**PENNSYLVANIA**

**PUBLIC UTILITY COMMISSION**

**Harrisburg, PA 17105-3265**

Public Meeting held August 27, 2020

Commissioners Present:

Gladys Brown Dutrieuille, Chairman

David W. Sweet, Vice Chairman

John F. Coleman, Jr.

Ralph V. Yanora

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| Petition of Pittsburgh Water and Sewer  Authority for Approval of its Amended Long-Term Infrastructure Improvement Plan for its Water Operations | Docket Number:  P-2018-3005037 |
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**OPINION AND ORDER**

**BY THE COMMISSION:**

Before the Commission for consideration is the Petition for approval of the Amended Long-Term Infrastructure Improvement Plan (Amended LTIIP) of the Pittsburgh Water and Sewer Authority (PWSA) for its water operations. PWSA filed its original LTIIP Petition on September 28, 2018. As detailed below, on April 27, 2020, PWSA filed its Amended LTIIP pursuant to the Commission’s March 26, 2020 Order.[[1]](#footnote-1) Both the original and Amended LTIIPs addressed water and wastewater operations and were docketed accordingly. Copies of the Amended LTIIP were served on the statutory advocates and the parties of record from PWSA’s last base rate case proceeding.[[2]](#footnote-2) The Amended LTIIP did not include any of the unchanged Appendices that were submitted with PWSA’s initial LTIIP filing on September 28, 2018. As a result, on July 7, 2020, PWSA filed an Amended LTIIP that includes all appendices including those unchanged from the initial filing and those revised as part of the April 27, 2020 filing.

**HISTORY OF THE PROCEEDING**

On September 28, 2018, PWSA filed its original LTIIP, which was docketed at Docket Nos. P-2018-3005037 (water) and P-2018-3005039 (wastewater), along with its Compliance Plan at Docket Nos. M-2018-2640802 (water) and M-2018-2640803 (wastewater). These LTIIP and Compliance Plan proceedings were subsequently consolidated, upon motion by PWSA at each M-docket number respectively for water and wastewater.

By Corrected Secretarial Letter dated November 28, 2018, the Commission assigned the consolidated matters, including the LTIIP, to the Office of Administrative Law Judge (OALJ) for hearings and established a two-stage review process for PWSA’s Compliance Plan.

On March 26, 2020, the Commission entered an Order (March 26 Order) that, *inter alia*, modified and approved the Joint Petition for Partial Settlement (Partial Settlement) filed by the Pittsburgh Water and Sewer Authority, the Bureau of Investigation and Enforcement of the Pennsylvania Public Utility Commission, the Office of Consumer Advocate, the Office of Small Business Advocate, Pittsburgh UNITED and Pennsylvania-American Water Company on September 19, 2019, as well as directed PWSA to file an amended LTIIP. The Partial Settlement dispensed several matters in the PWSA Compliance Plan, including that of the original LTIIP. PWSA filed its Amended LTIIP on April 27, 2020, to the same docket numbers as the original LTIIP.

No comments were filed to the Amended LTIIP. All parties have had ample opportunity to address any LTIIP concerns through the adjudication process of the Compliance Plan and no new comments were filed to the amended LTIIP. Therefore, we shall not address any comments that were filed to the original LTIIP in this Order.

**BACKGROUND**

Effective February 14, 2012, Act 11 of 2012, (Act 11) provides jurisdictional water and wastewater utilities, electric distribution companies (EDCs), and natural gas distribution companies (NGDCs) or a city natural gas distribution operation with the ability to implement a Distribution System Improvement Charge (DSIC) to recover reasonable and prudent costs incurred to repair, improve or replace certain eligible distribution property that is part of the utility’s distribution system. The eligible property for the utilities is defined in 66 Pa. C.S. §1351. Act 11 states that as a precondition to the implementation of a DSIC, a utility must file a LTIIP with the Commission consistent with 66 Pa. C.S. §1352.

The Commission promulgated regulations relating to LTIIPs at 52 Pa. Code §§ 121.1 – 121.8 that became effective December 20, 2014. In accordance with the regulations, a Public Utility must include the following elements in its LTIIP:[[3]](#footnote-3)

1. Types and age of eligible property;
2. Schedule for its planned repair and replacement;
3. Location of the eligible property;
4. Reasonable estimates of the quantity of property to be improved;
5. Projected annual expenditures and measures to ensure that the plan is cost effective;
6. Manner in which replacement of aging infrastructure will be accelerated and how repair, improvement or replacement will maintain safe and reliable service;
7. A workforce management and training program; and
8. A description of a utility’s outreach and coordination activities with other utilities, PennDOT and local governments on planned maintenance/construction projects.

**PWSA’S AMENDED LTIIP**

PWSA is an authority as defined in 66 Pa. C.S. § 3201 and therefore is regulated in the same manner as a public utility, pursuant to 66 Pa. C.S. § 3202(a). PWSA, through its water supply and distribution system, treats and provides water service to more than 300,000 people throughout the City of Pittsburgh (City) and surrounding areas, which PWSA notes is estimated to swell to over 500,000 persons during working hours. PWSA through its wastewater operations, Utility Code 2320555, collects and conveys wastewater in a largely combined sewer and stormwater system for the City and 24 neighboring suburban municipalities to the interceptors for the Allegheny County Sanitary Authority (ALCOSAN).[[4]](#footnote-4)

PWSA’s water supply system consists of: one 117 million gallons per day (MGD) rapid sand-type water treatment plant; one 26 MGD microfiltration water treatment plant; approximately 964 miles of mains; 80,000 service lines, 24,900 valves; 7,450 fire hydrants (not including private); one raw water pump station located along the Allegheny River; two finished water pump stations; 8 distribution pump stations; three covered finished water reservoirs; one uncovered source water reservoir; and 10 distribution storage tanks/reservoirs. PWSA notes the total storage capacity of the reservoirs and the tanks is approximately 455 million gallons when fully operational. PWSA notes the useable storage capacity within the reservoir and tank system provides adequate volume and pressure and is sufficient to provide storage equivalent for approximately two days of normal water usage, which is between approximately 65 to 70 MGD.

