STATE OF NEW JERSEY BOARD OF PUBLIC UTILITIES

IN THE MATTER OF THE
REVISION OF RATES FILED BY
MIDDLESEX WATER COMPANY
BPU DOCKET NO. WR2105_____

PREFILED TESTIMONY

OF

MICHELE L. TILLEY
DIRECTOR – BUDGETS & RATES

MAY 2021

1	Q.	Please state your name and business address.
2	A.	Michele L. Tilley, 485C Route One South, Suite 400, Iselin, New Jersey 08830.
3	Q.	Please state your professional qualifications and experience.
4	A.	I am the Director of Budget and Rates for Middlesex Water Company
5		("Middlesex", "MWC" or "the Company"). I have been employed with Middlesex
6		since July 2007. My present duties consist of preparing and assisting in all
7		regulatory and rate case planning related activities for Middlesex and its regulated
8		water and wastewater utilities. My responsibilities include the preparation and
9		review of financial statements, work papers, exhibits, pre-filed testimony and other
10		activities in support of regulatory rate filing activities and I have participated in
11		every rate matter for Middlesex and its subsidiaries since my employment began in
12		2007. My responsibilities also include managing the budget process and income tax
13		compliance filings for Middlesex and its subsidiaries. Prior to 2007, I held various
14		financial positions in publicly traded companies, primarily within the retail
15		industry. I earned a Bachelor of Science Degree in Accounting from Rutgers
16		University in 1989.
17	Q.	Have you ever testified before or submitted testimony to the New Jersey
18		Board of Public Utilities ("NJBPU" or "Board")?
19	A.	Yes. I submitted testimony and supporting exhibits in the Middlesex 2013, 2015
20		and 2017 base rate proceedings before the Board in BPU Docket Numbers
21		WR13111059, WR15030391 and WR17101049, the Pinelands Water Company

1		2019 base rate proceeding before the Board in BPU Docket Number WR19030417,
2		the Pinelands Wastewater Company 2019 base rate proceeding before the Board in
3		BPU Docket Number WR19030418. I also submitted testimony and supporting
4		exhibits in Middlesex's Purchased Water Adjustment Clause ("PWAC")
5		proceedings before the Board in BPU Docket Numbers WR16040306,
6		WR17050524, WR18080948, WR19111463 and WR20110722.
7	Q.	What is the purpose of your testimony in this rate proceeding?
8	A.	I am responsible for describing the reasons for the adjustments that have been made to
9		certain components of the Test Year pro forma income statement identified as Exhibit F
10		to the Petition and as Exhibit P-5 to the pre-filed direct testimony of A. Bruce
11		O'Connor, who is the Senior Vice President, Treasurer and Chief Financial Officer of
12		Middlesex. I am also responsible for describing the development of the Company's
13		rate base in this filing, identified as Exhibit P-6 and included as part of my direct pre-
14		filed testimony.
15	Q.	Did Mr. O'Connor provide a description of Exhibit P-5 in his pre-filed direct
16		testimony?
17	A.	Yes he did.
18	Q.	What adjustments have been made to test year revenues on Exhibit P-5?
19	A.	Test Year revenues have been modified for the routine effect of incorporating the
20		current Middlesex Purchased Water Adjustment Clause (PWAC) revenues into current
21		tariff revenues and resetting the PWAC to zero, at the conclusion of this rate matter. I

