larrabee Tri Collector (#683)

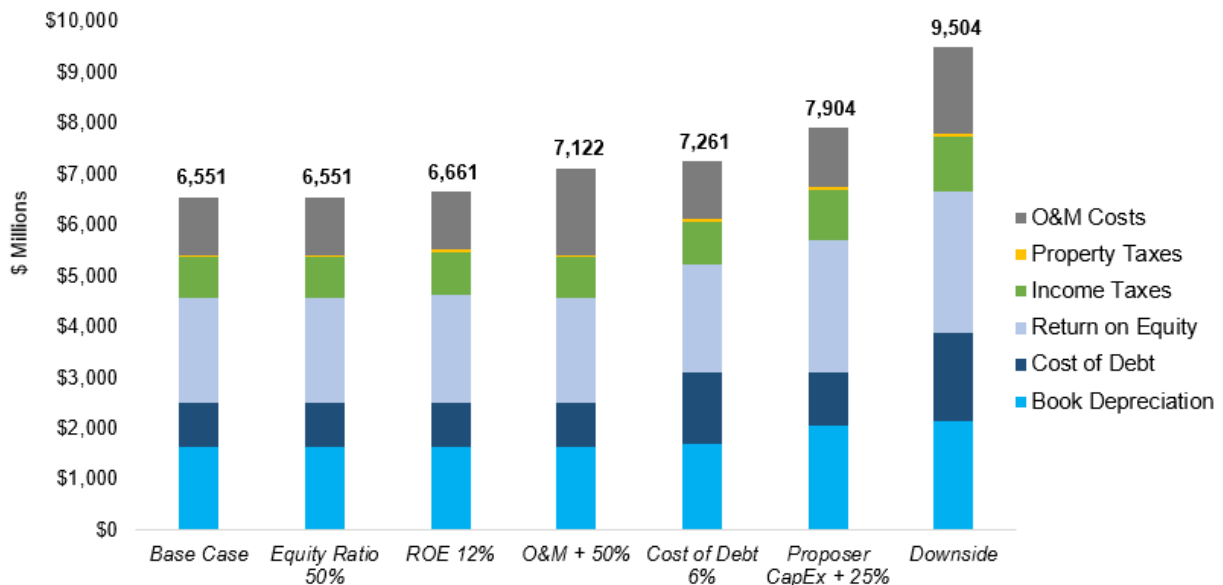
**Option 1B/2:** The Sewaren/Deans/Larrabee 400kV Collector is an offshore transmission solution comprised of three HVDC systems. The proposal is designed to deliver up to 4200 MW of OSW energy from the NY Bight lease area (1400 MW at each substation).

Proposal Details	
Proposing Entity	PSEG-Orsted Joint Venture
Proposer Total CapEx (2021\$)	\$6.99 B
Work by Others (2021\$)	\$83 M
Useful Life	42 Yrs
In-Service Date (Shifted)	11/1/2030 (phase 1) 11/1/2031 (phase 2) 11/1/2033 (phase 3)
Capital Structure	
ROE% (Inclusive of Adders)	9.9%
Cost of Debt%	3.8%
Equity%	48.35%
Notable Issues	
The original bid project cost is \$7.097B in real 2021\$. For modeling, the costs of three offshore interlinks (total of \$112M, real 2021\$) are subtracted from the total.	

#### Cost Containment Mechanisms

- Cost Cap (Soft)**
  - Soft cap is identical to the proposal bid cost (\$7.10B total)
    - The Construction Cost Cap Amount is defined as: (1) the value of the bid amount per Project, times Escalation Amount for **inflation**, plus (2) **adjustments for foreign exchange** and plus (3) **Uncontrollable Costs**.
- ROE Cap**
  - Capped at 9.9% for the first 15 years of operation, from phase 1's Project Availability date – 12/31/2029 (unless or until modified by FERC).
    - "In the event that FERC requires adjustments to the Base ROE, Designated Entity reserves the right to make adjustments pursuant to Section 205 of the FPA to other rate components of its formula rate filing in a manner that will not increase costs to customers when compared to the Project's proposal as submitted to PJM."
  - This cap applies to the determination of AFUDC.
- Equity % Cap**
  - Capped at 48.35% (unless or until modified by FERC).