PWSA notes its sole source of water for the water system is the Allegheny River. The Pennsylvania Department of Environmental Protection (DEP) issued a 50-year Water Allocation Permit to PWSA in March 1989, which allows for water withdrawal of up to 100 MGD from the river. PWSA notes that DEP has advised it that the permitted allocation would be reevaluated in the future if PWSA’s demand increases as a result of growth within the City, or through the sale of water to surrounding municipalities.

In addition to providing water to the City, PWSA notes that it also owns and operates the water system for the City of Millvale and provides bulk water to the towns of Reserve and Fox Chapel. Through interconnections with other systems, PWSA provides water for supply and/or emergency use to several adjacent municipalities including: Blawnox; portions of the Pennsylvania American Water Company (PAWC) system; and intermittent provisions to several other neighboring communities.

PWSA notes that PAWC, Utility Code 21225, supplies water to approximately 27,000 customers in the southern and western sections of the City. PWSA also notes that two additional small areas, one in the eastern part and the other in the western end of the City, are served by the Wilkinsburg-Penn Joint Water Authority and the West View Water Authority, respectively. In each of these areas, the distribution system elements (waterlines, valves, hydrants, etc.) are owned and maintained by the respective independent water purveyor.

PWSA’s Amended LTIIP is for the fiscal years (FY) 2019 through 2023 with projected DSIC-eligible spending for those years of approximately $603 million for water, sewer, and hybrid programs. PWSA’s overall 5-year Capital Improvement Plan (CIP) from FY 2019-2023 includes significant investments in the water, sewer and stormwater systems to address aging infrastructure, improvements necessary to meet regulatory requirements, and improve infrastructure reliability and performance. PWSA has an overall 5-year budget of approximately $775 million, including non DSIC-eligible property. PWSA notes its water system renewal priorities within the CIP include: improvements to the Aspinwall Water Treatment Plant; replacement or rehabilitation of the two major finished water pumping stations; upgrades of storage facilities; replacement of critical water transmission mains; continuation of the lead service line replacement program; and acceleration of the small diameter water main replacement program.

PWSA reports the CIP also includes a smaller number of “hybrid” projects, defined as those that contain both water and sewer elements or sanitary and storm sewer elements. PWSA notes that it cannot effectively segregate the costs for these projects between water and wastewater. The 5-year budget for DSIC-eligible property for hybrid projects is approximately $7.3 million.

PWSA, in its petition, addressed the 8 LTIIP elements required by 52 Pa. Code §121.3, as discussed below:

**(1) TYPES AND AGE OF ELIGIBLE PROPERTY**

**PWSA’s Position**

The eligible property associated with PWSA’s water supply and distribution system for the Amended LTIIP consists of approximately 964 miles of mains, 24,900 valves, and 7,450 fire hydrants. PWSA’s Amended LTIIP notes that its 40-Year Plan dated September 2012, estimated the resources needed for capital improvements to PWSA’s system. PWSA’s 40-Year Plan identified upgrades to maintain and enhance the performance of the water and sewer systems.[[5]](#footnote-5)

PWSA notes that cost estimates were developed in the 40-Year Plan for distribution system improvements, pumping and storage facilities, treatment facilities, sewers, and Geographic Information System (GIS) improvements based upon regional cost information available at that time. PWSA notes that much of the information originally contained in the 40-Year Plan, including updated capital cost estimates, has been revised and updated since its release. PWSA notes the 40-Year Plan contained an estimated system inventory (including pumping and treatment), but only in terms of future replacement requirements. PWSA notes that the 40-Year Plan indicates the average age of water pipes is more than 80 years old, with more than 40% installed prior to 1920, and 86% built prior to 1970.

PWSA notes that not all eligible property is currently updated in its GIS database. However, PWSA notes the GIS database is being updated constantly. PWSA avers that the data input into GIS is an on-going effort, and statistics change with the on-going system updates, reorganization of data, and updates to the features within the system. PWSA states that its objective is to ultimately expand the GIS to support a mobile workforce, digital monitoring, and a reporting system. PWSA notes that the GIS database will be the repository of critical data that can be used to manage day-to-day operations as well as a valuable tool for analyzing future capital improvement needs. PWSA notes that a digital communication and documentation system supplied by a third-party vendor, known as SpryMobile, has been implemented to serve all field operations (maintenance, repairs and upgrades) and ultimately all construction monitoring and systemwide facilities’ data updates.

PWSA’s Amended LTIIP provided substantial detail on the material composition and age of their pipes, mains, services, meters, valves and hydrants to include the following:

* Water System Pipe Type and Length
* Water System Installed by Decade
* Number of Water System Valves by Size
* Water Valves by Type
* Number and Type of Metered Connections
* Number of Meters by Approximate Age
* Lead Service Line Replacement Program
* Lead Service Line Replacement Policy
* Inventory of Lead Service Lines

Table 1, below, describes in detail the 12 projects or project categories that comprise PWSA’s eligible water system projects in this LTIIP.

