

# PERFORMANCE AUDIT REPORT

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## The Pittsburgh Water and Sewer Authority

### Governance

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November 2017



Commonwealth of Pennsylvania  
Department of the Auditor General

Eugene A. DePasquale • Auditor General

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EUGENE A. DePASQUALE  
AUDITOR GENERAL

October 30, 2017

Ms. Debbie Lestitian  
Chairperson  
The Pittsburgh Water and Sewer Authority  
Penn Liberty Plaza I  
1200 Penn Avenue  
Pittsburgh, PA 15222

Dear Chairperson Lestitian:

This report contains the results of the Department of the Auditor General's performance audit of the Pittsburgh Water and Sewer Authority (PWSA). We audited the PWSA within the context of governance. The audit covered the period January 1, 2014, through June 30, 2017, unless otherwise noted, with updates through the report date.

We conducted our performance audit under our authority granted by Sections 402 and 403 of The Fiscal Code, 72 P.S. §§ 402 and 403, and in accordance with applicable generally accepted government auditing standards, as issued by the Comptroller General of the United States. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our finding and conclusions based on our audit objective. We believe that the evidence obtained provides a reasonable basis for our finding and conclusions based on our audit objective.

Our audit objective was to determine whether PWSA's governance structure and delineation of decision-making responsibilities were adequate to provide effective oversight of PWSA's operations.

This report presents one finding and offers 17 recommendations to the PWSA Board and/or management to improve the governance structure of the PWSA and to eliminate the financial burden placed on the PWSA by the City of Pittsburgh (City). We found that PWSA's aging and deteriorating infrastructure issues and financial and operational long-term viability issues result from years of mismanagement and conflicted leadership causing a crisis in the authority's governance.

Ms. Debbie Lestitian  
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This report is being released prior to the release of a report by an advisory firm contracted by the City and the PWSA to develop options to possibly restructure the PWSA. Once those options have been presented, which is scheduled to be in November 2017, a “blue ribbon” panel will evaluate the options provided by the firm and make a recommendation to the City and the PWSA on what option(s) would be best. We are hopeful that the panel’s conclusions and our report’s recommendations will be used by the next permanent Executive Director to implement much needed improvements that will allow the PWSA to continue to provide its customers with safe, reliable drinking water.

In closing, I want to thank PWSA for its cooperation and assistance during our audit. Based on its response, PWSA generally agrees with our finding and recommendations and has already begun to implement changes. We will follow up at the appropriate time to determine whether and to what extent all recommendations have been implemented.

Sincerely,

A handwritten signature in black ink, appearing to read "Eugene A. DePasquale". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

Eugene A. DePasquale  
Auditor General

**A Performance Audit**

**The Pittsburgh Water and Sewer Authority**

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#### Executive Summary

The Pittsburgh Water and Sewer Authority's (PWSA) purpose is to ensure the long-term vitality of the Pittsburgh region by providing safe reliable, and efficient drinking water delivery, sanitary sewage conveyance, and storm water removal services. Currently, the PWSA is governed by a Board of Directors (Board) consisting of seven members: two members hold the positions of the City of Pittsburgh's (City) Director of Finance and the City's Treasurer, respectively; one member must be a City councilperson, and four additional members are appointed by the Mayor of Pittsburgh. The Board appoints an Executive Director to lead PWSA's operations.

Our performance audit had one objective which was to determine whether PWSA's governance structure and delineation of decision-making responsibilities were adequate to provide effective oversight of PWSA operations. This focus was developed after the City's Controller released a draft performance audit which addressed various PWSA issues that we had been requested to audit by the Pittsburgh City Council, with concurrence by the City's Mayor and full endorsement by the PWSA Board.

This report presents one finding and offers 17 recommendations to the PWSA Board and/or management to improve the governance structure of the PWSA and to eliminate the financial burden placed on the PWSA by the City. Based on its response, PWSA generally agrees with our finding and recommendations and has already begun to implement changes.

#### **Finding 1 – PWSA's aging and deteriorating infrastructure issues and financial and operational long-term viability issues result from years of mismanagement and conflicted leadership causing a crisis in the authority's governance.**

The citizens of Pittsburgh have been plagued for the past few years by the dysfunctional operations of the PWSA, including a heavy debt load, deteriorating infrastructure, constant operational problems, lack of leadership, and frequent senior-level management turnover. These issues are evidence of a governance crisis that must be addressed as soon as possible. The Board needs to develop both a short-term and long-term executable plan to eliminate the potentially imminent risks of not providing safe, reliable drinking water to its customers. This plan will need to be coordinated with the potential restructuring of the PWSA, based on the results from a contracted advisory firm, due to be released in November 2017 and the evaluation of a "blue ribbon" panel.

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Mismanagement and lack of leadership has resulted in PWSA's aged and deteriorating infrastructure condition in 2017.

We found that since the early days of its creation, the PWSA has been charged with financing and operating a neglected water and sewer system even though the City retains ownership. In 1995 a new lease agreement was executed, which required the PWSA to issue revenue bonds in order to pay the City \$101 million upfront for the opportunity to operate the system until 2025. This set the stage for the PWSA to continue to issue debt to deal with an old and deteriorating system.

By 2012, PWSA was struggling to find a permanent Executive Director. Further, based on a study conducted by Veolia Water North America Northeast (Veolia) that evaluated PWSA's administrative functions, engineering and construction, and operations, more than 100 improvements ideas were identified that were grouped into seven key performance indicators (KPIs): customer service; communications; safety; compliance; capital projects; finance; and leadership and training. In essence, the issues identified by the study, indicated a lack of proper management and leadership that likely existed for several years prior to 2012.

By 2017, the current Interim Executive Director considers the system "deplorable." Based on our audit, we identified three key factors that contributed to the system's negative condition:

- PWSA was operated and managed by Veolia for three and one-half years. In addition to supplying three key individuals to operate PWSA, Veolia focused on implementing efficiencies and operational effectiveness which, per the contract, was paid, in part, for cost savings realized or for a pre-established amount for implementing KPIs. Therefore, it appears that the former Interim Executive Director could have been conflicted about which was more important — making decisions that would benefit Veolia's profitability or serving as PWSA's Executive Director with loyalty to its Board, employees, and customers.
- PWSA had frequent leadership turnover since 2014, including four individuals who have served as (Interim) Executive Director.
- PWSA severely under invested in capital improvements. From 2012 through 2016, only \$157 million was invested although, according to a PWSA official, the PWSA should be investing \$200 million annually.