#### PSEG-Orsted-683 NPVRR Breakdown (\$M)



% Increase	-	0.0%	1.7%	8.7%	10.8%	20.6%	45.1%
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## Coastal Wind Link – 5 Sewaren-Deans Twin Collector (#871)

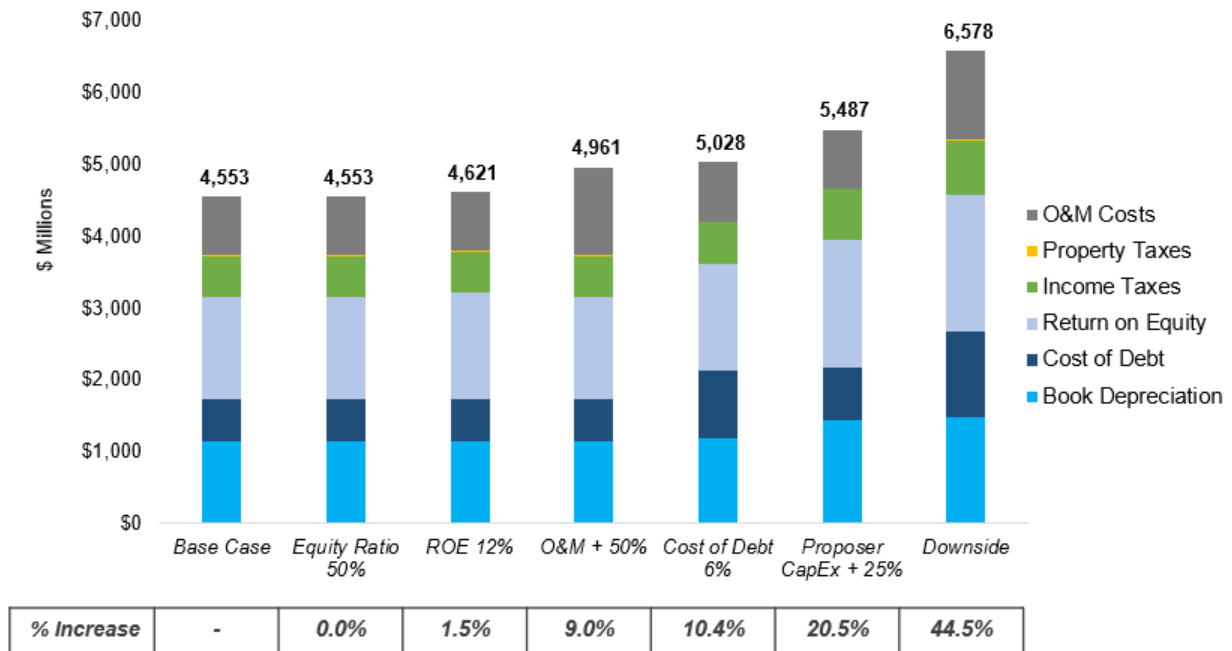
**Option 1B/2:** The Sewaren/Deans 400kV Collector is an offshore transmission solution comprised of two HVDC systems. The proposal is designed to deliver 2800 MW of OSW energy from the NY Bight lease area (1400 MW at each substation).

Proposal Details	
Proposing Entity	PSEG-Orsted Joint Venture
Proposer Total CapEx (2021\$)	\$4.76 B
Work by Others (2021\$)	\$36 M
Useful Life	42 Yrs
In-Service Date (Shifted)	11/1/2030 (phase 1) 11/1/2031 (phase 2)
Capital Structure	
ROE% (Inclusive of Adders)	9.9%
Cost of Debt%	3.8%
Equity%	48.35%
Notable Issues	
The original bid project cost is \$4.81B in real 2021\$. For modeling, the costs of two offshore interlinks (total of \$43M, real 2021\$) are subtracted from the total.	

