

STATE OF NEW JERSEY
BOARD OF PUBLIC UTILITIES

IN THE MATTER OF THE
REVISION OF RATES FILED BY
MIDDLESEX WATER COMPANY
BPU DOCKET NO. WR23 _____

PREFILED TESTIMONY

OF

G. CHRISTIAN ANDREASEN, JR.
VICE PRESIDENT – ENTERPRISE ENGINEERING

MAY 2023

1 MIDDLESEX WATER COMPANY

2 STATEMENT OF THE VICE PRESIDENT – ENTERPRISE ENGINEERING

3 TESTIMONY OF G. CHRISTIAN ANDREASEN, JR.

4
5 Q. PLEASE STATE FOR THE RECORD YOUR NAME, OCCUPATION AND BUSINESS
6 ADDRESS.

7 A. My name is G. Christian Andreasen, Jr. I am the Vice President-Enterprise Engineering for
8 Middlesex Water Company (Middlesex or the Company). In addition, I am the President of
9 Pinelands Water Company and Pinelands Wastewater Company (Pinelands), subsidiaries of
10 the Company in New Jersey. My business address is 485C Route 1 South, Suite 400, Iselin,
11 New Jersey.

12 Q. PLEASE STATE YOUR PROFESSIONAL AND EDUCATIONAL BACKGROUND AND
13 EXPERIENCE.

14 A. My professional qualifications and experience are set forth on Appendix A

15 Q. ARE YOU FAMILIAR WITH THE SERVICE AREA, SYSTEM FACILITIES, AND
16 OPERATION OF MIDDLESEX?

17 A. Yes. I have been employed by Middlesex since 1982 and with the various positions I have
18 held within the Company, Particularly with respect to the engineering aspects, I have a
19 broad understanding of the facilities, investments, and operations of the Company. My
20 responsibilities during my tenure have been for the engineering and planning of the
21 investments and improvements in facilities necessary for the provision of safe, adequate and
22 proper water service for all our customers. In addition, the Capital Program and Capital
23 Budget are developed and prepared under my direction. This has involved program and
24 project development and management of improvements to the Company's operational plant
25 including its transmission and distribution system, production and treatment facilities,

1 sources of supply, and general plant (collectively, “Utility Plant in Service” or, “Utility
2 Plant”).

3 Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

4 A. The purpose of my testimony is to provide an overall summary of the Company’s operation
5 as an integrated system, describe the Capital Program process at Middlesex and the overall
6 approach for planning and delivering capital projects. Mr. Brian F. Carr will be sponsoring
7 testimony to describe the specific capital additions that are presented in this rate increase
8 request proceeding, and Mr. Robert Fullagar will be testifying in greater detail as to the
9 operational aspects of the investments made to enhance our integrated system .

10 Q. CAN YOU EXPLAIN THE OVERALL OPERATION OF THE WATER SYSTEM?

11 A. Yes. As described in more detail in the testimony by Mr. Fullagar, the Middlesex System
12 operates as a fully integrated interconnected system operating at a single pressure zone for
13 the entire service area including retail and contract customers north and south of the Raritan
14 River. This system is primarily supplied from three different major sources: 1) surface
15 water from the CJO Plant facility, 2) wells / groundwater from the Park Avenue facility, and
16 3) purchased water from New Jersey American Water Company (NJAWC) through three
17 interconnections and booster facilities. These supplies are located at separate and different
18 geographic locations throughout the system. The system is designed and operated as a
19 single integrated system balancing flows into the system from these supplies to serve all of
20 the demands throughout the system.

21 Q. HAVE YOU SPONSORED A STATEMENT OF ORIGINAL COSTS OF THE UTILITY
22 PLANT OF THE COMPANY?

23 A. Yes. An exhibit entitled “Middlesex Water Company – Utility Plant in Service”, designated
24 herein as Exhibit P-1 is sponsored by me.

1 Q. WILL YOU BRIEFLY EXPLAIN THE BASIS FOR THE PREPARATION OF THIS
2 EXHIBIT?

3 A. The basis for Exhibit P-1 is the original cost of the Utility Plant as set forth in the books and
4 records of the Company, in accordance with the New Jersey Board of Public Utilities
5 Uniform System of Accounts for Water Utilities (USOA). Exhibit P-1 was prepared under
6 the supervision of Mr. Robert J. Capko, the Company's Corporate Controller and Principal
7 Accounting Officer, based on information that is provided to the Accounting Department
8 upon completion of capital work. I have adopted this exhibit as part of my testimony. I can
9 answer questions regarding the Company's Utility Plant in Service and am responsible for
10 the information that was submitted to the Accounting Department.

11 Q. CAN YOU DESCRIBE THE CURRENT PROCEDURE USED FOR CAPITAL
12 ADDITIONS AND RETIREMENTS TO THE UTILITY PLANT?

13 A. For all capital additions to the Utility Plant, a 5-year Capital Program, and a 1-year Capital
14 Budget are utilized as a basis for developing individual projects. The 5-year Capital
15 Program and the 1-year Capital Budget are developed annually by the Middlesex
16 Engineering Department, in collaboration with the various other Middlesex functional areas
17 and related departments. Once developed, the Capital Program and Capital Budget are
18 subject to review, challenge, modification and approval by Executive Management and the
19 Company's Board of Directors.