City influence impairs PWSA's decision making and causes a financial burden.

We also found that the PWSA's original governing documents demonstrate that the City never intended the PWSA to ever be truly independent from the City. The Articles of Incorporation require the City's Director of Finance and the City Treasurer to be permanent PWSA Board members along with the Pittsburgh Home Rule Charter requiring a City Councilperson to be

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appointed to the Board. The remaining four members are appointed by the mayor to the Board, which could also include other City employees; therefore, all Board members have direct or indirect ties to the City's Mayor. However, most concerning are the City employees and the City Councilperson, who receive compensation from the City, of which there are currently four PWSA Board members. The City-compensated members may be influenced by the wishes of their employer, the City Mayor's Office, despite the Board members owing a specific fiduciary duty to the entity (PWSA) they serve and its customers. We found that the Board's bylaws do not address the fiduciary responsibility of each Board member nor are the Board members required to sign an acknowledgement of their understanding and willingness to fulfill their fiduciary duties.

We also found that the 1995 cooperation (co-op) agreement between the PWSA and the City is outdated and is a financial burden to the PWSA. One of the intents of the agreement was to establish what services the City would provide to the PWSA and how the PWSA would pay the City for these services. In exchange for the services provided by the City, the PWSA was required to provide the City the following through 2035:

- Up to 600 million gallons of free water each year. However, we found that the PWSA does not track how much water the City uses annually, partly because PWSA does not have a complete list of all city-owned properties and many city-owned properties are not metered.
- Equalization payments for citizens in certain portions of the City not serviced by PWSA. We found that for the three-year period ended December 31, 2016, PWSA paid approximately \$4.8 million to Pennsylvania American Water.
- Actual direct expenses and overhead expenses for services provided by the City, which totaled \$7.15 million annually during the audit period. However, we found that the quarterly invoices did not contain a detailed explanation of what the charges were for, and PWSA was paying the invoices without question.

We also found that the PWSA is paying for fire hydrant service charges invoiced by other water companies servicing the City and that the PWSA did not charge the City to service the 7,400 hydrants in its own service area. These items should be considered in renegotiating the co-op agreement with the City. According to a 2011 amendment to the co-op agreement, both the PWSA and the City acknowledged that the services provided by both parties have changed, but no negotiations occurred and no amended agreement was executed.

Finally, we found that City influence has impacted decisions and policies approved by the PWSA Board. Specifically, we note that in 2016 the Domicile policy (requiring employees to live in the City of Pittsburgh) was drafted at the Board's request (dated May 1, 2016) even though, according to several interviews, this policy is the biggest impediment to hiring and retaining employees. PWSA officials and former and current Board members indicated that the



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domiciliary requirement was influenced by the Mayor's Office because this policy is in place at all City government offices. Additionally, we noted that the City requested the PWSA to adopt a "Conflict of Interest" policy even though this issue is already addressed in PWSA's *Ethics Handbook*. Although the Board made two substantial changes to the City-provided policy, the Board did approve the policy.

**Overall conclusion:** The PWSA Board, current Interim Executive Director, and senior-level management inherited an aging and deteriorating water system infrastructure, a culture of mismanagement, a heavy debt load, and ongoing City influence. The City, through the years, has enjoyed financial benefits from its agreements with the PWSA, which has resulted in a financial burden on the PWSA, but has not meaningfully participated in investing in its own infrastructure. PWSA's mismanagement of the system, based on the 2012 Veolia study, demonstrates an ongoing leadership dilemma. We hope that the conclusions reached by the "blue ribbon" panel and the recommendations offered in this report will provide the PWSA with guidance for positive and lasting improvements.

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#### Introduction and Background

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Pursuant to a February 1, 2017, request by the Pittsburgh City Council, concurrence by the Mayor of Pittsburgh, and with full endorsement by the Board of the Pittsburgh Water and Sewer Authority (PWSA), the Department of the Auditor General decided to conduct a performance audit of the PWSA. The request asked that we conduct an audit regarding various issues, including high lead levels and billing concerns. However, because the City of Pittsburgh's City Controller subsequently released a 172-page draft performance audit on February 16, 2017, addressing these issues and other objectives covering the period 2011 through 2016,<sup>1</sup> we chose not to repeat these objectives and concentrate our efforts on governance. We discuss the contents of the City Controller's report later in this section.

We began this performance audit in March 2017, with the objective being to determine whether PWSA's governance structure and delineation of decision-making responsibilities were adequate to provide effective oversight of PWSA operations. The audit was conducted under our authority of Sections 402 and 403 of The Fiscal Code, 72 P.S. §§ 402 and 403, and in accordance with applicable *Government Auditing Standards* issued by the Comptroller General of the United States. Our audit covered the period of January 1, 2014, through June 30, 2017, unless otherwise indicated, with updates through the report date.

In the sections that follow, we present background information related to the PWSA. We provide a brief history on the creation of the PWSA and the governance that established the organization. We also provide a brief summary of the agreements in place between the City of Pittsburgh and the PWSA and contracts for management and consulting services that were in effect prior to, and during our audit period. We also briefly discuss the audit objectives contained in the Pittsburgh City Comptroller Report, the possibility of oversight by the Pennsylvania Public Utility Commission, and a current evaluation of PWSA's organizational structure and operations by an outside consulting firm.

#### Creation of the Pittsburgh Water and Sewer Authority

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Pittsburgh City Council approved a resolution<sup>2</sup> in February 1984 to organize an authority under the former Municipality Authorities Act of 1945.<sup>3</sup> The Commonwealth of Pennsylvania's Department of State issued a certificate of incorporation for the Pittsburgh Water and Sewer

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<sup>1</sup> [http://apps.pittsburghpa.gov/co/Draft\\_Pittsburgh\\_Water\\_and\\_Sewer\\_Authority\\_February\\_2017.pdf](http://apps.pittsburghpa.gov/co/Draft_Pittsburgh_Water_and_Sewer_Authority_February_2017.pdf) (accessed September 12, 2017).