### Cost Containment Mechanisms

- Cost Cap (Soft)**
  - Soft cap is identical to the proposal bid cost (\$4.81B total)
    - The Construction Cost Cap Amount is defined as: (1) the value of the bid amount per Project, times Escalation Amount for **inflation**, plus (2) **adjustments for foreign exchange** and plus (3) **Uncontrollable Costs**.
- ROE Cap**
  - Capped at 9.9% for the first 15 years of operation, from phase 1's Project Availability date – 12/31/2029 (unless or until modified by FERC).
    - "In the event that FERC requires adjustments to the Base ROE, Designated Entity reserves the right to make adjustments pursuant to Section 205 of the FPA to other rate components of its formula rate filing in a manner that will not increase costs to customers when compared to the Project's proposal as submitted to PJM."*
  - This cap applies to the determination of AFUDC.
- Equity % Cap**
  - Capped at 48.35% (unless or until modified by FERC).

### PSEG-Orsted-871 NPVRR Breakdown (\$M)





## K. APT

### APT First, Second, & Third (#172, 210, 769)

**Option 1B/2:** Combine APT First, Second, and Third (proposals # 210, 172, & 769) for 3600MW injection at Deans.

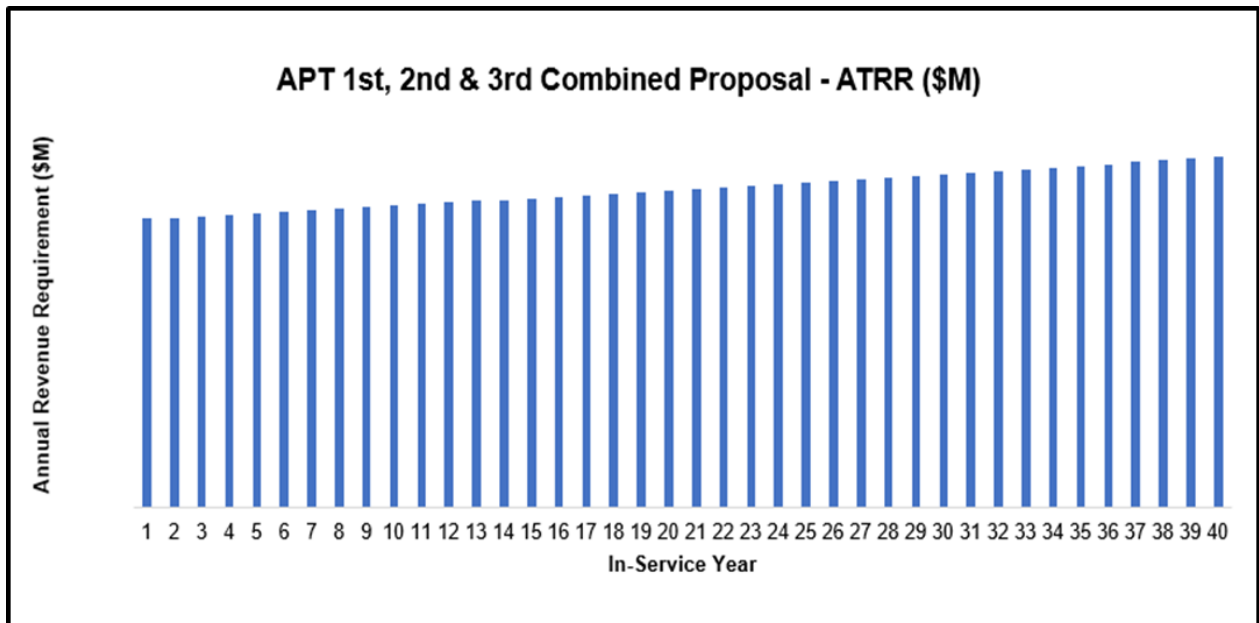
Proposal Details	
Proposing Entity	Atlantic Power Transmission
Proposer Total CapEx (Nominal\$)	\$5.10 B
Work by Others (Nominal\$)	-
Useful Life	40 Yrs
In-Service Date (Shifted)	4/1/2033 (Phase 1) 4/1/2034 (Phase 2&3)
Capital Structure	
ROE% (Inclusive of Adders)	10.25%
Cost of Debt%	4.44%
Equity%	50%
Notable Issues	
APT modeled ATRR using the pre-determined revenue requirement method instead of standard cost recovery. If selected, APT reserves the right to apply a "adjustment factor" to its ATRR schedule prior to seeking FERC approval.	