1		am also responsible for calculating the current tariff rates in effect and annualizing
2		customer growth in the Test Year based on historical patterns and reflecting known and
3		measurable changes.
4	Q.	Are there any other adjustments to revenue?
5	A.	Yes. I have made one other adjustment to reflect test year annual fixed rate revenues at
6		the level that would be billed based on actual active customers as of February 2021.
7	Q.	What adjustments have been proposed for source of supply?
8	A.	Middlesex has a contract with New Jersey American Water Company (NJAWC) that
9		requires a minimum purchase of 3.0 million gallons per day (mgd) of treated water.
10		Purchases from NJAWC are billed to Middlesex under two separate tariff rates
11		$identified \ as \ Rate \ Schedule \ G-Sales \ For \ Resale-Service \ to \ Other \ Systems \ (Base$
12		Rate) and Rate Schedule O-1 – Purchased Water Adjustment Clause (PWAC Rate) in
13		the NJBPU approved NJAWC Tariff. The NJAWC Base Rate shown on Exhibit P-5,
14		page 3 is the current tariff rate in effect. The PWAC Rate shown on Exhibit P-5, page
15		3 is the tariff rate proposed by the NJAWC in their current PWAC petition before the
16		NJBPU (BPU Docket No. WR20110719). Middlesex is an active intervening party in
17		the NJAWC PWAC case, and has consistently intervened in previous NJAWC Base
18		Rate and PWAC Rate filings to represent and protect the interests of Middlesex's
19		customers.
20		The third source of supply adjustment represents additional water purchases from
21		NJAWC above the contract minimum of 3.0 million gallons per day (mgd). The

1		additional water will replace part of the supply that would be curtailed during necessary
2		shutdowns at the Company's primary surface water treatment plant, the Carl J. Olsen
3		Water Treatment Plant located in Edison (the "CJO Plant"), in order to perform
4		required maintenance and routine repairs. Mr. Robert Fullagar provided me with his
5		assessment of our customers' water needs during the periods the CJO plant is
6		anticipated to need these regular repairs during those periods it will be taken down. I
7		used that information to calculate the costs reflecting those additional purchases
8		pursuant to our contract.
9		The next source of supply adjustment represents the rates for the purchase of untreated
10		water under contract from the New Jersey Water Supply Authority (NJWSA). The
11		current NJWSA contract rates, which became effective July 1, 2017, and are currently
12		anticipated to remain stable through June 30, 2022.
13	Q.	How was the retroactive debt service credit determined?
14	A.	The Retroactive Debt Service Credit represents the actual June 2020 credit issued by
15		the NJWSA.
16	Q.	What is the MWC purchased water adjustment clause adjustment?
17	A.	Middlesex received approval pursuant to an NJBPU Order dated March 24, 2021 in
18		BPU Docket No. WR20110722 to implement a PWAC rate for services rendered on
19		and after April 4, 2021. The PWAC rate provides for recovery of increased purchased
20		water costs caused by changes implemented by NJAWC for its Base Rate and PWAC
21		Rate subsequent to the conclusion of Middlesex's last base rate case. As part of this

1		base rate filing, Middlesex is proposing to reset its PWAC rate to zero and incorporate
2		these costs in its base rates. This adjustment reflects the unrecovered PWAC costs over
3		a 24 month period, which is currently anticipated to be the approximate duration of
4		rates set in this matter. As this rate matter proceeds, this adjustment will be updated to
5		reflect actual results.
6	Q.	What adjustments have been proposed for purchased power?
7	A.	The schedule on page 4 of Exhibit P-5 shows the cost of purchased power expected to
8		be incurred at each source of supply, production and pumping station. Mr. Robert
9		Fullagar provided me with the unit cost and water production volumes as described in
10		his pre-filed direct testimony in this rate case. I used that information to calculate the
11		Adjusted Test Year purchased power costs. I made an adjustment to the production
12		volumes to reflect the projected consumption growth associated with new customers
13		shown in the Test Year adjustments to revenues.
14	Q.	What adjustments have been proposed for chemicals used in the water treatment
15		process?
16	A.	As part of its budgeting process and to effectively manage expenses, Middlesex issues
17		bid requests in the fourth quarter of its fiscal year for annual contracts from chemical
18		vendors. I have used water production information provided to me by Mr. Fullagar to
19		calculate the Adjusted Test Year chemical costs. I made an adjustment to the production
20		volumes to account for the projected consumption growth associated with the new
21		customers shown in the Test Year adjustments to revenues.