<sup>2</sup> Pittsburgh City Council Resolution 36 of 1984.

<sup>3</sup> **Former Act** 53 P.S. § 301 *et seq.* As shown in the definition of "Authority" under the current act (Act 22 of 2001, as amended), there were two former acts including the "Municipality Authorities Act of 1935" (Act 191) and the "Municipality Authorities Act of 1945" (Act 164). The current act is entitled, "Municipality Authorities Act" and now has been recodified at 53 Pa.C.S. § 5601 *et seq.*, as amended.

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Authority on February 17, 1984. Under the current Act, authorities “shall be for the purposes of financing working capital; acquiring, holding, constructing, financing, improving, maintaining and operating, owning or leasing, either in the capacity of lessor or lessee...and providing financing for insurance reserves.”<sup>4</sup> This stipulation covers a variety of public service ventures including waterworks, water supply works, water distribution systems, sewers, sewer systems or parts thereof, and sewage treatment plants.

In March 1984, the City of Pittsburgh (City) entered into a 50-year lease and management agreement. The diagram below shows the delineation of responsibilities as outlined in the lease agreement.

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<sup>4</sup> 53 Pa.C.S. § 5607(a). The former act’s language was similar and stated as follows: “Every Authority...shall be for the purpose of acquiring, holding, constructing, improving, maintaining, and operating, owning, leasing, either in the capacity of lessor or lessee, buildings to be devoted wholly or partially for public uses and for revenue-producing purposes.” Former Act 53 P.S. § 301.

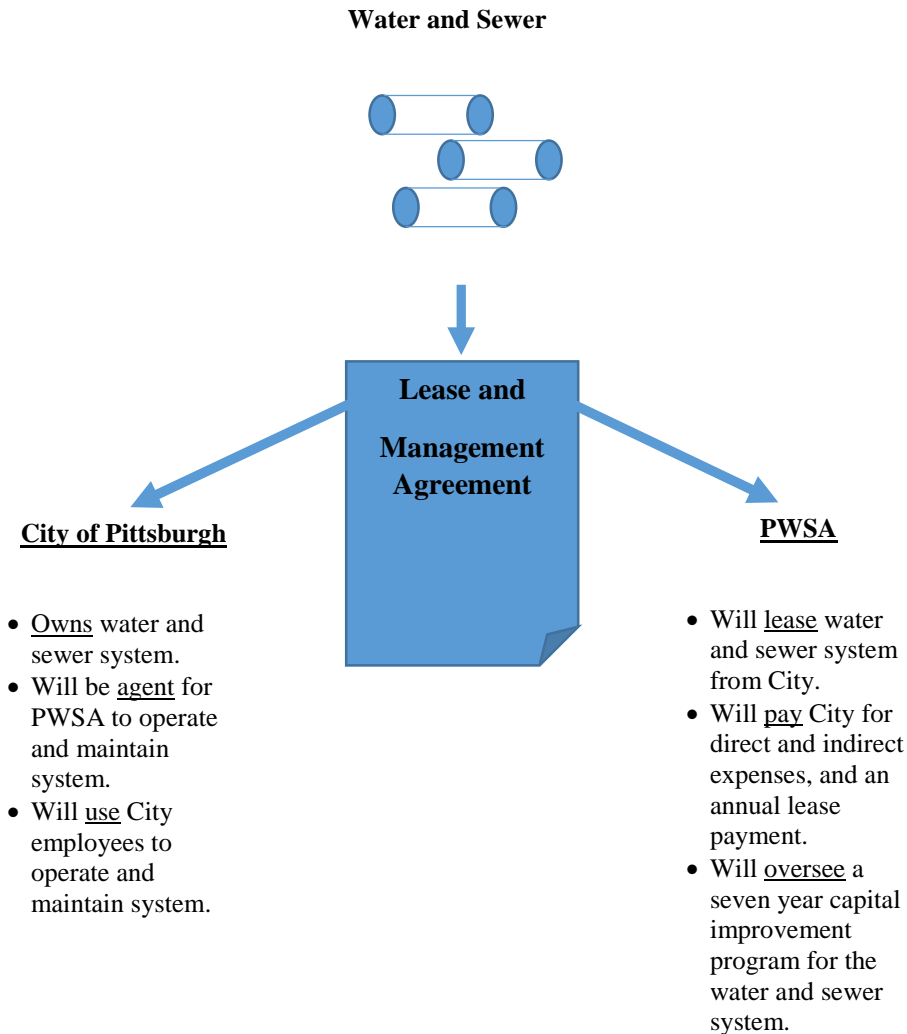
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#### City of Pittsburgh and Pittsburgh Water and Sewer Authority

##### Original (1984) Agreement



The primary purpose of the PWSA at the time was to oversee a \$200,000,000 capital improvement program designed to refurbish the infrastructure of the entire water system. Capital improvements included upgrades to the water treatment plant, distribution system and projects to cover open reservoirs. The program was to ensure that the water system met the rapidly expanding water quality requirements of the federal and state Safe Drinking Water Acts.<sup>5</sup>

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<sup>5</sup> <http://pgh2o.com/history> (accessed September 11, 2017). The citation for the federal and state Safe Drinking Water Acts are as follows: 42 U.S.C. § 300f *et seq.* and 35 P.S. § 721.1 *et seq.*

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#### Changes that Occurred in 1995

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In July 1995, PWSA entered into a new 30-year capital lease agreement with the City of Pittsburgh that terminated the 1984 lease and management agreement. PWSA provided the City a total of approximately \$101.4 million with an option to acquire all leased water and sewer property for one dollar at the expiration of the lease in 2025. In accordance with the lease, the PWSA was to issue approximately \$103 million in revenue bonds to pay the City for what it considered rent payments under the agreement.<sup>6</sup> In consideration of PWSA prepaying approximately \$5.4 million, the lease provided the following schedule of lease/rent payments due to the City.