#### Cost Containment Mechanisms

- Pre-Determined ATRR**
  - APT designed its Proposals using a Pre-determined Revenue Requirement approach instead of the Standard Regulated Cost Recovery approach.
    - APT's Proposals start with a low year 1 revenue requirement and feature a sculpted **increase of 0.5% per year for 40 years** (i.e. – not dictated by a rate base balance). This is intended to limit rate shock for ratepayers and maximize intergenerational equity of cost recovery.
  - Prior to the commencement of rate recovery, each of the Fixed ATRRs will be adjusted on a one-time basis to account for increases or decreases to certain commodity prices and currency exchange rates.
    - APT estimates this "Adjustment Factor" would be in the low-mid single digits.**

#### Cost Savings

- APT notes there are material decrease in project costs from the 1<sup>st</sup> Proposal to the 2<sup>nd</sup> and 3<sup>rd</sup> Proposals. Specifically, the revenue requirement for the 2<sup>nd</sup> Proposal reflects a 24% discount relative to the 1<sup>st</sup> Proposal, and the 3<sup>rd</sup> Proposal reflects a 29% discount relative to the 1<sup>st</sup> Proposal.



## Appendix C – Qualitative Risk Assessment of Cost Containment Language

As set forth in the Legal Review of Cost Containment Provisions Section of this report, PJM performed a qualitative assessment of the risks associated with the cost commitment provisions submitted by the eight developers from a legal perspective. In performing the qualitative assessment, PJM reviewed the legal language submitted by the developers to determine: (i) whether any aspect of the language could lead to a delay in the negotiation of a Designated Entity Agreement, including, for instance, whether the developer submitted proposed legal language for inclusion in Schedule E of a Designated Entity Agreement, and if so, whether the proposal included any unclear or ambiguous language, or that would otherwise make the developer's commitment under the cost commitment language less firm; (ii) potential risks associated with third party challenges when the Designated Entity Agreement is filed at FERC; and (iii) potential risks associated with third party challenges when the proposed cost of service rate is filed at FERC.

What follows is:

- (i) a summary of the cost commitment language included in the developers' proposals;
- (ii) issues that could, in PJM's view, lead to potential DEA negotiation delays or third party challenges; and
- (iii) PJM's qualitative assessment of the relative risk related to DEA negotiation delays or third party challenges.

### ***Onshore (Option 1b only) Proposals***

#### **LS Power Grid Mid-Atlantic, LLC (72, 294, 627, 629, 781)**

- **Cost Containment Elements:**
  - includes both a Binding Project Cost Cap and a Binding Annual Revenue Requirement Cap
  - for the first 10 years of project operations, developer will not seek recovery of or on any Project Costs in excess of an amount equal to the lesser of: (i) the Binding Project Cost Cap Amount or (ii) the aggregate amount of actual Project Costs associated with the Project
  - ROE capped at 8.95% (inclusive adder) to apply to the initial investment for the life of the project; cap subject to up to 30 basis point reduction for schedule delays
  - equity capped at no more than 40%; cap to apply to the initial investment for the life of the project
  - Guaranteed completion dates for various project phases (subject to extension due to Uncontrollable Force or FM)
- **Proposed Legal Language:** Included
- **Potential DEA Negotiation Delays:**
  - developer includes as an Uncontrollable Force “a requirement to place any segment of the Project underground that was identified as above ground in the Proposal” – atypical as compared to other proposals

- Risk level: Low
- **Potential Third Party Challenges:**
  - developer’s proposal is unique in that it includes both a Binding Project Cost Cap and a Binding ATRR Cap
  - Risk level: Low

### Rise Light & Power / Outbridge Renewable Connector (171, 376, 490, 582)

- **Cost Containment Elements:**
  - developer commits to a cap (referred to as the “Aggregate Construction Cost Cap”) whereby it will cap capital costs for the procurement of specified pieces of equipment
    - the cost cap can be increased due to Uncontrollable Forces
    - developer will seek recovery through its ATRR for all costs not subject to the Aggregate Construction Cost Cap Amount, including but not limited to the Excluded Costs
  - proposed ROE cap, inclusive of FERC-granted equity incentives, at 9.75%; cap applies for 6 years
  - proposed 50% cap on the equity component of capital structure for original operational life of the project
  - no schedule guarantee
- **Proposed Legal Language:** Included
- **Potential DEA Negotiation Delays:**
  - Developer proposes a cap on “construction capital costs,” yet seems to be stating that the cap is limited to procurement of specified pieces of equipment. The project-specific summary sheets also suggest that the only cost elements covered by the cost cap are materials and equipment. If this is accurate, it seems that this would be a limitation on the cost cap
  - lack of schedule guarantee
  - Risk level: Medium
- **Potential Third Party Challenges:**
  - It appears that any costs not specifically related to the procurement of specified project components are not part of the cost cap. Could open up the costs included in the ATRR to legal challenges
  - Risk level: Medium