1	Q.	What adjustments have been proposed for the residuals disposal costs resulting
2		from the water treatment process?
3	A.	Residuals removed from the water treated at the CJO Plant are transferred into the
4		Township of Edison (Edison) sewer system for ultimate treatment and disposal at the
5		Middlesex County Utilities Authority (MCUA). The rate charged by Edison for
6		residual treatment is a combination of its cost to run their collection system and fees
7		charged by the MCUA to treat and dispose of the residuals. The first adjustment
8		represents a projected rate increase of 5% above the current rate charged by Edison.
9		The second adjustment represents an anticipated decrease in residual costs due to a
10		reduction in the volume of powder activated carbon required for treating water using
11		the new ozone treatment system. This information was provided by Mr. Fullagar and is
12		discussed in his pre-filed direct testimony. I made an adjustment to the production
13		volumes to account for the projected consumption growth associated with the new
14		customers shown in the Test Year adjustments to revenues.
15	Q.	What is the cost amortization period in Exhibit P-5 under Transmission and
16		Distribution (T&D) costs for deferred tank painting?
17	A.	The Company is proposing to use a 10 year amortization period to recover expenditures
18		incurred to paint the Two Million Gallon Grandview Tank. Ten years is consistent with
19		the NJBPU allowed recovery period for prior Middlesex tank painting project costs.
20	Q.	Have you made an adjustment to the allowance for bad debt expense?

1	A.	Yes, an adjustment to the allowance for bad debt has been made which is more fully
2		described in the pre-filed direct testimony of Mr. Robert J. Capko.
3	Q.	What adjustments have been proposed for regulatory commission expenses?
4	A.	The regulatory commission expenses indicated are the full estimated costs associated
5		with this rate proceeding. They include fees for outside counsel and expert witness
6		testimony. These costs are being amortized over a twenty-four month period, which is
7		our best estimate at this time for the period these rates are expected to be in effect.
8	Q.	Have you included an adjustment for employee health benefits?
9	A.	Yes. The Company's healthcare insurance policy period begins on January 1st of each
10		year. The adjustment reflects the expected cost of the various policy premiums that will
11		be in effect as of January 1, 2022, net of employee contributions and capitalized
12		benefits. I have also included the costs associated with the full complement of
13		employees described in testimony sponsored by Mr. Fullagar.
14	Q.	What has Middlesex done to attempt to mitigate the increase in health care
15		insurance costs?
16	A.	The Company continues to review benefits, costs and employee contributions
17		annually. We also utilize an insurance broker to bid our coverage annually to
18		ensure that we obtain the best overall rates possible.
19		In 2017, Middlesex added a lower cost/higher deductible plan as an option for
20		employees. This option has a lower cost which helps in controlling plan costs. The
21		employee contribution rate was set lower for this plan option to incentivize

1		employees to choose this plan option. Middlesex continues to offer an "opt-out"
2		incentive for employees to decline Middlesex sponsored health benefits, when the
3		employee has benefits available through other means. For the 2019 plan period, the
4		company increased the opt out incentive payment to encourage further
5		participation in the program.
6	Q.	Was an adjustment included for the Company's defined benefit pension (DB) and
7		FAS 106 plans?
8	A.	Yes, the cost adjustments made to the Company's DB and FAS 106 plans are fully
9		described in the pre-filed direct testimony of Mr. Capko.
10	Q.	What is the business insurance adjustment?
11	A.	Business insurance policies are renewable in the Company's normal annual cycle on
12		June 1st. The Test Year adjustment represents a projected increase of approximately
13		19.5% in business insurance costs when the policies are renewed on June 1, 2021. As
14		more accurate information becomes available, the Company will update its pro forma
15		business insurance expense.
16	Q.	What is the shared overhead adjustment?
17	A.	This adjustment represents an increase in overhead expenses that are charged to the
18		subsidiaries of Middlesex. The costs that are included in the pool of costs to be
19		allocated are related to services that are provided to our affiliates by Middlesex
20		employees.
21	Q.	What is the ERP system support charge to Tidewater adjustment?

