PAW STATEMENT NO. 1

DIRECT TESTIMONY
OF
DAVID R. KAUFMAN

WITH REGARD TO
PENNSYLVANIA AMERICAN WATER
CLARION WASTEWATER OPERATIONS
SCOPE OF OPERATIONS AND CLAIMED PLANT ADDITIONS

DOCKET NO. R-2010-2166208

DATE: April 23, 2010

DIRECT TESTIMONY OF DAVID R. KAUFMAN

I. INTRODUCTION

1. Q. Please state your name and business address.

A. My name is David R. Kaufman, and my business address is 800 West Hershey Park Drive, Hershey, Pennsylvania 17033.

2. Q. By whom are you employed and in what capacity?

A. I am employed by Pennsylvania-American Water ("PAW" or the "Company") as Vice President of Engineering.

3. Q. Please describe your educational background and business experience.

A. In 1975, following graduation from Pennsylvania State University with a Bachelor of Science Degree in Civil Engineering, I accepted an engineering position with Pennsylvania Gas and Water Company ("PG&W") in Wilkes-Barre, Pennsylvania. I remained in that position until 1989, when I was promoted to Manager of Water Engineering for PG&W. In August 1991, I was promoted to Vice President of Water Resources for PG&W. In that position, I was responsible for PG&W's water operations relating to water supply, water quality and treatment, water engineering and planning. When the water assets of PG&W were acquired by PAW in February 1996, I accepted an Operations Manager position with the Company in its Northeast Region. I remained in that position until February 2001, when I was promoted to Manager of Northeast Operations. In 2004, I accepted the position

of Director of Engineering – Southeast Region with American Water Works Service Company and remained in that position until I accepted the position of Vice President of Engineering for PAW. I am a registered Professional Engineer in Pennsylvania and hold a Class A1 water treatment plant operator's license.

4. Q. Do you belong to any professional or industry associations?

A. Yes, I am a member of the American Water Works Association, the American Society of Civil Engineers and the Water Environmental Federation.

5. Q. What are your duties and responsibilities in your current position?

A. As Vice President of Engineering for PAW, I am responsible for the administration of engineering services, including the planning, design and construction of water and wastewater capital investment projects, for all of PAW's systems and facilities.

II. PURPOSE OF TESTIMONY

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

A. The purpose of my testimony is three-fold. First, I will describe the Clarion Wastewater Operations (CLWW), including PAW's acquisition of this wastewater system, and provide an overview of CLWW's scope of operations. Secondly, I will explain the Company's claimed plant additions for the CLWW. Finally, I will introduce the other witnesses who will appear on behalf of CLWW in support of this rate increase request.

III. DESCRIPTION OF PAW AND ITS SCOPE OF OPERATIONS

7. Q. Please begin by describing the CLWW and PAW organizational alignment.

A. CLWW is an operating division of PAW. As of March 31, 2010, PAW provided service to approximately 636,281 water and 17,553 wastewater customers. These services are provided in approximately 390 communities located in 36 counties spread throughout Pennsylvania. As a Pennsylvania public utility, PAW operates under the rules and regulations of the Pennsylvania Public Utility Commission ("Commission") which, in addition to regulating specific aspects of service, approves the rates charged for water and wastewater service. The Company also must comply with standards established by the Pennsylvania Department of Environmental Protection ("PaDEP") and the federal Environmental Protection Agency ("EPA").

8. Q. When did PAW acquire the Clarion wastewater system?

A. PAW acquired the Clarion wastewater system in October 2008 from the Clarion Area Authority ("Authority"). The acquisition was approved by the Commission in its Order entered on October 28, 2008 at Docket No. A-230073F00009.

9. Q. Provide a brief historical overview of the Clarion wastewater system before its acquisition by PAW.

A. In its Order approving PAW's acquisition of the Clarion wastewater system, the Commission noted that the Authority had a long history of environmental compliance issues with the PaDEP dating back to 1979. In 1979, PaDEP notified the Authority that the treatment facility was hydraulically and organically overloaded. The Authority hired The

Warnick Company, Inc. to conduct an Inflow and Infiltration study on the Clarion system. The report was finalized in 1983 and identified serious inflow problems within the collection system. PaDEP and the Authority entered into a Consent Order and Agreement ("CO&A") in 1983 to resolve violations which included operations and maintenance actions, sludge management actions, reduction of hydraulic and organic overload conditions, actions to monitor and report overflow conditions and actions to expand the treatment facility. Due to continued non-compliance issues, PaDEP and the Authority entered into another CO&A in 2000 to reduce hydraulic overload conditions, overflows and to bring the treatment facility back into compliance. Because the Authority did not comply with the 2000 CO&A, the PaDEP, in 2005, refused to renew the Authority's National Pollutant Discharge Elimination System ("NPDES") permit. Specifically, PaDEP determined that the Authority had not satisfied several requirements of the 2000 CO&A and was discharging inadequately treated wastewater from unpermitted locations into Trout Run and the Clarion River. PaDEP fined the Authority for these violations.