## Offshore (Option 2 only and 1b/2) Proposals

### NextEra Energy Transmission MidAtlantic Holdings, LLC (15, 27, 250, 298, 461, 604, 860)

- **Cost Containment Elements:**
  - developer proposes to recover a return on projects that exceed the Project Cost Cap at a lower ROE
    - Project Costs between 100% and 125% of the Project Cost Cap less depreciation, will earn the Minimum ROE (7.84%)
    - Project Costs that exceed 125% of the Project Cost Cap will earn a 5% equity return
  - excluded costs include those related to uncontrollable forces (typical as compared to other developers) and construction AFUDC
  - ROE capped for the life of the project at the lower of: (i) 9.80%, inclusive of adders/incentives or (ii) FERC-approved ROE, inclusive of adders/incentives
    - If the Earned ROE is less than the ROE Floor, Designated Entity shall recover a revenue requirement adjustment through its formula rate sufficient to produce an Earned ROE equal to the ROE Floor
  - during construction and for one year after, developer will seek authorization to use 100% debt structure for purposes of accruing AFUDC
  - guaranteed in-service date of 6/31/29 (subject to extension due to an Uncontrollable Force)
    - For every year of delay beyond the Guaranteed Completion Date, 2% of the Project Cost Cap amount, less depreciation, will earn the Minimum ROE for up to 3 years post in-service date
  - Several unique elements including:
    - Debt Expense Cap
    - Annual O&M Cost Cap
    - Stranded asset mitigation proposal
    - Multiple project award cap reduction
    - Platform relocation cap adjustment
    - Control center option cap adjustment
- **Proposed Legal Language:** Included
- **Potential DEA Negotiation Delays:**

- Developer’s proposal is complex and contains a number unique elements (Debt Expense Cap, Annual O&M Cost Cap, Stranded Asset Mitigation, and adjustments to the Cap for multiple project awards, platform relocation and control centers)
- The complexity of the proposal, and the fact that some of the elements are unclear, could potentially increase the negotiation time for the DEA
- Risk level: Medium
- **Potential Third Party Challenges:**
  - Potential legal challenges over the various caps; given that the proposal is more complex, more likely to lead to lead to questions/challenges
  - Risk level: Medium

### **Anbaric Development Partners, LLC (131, 145, 183, 285, 568, 574, 802, 831, 841, 882, 921, 944)**

- **Cost Containment Elements:**
  - will not seek recovery through its ATRR of any Construction Costs in excess of the Construction Cost Cap Amount
  - ROE cap of 8.5%, incentive adders waived, for the life of the project (subject to adjustment)
  - capped capital structure with equity component no greater than 45% (subject to modification)
  - no schedule guarantee
- **Proposed Legal Language:** Included
- **Potential DEA Negotiation Delays:**
  - developer can be relieved of its capped equity structure commitment if it cannot obtain financing with the proposed capital structure
  - developer commits to ROE reduction if the project doesn’t achieve COD by the projected in-service date (up to a maximum 30 basis points reduction); projected in-service date not yet defined by developer
  - excluded costs include, among other things, costs related to or resulting from Force Majeure or permitting delays or injunctive action by a court
    - Force Majeure is not defined by developer;
    - Unclear whether a permitting delay would result in an ROE reduction per the schedule guarantee
  - Risk level: Medium

- **Potential Third Party Challenges:**

- developer can be relieved of its capped equity structure commitment if “capital market conditions do not remain normal”
- developer can seek to increase ROE cap if actual Construction Costs are less than Indexed Bid Construction Costs (50 basis point adder to the ROE for each 10% the Construction Costs are below Indexed Bid Construction Costs)
- Risk level: Medium