1	A.	This adjustment represents the allocated portion to the Middlesex affiliate, Tidewater
2		Utilities, Inc., of the annual cost to maintain the various licenses for the use of the
3		software to run the Enterprise Resource Planning (ERP) system, as well as the on-going
4		costs for maintaining the ERP system and other Information Technology ("IT")
5		components. Also included in this cost allocation is a portion of IT related labor,
6		payroll taxes and employee benefits.
7	Q.	Can you explain the antenna revenue adjustment?
8	A.	This adjustment represents the scheduled annual increase for the various cell tower
9		contracts between the Company and wireless phone service providers.
10	Q.	What is the customer deposit interest adjustment?
11	A.	This adjustment represents the interest that is expensed "below-the-line" for customer
12		deposits that are a negative component of rate base.
13	Q.	Can you explain the depreciation expense adjustment on page 11 of Exhibit P-5?
14	A.	The adjustment brings the Test Year depreciation expense to the pro forma depreciation
15		expense based on the expected pro forma Utility Plant in Service (UPIS) balance used
16		to set rates. Depreciation expense is calculated by applying the NJBPU-approved
17		depreciation rate by sub account, in all but one instance, to the pro forma UPIS
18		balances. This is effectively a 'flow through' adjustment which will be impacted by
19		whatever is determined to be plant in service.
20	Q.	Why have you used a depreciation rate in one instance that differs from the
21		NJBPU approved depreciation rate?

1	A.	The approved depreciation rate for sub account 391, office furniture and fixtures, is
2		11.91%. This category also includes all of the Company-owned computer-related
3		equipment and systems used to administer the business. ERP has historically been
4		included in the UPIS balance on which depreciation expense has been calculated.
5		Middlesex currently anticipates that the projected life of the core ERP system will be
6		substantially longer than the implied life of UPIS under sub account 391 (an 11.91%
7		depreciation rate implies an 8.40 year life) and proposes to use a more appropriate
8		depreciation rate of 4.0% for this category of UPIS. Middlesex did not engage a
9		depreciation expert, but believes that such a rate of 4% (life of 25 years) is appropriate
10		and has the benefit of eliminating the need to perform a full depreciation study in this
11		rate proceeding (which avoids that cost). The same 4% rate was used in the last four
12		Middlesex base rate proceedings. This is just another example of Middlesex trying to
13		match the most reasonable cost to provide service with what we expect to be the
14		underlying service period.
15	Q.	Can you please explain the adjustments for payroll in Exhibit P-5, page 12?
16	A.	The first adjustment is for budgeted wage increases for employees who are on a wage
17		progression schedule. These increases are designed to bring an entry level employee to
18		pay parity with other employees performing similar jobs over a 36-month period,
19		assuming acceptable job performance. The second and third adjustments represent the
20		annualized effect of the April 2021 average wage increase of 3.0% on base payroll and
21		overtime payroll. The fourth payroll adjustment represents the effect of applying the

1		expected capitalized payroll and subsidiary labor allocation percentages to the adjusted
2		Test Year payroll. The fifth adjustment is to reflect the full complement of employee
3		positions as described by Mr. Fullagar and Mr. O'Connor in their respective pre-filed
4		direct testimonies.
5	Q.	How does the social security tax adjustment on page 13 of Exhibit P-5
6		correlate to the payroll increase?
7	A.	The payroll tax adjustment details the calculation of the social security tax increase
8		on the taxable portion of the adjusted Test Year payroll. I have excluded from the
9		tax calculation the payroll increase that exceeds the current social security taxable
10		base. I have not made any allowance at this time for increases in the effect of
11		unemployment or disability taxes since substantially all of the payroll increase is
12		above the taxable wage base for those taxes.
13	Q.	Can you explain the revenue tax adjustments on Exhibit P-5, page 14?
14	A.	This tax adjustment sets forth the calculation of gross receipts and franchise taxes at
15		present and proposed rates. Column one represents the effect of the revenue
16		adjustments to Test Year amounts. Column two represents the increase in revenue
17		taxes based upon the proposed revenue increase.
18	Q.	What is the real estate tax adjustment on page 15 of Exhibit P-5?
19	A.	Real estate taxes are assessed for a fiscal period that begins on July 1st and ends on
20		June 30 th of the following year. The Company has not received the 2021 - 2022 tax
21		bills from the various municipalities and therefore, has projected an increase expected