20 Individual capital projects are defined, contain estimated substantive costs and are subject to
21 a unique schedule. For smaller non-specific project-related expenditures such as water main
22 replacements, service lines, meters, meter enclosures, hydrants, pumping equipment,
23 treatment equipment and general equipment the Company uses "Blanket" projects created
24 within the Capital Program and Budget for each Major Account category of Utility Plant, as
25 defined in the USOA. Cost estimates for plant additions in these categories are prepared on

1 the basis of the identified needs to maintain or improve the quality and reliability of service
2 to all our customers. Expenditures under the Blanket projects involving construction of
3 water mains require a Work Order that is subject to management approval. Costs, including
4 materials and supplies, stores expense, payroll and transportation charges are charged to the
5 appropriate Project Account. Contractor and other vendor costs are charged to the Work
6 Order through purchase orders and invoices. The Blankets are summarized monthly and are
7 transferred to Utility Plant in Service when the projects are completed. There has been no
8 substantive change in the work order process since the Company's last base rate case
9 decision.

10 Q. WHAT IS THE PURPOSE FOR THE ADDITION OF THE CAPITAL PROJECT
11 ACCOUNTANT POSITION SHOWN ON EXHIBIT P-5, PAGE 11?

12 A. This position is to support the ongoing financial and data management and reporting for the
13 Capital Program and specific projects for project managers and program leaders. The quantity,
14 complexities and expectations for project reporting have increased in volume and the dedication
15 of an appropriate resource to address these increased needs is needed to improve the tools and
16 reporting to support project management and program delivery. The Company expects to fill the
17 position by September 1, 2023. The Company will update the progress it is making regarding
18 this new hire to the parties in this proceeding.

19 Q. DOES THAT CONCLUDE YOUR TESTIMONY?

20 A. Yes, it does.

21

G. CHRISTIAN ANDREASEN, JR., P.E.**SUMMARY:**

Over forty years of experience, practice, and responsibility in utility planning, engineering, construction, operations and management. Responsibilities have included the overall program development, delivery of a wide range of utility capital improvement projects, and water and wastewater utility administration and operations.

EXPERIENCE:

**06/1982-
Present**

- Vice President-Enterprise Engineering Middlesex Water Company, Iselin, NJ: Responsible for the oversight, planning, development and operations of Enterprise Engineering Departments and Capital Program across the operating companies in NJ and Delaware. Provides executive leadership to engineering personnel for the ongoing execution of infrastructure capital improvements and programs, and meeting ongoing needs of utility operations.
- AVP-Enterprise Engineering, Director of Engineering, Chief Engineer, Middlesex Water Company, Iselin, NJ: Directly responsible for the management for the Company's Engineering Department, Capital Program and Special Projects. This includes planning, design, and supervision of construction in order to continually optimize system expansion, operations and provide proper utility service.
- Staff Engineer, Middlesex Water Company, Iselin, NJ: Planning, design, procurement and construction of varied utility plant improvements and support to utility operations.

**Highlights
of Work**

- Overall responsibility for and management of all functions of the Enterprise Engineering Department and functions. This includes policy development and responsibility for managers, engineers, inspectors, drafters, and support personnel.
- Management, development, and oversight of the Capital Programs for utilities including the 1 year Capital Budget and 5 year Capital Program.
- Engineering and Project management responsibilities of capital projects with annual totals of ~\$100 million. Projects include facilities (mains) extensions for growth, office buildings, major treatment plant upgrades, pump stations, major transmission pipelines, wellfield improvements and storage reservoir/tanks.
- Overall responsibility for the development and implementation of the Enterprise Asset Management Program . Includes development of plans, regulatory compliance, and ongoing support for development of O&M and CIP projects and programs
- Company representation, expert testimony, and delivery of presentations at various regulatory, governmental, civic, industrial, and professional organizations.
- Preparation of applications support for regulatory (environmental and administrative) approvals.
- Development , review, analyses, and support on varied Company policies and procedures, operations initiatives and projects.

**01/2005-
Present**

- President (previously VP- Operations), Pinelands Water Company and Pinelands Wastewater Company, Iselin, NJ: Overall responsibility for utility activities, operations and management of water and wastewater utilities including surface water discharge wastewater treatment plant serving approximately 2,400 customers in Southampton Township, NJ. Provides executive leadership supporting administration, personnel, budgeting, operations, and external relations.