### Atlantic Power Transmission LLC (172, 210, 769)

- **Cost Containment Elements:**

- each Project’s ATRR will be a fixed amount for each Service Year of the Transmission Service Term (40-year period) (“Fixed ATRR”) (increased by 0.5% each year to account for projected increases in O&M)
- before rate recovery begins, each of the Fixed ATRRs will be subject to a one-time adjustment applying an Adjustment Factor
- developer can seek costs above the Fixed ATRR
- no ROE or equity structure caps
- undefined schedule guarantee

- **Proposed Legal Language:** Included

- **Potential DEA Negotiation Delays:**

- Adjustment Factor to be applied to the Fixed ATRRs prior to rate recovery is based on a formula that has yet to be proposed
- schedule guarantees to be mutually agreed upon by the BPU and developer’s vendors at a future time
- ATRR is a stated amount, but then APT reserves the right to seek costs in excess that are related to an Uncontrollable Force; unclear how PJM/APT would audit this provision
- Risk level: Medium

- **Potential Third Party Challenges:**

- potential legal challenge depending on ROE and d/e ratio developer seeks for project
- rate is not based on actual costs plus a FERC-approved return, but rather a fixed rate
- rate increases year-by-year, which is atypical for rate recovery

- rate recovery to begin on transmission service start date, regardless of whether any OSW generators have commenced commercial operations
- Risk level: Medium

## PSEG/Orsted (208, 214, 230, 397, 613, 683, 871)

- **Cost Containment Elements:**

- developer will not seek recovery of any Construction Costs in an amount equal to the lesser of: (i) the Construction Cost Cap Amount or (ii) the aggregate amount of actual Construction Costs associated with the Project
- proposed ROE cap of 9.9%; designated entity will not file for a change to the ROE for at least 15 years
  - If FERC requires adjustment to the ROE, designated entity reserves the right to make adjustments pursuant to FPA section 205 to other components of its Formula Rate
  - If actual Construction Costs are less than the Construction Cost Cap, designated entity will receive an additional ROE incentive of 5 basis points for every 1% in savings below the cap, subject to a maximum ROE cap that is no higher than 10.75%
- capital structure:
  - during construction: 48.35% equity and 51.65% debt
  - as of project's availability date: actual capital structure shall be used in the formula rate; the designated entity to maintain an actual capital structure of up to 48.35% equity
- Schedule guarantee:
  - construction to be completed by no later than 12/31/29; such date may be extended due to Force Majeure
  - definition of Force Majeure expanded as compared to *pro forma* DEA to include material modifications to the schedule, routing or scope of work resulting from a PJM, BPU or BOEM action or order; delay by PJM/BPU in the schedule for awarding a project past 7/29/22; change in law; imposition of construction standards for OSW transmission infrastructure that are beyond industry standards; court orders; denial or delay of any application related to a permit, license or approval to the extent such denial interferes with the DE's performance under the agreement
    - These events are also included in the definition of Uncontrollable Events
  - Developer agrees to forego recovery of AFUDC with respect to Construction Costs incurred following the Guaranteed Availability Date until such time as the Project is available to receive AC infeed from an offshore generation resource

- **Proposed Legal Language:** Included
- **Potential DEA Negotiation Delays:**
  - proposed formula to calculate Construction Cost Cap Amount provides for an adjustment to the cost cap based on foreign exchange rate; could be difficult to predict amount of adjustment
  - unclear language describing how the Construction Cost Cap Amount will be calculated; need to seek clarification from developer
  - Risk level: Medium
- **Potential Third Party Challenges:**
  - potential legal challenges given that developer seeks flexibility to change other aspects of the formula rate if FERC does not approve its ROE
  - Risk level: Medium

### Mid-Atlantic Offshore Development (321, 431, 551)

- **Cost Containment Elements:**
  - developer will not seek recovery of any Construction Costs in excess of an amount equal to the lesser of (i) the Construction Cost Cap Amount or (ii) the aggregate amount of actual Construction Costs
    - developer is offering a 15% cap on construction costs
  - no ROE or equity structure caps
  - no schedule guarantee
- **Proposed Legal Language:** Included
- **Potential DEA Negotiation Delays:**
  - no schedule guarantee proposed
  - O&M costs are excluded from the cap (atypical compared to the other proposals)
  - developer reserves right to adjust cost estimate and associated cost containment cap if cable location is adjusted
  - Risk level: Low
- **Potential Third Party Challenges:**
  - potential legal challenge depending on ROE and d/e ratio developer seeks for project
  - Risk level: Medium