1		to average 2.7% in the next fiscal period. When the new fiscal year real estate tax bills
2		are received by the Company, the adjustment will be updated as part of this proceeding
3	Q.	What is the regulatory assessment adjustment on page 15 of Exhibit P-5?
4	A.	This first adjustment is the result of the change in NJBPU and Division of Rate
5		Counsel assessment rates, as indicated on the 2021 assessment invoices applied to
6		adjusted Test Year revenue. The second adjustment reflects the proposed revenue
7		increase effect on the NJBPU and Division of Rate Counsel assessments.
8	Q.	What is the federal income tax adjustment on Exhibit P-5, page 16?
9	A.	The federal income tax adjustment sets forth the income tax calculation adjusted at
10		present and proposed rates. Mr. O'Connor provides the specific details of the
11		calculations in his pre-filed direct testimony.
12	Q.	What is the tax gross-up calculation shown on Exhibit P-5, page 18?
13	A.	The tax gross-up calculation is used to account for the impact of additional tax and
14		other expenses that will be incurred on the proposed revenue increase. The gross-up
15		factor is applied to the proposed operating income deficiency shown on Exhibit P-5,
16		page 19 to determine the total revenue requirement.
17	Q.	Have you prepared an Exhibit entitled rate base calculation?
18	A.	Yes, an Exhibit entitled Rate Base Calculation, designated as Exhibit P-6, was prepared
19		by me, under the direct supervision of Mr. O'Connor.
20	Q.	Please describe how the rate base was calculated as shown on Exhibit P-6.

1	A.	The beginning point of the rate base calculation is actual Utility Plant In Service
2		(UPIS) as of December 31, 2020. The detail of the additions and retirements for the
3		Test Year and post-Test Year UPIS is shown in Exhibit P-2 and will be addressed in
4		pre-filed direct testimony sponsored by Mr. G. Christian Andreasen. From the UPIS
5		balance brought forward from Exhibit P-2, an ERP-related amount, attributable and
6		allocable to Middlesex affiliates, is subtracted to arrive at projected UPIS as of
7		December 31, 2021. Next, I calculated the accumulated depreciation reserve.
8		Beginning with the Reserve for Depreciation balance as of December 31, 2020, I next
9		added nine months of Test Year Depreciation Expense. Annual depreciation expense
10		can be found in Exhibit P-5, page 12. Next, I subtracted Test Year retirements to arrive
11		at a Test Year Reserve for Depreciation.
12	Q.	Please explain the Bayview acquisition adjustment as shown on Exhibit P-6.
13	A.	This component of the Company's rate base represents the unamortized balance of
14		costs associated with Middlesex's acquisition of the Fortescue Island public water
15		utility in 2001. Prior to the acquisition by Middlesex of this troubled small water
16		system, and at the request of the NJBPU, Middlesex operated the system as an interim
17		custodial receiver for nearly four years. This is a clear example of where a private
18		entity (Middlesex) assisted the State of New Jersey in solving a problem involving a
19		troubled water system. In conjunction with the Middlesex 2005 base rate case, BPU
20		Docket No. WR05050451, and with the cooperation of all the parties to that case, the