**Table 1: Water System Eligible Properties Improvement Project Categories**

|  |  |
| --- | --- |
| **Project Name** | **Project Description** |
| Hydrant Replacement  (Annual IDIQ Contracts) | Replacement of approximately 100 broken or older model type hydrants throughout the water distribution system annually, excluding hydrants replaced during relays. |
| Valve Replacement  (Annual IDIQ Contracts) | Replacement of defective or non-operational valves on transmission and distribution mains throughout the water distribution system, excluding valves replaced during relays. Includes locating, assessing and documenting the operability, raising to grade, and/or cleaning existing buried or obstructed valves. Increasing the number of operable valves in the system will reduce the number of customers that may be impacted and the number of valves that would need to be closed during emergency conditions. |
| Water Relay (Annual IDIQ Contracts) | Replacement of existing water mains, valves, fittings, service connections, and hydrants due to emergency situations. |
| Small Diameter Water  Main Replacement | Strategic replacement of water mains (including lead service lines) to improve system reliability as well as improve water pressure, maintain water quality, and minimize disturbance to the community. By maintaining a proactive approach to asset management, efforts can be directed towards remedying assets before their failure, thus saving in overall replacement cost. Additionally, projects will be coordinated with other utilities to minimize disturbance to the community and street surface restoration costs. Water quality and available hydrant flows will also improve by removing tuberculated mains. |
| Large Diameter Water  Main Improvements | Strategic condition assessment, replacement or rehabilitation of large diameter water mains (16-inch and larger) and appurtenances to improve system reliability and hydraulics, including internal and external inspections. By maintaining a proactive approach to asset management, efforts can be directed towards remedying assets before their failure, thus resulting in a savings in the replacement cost as compared to emergency/reactive repair costs. Typically, large diameter pipe is not readily available and has a 6 to 8-week lead time for delivery. A large percentage of the PWSA's large diameter mains are riveted steel, which cannot be easily repaired without the use of field fabricated specialty fittings. |
| Unmetered and Flat rate Properties | Installation of meters serving customers who were previously unmetered. Meter installation includes a new meter pipe and ancillary piping improvements. Some replacements may require the service line replacement to separate party lines. |
| Large Water Meters | Replacement of large meters for compliance with 52 Pa. Code § 65.8. |
| Small Water Meters | Replacement of small meters for compliance with 52 Pa. Code § 65.8. |
| Lead Service Line  Replacement | Replacement of lead service lines, both public and private. Due to the exceedance of the action levels from compliance tests for lead and copper, the DEP required PWSA to perform additional distribution system water quality monitoring, optimization of corrosion control treatment, source water monitoring/treatment, public education, and lead service line replacement. |
| District Water and  Pressure Meters | Installation of water meters and pressure monitors in the distribution system to determine water usage and loss, and pressure loss. |
| Aspinwall Pump Station to Lanpher Reservoir Rising Main | Construction of a new, redundant rising main from Aspinwall Pump Station to Lanpher Reservoir. The existing 60-inch rising main that supplies the Lanpher Reservoir is a 150-year-old riveted steel pipe, has several tap connections to critical and bulk customers, and has experienced recent pipe failures. The proposed rising main would serve as a primary supply source for Lanpher Reservoir during the Clearwell Replacement Project and a redundant supply line in case of a failure or planned cleaning and rehabilitation of the existing 60-inch supply main. |
| Bruecken Pump Station  Valve Vault | Upgrade to the mechanical and structural reliability of the six discharge manifold valve vaults at the Bruecken Pump Station, including associated electrical and control improvements. Includes the replacement of fourteen electric motor operated gate valves; addition of a surge relief valve in each of four rising mains; addition of aluminum access platforms, ladders, and hatchways in the roof of each vault; providing new lighting in each vault; replacement of the control panel for the gate valves; and, replacement of the standby generator that enables operation of the gate valves during power outages. To meet improvements mandated by an Administrative Order issued by the DEP on October 25, 2017, three diesel engine driven pumps and standby generators capable of operating one of the pump station’s main pumps will also be purchased and installed. |
| Low Pressure Area  Remediation | Fix chronically low-pressure areas by either extending neighboring higher-pressure districts into the area, booster pump stations, or household booster pumps. This project is in response to the low-pressure monitors required by the October25, 2017 DEP Administrative Order. |
| Washout Disconnection | Investigation and, if necessary, disconnection of large water main washouts from the sewer system. A number of older washouts on larger mains were directly connected to sewers with a closed valve during construction. These washouts (cross connections) in accordance DEP requirements, must be completely disconnected from the sewer. |

**Comments**

No comments were received regarding the types and age of eligible property.

**Resolution**

Upon review of PWSA’s Amended LTIIP, the Commission finds that PWSA’s Amended LTIIP fulfills the requirements of 52 Pa. Code § 121.3(a)(1) by identifying the types and ages of eligible property for which it seeks DSIC recovery.

**(2) SCHEDULE FOR PLANNED REPAIR AND REPLACEMENT OF ELIGIBLE PROPERTY**

**PWSA’s Position**

PWSA’s Amended LTIIP provided details on how PWSA plans to schedule and prioritize its accelerated capital improvements for the major project categories identified in Table 1, above. Table 2-6 in the Amended LTIIP’s Appendix B provides detailed planned expenditures for the 2020-2024 FYs. Specifics for key major project categories are discussed below.

Hydrant and Valve Replacement

PWSA notes that it maintains annual contracts to replace broken or inoperable hydrants and replace inoperable valves. These contracts do not include the replacement of hydrants and valves though watermain replacement projects. Hydrants that are found to be inoperable during routine maintenance and flushing activities, or reported through the local fire departments, are assigned to be replaced via the annual contract. PWSA notes that in 2018 and 2019, it committed to replacing one hundred hydrants per year, which is approximately 1% of the total.