Payment Date	Payment Amount
July 27, 1995	\$ 35.0 million
January 2, 1996	\$ 20.0 million
August 1, 1996	\$ 20.0 million
January 2, 1997	\$ 21.0 million
<b>Lease Payments to City</b>	<b>\$ 96.0 million</b>
Lease Prepayments to City	\$ 5.4 million
<b>Total Lease Payments to City</b>	<b>\$ 101.4 million</b>

PWSA took over operational control of the water system from the City as a result of this agreement. This lease gave control of the Authority's properties to PWSA's Board.<sup>7</sup> However, ownership of the assets remained with the City until the end of the lease in 2025.

Also, in July 1995, PWSA entered into a 40-year cooperation (co-op) agreement with the City of Pittsburgh. Under this agreement, the City was no longer the agent for PWSA and PWSA employees were no longer considered City employees; however, the City continued to provide some of the same services to PWSA as it did under the 1984 lease agreement, such as providing telephone and data services, vehicle fuel and repair, legal aid, computer services, payroll services and administering benefit programs. In exchange, and under the terms of this co-op agreement, PWSA is providing the City the following through 2035:<sup>8</sup>

- Up to 600 million gallons of water each year.
- Equalization payments for citizens in certain portions of the City not serviced by PWSA.
- Actual direct expenses and overhead expenses for services provided by the City to the PWSA (which, during the audit period, totaled \$7.15 million annually, or four quarterly payments of \$1,787,500).

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<sup>6</sup> PWSA issued \$103 million in revenue bonds and paid the \$101.4 million. The remaining \$1.6 million from the revenue bond proceeds would have been used to pay the expenses of issuing the bond.

<sup>7</sup> Capital Lease Agreement, effective July 27, 1995.

<sup>8</sup> Cooperative Agreement between the City of Pittsburgh and PWSA effective January 1, 1995.

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### The Pittsburgh Water and Sewer Authority

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#### Regulatory Requirements

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As a sewer/water authority, the PWSA must conform to government regulations. The federal Environmental Protection Agency (EPA) set forth the Clean Water Act of 1972<sup>9</sup> that was intended to protect the nation's water resources.<sup>10</sup> It dealt primarily with keeping drinking water from being permeated with pollutants from such things as sewage as well as industrial and agricultural runoff. The EPA has implemented the National Pollutant Discharge Elimination Systems (NPDES) permitting program to enforce the tenants of the Clean Water Act. The EPA is authorized to designate state environmental agencies to ensure Clean Water Act compliance through the NPDES permitting process.<sup>11</sup>

The EPA also sets standards for drinking water per the Safe Drinking Water Act of 1974. In Pennsylvania, the Department of Environmental Protection (DEP) is charged with enforcing these water quality standards for water systems like the PWSA. As such, the DEP is responsible for issuing permits to entities that treat and deliver water to customers. The DEP has the authority to require municipalities to make changes to their water systems when those systems do not comply with the Clean Water Act standards. When a municipality's water system is deemed to be in non-compliance with standards, it is within the prerogative of the DEP to issue consent orders that will require the affected municipalities to make the necessary changes.<sup>12</sup>

According to DEP and Allegheny County Health Department (ACHD) officials we interviewed, ACHD monitors and inspects the PWSA on behalf of the DEP. ACHD can issue notices of deficiencies; however, it is DEP's responsibility to enforce regulations and issue penalties. After the ACHD performs an inspection, they and the DEP meet to communicate the results of the inspection to the PWSA.

#### PWSA's System Today

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Today, PWSA's water system:

- Provides water and services to approximately 82,000 customers throughout the City of Pittsburgh.
- Operates and maintains a 117 million gallons per day rapid sand type treatment plant.
- Operates a microfiltration plant.
- Maintains approximately 1,000 miles of water pipes.

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<sup>9</sup> 33 U.S.C. § 1251 *et seq.*, as amended. Now called the Federal Water Pollution Act.

<sup>10</sup> <http://www.3riverswetweather.org/about-wet-weather-issue/wet-weather-regulations/federal> (accessed September 13, 2017).

<sup>11</sup> *Ibid.*

<sup>12</sup> <http://www.3riverswetweather.org/about-wet-weather-issue/wet-weather-regulations/state> (accessed September 13, 2017).

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- Maintains over 25,000 valves and 7,400 fire hydrants.
- Operates one raw water pump station.
- Operates ten finished water pump stations.
- Maintains four in-ground reservoirs.
- Maintains 13 storage tanks (two of which are above-ground reservoirs).<sup>13</sup>

PWSA's sewer system consists of 1,200 miles of sewer pipes and more than 25,000 catch basins. Catch basins are used to collect storm water from precipitation, like rain, snow and ice melt. The PWSA system is made up of sanitary, dedicated storm water, and combined sewers. The sewer collection system is primarily a combined collection system (sewage and storm water) that serves the entire City of Pittsburgh. Wastewater flows and sewage is sent to Allegheny County Sanitary Authority's (ALCOSAN) interceptor system for treatment.<sup>14</sup>

### **PWSA's Purpose, Values and Mission**

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In November 2015, the Board issued a Statement of PWSA's "Purpose, Values and Mission: The Foundations of our Strategic Plan." The following encompasses this statement:

**Purpose:** We ensure the long-term vitality of our region by providing safe, reliable, and efficient drinking water delivery, sanitary sewage conveyance and storm water removal services.

**Values:**

- Safety – We prioritize safety to ensure the well-being of our customers and employees.
- Accountability – We are accountable to ourselves and to everyone we interact with, both internally and externally. We are empowered to make decisions in our areas of responsibility and are expected to do so on a routine basis.
- Community – We are a cooperative, trustworthy and respected member of the community. We are a reliable partner to groups and individuals throughout the Pittsburgh region.
- Transparency – We conduct business in a manner that is open to the public, while protecting individual privacy.
- Stewardship – We are stewards of the environment. We strive to implement solutions that have the most positive environmental impact.
- Merit – We hire, evaluate and promote based on what a person knows and does.

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<sup>13</sup> Pittsburgh Water and Sewer Authority 2017-2021 Capital Improvement Program.

<sup>14</sup> <http://www.pgh2o.com/sewer-conveyance> (accessed September 11, 2017).

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- Integrity – We care about our work. We interact and communicate with honesty and candor, without fear of retribution.