1		rate setting process. Bayview customers served by Middlesex continue to receive the
2		benefit of quality water service and have had their rates stabilized as part of Middlesex.
3		The acquisition adjustment treatment included in the financial statements submitted in
4		this base rate proceeding merely continues the treatment that has been supported by the
5		NJBPU since the acquisition by Middlesex in 2001, and the Bayview accounts have
6		been merged into the books and records of Middlesex.
7	Q.	Please explain the adjustment for the regulatory liability.
8	A.	This component of rate base represents the projected unamortized balance as of June
9		30, 2022 of the Regulatory Liability which was established following the enactment of
10		the Tax Cuts and Jobs Act of 2017 (2017 TCJA). The Regulatory Liability represents
11		the portion of accumulated deferred income taxes collected at the higher pre-2017
12		TCJA tax rate at the time the customer rates were approved prior to the 2017 TCJA.
13		The annual amortization of the Regulatory Liability is reflected as a reduction in
14		Federal Income Tax expense shown on Exhibit P-5, page 16. This adjustment is further
15		described in the pre-filed testimony of Mr. O'Connor.
16	Q.	What is the adjustment for repair tax regulatory asset?
17	A.	This component of rate base represents the projected unamortized balance as of June
18		30, 2022 of the Regulatory Asset which was established upon approval by the Board in
19		BPU Docket No. WR17101049 of the special accounting treatment of the adoption by
20		Middlesex of the final Tangible Property Regulations ("TPR") issued by the Internal

1		Revenue Service. Please refer to the pre-filed testimony of Mr. O'Connor for
2		information pertaining to the adoption of the TPR
3	Q.	Can you describe the remaining rate base adjustments?
4	A.	Deferred Income Taxes (Property Related) pertains to the Company's use of
5		accelerated tax depreciation. This amount has been adjusted to reflect the
6		anticipated additions to UPIS during the Test Year. Customer Advances for
7		Construction (CAC) and Contributions in Aid of Construction (CIAC) amounts,
8		which are deducted from utility plant to arrive at rate base, represent the estimated
9		balance per books as of September 30, 2021, the end of the proposed Test Year in
10		this case. The deferred income taxes related to Bond Redemption Expenses and
11		Gross Receipts and Franchise Taxes, as well as the Retirement Plan Reserve,
12		Injuries and Damages Reserve, Road Opening Permit Deposits and Customer
13		Deposits have been recorded as adjustments to rate base consistent with prior
14		approved treatment. These amounts represent the projected balances as of
15		September 30, 2021, and will be updated as additional information becomes
16		available.
17		The amount shown for Materials and Supplies (M&S) represents a 13-month average
18		account balance beginning with February, 2020 and ending with February, 2021. The
19		average M&S account balance will be updated during this rate proceeding as actual
20		information becomes available.

1	Q.	Did the Company perform a lead/lag study to determine the appropriate			
2		working capital allowance?			
3	A.	A lead/lag study for the twelve months ended December 31, 2020 (2020 Lead/Lag			
4		Study) was prepared in conjunction with this base rate case proceeding. The results of			
5		the 2020 Lead/Lag Study were used to establish the cash working capital allowance as			
6		shown on page 2 of 2 of Exhibit P-6 attached to my testimony.			
7	Q.	Have you sponsored an Exhibit to the petition for a continued use of a Purchased			
8		Water Adjustment Clause (PWAC)?			
9	A.	Yes, Middlesex is seeking to update its PWAC base line information to meet the			
10		requirements set forth in N.J.A.C. 14:9-7.1. The information schedule has been			
11		designated as Exhibit H to the Petition.			
12	Q.	Does this conclude your testimony?			
13	A.	Yes.			

MIDDLESEX WATER COMPANY 2021 RATE CASE RATE BASE CALCULATION (5 Months Actual /7 Months Budget) BPU Docket No. WR2105XXXX