PWSA notes that valves 4 to 10 inches in diameter that are found to be inoperable are typically replaced by its maintenance personnel when encountered during routine operations and that valves 12 inches in diameter and larger are replaced under an annual contractor replacement contract. PWSA notes its Valve Replacement Project will conduct a valve condition survey to identify valves that are paved over, inaccessible, or inoperable requiring repair or replacement, and those valves will be prioritized and included in the annual replacement contract. PWSA in its Amended LTIIP also details that it is working on a valve database that will eventually link the valve location and operating condition to the water GIS.

Small Diameter Water Main Replacement

PWSA notes that it has prioritized small diameter water main replacement (SDWMR) based on a formal planning process based on a risk scoring model. The scoring criteria and prioritization model are based on the anticipated likelihood and consequences of failure as well as the water quality impacts of such failures. PWSA notes that failure is defined as occurring in one of four possible modes: capacity; level of service; mortality (pipe failure and main breaks); and efficiency (operations costs exceed cost of rehab or replacement). PWSA notes that future SDWMR projects will be developed using a more comprehensive evaluation of each segment in the distribution system using available GIS data and the updated hydraulic model. Appendix C of the Amended LTIIP also provides further detail on how the SDWMR program will accelerate replacement of lead service lines (LSLs).

Large Diameter Water Main Improvements

PWSA notes that it is working to assess the condition and prioritize the rehabilitation or replacement of large diameter water mains (16-inch and larger). Priority projects include rising mains – those that send pumped water to an elevated reservoir or storage. PWSA notes that the Lanpher Rising Main has experienced two major breaks since 2014 and PWSA is constructing new rising main parallel to the existing Lanpher Rising Main. PWSA notes construction of the new rising main is scheduled for FY 2021. PWSA also notes that Rising Mains 3 and 4 from the Bruecken Pump Station were selected for improvements beginning in FY 2019. PWSA notes that prioritization of future projects will be completed through system modeling and analysis projects.

Large Water Meters

PWSA notes that in addition to the installation of new meters at unmetered buildings, it will also be undertaking a large meter changeout program of approximately 800 3-inch and larger meters, and 2,500 1.5-inch to 2-inch meters, that are not in compliance with Commission regulations due to age.

Small Water Meters

PWSA notes that there are approximately 50,000 meters that have exceeded the time allowed in the Commission’s recommended testing schedule and will need to be

tested and replaced. PWSA plans to perform this work over a 5-year period. PWSA notes it has accelerated the meter changeouts from about 4,000 per year in 2018 to 12,000 per year in 2019, by expanding PWSA’s plumbing staff. PWSA notes that it has determined that its own plumbing staff offer a cost-effective and expedient approach to completing the program.

Unmetered and Flat Rate Properties

PWSA notes that it has some legacy unmetered and flat rate properties. PWSA notes that historically, the City did not provide water meters on municipal and government buildings. PWSA estimates that there are approximately 200 to 400 sites that are currently unmetered. PWSA estimates that it has approximately 500 flat rate

customers that are charged a monthly flat rate for services. PWSA further notes that these flat rate customers are typically either party line customers, service lines that serve more than one property, or locations that are known to not have meters. PWSA is proposing a 5-year period to complete the Unmetered and Flat Rate Properties meter installation program.

Lead Service Line Replacement Program

PWSA’s Lead Service Line Replacement (LSLR) Program was developed to address the requirements of the 25 Pa. Code (Environmental Protection), an April 25, 2016 DEP Administrative Order, and a November 17, 2017 DEP Consent Order and Agreement (COA). PWSA also notes its LSLR Program has been modified in accordance with the March 26 Order. The LSLR Program outlines a plan to complete the replacement of all public and private-side lead service lines in PWSA’s system. PWSA was also directed to optimize corrosion control measures in the system to mitigate the release of lead in drinking water.

PWSA details its lead service line program in its entirety in its Amended LTIIP, specifically in Appendix C. PWSA notes that its lead service line program was extensively reviewed as part of the compliance filing proceeding.[[6]](#footnote-6) PWSA states that its current goal is to complete the replacement of all public and private-side lead service lines in its system by 2026.

Table 2-7 in PWSA’s Amended LTIIP outlines the projected timetable for LSL replacements through the LSLR Program and the accelerated SDWMR Program. Table 2 presents that table from the Amended LTIIP.

**Table 2: Expected Timetable for Removal of LSL by 2026**



**Comments**

No comments were received regarding the schedule for planned repair and replacement of eligible property.

**Resolution**

Upon review of PWSA’s Amended LTIIP, the Commission finds that PWSA’s Amended LTIIP fulfills the requirements of 52 Pa. Code § 121.3(a)(2) by providing a schedule for planned repair and replacement of eligible property.

**(3) LOCATION OF THE ELIGIBLE PROPERTY**

**PWSA’s Position**

PWSA in its Amended LTIIP notes that work on water, wastewater, and hybrid programs will occur throughout PWSA’s service territory in the City. As noted in element 2 discussed above, PWSA’s risk model and other determinants will guide specific locations for work for each FY.

**Comments**

No comments were received regarding the location of eligible property.

**Resolution**

Upon review of PWSA’s Amended LTIIP, the Commission finds that PWSA’s Amended LTIIP fulfills the requirements of 52 Pa. Code § 121.3(a)(3) by providing a general description of the location of eligible property.