Examples of Major Projects	<u>Project Name</u>	<u>Role</u>
	<ul style="list-style-type: none"> ▪ <u>Utility Plants and Facilities</u> -CJO Plant surface water treatment plant major upgrades pgrades including process changes and ozone treatment, Park Avenue Wellfield Supply – wellfield rehabilitation treatment Plant upgrade for Air Stripping and PFAS removal (under construction). 	Project Officer, Project Manager
	<ul style="list-style-type: none"> ▪ <u>Major Pipelines</u> - 60” Raw Water Pipeline, Western Transmission 42” transmission main, South River Basin transmission mains, Raritan River 24” main HDD crossing 	Project Officer, Project Manager
	<ul style="list-style-type: none"> ▪ <u>Distribution System infrastructure renewals</u> - RENEW annual distribution system rehabilitation and replacements program, annual water main replacement projects for infrastructure renewal and coordination with road reconstruction projects 	Project Officer, Project Manager, Project Engineer
	<ul style="list-style-type: none"> ▪ <u>Utility system planning and growth</u> - Water and Sewer main extensions, and improvements for varied additions and needs to support system demand changes. 	Proj. Mgr, Proj. Eng., Design Eng., Inspector

EDUCATION: B.S. Civil & Environmental Engineering;Clarkson University, Potsdam, NY

PROFESSIONAL LICENSES: New Jersey & Delaware Professional Engineer
New Jersey DEP W-3 Water Operators Distribution License

AFFILIATIONS: State of New Jersey Water Supply Advisory Council (Vice Chair & member)
American Water Works Association (AWWA Past Director, NJ Section Past Chair & Trustee, Past Secretary Treasurer),
Water Environment Association, New Jersey Utilities Association, National Association of Water Companies.(member)
Habitat for Humanity in Monmouth County –Volunteer, past officer and board member

MIDDLESEX WATER COMPANY
UTILITY PLANT IN SERVICE - CLASSIFIED (101)

UTILITY PLANT ACCOUNT	MWC BALANCE AS OF 12/31/2021	ADDITIONS	RETIREMENTS	BALANCE AS OF 12/31/2022
310 LAND & LAND RIGHTS	299,719	0	0	299,719
311 STRUCTURES & IMPROVEMENTS	1,307,308	0	0	1,307,308
313 LAKE, RIVERS & OTHER INTAKES	381,429	0	0	381,429
314 WELLS & SPRINGS	647,494	0	0	647,494
316 SUPPLY MAINS	11,914,327	2,500	0	11,916,827
TOTAL SOURCE OF SUPPLY	14,550,277	2,500	0	14,552,777
320 LAND & LAND RIGHTS	92,189	0	0	92,189
321 STRUCTURES & IMPROVEMENTS	11,266,031	145,743	0	11,411,773
323 OTHER POWER PRODUCTION EQUIP	4,272,780	0	0	4,272,780
325 ELECTRIC PUMPING EQUIPMENT	18,214,778	904,760	0	19,119,538
328 OTHER PUMPING EQUIPMENT	760,594	31,911	0	792,505
TOTAL PUMPING	34,606,371	1,082,414	0	35,688,784
330 LAND & LAND RIGHTS	143,861	0	0	143,861
331 STRUCTURES & IMPROVEMENTS	70,804,143	5,029,502	36,580	75,797,065
332 WATER TREATMENT EQUIPMENT	49,684,363	1,445,244	266,725	50,862,882
TOTAL WATER TREATMENT	120,632,367	6,474,746	303,305	126,803,808
340 LAND & LAND RIGHTS	865,884	0	0	865,884
342 DISTRI. RES. & STANDPIPES	4,049,912	0	0	4,049,912
343 TRANS. & DISTRI. MAINS	299,199,243	15,909,681	440,441	314,668,482
345 SERVICES	72,382,979	6,138,090	147,732	78,373,336
346 METERS	20,242,044	1,718,129	1,113,448	20,846,725
347 METER INSTALLATIONS	42,205,824	8,525,754	1,501,188	49,230,390
348 HYDRANTS	25,282,797	1,623,622	370,296	26,536,123
349 OTHER T. & D. PLANT	1,194,768	109,882	0	1,304,650
TOTAL TRANS. & DISTRI.	465,423,451	34,025,158	3,573,106	495,875,502
389 LAND & LAND RIGHTS	1,121,028	0	0	1,121,028
390 STRUCTURES & IMPROVEMENTS	17,856,536	76,437	0	17,932,973
391 OFFICE FURNITURE & EQUIP	42,133,424	756,492	100,834	42,789,082
392 TRANSPORTATION EQUIP.	8,106,682	805,281	103,623	8,808,341
393 STORES EQUIPMENT	63,850	0	0	63,850
394 TOOLS, SHOP & GARAGE EQUIP.	2,650,660	159,719	4,714	2,805,664
395 LABORATORY EQUIPMENT	1,388,530	25,267	0	1,413,797
396 POWER OPERATED EQUIP.	424,370	4,261	0	428,631
397 COMMUNICATION EQUIPMENT	2,744,703	459,104	120	3,203,687
398 MISCELLANEOUS EQUIP.	306,565	0	0	306,565
TOTAL GENERAL PLANT	76,796,349	2,286,561	209,291	78,873,619
TOTAL PLANT IN SERVICE (CLASSIFIED)	712,008,815	43,871,378	4,085,702	751,794,491
102 UTILITY PLANT PURCHASED	0	0	0	0
106 PLANT NOT CLASSIFIED	0	0	0	0
TOTAL UTILITY PLANT IN SERVICE	712,008,815	43,871,378	4,085,702	751,794,491