**Mission:** PWSA will meet or exceed the standards of a high performing water and sewer utility by:

- Operating world-class drinking water, sewage conveyance and storm water removal systems at the lowest possible cost to residents and businesses.
- Providing our customers with prompt, responsive, and courteous service.
- Making prudent investments to maintain and modernize our infrastructure.
- Offering our employees the industry’s safest work environment.
- Lead the region in green infrastructure and other sustainability initiatives.<sup>15</sup>

## PWSA’s Organization Structure

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### Board of Directors

The PWSA is governed by a Board of Directors. The Board of Directors’ composition is based on the Municipality Authorities Act, which establishes that the governing body of the municipality shall appoint the members of the board who must be citizens of, or maintain a business in, the municipality.<sup>16</sup> Additionally, according to the City of Pittsburgh’s Home Rule Charter, the Mayor of Pittsburgh appoints the members of all boards and commissions subject to approval by City Council.<sup>17</sup> The Charter also requires one city councilperson to also be placed on the Board. The Articles of Incorporation of the PWSA requires that two appointments to the Board must include the individuals who hold the positions of the City’s Director of Finance and the City’s Treasurer. PWSA’s Board is comprised of seven members appointed to staggered terms between one and five years as required by the Act.<sup>18</sup> See Appendix B for current listing of Board members. Therefore, the PWSA’s Board consists of the following:

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<sup>15</sup> PWSA Board of Director’s Resolution 95, adopted November 20, 2015.

<sup>16</sup> 53 Pa.C.S. § 5610(b)(1).

<sup>17</sup> City of Pittsburgh Home Rule Charter, Section 214.

<sup>18</sup> Under 53 Pa.C.S. § 5610(a)(1), the board of a municipality “shall consist of a number of members, not less than five, as enumerated in the articles of incorporation” and staggered terms.



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PWSA Board Members	Method of Assignment
City Treasurer	Mandatory <sup>a\</sup>
City Director of Finance	Mandatory <sup>a\</sup>
City Councilperson	Mandatory <sup>b\</sup>
At Large	Appointed by the mayor
At Large	Appointed by the mayor
At Large	Appointed by the mayor
At Large	Appointed by the mayor

*a/- The City position listed is a required Board member under the Articles of Incorporation, however, the mayor still appoints this individual.*

*b/- The City position listed is a required Board member under the City of Pittsburgh's Home Rule Charter, however, the mayor still appoints this individual.*

*Source: Developed by the Department of the Auditor General.*

The PWSA Board has the power to make by-laws; appoint officers and employees, prescribe their duties, and set their compensation; and fix, alter, charge, and collect rates, among other responsibilities.<sup>19</sup>

#### Executive Director

The Executive Director is appointed by the Board and is under contract with the Board. The Executive Director's responsibilities include:<sup>20</sup>

- Executing policy goals and objectives established by the Board.
- Preparing an annual business plan and budget.
- Developing, supervising and administering the PWSA's staff and programs.
- Directing the Authority's water system.
- Overseeing the operation of the sewer system.
- Developing and implementing a capital improvement and maintenance plan.
- Directing water marketing efforts.
- Interacting with elected officials, consumer groups, governmental entities and the media.

#### Departments under the Executive Director

During our audit period, PWSA was operated through five departments under the Executive Director, including finance, engineering and construction, operations, human resources, and water quality departments.

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<sup>19</sup> 53 Pa.C.S. § 5607(d)(7), (8), and (9).

<sup>20</sup> Job Description for Executive Director, from a PWSA job posting.

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In September 2017, PWSA revised its organization to add Director of Water Production, Director of Administration and Senior Communications Manager as senior level managers that report to the Executive Director.

### PWSA Financial Highlights and Concerns

The following financial comparisons for the five years ended December 31, 2016, 2015, 2014, 2013, and 2012 were compiled from PWSA's audited financial statements.

For the years ended Dec. 31	(Amounts in Thousands)				
	2016	2015	2014	2013	2012
Total Current Assets	\$51,537	\$61,866	\$58,930	\$57,705	\$62,433
Total Current Liabilities	\$67,285	\$63,912	\$60,488	\$52,994	\$54,707
Current Net Position	(\$15,748)	(\$2,046)	(\$1,558)	\$4,711	\$7,726
Total Net Position <sup>a/</sup>	(\$37,523)	(\$35,745)	(\$59,130)	(\$55,134)	(\$65,758)
Bond and loans payable	\$755,775	\$763,286	\$771,742	\$774,376	\$680,421
Swap Liability <sup>b/</sup>	\$86,772	\$96,065	\$87,197	\$32,404	\$118,933
Total Bonds and Loans Payable and Swap Liability	\$842,547	\$859,351	\$858,939	\$806,780	\$799,354
Net operating income	\$32,134	\$42,470	\$38,489	\$33,403	\$37,866
Interest expense and amortization	\$36,966	\$36,865	\$37,641	\$33,563	\$39,544

<sup>a/</sup> Total net position is PWSA's total assets less its total liabilities.

<sup>b/</sup> In an interest rate swap, the parties exchange cash flows based on a notional principal amount in order to hedge against interest rate risk. PWSA's swap liability is the fair value which is an estimated net present value of the expected cash flows calculated using relevant mid-market data inputs and based on the assumption of no unusual market conditions or forced liquidations.

PWSA's current financial position (current assets minus current liabilities) has worsened over the five-year period 2012 to 2016, from a positive balance of \$7.7 million in 2012 **to an alarming negative balance of \$15.7 million in 2016**. While PWSA's total financial net position, considering both current and non-current assets and liabilities, has been improving over the last five years, its total net position has remained negative. PWSA's negative financial position is due to the large amount of debt it holds. As of December 31, 2016, the PWSA has a debt load of \$842.5 million, up \$43.2 million from December 31, 2012. According to PWSA's Management's Discussion and Analysis in its December 31, 2016 audited financial statements, it entered into a revolving line of credit financing in which it could draw a total amount of no more

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than \$80 million in order to finance capital projects. As of December 31, 2016, PWSA had drawn \$11.8 million using this line of credit.

Another concerning fact is that PWSA's interest expense and amortization has exceeded its operating income in three of the last five years. This financial situation hinders necessary capital improvements to its deteriorating infrastructure, which is further discussed in Finding 1.