**(4) REASONABLE ESTIMATES OF THE QUANTITY OF PROPERTY TO BE IMPROVED and**

**(5) PROJECTED ANNUAL EXPENDITURES AND MEASURES TO ENSURE THAT THE PLAN IS COST EFFECTIVE**

**PWSA’s Position**

PWSA’s Amended LTIIP notes that its 40-Year Plan dated September 2012 estimated the resources needed for capital improvements to PWSA’s system. PWSA maintains that the increase in the volume of capital project delivery planned for the next 5 years demands an ever-increasing level of management excellence to achieve the efficiencies necessary to meet the challenge of adhering to project budgets and schedules.

Table 2-6 of Appendix B of the Amended LTIIP provides detail on actual and projected water system DSIC-eligible expenditures by FY from 2020-2024. Table 4-2 of Appendix B provides detail on the hybrid actual and planned spending for PWSA’s hybrid projects. PWSA identifies the costs associated with the projects for each year of the project schedule by the project categories identified in element 2, above.

Table 3, below, details the Historical (2014-2019) and projected (2020-2023) FY capital spending for eligible property for water, sewer, and hybrid projects**.**

**Table 3: Historical (2014-2019) and Projected (2020-2023) FY Capital Spending (in Thousands of Dollars)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Fiscal  Year | Water Projects | Sewer Projects | Hybrid  Projects | Total  Eligible |
| 2014 | $3,177 | $400 | $1,983 | $5,560 |
| 2015 | $998 | $4,186 | $10,040 | $15,225 |
| 2016 | $894 | $1,305 | $5,777 | $7,976 |
| 2017 | $4,331 | $2,476 | $8,330 | $15,137 |
| 2018 | $28,002 | $2,599 | $5,547 | $36,148 |
| 2019 | $47,071 | $3,586 | $73 | $50,730 |
| 2020 | $71,887 | $33,283 | $500 | $105,670 |
| 2021 | $103,975 | $39,142 | $3,000 | $146,117 |
| 2022 | $125,908 | $30,551 | $3,000 | $159,459 |
| 2023 | $108,401 | $31,392 | $750 | $140,543 |
| **Total** | **$494,644** | **$148,920** | **$39,000** | **$682,565** |

PWSA states that there is a need for a comprehensive and systematic approach to the delivery of the accelerated capital improvements program. PWSA notes it has implemented and is continuously improving several tools that will ensure the cost-effective and efficient planning, design, procurement, construction, and close-out of projects. These tools include the e-Builder project management information system, the Program Management Plan (PMP), and contractor procurement process. PWSA maintains that cost effectiveness will be ensured by the selection of the appropriate construction techniques such as trenchless construction during the planning stages of a project.

PWSA states that its currently planned Amended LTIIP improvements will be funded through both current rates and future rate increases, and financed through revenue bonds, a capital line of credit, pay-as-you-go (PAYGO) funding, and Pennsylvania Infrastructure Investment Authority (PENNVEST) low interest loans. PWSA states that it is exploring the federal funded program called the Water Infrastructure Finance and Innovation Act of 2014 (WIFIA) to help finance certain planned improvements. PWSA notes that the WIFIA program offers low, fixed interest rates and flexible financial terms. PWSA intends to utilize a mix of all funding options to invest in the planned improvements at the lowest possible ratepayer cost. PWSA also intends to explore the potential use of public-private partnerships in the future to lower the capital cost burden to ratepayers.

**Comments**

No comments were received regarding the reasonable estimates of the quantity or expenditures of property to be improved, and cost effectiveness of the plan.

**Resolution**

PWSA does not currently have an approved DSIC and therefore is not required to file an Annual Asset Optimization Plan (AAOP).[[7]](#footnote-7) In order for the Commission to ensure PWSA is meeting its commitments in the Amended LTIIP in a cost effective manner, until such time that PWSA has an approved DSIC, we shall direct PWSA to file a report in similar form and content to an AAOP that includes tables similar in form and content to tables 2-6, 3-6, and 4-2 of the Amended LTIIP’s Appendix B with updated actual eligible property amounts and expenditures, as well as an update on the progress of the Lead Service Line Replacement Program.[[8]](#footnote-8)

Upon review of PWSA’s Amended LTIIP, the Commission finds that PWSA’s Amended LTIIP fulfills the requirements of 52 Pa. Code §§ 121.3(a)(4)-(5) by providing reasonable estimates of the quantity of property to be improved and the projected annual expenditures and means to finance the expenditures and ensure cost effectiveness.

**(6) ACCELERATED REPLACEMENT AND MAINTAINING ADEQUATE, EFFICIENT, SAFE, RELIABLE AND REASONABLE SERVICE TO CUSTOMERS**

**PWSA’s Position**

PWSA maintains that for the past 30 years it has run an engineering and construction department comprised of employees and contracted professionals. PWSA states that its staff and its outside consultants and contractors will continue to work as a unit in terms of controlling and monitoring all aspects of the capital program. PWSA states that the increase in the volume of capital project delivery planned for the next 5 years demands an ever-increasing level of management excellence to achieve the efficiencies necessary to meet the challenge of adhering to project budgets and schedules. PWSA maintains that one critical criterion for selecting future water main renewal locations is the presence of lead service lines, which PWSA anticipates will be the focus of the water main renewal program for the next several years.

PWSA notes that impediments to the attainment of the aggressive construction program proposed must be identified in advance and when barriers to the efficient attainment of pre-established budget and schedule goals are identified, they must be resolved quickly and consistently. PWSA maintains that this approach will ensure the success of the program, measured in large part by cost savings.