## LS Power Grid Mid-Atlantic, LLC (594)

- **Cost Containment Elements:**
  - includes both a Binding Project Cost Cap and a Binding Annual Revenue Requirement Cap
  - for the first 10 years of project operations, developer will not seek recovery of or on any Project Costs in excess of an amount equal to the lesser of: (i) the Binding Project Cost Cap Amount or (ii) the aggregate amount of actual Project Costs associated with the Project
  - ROE capped at 8.95% (inclusive adder) to apply to the initial investment for the life of the project; cap subject to up to 30 basis point reduction for schedule delays
  - equity capped at no more than 40%; cap to apply to the initial investment for the life of the project
  - Guaranteed completion dates for various project phases (subject to extension due to Uncontrollable Force or FM)
- **Proposed Legal Language:** Included
- **Potential DEA Negotiation Delays:**
  - developer includes as an Uncontrollable Force “a requirement to place any segment of the Project underground that was identified as above ground in the Proposal” – atypical as compared to other proposals
  - Risk level: Low
- **Potential Third Party Challenges:**
  - developer’s proposal is unique in that it includes both a Binding Project Cost Cap and a Binding ATRR Cap
  - Risk level: Low

## Con Edison (990)

- **Cost Containment Elements:**
  - Fixed Cost Cap for specified costs
  - Soft Cap of 30%; developer will forgo rate recovery of that percentage of capital costs in excess of the soft Cost Cap (i.e., its share of “certain potential cost overruns” will be set at 30%)
  - no ROE or equity structure caps
  - no schedule guarantee
- **Proposed Legal Language:** Included
- **Potential DEA Negotiation Delays:**

- the Soft Cap concept is based on a mechanism set forth in NYISO OATT; not yet approved or analyzed for PJM
- some events developer claims would be out if its control are not clearly defined
- costs associated with network upgrades excluded from cap
- no schedule guarantee proposed
- Risk level: Medium
- **Potential Third Party Challenges:**
  - potential legal challenge depending on ROE and d/e ratio developer seeks for project
  - Risk level: Medium

## Option 1a Proposals

### NextEra Energy Transmission MidAtlantic Holdings, LLC (11, 587, 982)

- **Cost Containment Elements:**
  - Project Costs that exceed 100% of the Project Cost Cap will earn a 0% equity return. Developer will be allowed to recover the associated depreciation and debt cost
    - Project Cost Cap is a defined number for each project ID with escalation capped at 2% a year
  - ROE capped for the life of the project at the lower of: (i) 9.80%, inclusive of adders/incentives or (ii) FERC-approved ROE, inclusive of adders/incentives
  - Capital structure cap:
    - During construction and for one year after, developer will seek authorization to use 100% debt structure for purposes of accruing AFUDC
    - Following end of one-year post-construction period, developer will seek a maximum equity thickness of 40% equity for the first 15 years of the Project
  - No schedule guarantee
- **Proposed Legal Language:** Included
- **Potential DEA Negotiation Delays:**
  - no schedule guarantee proposed
  - Risk level: Low
- **Potential Third Party Challenges:**
  - potential legal challenges regarding the request to use 100% debt structure for purposes of accruing AFUDC
  - Risk level: Medium

### Rise Light & Power / Outbridge Renewable Connector (21)

- **Cost Containment Elements:**
  - no binding cost cap
  - proposed ROE cap, inclusive of FERC-granted equity incentives, at 9.75%
    - Cap applies for six years beginning when the facility is turned over to PJM's operational control
  - proposed 50% cap on the equity component of capital structure for original operational life of the project