### **City Controller's Performance Audit Report**

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The Office of the City Controller for the City of Pittsburgh released an audit report in June 2017.<sup>21</sup> According to the report, the scheduling of the audit ran concurrent with widespread problems with customer billing charges and usage readings resulting in the PWSA being sued by some of its water customers. City Council fielded complaints and requested intervention.<sup>22</sup> The performance audit covered the following 13 objectives:

1. To assess the billing, delinquency and exoneration process, procedures and problems.
2. To evaluate customer service effectiveness.
3. To investigate and assess the new wireless meter-interface unit installation and water usage tracking.
4. To examine the water treatment and delivery process.
5. To assess staffing changes especially in leadership and legal counsel.
6. To determine the cost and effectiveness of hiring Veolia, contract language and contract incentives.
7. To document and identify asset management problems and procedures and to gauge the status of the 40-Year Plan of 2011.
8. To identify the status of delinquent City owned property water bills and the payments made to PWSA.
9. To report the current and past procedures in place for examining lead levels in Pittsburgh's drinking water and prevention strategies.
10. To explain the current exoneration board status and process.
11. To explain water subsidy payments from PWSA to PA American Water (PAW) and the Authority's role in collecting PAW sewage charges.
12. To explain the Negley Run Watershed and Washington Boulevard Flooding and recommendation as per the consultant's report.
13. To make recommendations for improvement.

The Controller's report identified a myriad of organizational and operational issues that plagued the PWSA during the time period included in its review. These issues included:

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<sup>21</sup> [http://apps.pittsburghpa.gov/co/Pittsburgh Water and Sewer Authority June 2017.pdf](http://apps.pittsburghpa.gov/co/Pittsburgh%20Water%20and%20Sewer%20Authority%20June%202017.pdf) (accessed September 28, 2017).

<sup>22</sup> Ibid.

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- Excessive executive turnover that has resulted in inconsistent leadership leading to inefficient planning and operations.
- Obsolete and failing infrastructure including the lack of a Computerized Maintenance Management System to improve asset management capabilities.
- Unacceptably high levels of lead in the water.
- Billing irregularities, or complete lack of billing for thousands of customers for a period of several months arising from changes in the billing system and installation of new meters.
- Problems with the Veolia contract, which are discussed below.
- Customer service issues that included an outdated telephone system, inefficient telephone answering system, and wait times that did not meet PWSA's goals.

The City Controller's Report<sup>23</sup> included 51 recommendations to address the deficiencies noted in the report.

### **Veolia Water North America Northeast (Veolia)**

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In July 2012, the PWSA Board contracted with Veolia Water North America Northeast (Veolia), an outside management company, to direct its operations. The Controller's Report stated that in the years prior to hiring Veolia, PWSA experienced problems relating to customer service, a conflict of interest that caused the Executive Director to resign, and a major flood in an East End neighborhood. The situation resulted in high employee turnover resulting in PWSA seeking the services of a water management company. According to the Board resolution authorizing the Request for Proposal in February 2012, PWSA was facing numerous challenges and opportunities including long term planning and investment, environmental compliance and stewardship, aging infrastructure and storm water management issues. The Board was looking for a qualified wastewater and water management company to provide interim management services and consulting services to evaluate the organization and make recommendations for improved effectiveness and efficiency. The term of the contract was for one year with an optional 6-month extension. The contract was extended two additional times through December 2015. According to the contract, Veolia received a base compensation for management services, compensation for key performance indicators (KPIs) completed, and a percentage of recognized cost savings from improvement initiatives. Veolia was paid a monthly base compensation, which ranged from \$60,000 to over \$180,000, for management services. The total compensation paid to Veolia is shown below.

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<sup>23</sup> [http://apps.pittsburghpa.gov/co/Draft Pittsburgh Water and Sewer Authority February 2017.pdf](http://apps.pittsburghpa.gov/co/Draft_Pittsburgh_Water_and_Sewer_Authority_February_2017.pdf) (accessed September 26, 2017).

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Type of Payment	2012-2015 Payments
Management Fees	\$ 5,454,268
KPIs	\$ 720,000
Improvement Initiatives	\$ 4,832,257
<b>Total</b>	<b>\$11,006,525</b>

*Source: Payments were obtained from copies of Veolia invoices provided by PWSA from July 2012 through September 2015.*

In addition to the amounts in the above table, Veolia invoiced PWSA, but PWSA did not pay, approximately \$1.4 million from October 2015 through February 2016. PWSA also indicated that additional charges from Veolia for the period from January 2016 to June 2016 have not yet been invoiced. The unpaid and yet to be invoiced charges stem from contractual obligations of PWSA to pay Veolia a percentage of the savings for cost initiatives through June 2016 and could total \$3 million.

The Controller's Report addressed the management contract with Veolia questioning Veolia's oversight of the new meter installation and the contract language that gave Veolia a percentage of cost saving initiatives. Prior to the release of the Controller's report, in October 2016, PWSA filed an arbitration lawsuit against Veolia asserting that Veolia grossly mismanaged PWSA's operations, abused its positions of special trust and confidence, and misled and deceived PWSA as part of its efforts to maximize profits for itself to the unfair detriment of PWSA and its customers.<sup>24</sup>

### Possible Oversight by the Pennsylvania Public Utility Commission

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On June 8, 2017, the Pennsylvania House of Representatives passed House Bill 1490 that would place PWSA under the state's Public Utility Commission (PUC).<sup>25</sup> According to Mike Turzai, Speaker of Pennsylvania's House of Representatives, "PUC oversight is crucial to correcting the authority's long-standing difficulties. The PUC has the power to demand sound financial practices, systemic upgrades to infrastructure and reliable service delivery to customers."<sup>26</sup> He further stated, "It's about changing the operation of the PWSA...The Public Utility Commission can do that. It has oversight over debt, it has oversight over metering and billing and it has some jurisdiction over some environmental concerns. The PUC basically ensures the stability of

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<sup>24</sup> <http://www.pgh2o.com/release?id=6578> (accessed September 13, 2017).

<sup>25</sup> Pennsylvania House Bill 1490 (Latest Printer Number 2163), session of 2017.

<http://www.legis.state.pa.us/cfdocs/billinfo/billinfo.cfm?year=2017&sind=0&body=H&type=B&bn=1490> (accessed October 23, 2017).