Table 4, below, is Figure 2-6 from the Amended LTIIP and it presents actual and projected spending on eligible water system projects for the period 2014-2023. Table 3, above, and Table 4, below, clearly show a significant increase in capital spending for DSIC-eligible water improvements and rehabilitation over the historical rate.

**Table 4: Historical and Projected Spending for DSIC-Eligible Water Projects**



**Comments**

No comments were received regarding the manner in which the infrastructure replacement will be accelerated.

**Resolution**

Upon review of PWSA’s Amended LTIIP, the Commission finds that PWSA’s Amended LTIIP fulfills the requirements of 52 Pa. Code § 121.3(a)(6) by providing a description of the manner in which infrastructure replacement will be accelerated and how repair, improvement, or replacement will ensure and maintain adequate, efficient, safe, reliable, and reasonable service to customers.

**(7) WORKFORCE MANAGEMENT AND TRAINING PROGRAM**

**PWSA’s Position**

PWSA maintains that its existing workforce provides a solid foundation upon which to build the staff and skills it needs to become a high-performing organization. PWSA notes that it has added more than 115 employees since 2018 to address the range of operational, capital and other Commission-mandated compliance responsibilities. In 2020, PWSA anticipates adding an additional 33 new employees to accomplish the work associated with the 2020 CIP and other Commission-mandated compliance activities which include the eligible property infrastructure improvements. PWSA notes that PWSA staff will be supplemented by contracted personnel as needed.

PWSA also intends to continue adding staff for stormwater related activities, as well as additional operations crews to construct water main and stormwater facilities as appropriate, in lieu of private contractors. PWSA notes the full extent of the additional workforce will depend upon their availability in the region, and the costs for contracted work compared to PWSA staff productivity.

PWSA is not able to present an estimate of the exact number of contractors that may be needed at this time as that figure is dependent on both the progress of building an internal workforce and the final determination of actual needs and scope of the projects. PWSA states that it utilizes subcontracted construction inspectors to provide numerous services during the installation of water mains, service lines, sewer lines, laterals and manholes in the collection system.

PWSA states that it maintains three inspectors on staff, and is seeking additional inspection staff, and utilizes qualified consultants to provide construction inspection services. PWSA notes that these inspectors perform a wide range of services including the following tasks, as well as any other work that may be necessary to complete the construction activities:

* Monitor the installation of the water and sewer lines and appurtenances to confirm that they are properly bedded and installed in accordance with PWSA’s specifications and/or Contract Documents
* Observe, perform testing to ensure that the new utilities meet specified performance requirements
* Monitor the pipe backfill for proper compaction in accordance with PWSA’s specifications and/or local municipal, county or PennDOT requirements
* Confirm that all materials such as pipe, fittings, hydrants, valves, service connections, backfill materials, etc. being used in the project meet the PWSA’s specifications
* Record the quantities of pipe and other materials installed
* Document the quantities of pipe and other materials, labor, equipment, etc., for accurate billing and payments
* Document all locations of pipe, valves, service connections, laterals, etc., for accurate mapping and record keeping
* Interact with City residents to coordinate water service line or sewer lateral installations, lessen the impact of the project and answer or address issues that may arise during the project
* Communicate with local businesses that may be impacted by the construction activities to ensure that service disruptions can be minimized to the greatest extent possible and service outages are minimized and do not disrupt business
* Coordinate contractors with school districts, various City agencies, and emergency services so that bus routes, trash pick-up, mail delivery, and emergency response are minimally impacted
* Monitor temporary restoration activities during construction to ensure that roads are restored to approved vehicular travel conditions and sidewalk areas are clear for pedestrians
* Monitor the final restoration required in projects to ensure that they are done in compliance with City of Pittsburgh, Allegheny County and/or PennDOT specifications
* Observe contractor's implementation of contractor safety plans and advise contractor of any observed conditions of imminent risks to public health or safety. Inspectors are authorized to advise supervisors of unsafe conditions and can shut down a project until an imminent danger situation is addressed.

PWSA states that it will work cooperatively with unions to find and act on opportunities to increase workforce performance and effectiveness. PWSA notes that in early 2020, local union leadership has agreed to assist PWSA with specific training required for its laborers, equipment operators, electricians, plumbers and utility workers.

PWSA states that it will use a combination of internal and external resources to address the critical staffing needs associated with the infrastructure improvement program. PWSA will utilize Program Management support to execute the program with design and construction management services primarily provided by consultants. PWSA intends to cost-effectively increase staffing levels to ultimately assume the role of program management of the CIP.

PWSA notes that training for all staff has increased and includes assisting the staff to acquire certifications and licenses for their specialized capabilities (Water Treatment Operators, Distribution System Operators.)

PWSA is also working to establish and track productivity goals for work groups, where applicable. PWSA notes that it has implemented performance metrics for every group within the organization. More than 50 metrics are now being reported to the PUC on a quarterly basis.

PWSA maintains that four measures of success will be used to determine effectiveness of its workforce engagement program:

* Training hours per year: Goal of 20 hours per year per employee.
* Safety compliance: The goal will be to maintain a worker’s compensation experience modification rate of less than 1.0.
* Occupational Safety & Health Administration (OSHA compliance: Meet OSHA requirements)
* Staff engagement survey: One every 3 years.

PWSA notes that its Program Management Team, with support of PWSA Project Controls personnel, have conducted e-Builder training for PWSA personnel and others. PWSA states that in addition to this formal training, “e-Builder Hot Topic Meetings” are held monthly.