Adjusted Test Year Utility Plant in Service \$ 697,479,404	Less	Test Year Utility Plant in Service per Exhibit P-2 ERP UPIS Allocated to Subsidiary Companies	706,110,567 (8,631,163)	
Reserve for Depreciation Balance as of December 31, 2020 \$ (144,611,229) (12,546,881) (12,546,881) (12,546,881) (12,546,881) (12,546,881) (12,546,881) (13,546,881)		Adjusted Test Year Utility Plant in Service		\$ 697,479,404
Balance as of December 31, 2020 \$ (144,611,229) Test Year Depreciation Expense (01/01/21-09/30/21) (12,546,881) (12,546,881) (153,048,488) (153,	(Less)/Ad	d:		
Test Year Depreciation Expense (01/01/21-09/30/21)		Reserve for Depreciation		
Test Year Retirements		Balance as of December 31, 2020	\$ (144,611,229)	
Reserve for Depreciation (153,048,488) (Test Year Depreciation Expense (01/01/21-09/30/21)	(12,546,881)	
ERP Accumulated Depreciation Allocated to Subsidiary Companies 3,480,426 Adjusted Test Year Reserve for Depreciation 5 (149,568,062) Net Utility Plant in Service 547,911,342 Add: Unamortized Bayview Acquisition Adjustment - 12/31/20 164,428 Test Year Amortization (Rate = 1,52%) (2,580) Test Year Bayview Acquisition Adjustment 161,848		Test Year Retirements	4,109,622	
Adjusted Test Year Reserve for Depreciation		Reserve for Depreciation	(153,048,488)	
Net Utility Plant in Service		ERP Accumulated Depreciation Allocated to Subsidiary Companies	3,480,426	
Add: Unamortized Bayview Acquisition Adjustment - 12/31/20 Test Year Amortization (Rate = 1.52%) Test Year Bayview Acquisition Adjustment (Less)/Add: Regulatory Liability (Property Related) TPR Regulatory Asset (Property Related) Deferred Income Taxes (Property Related) Customer Advances Deferred Income Taxes- Gross Receipts and Franchise Taxes Deferred Income Taxes- Gross Receipts and Franchise Taxes Materials and Supplies (13 month average) Retirement Plan Reserve Injuries and Damages Reserve Injuries and Damages Reserve Social Allowance Customer Deposits Ga6,746,956) (36,746,956)		Adjusted Test Year Reserve for Depreciation		\$ (149,568,062)
Unamortized Bayview Acquisition Adjustment - 12/31/20 Test Year Amortization (Rate = 1.52%) Test Year Bayview Acquisition Adjustment (Less)/Add: Regulatory Liability (Property Related) TPR Regulatory Asset (Property Related) Deferred Income Taxes (Property Related) Contributions in Aid of Construction Customer Advances Deferred Income Taxes-Bond Redemption Expenses Deferred Income Taxes-Bond Redemption Expenses Deferred Income Taxes-Gross Receipts and Franchise Taxes Materials and Supplies (13 month average) Retirement Plan Reserve (3,853,624) Injuries and Damages Reserve (31,857) Road Opening Permits Deposits Unamortized Bayview Acquisition Adjustment - 12/31/20 (36,746,956)		Net Utility Plant in Service		547,911,342
Test Year Amortization (Rate = 1.52%) (2,580) Test Year Bayview Acquisition Adjustment 161,848 (Less)/Add: Regulatory Liability (Property Related) (19,130,321) TPR Regulatory Asset (Property Related) 46,997,440 Deferred Income Taxes (Property Related) (49,800,732) Contributions in Aid of Construction (19,490,214) Customer Advances (2,767,552) Deferred Income Taxes- Bond Redemption Expenses (36,521) Deferred Income Taxes- Gross Receipts and Franchise Taxes 576,153 Materials and Supplies (13 month average) 4,490,342 Retirement Plan Reserve (31,857) Injuries and Damages Reserve (31,857) Road Opening Permits Deposits 411,232 Working Capital Allowance 5,966,180 Customer Deposits (77,482)	Add:			