<sup>26</sup> Pennsylvania House approves proposal to put PWSA under state commission, Theresa Clift, June 8, 2017, <http://triblive.com/local/alleggheny/12385295-74/pennsylvania-house-approves-proposal-to-put-pwsa-under-state-commission> (accessed September 11, 2017).

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utilities, both in terms of their fiscal responsibilities and consequentially their ability to provide services in a responsible and safe manner.”<sup>27</sup>

The House Bill is currently awaiting consideration by the Pennsylvania Senate.<sup>28</sup> The Mayor of Pittsburgh also believes there are some areas where PUC expertise could be helpful.<sup>29</sup>

### Possible Restructuring of the PWSA

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The City of Pittsburgh Administration issued a request for proposal in February 2017 for a financial and legal advisory team to manage evaluations of a possible restructuring of the PWSA to enhance water and sewer service delivery.<sup>30</sup> The mayor selected a “blue ribbon” panel of government, nonprofit, academic and business executives to evaluate the submissions from the firms. The panel selected Infrastructure Management Group, Inc. (IMG) from a group of 18 teams that responded. Both the Pittsburgh City Council and the PWSA board approved the contract with IMG, with the City and PWSA splitting the costs of the contract. On August 28, 2017, IMG presented possible restructuring plans to the panel, which included:<sup>31</sup>

- Transfer to/creation of a private non-profit utility.
- Transfer to a local regulated investor-owned utility.
- Transfer to an existing regional government entity.
- Aggressive internal improvement.
- Outsourcing of selected services.
- Short-term internal improvement, eventual regionalization.
- Operations and maintenance contract.
- Concession lease, which is a long-term contract to a private firm to operate, maintain and invest in the water or sewer system under a lease structure.

The IMG final report is scheduled to be released in November 2017.<sup>32</sup>

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<sup>27</sup> Turzai, Readshaw team up on proposal to put PWSA under state commission's control, Bob Bauder, May 25, 2017, <http://triblive.com/local/allegheeny/12338086-74/turzai-readshaw-team-up-on-proposal-to-put-pwsa-under-state-commissions>, (accessed September 11, 2017).

<sup>28</sup> The current status of the bill is that it had Second Consideration in the Pennsylvania Senate on June 29, 2017, was referred to the Senate Appropriations Committee on June 29, 2017, was reported as committed on June 30, 2017, was laid on the table on September 19, 2017, and then removed from the table on October 2, 2017.

[http://www.legis.state.pa.us/cfdocs/billinfo/bill\\_history.cfm?year=2017&sind=0&body=H&type=B&bn=1490](http://www.legis.state.pa.us/cfdocs/billinfo/bill_history.cfm?year=2017&sind=0&body=H&type=B&bn=1490) (accessed October 23, 2017).

<sup>29</sup> Turzai, Readshaw team up on proposal to put PWSA under state commission's control, Bob Bauder, May 25, 2017, <http://triblive.com/local/allegheeny/12338086-74/turzai-readshaw-team-up-on-proposal-to-put-pwsa-under-state-commissions>, (accessed September 11, 2017).

<sup>30</sup> <http://pittsburghpa.gov/mayor/release.htm?id=6973> (accessed March 3, 2017).

<sup>31</sup> The Briefing Book on PWSA Restructuring Options, August 28, 2017.

<sup>32</sup> <http://www.post-gazette.com/local/city/2017/09/05/Pittsburgh-Water-and-Sewer-Authority-PWSA-consultant-IMG-Steve-Steckler-Bill-Peduto/stories/201709050125> (accessed September 13, 2017).

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#### **Finding 1 – PWSA’s aging and deteriorating infrastructure issues and financial and operational long-term viability issues result from years of mismanagement and conflicted leadership causing a crisis in the authority’s governance.**

The citizens of Pittsburgh have been plagued for the past few years by the dysfunctional operations of the Pittsburgh Water and Sewer Authority (PWSA), including a heavy debt load, deteriorating infrastructure, constant operational problems, lack of leadership, and frequent senior-level turnover. These are evidence of a governance crisis within the authority that must be addressed as soon as possible. The issues have played out in various media reports on an almost daily occurrence. This ongoing situation at times has endangered the health of Pittsburgh’s families and must be stopped. The PWSA Board needs to immediately gain control of a situation that has gotten out of control by developing both a short-term and long-term executable plan to eliminate the potentially imminent risks of not providing safe, reliable drinking water to its customers. An effective and sustainable plan and PWSA’s related services are vital not only for the health and safety of its customers, but also for the long-term viability of the businesses and community that PWSA serves.

This plan will have to be coordinated with the potential restructuring of the PWSA. As noted in the Introduction and Background Section, in the spring of 2017, the City of Pittsburgh (City) and the PWSA jointly contracted with an advisory firm to develop options to possibly restructure the PWSA. Once those options have been presented, a “blue ribbon” panel (selected by the Mayor’s Office) will evaluate the options provided by the firm and make a recommendation to the City and the PWSA on what option(s) would be best. This appears to be a positive step toward alleviating the current dysfunction of the authority and replacing it with an enhanced structure and operations for the sake of the City’s citizens, its businesses and its community as a whole. We stress, however, that there is an urgent need to move swiftly to stabilize the deteriorating infrastructure in order to eliminate current health hazards, such as lead-tainted water, and to prevent the potential of large sections of, or the entire water system, from shutting down.

Apart from these efforts, based on our audit procedures, we have identified several issues related to governance that must be addressed. Some of these issues were created several decades ago, but continue to have negative implications today. Others are more recent issues, stemming from decisions that were made by the PWSA Board, its management consultant, or PWSA’s management and/or staff. We address these issues in this report.

Although our audit period encompassed January 1, 2014, through June 30, 2017, it was necessary to evaluate the documents that created the PWSA and agreements the PWSA made with the City that were executed as far back as 1984. We did not, however, conduct vast research on what occurred during that 30-year period. Instead, we have pieced together certain critical information collected through our interviews and media reports that appear to



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speak to the current problems facing the PWSA. We have, however, for certain issues, attempted on a limited basis to evaluate decision making since 2012.