PWSA maintains that other training programs are conducted by in-house and contracted personnel on such topics as hydraulic modeling, low impact development (LID), sustainability, and safety. PWSA notes that its engineering staff are certified Sustainability Professionals. In 2014, PWSA contracted with Compliance Management International (CMI) to assist in improving their current Health & Safety Program. PWSA states that CMI developed a Safety Improvement Plan (SIP) SIP to incorporate 12 key Health & Safety initiatives to expand and improve the overall program to include:

* Written Safety Programs
* Goals & Objectives
* Leadership/Management
* Safety Training
* Safety Inspections (Facility/Job Sites)
* Safety Committees
* Job Safety Analysis (JSA)
* Accident Prevention/Incident Investigation
* Corrective Action Tracking
* New Employee Orientation
* Emergency Procedures
* Occupational Illness/Health

PWSA notes that most of the above trainings are provided on an annual basis as part of a full day safety refresher training. In May 2018, PWSA recertified over 80 employees as Certified Flaggers and will provide another round of training for Competent Persons for Excavations certifications.

PWSA states that is has dedicated additional resources to training and development, as well as health, safety, and risk management. PWSA states that it provides safety training by having a full-time contractor onsite, working with the Operation and Water Production Teams on a weekly basis. PWSA reports that they are currently interviewing individuals to hire a permanent fulltime Senior Safety Manager.

PWSA notes that it conducted Industrial Hygiene Monitoring in 2016 and 2018, including both air sampling and noise sampling. As a result of the monitoring program, PWSA implemented an OSHA compliant respiratory program. PWSA states that safety metrics and injury trends are continuously tracked and improvements in the provision and use of personal protective equipment (PPE) and other operational equipment to reduce employee risks and injuries have also been noted.

**Comments**

No comments were received regarding the workforce management and training program.

**Resolution**

Upon review of PWSA’s Amended LTIIP, the Commission finds that PWSA’s Amended LTIIP fulfills the requirements of 52 Pa. Code § 121.3(a)(7) by providing a workforce management and training program that is designed to ensure that PWSA will have access to a qualified workforce to perform the work in a cost effective, safe and reliable manner.

**(8) DESCRIPTION OF OUTREACH AND COORDINATION ACTIVITIES WITH OTHER UTILITIES, PENNDOT AND LOCAL GOVERNMENTS ON PLANNED PROJECTS**

**PWSA’s Position**

PWSA maintains that it has developed a coordination team with the City and its other utility members. PWSA states that it is developing a robust GIS-based data layer to communicate its plans to other utilities. At present, PWSA states that the critical coordination appears to be with the City, specifically the annual paving plans, and the local Gas Companies’ piping improvements. PWSA expects significant improvement with the coordination between the PWSA and the City as a result of the City’s hiring of a new Chief Engineer, and additional engineering staff, which has delayed coordination in the past. PWSA has assigned specific utility coordination duties to a primary, internal utility coordination staff member within the Engineering Department.

PWSA maintains that its annual, water and sewer system capital projects including replacements, rehabilitations, and repairs are selected and vetted to PWSA’s engineering department before being prioritized for the coming budget year. As part of this process, PWSA solicits information from PennDOT, Allegheny County, homeowner’s associations, and other utilities as to their intentions to undertake paving and other public works projects during the budget year.

PWSA states that it attends monthly utility coordination meetings with the City’s Department of Mobility and Infrastructure (DOMI) and other local utilities and coordinates construction and repair efforts when possible to avoid conflicts where overlapping work is identified. Additionally, PWSA notes that it will utilize resources, including the Pennsylvania 811 Coordination web service application, to identify opportunities for collaboration between projects and to meet the need for increased coordination with local utilities and local, state, county and city government agencies. PWSA notes that when it decides to undertake a pipe or manhole refurbishment project on a road pre-scheduled for paving, the project is coordinated with the State, County, City or appropriate municipality.

PWSA reports that it works closely with the applicable government agency to ensure that the design, permitting and construction of PWSA’s infrastructure project will be completed in time to allow for the road to be paved. PWSA notes that when it undertakes a project where paving has been pre-planned by the involved government agency, in most cases PWSA and its rate payers will benefit financially through the avoidance of road surface restoration. PWSA maintains that it will continue the proactive means to identify opportunities to coordinate pipe replacement and road paving.

PWSA states that it also employs Field Liaisons who are responsible for coordinating lead service line replacement (LSLR) work between PWSA’s contractors, property owners and often tenants. PWSA notes that Field Liaisons contact each property owner to help them understand the replacement process and potential impacts of the work, and to encourage private property owners who have not responded to communications from PWSA’s Lead Help Desk. PWSA notes the presence of on-site Field Liaisons also helps assure that the PWSA’s contractors meet all quality assurance and regulatory requirements, such as providing NSF approved filters and lead water test kits. Other LSLR outreach includes presentations at community meetings within the work areas, advertisements in neighborhood publications, press releases (and resulting press coverage) of work areas, social media posts, collaboratively working with City Councilors regarding work done in their district, construction signage detailing the work and weekly updates concerning streets where work is occurring.

PWSA notes that it has created a comprehensive capital improvement outreach protocol to connect project managers and PWSA’s public affairs team in the early stages of a project to ensure that PWSA clearly communicates the benefits, impacts, and expectations of construction work. PWSA notes its Public Affairs team members attend many of the engineering progress meetings to ensure they are in the loop as projects progress so that the public has the most pertinent, time-sensitive information on projects that will impact where they live or work. PWSA notes that residents can check an interactive map of their neighborhood on the PWSA website to see which projects are upcoming and easily access contact information for project managers and members of the Public Affairs team. PWSA notes it also hosts and participates in meetings and events throughout the city to share information on our programs and projects.