Test Year Amortization (Rate = 1.52%) (2,580) Test Year Bayview Acquisition Adjustment 161,848 (Less)/Add: Regulatory Liability (Property Related) (19,130,321) TPR Regulatory Asset (Property Related) 46,997,440 Deferred Income Taxes (Property Related) (49,800,732) Contributions in Aid of Construction (19,490,214) Customer Advances (2,767,552) Deferred Income Taxes- Bond Redemption Expenses (36,521) Deferred Income Taxes- Gross Receipts and Franchise Taxes 576,153 Materials and Supplies (13 month average) 4,490,342 Retirement Plan Reserve (31,857) Injuries and Damages Reserve (31,857) Road Opening Permits Deposits 411,232 Working Capital Allowance 5,966,180 Customer Deposits (77,482)		Unamortized Bayview Acquisition Adjustment - 12/31/20	164,428	
Test Year Bayview Acquisition Adjustment 161,848				
Regulatory Liability (Property Related) TPR Regulatory Asset (Property Related) Deferred Income Taxes (Property Related) Contributions in Aid of Construction Customer Advances Deferred Income Taxes- Bond Redemption Expenses Deferred Income Taxes- Gross Receipts and Franchise Taxes Materials and Supplies (13 month average) Retirement Plan Reserve Injuries and Damages Reserve Road Opening Permits Deposits Working Capital Allowance Customer Deposits (19,130,321) 46,997,440 (29,800,732) (2767,552) (36,521) (36,521) 576,153 Materials and Supplies (13 month average) 4,490,342 Retirement Plan Reserve (31,853,624) Injuries and Damages Reserve 831,857) Road Opening Permits Deposits 411,232 Working Capital Allowance Customer Deposits (36,746,956)		Test Year Bayview Acquisition Adjustment	<u></u>	161,848
Regulatory Liability (Property Related) TPR Regulatory Asset (Property Related) Deferred Income Taxes (Property Related) Contributions in Aid of Construction Customer Advances Deferred Income Taxes- Bond Redemption Expenses Deferred Income Taxes- Gross Receipts and Franchise Taxes Materials and Supplies (13 month average) Retirement Plan Reserve Injuries and Damages Reserve Road Opening Permits Deposits Working Capital Allowance Customer Deposits (19,130,321) 46,997,440 (29,800,732) (2767,552) (36,521) (36,521) 576,153 Materials and Supplies (13 month average) 4,490,342 Retirement Plan Reserve (31,853,624) Injuries and Damages Reserve 831,857) Road Opening Permits Deposits 411,232 Working Capital Allowance Customer Deposits (36,746,956)	(Loss)/Ad	٨.		
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Road Opening Permits Deposits 411,232 Working Capital Allowance 5,966,180 Customer Deposits (77,482) (36,746,956)			* * * * * * * * * * * * * * * * * * * *	
Working Capital Allowance 5,966,180 Customer Deposits (77,482) (36,746,956)		•		
Customer Deposits (77,482) (36,746,956)				
(36,746,956)				
Adjusted Test Year Rate Base \$ 511,326,235			(**, ***2)	(36,746,956)
		Adjusted Test Year Rate Base		\$ 511,326,235

MIDDLESEX WATER COMPANY LEAD/LAG SUMMARY AT PROPOSED RATES

(5 Months Actual /7 Months Budget) BPU Docket No. WR2105XXXX

	_	AMOUNT	LEAD/LAG DAYS	WEIGHTED AMOUNT
TOTAL REVENUE LAG	\$	114,126,274	69.17 (A)	
O&M EXPENSES	\$	43,313,476	14.80	\$ 641,090,581
DEPRECIATION		16,732,614	-	-
OTHER TAXES		17,424,253	290.20	5,056,600,669
FEDERAL INCOME TAXES				-
FIT AMORTIZATION		509,262	-	-
FIT EXPENSE		507,233	37.00	18,767,624
INVESTED CAPITAL		35,639,436	-	<u> </u>
TOTAL REQUIREMENT	\$	114,126,274	50.09 (B)	\$ 5,716,458,873
NET LEAD(LAG) DAYS			19.08 (A)-(B)
DAILY REQUIREMENTS (TOTAL REQUIREMENT/365 DAYS)				\$ 312,675 (C)
CASH WORKING CAPITAL REQUIREMENT				\$ 5,966,180 (C)*((A)-(B))