- no schedule guarantee
  - **Potential DEA Negotiation Delays:**
    - not a true cost cap; no proposed cost cap, only proposed ROE and d/e structure caps
    - lack of schedule guarantee
    - Risk level: Low
  - **Potential Third Party Challenges:**
    - not a true cost cap; no proposed cost cap, only proposed ROE and d/e structure caps
    - lack of schedule guarantee
    - Risk level: Medium
- 1) **LS Power Grid Mid-Atlantic, LLC (103, 203)**
- **Cost Containment Elements:**
    - developer will not seek recovery of or on any Project Costs in excess of an amount equal to the lesser of: (i) the Binding Project Cost Cap Amount or (ii) the aggregate amount of actual Project Costs associated with the Project
    - no ROE or equity structure caps
    - no schedule guarantee
  - **Proposed Legal Language:** Included
  - **Potential DEA Negotiation Delays:**
    - no schedule guarantee proposed
    - Risk level: Low
  - **Potential Third Party Challenges:**
    - potential legal challenges depending on ROE and d/e ratio developer seeks for the project
    - Risk level: Low

### Option 3 Proposals

#### Anbaric Development Partners, LLC (137, 243, 248, 428, 748, 889, 896)

- **Cost Containment Elements:**
  - will not seek recovery through its ATRR of any Construction Costs in excess of the Construction Cost Cap Amount
  - ROE cap of 8.5%, incentive adders waived, for the life of the project (subject to adjustment)
  - capped capital structure with equity component no greater than 45% (subject to modification)
  - no schedule guarantee
- **Proposed Legal Language:** Included
- **Potential DEA Negotiation Delays:**
  - developer can be relieved of its capped equity structure commitment if it cannot obtain financing with the proposed capital structure
  - developer commits to ROE reduction if the project doesn't achieve COD by the projected in-service date (up to a maximum 30 basis points reduction); projected in-service date not yet defined by developer
  - excluded costs include, among other things, costs related to or resulting from Force Majeure or permitting delays or injunctive action by a court
    - Force Majeure is not defined by developer;
    - Unclear whether a permitting delay would result in an ROE reduction per the schedule guarantee
  - Risk level: Medium
- **Potential Third Party Challenges:**
  - developer can be relieved of its capped equity structure commitment if “capital market conditions do not remain normal”
  - developer can seek to increase ROE cap if actual Construction Costs are less than Indexed Bid Construction Costs  
(50 basis point adder to the ROE for each 10% the Construction Costs are below Indexed Bid Construction Costs)
  - Risk level: Medium

## NextEra Energy Transmission MidAtlantic Holdings, LLC (359)

- **Cost Containment Elements:**

- developer proposes to recover a return on projects that exceed the Project Cost Cap at a lower ROE
  - Project Costs between 100% and 125% of the Project Cost Cap less depreciation, will earn the Minimum ROE (7.84%)
  - Project Costs that exceed 125% of the Project Cost Cap will earn a 5% equity return
- excluded costs include those related to uncontrollable forces (typical as compared to other developers) and construction AFUDC
- ROE capped for the life of the project at the lower of: (i) 9.80%, inclusive of adders/incentives or (ii) FERC-approved ROE, inclusive of adders/incentives
  - If the Earned ROE is less than the ROE Floor, Designated Entity shall recover a revenue requirement adjustment through its formula rate sufficient to produce an Earned ROE equal to the ROE Floor
- during construction and for one year after, developer will seek authorization to use 100% debt structure for purposes of accruing AFUDC
- guaranteed in-service date of 6/31/29 (subject to extension due to an Uncontrollable Force)
  - For every year of delay beyond the Guaranteed Completion Date, 2% of the Project Cost Cap amount, less depreciation, will earn the Minimum ROE for up to 3 years post in-service date
- Several unique elements including:
  - Debt Expense Cap
  - Annual O&M Cost Cap
  - Stranded asset mitigation proposal
  - Multiple project award cap reduction
  - Platform relocation cap adjustment
  - Control center option cap adjustment

- **Proposed Legal Language:** Included

- **Potential DEA Negotiation Delays:**

- Developer's proposal is complicated and contains a number unique elements (Debt Expense Cap, Annual O&M Cost Cap, Stranded Asset Mitigation, and adjustments to the Cap for multiple project awards, platform relocation and control centers)

- The complexity of the proposal, and the fact that some of the elements are unclear, could potentially increase the negotiation time for the DEA
- Risk level: Medium
- **Potential Third Party Challenges:**
  - Potential legal challenges over the various caps; given that the proposal is more complex, potentially more likely to lead to questions/challenges
  - Risk level: Medium

## Document Revision History

9/19/2022 - V1: original version posted