PWSA maintains that its industry relations are focused on enhancing the relationship with developer and contractor customers through increased outreach and technology. PWSA reports that its Public Affairs team established a single point of contact for any development questions or commercial customer issues. PWSA notes that the point of contact also schedules pre-development meetings that are typically the first contact with any potential applicants. PWSA describes that at this meeting, the property owner, their consultants, and contractors meet with PWSA staff to ensure that the project complies with water and sewer regulations.

PWSA states that they have also ramped up efforts to reach industry partners including contractors, third party engineers, plumbers, and non-profits. PWSA attended events to promote their upcoming work contracts to organizations such as the: Engineering Society of Western Pennsylvania; Society of Engineering Outreach; Society of Military Engineers; Government Agency Procurement Office; MWDBE Governmental Committee; Building Owners and Manager Association; and additional organizations. PWSA notes that it also attended open houses, office openings, and industry award ceremonies to meet and network with new talent and potential partners.

**Comments**

No comments were received regarding the description of outreach and coordination activities with other utilities, PennDOT and local governments on planned projects.

**Resolution**

Upon review PWSA’s Amended LTIIP, the Commission finds that PWSA’s Amended LTIIP fulfills the requirements of 52 Pa. Code § 121.3(a)(8) by providing a description of PWSA’s outreach and coordination activities with other utilities, PennDOT and local governments on planned projects and roadways that may be impacted by the LTIIP.

**LTIIP SUMMARY**

The Commission’s review of an LTIIP must determine if the LTIIP:[[9]](#footnote-9)

* Contains measures to ensure that the projected annual expenditures are cost‑effective.
* Specifies the manner in which it accelerates or maintains an accelerated rate of infrastructure repair, improvement or replacement.
* Is sufficient to ensure and maintain adequate, efficient, safe, reliable and reasonable service.
* Meets the requirements of 52 Pa. Code § 121.3(a).

The utility has the burden of proof to demonstrate that its proposed LTIIP and associated expenditures are reasonable, cost effective and designed to ensure and maintain sufficient, safe, adequate, reliable and reasonable service to consumers.[[10]](#footnote-10)

The Commission has reviewed PWSA’s Amended LTIIP and any resulting comments. The Commission finds that PWSA has meet its burden of proof by demonstrating that its Amended LTIIP contains measures to ensure that the projected annual expenditures are cost-effective, specifies the manner in which it accelerates or maintains an accelerated rate of infrastructure repair, improvement, or replacement, is sufficient to ensure and maintain adequate, safe, reliable, and reasonable service, and meets the requirements of 52 Pa. Code § 121.3(a). Accordingly, PWSA’s LTIIP is approved.

The Commission finds PWSA’s Amended Long-Term Infrastructure Improvement Plan and the manner in which it was filed conforms to the requirements of Act 11 and our Regulations. The plan, as approved herein, is designed to maintain safe, adequate and reliable service and, as such, PWSA shall be required to comply with the infrastructure replacement schedule and elements of that plan; **THEREFORE,**

**IT IS ORDERED:**

1. That the Petition for Approval of an Amended Long-Term Infrastructure Improvement Plan filed by the Pittsburgh Water and Sewer Authority for its Water Operations is approved, consistent with this Order.

2. That until such time as the Pittsburgh Water and Sewer Authority has an approved Distribution System Improvement Charge and is required to file an Annual Asset Optimization Plan, the Pittsburgh Water and Sewer Authority shall file a progress report 30 days after the end of each fiscal year beginning with fiscal year 2020, and each fiscal year afterwards at that same time, and the report shall be in similar form and content to an Annual Asset Optimization Plan and shall include tables similar in form and content to Tables 2-6, 3-6, and 4-2 of Appendix B of the Amended Long-Term Infrastructure Improvement Plan, along with updated actual eligible property amounts and expenditures, as well as an update on the progress of the Lead Service Line Replacement Program.

3. That the report filed pursuant to Ordering Paragraph No. 2, above, shall be filed with the Commission’s Secretary to Docket No. P-2018-3005037 with copies served upon the Bureau of Investigation and Enforcement, the Bureau of Fixed Utility Services, the Office of Consumer Advocate, and the Office of Small Business Advocate.

4. That the proceeding at Docket No. P-2018-3005037 be closed.

**BY THE COMMISSION,**

Rosemary Chiavetta

Secretary

(SEAL)

ORDER ADOPTED: August 27, 2020

ORDER ENTERED: August 27, 2020

1. *See* Docket No. M-2018-2640802. [↑](#footnote-ref-1)
2. *See* Docket No. R-2018-3002645. [↑](#footnote-ref-2)
3. *See* 52 Pa. Code § 121.3. [↑](#footnote-ref-3)
4. The Commission is preparing a contemporaneous Order for the review of PWSA’s Amended LTIIP for its wastewater operations at Docket No. P 2018-3005039. [↑](#footnote-ref-4)
5. The 40-Year Plan is available here: <https://apps.pittsburghpa.gov/pwsa/PWSA_40-year_Plan.pdf>. [↑](#footnote-ref-5)
6. *See* Docket No.M-2018-2640802. [↑](#footnote-ref-6)
7. 52 Pa. Code § 121.6. [↑](#footnote-ref-7)
8. *See* Ordering Paragraph No. 2. [↑](#footnote-ref-8)
9. *See* 52 Pa. Code § 121.4(e). [↑](#footnote-ref-9)
10. *See* 52 Pa. Code § 121.4(d). [↑](#footnote-ref-10)