In 2006, PaDEP and the Authority entered into a third CO&A, which established new timelines for the Authority to bring its wastewater system into compliance with applicable federal and state regulations. The 2006 CO&A prohibited additional connections to the wastewater system because the collection system was hydraulically overloaded due to serious in-flow problems.

When PAW acquired the Clarion wastewater system, the Authority had not satisfied the conditions of the 2006 CO&A. As a consequence, PAW took responsibility for, and funded, multiple capital improvements that were made prior to closing on the acquisition. These capital expenditures included upgrading the Toby Street Pump Station,

reconstructing the Trout Run outfall, installing dissolved oxygen monitors, installing automatic slide gates at the influent side of the final clarifiers, installing flow meters, and work needed to prepare an infiltration and in-flow engineering and correction plan. The total cost incurred by PAW for these items was approximately $675,000. In 2009, after acquiring the system, PAW made more capital investments, which totaled approximately $1.3 million. The Company plans additional capital investment of another approximately $1.4 million in 2010.

10. Q. Please describe CLWW's wastewater operations.

A. A detailed description of CLWW operations is set forth in Volume 1, Scope of Operations, which is being submitted with this rate filing. The Clarion wastewater collection system serves the Borough of Clarion, portions of Clarion and Monroe Townships and a portion of Strattanville Borough (the "tributary municipalities"), all of which are in Clarion County. CLWW also receives wastewater for treatment from a collection system owned and operated by Strattanville Borough and from the Clarion University of Pennsylvania campus collection system. The CLWW collection system terminates at CLWW's wastewater treatment plant, which is located in Monroe Township.

The existing Clarion wastewater plant was constructed in 1964 and upgraded in 1984. The plant was designed for a rated capacity of 1.75 million gallons per day (mgd). The plant's treatment process starts with screening and comminution which prevents large solids from entering the treatment process and potentially damaging the treatment equipment. The comminutor grinds large solids into small, manageable pieces. The next step in the treatment process is grit removal. Grit includes sand, gravel, cinders and other solid

materials that are not treatable in the biological treatment process. Grit is removed from the process by means of an air lift system and disposed of at a permitted landfill. The next step is the contact stabilization activated sludge process. The activated sludge process is a biological process where the wastewater flows through a large, aerated tank and the microorganisms in the tank feed on the influent wastewater thus reducing the total biomass in the system. Upon leaving the aeration tank, the wastewater is transferred to the final clarifiers where the solids in the wastewater is settled out and sent back into the plant for further treatment. The effluent overflow from the clarifiers is sent to the chlorine contact tank for disinfection. Sludge is processed in aerobic digesters and thickened before it is removed for final disposal in a landfill.

The collection system serves approximately 2,200 customers. The system consists of approximately 171,000 feet of 6-inch to 24-inch sewer mains, five lift stations, and approximately 900 manholes. The majority of the collection system piping is vitrified clay, and the oldest pipe in the system was installed 70-80 years ago.

11. Q. What has PAW done to correct the significant problems that arose during the Authority's ownership of that system?

A. The Company made a number of improvements to correct the deficiencies that arose during the Authority's ownership of the system. The major improvements are described below..

- **Treatment Plant Upgrades**: The Company replaced outdated chlorine feed equipment, installed chlorine leak detectors in the chlorine storage area for safety purposes, replaced outdated laboratory equipment for process control and compliance

purposes, and installed back- flow prevention devices. The capital cost of these improvements was approximately $70,000.

- **Security Upgrade**: Gates and locks were installed at the wastewater treatment plant and at lift stations to improve security. The capital cost of these improvements was approximately $44,000.
- **Flow Meters**: Five permanent flow meters and three portable flow meters were purchased and installed throughout the collection system to assist in analyzing infiltration and in-flow (I&I) and for regulatory reporting. The capital cost of these additions was approximately $79,000.
- **I&I**: In October 2008, upon closing on PAW's acquisition of the Clarion wastewater system, PAW and the tributary municipalities entered into a CO&A with PaDEP. The 2008 CO&A requires PAW to implement the recommendations made in the I&I report, dated May 5, 2007, that was prepared by the engineering firm of Gannett Fleming, Inc. for the Clarion Area Authority. One of the recommendations was to correct significant defects in the collection system that were potential sources of I&I in sub-basins 3A, 3B, and 4. This recommendation was implemented in 2009 by replacing 6,365 feet of 8-inch, 10-inch, 12-inch, 15-inch and 24-inch PVC pipe, trenchless lining of 6,514 feet of existing 8-inch, 10-inch, 12-inch, 15-inch and 24-inch pipe, raising 46 manholes, replacing 46 manholes, and lining 97 vertical feet of manholes. The capital cost for this work was approximately $1,200,000.
- **Control and Procedure Plans**: – PAW implemented a PaDEP approved control and procedure plan that provides the plant operators with guidelines for maintaining appropriate control of the treatment process. The plan includes laboratory standard

operating procedures, sampling procedures, and quality assurance/quality control measures.

- **Odor Control**: The Company implemented process improvements to control odors. Specifically, the Company maintains reduced levels of sludge in the plant's digesters and has increased aeration.
- **Emergency Response**: To ensure emergency preparedness, in the fall of 2009, table-top drills were held statewide in which employees responded to a number of scenarios utilizing their Emergency Response Plans (ERP). CLWW personnel attended one of the sessions held in Western Pennsylvania. CLWW management updates its ERP at least annually and more frequently if needed.

IV. DESCRIPTION OF CLAIMED PLANT ADDITIONS

12. Q. Please describe the Company's claimed plant additions.

A. The Company has undertaken gross plant additions in the CLWW system totaling $1,379,298 for the 12 months ending December 31, 2010. I am sponsoring the portion of the supporting schedules of the filing which sets forth the Company's claimed future plant additions by applicable property account and by Project Numbers. Additionally, the estimated completion date and associated retirements for each project are shown.

13. Q. Please explain the projects included in the Company's future test year additions.

A. Projects to be completed in 2010 include additional treatment plant upgrades, collection system improvements, and work associated with updating the Official Plan required by Act 537 (Act 537 Plan) as provided in the 2008 CO&A. Details of these projects are described below.

(1) Treatment Plant Upgrades. Planned improvements at the wastewater treatment plant consist of replacing the air lift at the grit chamber; replacing the travel lift in the sludge thickener tank; replacing a sludge feed pump; and replacing flights, chains and baffles in Clarifier Nos. 1 and 2. These items are being replaced because they are at the end of their useful life and beyond repair. Additionally, the plant's feed water system and the vacuum regulator system for the chlorination system are being upgraded. The cost of these additions is approximately $99,330. These projects will be completed at various times throughout the year but will all be completed and in service by the end of December 2010. New 2-inch service piping to the plant's control building is being installed to improve flow and service pressure. This work was completed in January 2010 at a cost of $14,229. Additional laboratory equipment at the wastewater treatment plant will be replaced in 2010 at an estimated cost of $10,000.

(2) Collection System Improvements. The Company is making various collection system improvement including, principally: (a) upgrading the Mays Lift Station by installing new lift pumps and an influent screening basket to eliminate a bypass discharge; (b) installing emergency bypass piping at both the Toby Street and Chernicky lift stations; and (3) purchasing a trailer mounted pump for emergency bypass pumping to prevent overflows during extended power outages. These upgrades will be completed and placed in service no later than December 2010 at an estimated cost of $144,375. The Company completed the installation of a lift station at the wastewater treatment plant in March 2010 at a cost of $82,000. This addition eliminates the potential for untreated plant discharges into the outfall sewer. In order to correct additional deficiencies in the collection system, the Company will either replace or rehabilitate 32 manholes that are in poor physical condition

at a cost of $36,875. In conjunction with this work, the Company will replace or rehabilitate approximately 2,000 feet of sewer main. The main replacement and rehabilitation work will be completed by the end of 2010 at an estimated cost of $282,975. During 2010, the Company also plans to install 12 new service laterals and replace 6 service laterals that are in poor physical condition at estimated costs of $54,000 and $24,000, respectively.

(3) SCADA. New supervisory control and data requisition (SCADA) equipment was installed and placed into service at the wastewater treatment plant in 2010 at a cost of $27,729. Additional SCADA equipment will be installed in 2010 at various lift stations at an estimated cost of $23,100.

(4) Act 537 Plan. The 2008 CO&A requires PAW to prepare a comprehensive Act 537 Plan that updates each tributary municipality's individual Act 537 Plan. This update and revision will evaluate alternatives and make recommendations to eliminate all un-permitted sewage discharges. To accomplish this goal, sewer base mapping has been updated and a hydraulic model is being developed. Gannett Fleming, Inc. has been engaged to prepare the update and revision. Additional collection system evaluations will be performed during the test year in support of this activity. The total estimated cost to be incurred during the future test year is approximately $499,000.

V. INTRODUCTION OF OTHER COMPANY WITNESSES

14. Q. Please identify the other witnesses who are providing direct testimony on behalf of PAW in this proceeding.

A. In addition to myself, the following witnesses will be responsible for presenting PAW's case-in-chief:

Rod Nevirauskas is Director of Rates and Regulations for PAW. In PAW Statement No. 2, Mr. Nevirauskas describes the Company's need for rate relief, revenues and supports its requested capital structure, including rate of return and claim for income taxes and the Company's proposed customer assistance program.

John R. Cox is Manager, Rates and Regulations for PAW. Mr. Cox's testimony (PAW Statement No. 3) discusses the Company's claimed rate base elements, expense adjustments and taxes other than income.

Paul B. Herbert is President of the Valuation and Rate Division of Gannett Fleming, Inc. Mr. Herbert is set forth in PAW Statement No. 4 and discusses the design of tariff rates.

John J. Spanos is Vice President of the Valuation and Rate Division of Gannett Fleming, Inc. His testimony (PAW Statement No. 5) explains the development of the depreciated original cost of the Company's utility plant in service and its claim for annual depreciation expense.

Paul R. Moul is the Managing Consultant of P. Moul & Associates, Inc. Mr. Moul's testimony (PAW Statement No. 6) presents his recommendation regarding the rate of return on common equity that the Company should be afforded an opportunity to earn.

15. Q. Does this conclude your testimony?

A. Yes, it does.