This finding is organized into two broad areas:

1. Mismanagement and lack of leadership has resulted in PWSA's aged and deteriorating infrastructure condition in 2017.
2. City influence impairs PWSA's decision making and causes a financial burden.

The remainder of this finding will describe these areas.

#### **Mismanagement and lack of leadership has resulted in PWSA's aged and deteriorating infrastructure condition in 2017.**

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The Introduction and Background Section provides details about the creation of the PWSA, including some facts about the 1984 lease and management agreement. Additionally, it provides details about the 1995 lease agreement, which terminated the 1984 agreement and required the PWSA to issue approximately \$103 million in revenue bonds in order to pay the City approximately \$101 million up front to lease the water and sewer system for 30 years. However, we did not address the physical condition of the water system infrastructure.

Based on media reports and interviews with various PWSA officials, the water system is currently in very poor condition. In fact, the current Interim Executive Director described the 100 plus year old system as "deplorable." PWSA provided a schedule showing that there have been more than 3,500 pipe breaks just since January 2014 alone. Additionally, according to PWSA officials, PWSA is not able to bill about 50 percent of the clean water its system produces because, in part, due to leaky pipes that cannot be located. Further, PWSA officials indicated that water storage facilities and other equipment need to be replaced. Based on these ongoing conditions it is apparent that PWSA's system has deteriorated over decades. Fixing the system will be monumental task, and the Mayor estimated that it could take two decades and cost \$4 to \$5 billion.<sup>33</sup> Refer to Appendix C for examples of recently reported problems within the system.

#### **What was the condition of the water and sewer system in the early years?**

The water and sewer system was over 70 years old when the PWSA was created, but PWSA could not provide any documentation to support what the condition of the system was at that time other than an assessment from a consultant regarding the water treatment and pumping

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<sup>33</sup> <http://triblive.com/local/allegheeny/12138882-74/peduto-says-it-would-cost-pittsburgh-411m-to-replace-lead-water-lines> (accessed September 26, 2017).



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facilities. This assessment was referenced in the 1984 lease and management agreement that required PWSA to oversee a seven year capital improvement program “to be financed by the issuance of Authority revenue bonds.” As a result, prior to 1995, according to PWSA’s website, PWSA issued approximately \$200 million in revenue bond debt to refurbish the water treatment plant and distribution system in order to comply with rapidly expanding federal water quality requirements.<sup>34</sup>

As noted above, with the execution of the new lease agreement in 1995, by January 1997, PWSA was required to pay the City \$101 million for the opportunity to manage and operate the water and sewer system until 2025 and to issue \$103 million in Revenue Bonds to finance the payment. According to a recent newspaper article, this \$101 million was used to help “ease stark woes then facing Pittsburgh.” Further, this article quoted the former Mayor who was in office in 1995. The Mayor indicated that one of the reasons the City transferred the water department to the PWSA “was to try to focus [PWSA] on rebuilding the system and not using it as a financial tool of the city.”<sup>35</sup> This statement implies that the City was using the proceeds of the water and sewer system from 1984 through 1995 for non-system purposes, which potentially prevented PWSA from investing in additional needed capital improvements. According to the former Mayor, “the city had siphoned surpluses from the water system to balance budgets.”<sup>36</sup>

Based on these comments and the way the 1995 lease agreement was written, the City, since 1984, had been financing other City activities with the water and sewer system revenues but, at that same time, was requiring the PWSA to finance capital improvements through revenue bond issues. Then in 1995, when the City’s financial situation worsened, the City renegotiated the lease agreement with PWSA to obtain a large influx of cash to improve the City’s financial condition by requiring PWSA to issue debt. All the while, the City retained ownership of the system, yet pawned the financial and operational responsibilities of the neglected system off on the PWSA. This was a bad deal for PWSA and set the stage for PWSA to continue to issue debt to deal with an old and deteriorating system.

#### **Why was the system in such poor condition by 2012?**

We did not research and assess how PWSA was operated between 1995 and 2012. However, in 2011 and 2012, PWSA appeared to be struggling with finding an Executive Director to manage operations. From December 2010 until July 2012, when PWSA contracted with Veolia Water North America Northeast (Veolia), PWSA leadership was operated by two PWSA employees as Co-Interim Executive Directors after the former Executive Director resigned due to a conflict-of-interest scandal.

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<sup>34</sup> <http://pgh2o.com/history> (accessed September 11, 2017).

<sup>35</sup> <http://www.post-gazette.com/local/city/2017/06/11/City-sees-long-haul-rate-hikes-for-PWSA-water-sewer-authority-lead/stories/201706110062> (accessed September 26, 2017).

<sup>36</sup> Ibid.

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As part of its management services and consulting contract, Veolia in 2012 conducted a diagnostic evaluation of 10 functional areas of PWSA that evaluated its administrative functions, engineering and construction, and operations. The results of the study identified seven key performance indicators (KPI) by which it grouped its more than 100 improvement ideas. These seven indicators for driving operational improvements were as follows:

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KPI	ACTIONS	VALUE TO RATEPAYERS
1. Customer Service	Enhance functionality of phone system; optimize Customer Service staff performance; and implement metrics	Better customer service experience
2. Communications	Enhance PWSA website and implement Community Outreach Program	More responsive to customer needs, greater transparency
3. Safety	Generate current statistics; establish safety program baseline; initiate training; and conduct facility inspections	Improved PWSA productivity with fewer recordable incidents
4. Compliance	Develop Process Control Management Plan; update Lab QA/QC Program; evaluate telemetry/automation; and initiate use of compliance metrics	Improved PWSA operations and process control
5. Capital Projects	Identify critical assets; evaluate condition of assets; improve tracking of Major Projects; and establish roles and responsibilities	More stable rates by optimizing capital spending through asset management
6. Finance	Develop a department-level budget process and a monthly financial report and feedback process	More stable rates through greater organization-wide financial discipline
7. Leadership & Training	Perform organizational assessment and develop Training Program	Improved PWSA productivity with training and succession planning

Source: Veolia's Pittsburgh Water and Sewer Authority 2012 Study Report, page 40.

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In particular, the capital projects indicator information is disturbing. Veolia indicated that PWSA had been operating in crisis-mode asset management, instead of having a formal maintenance management system to reduce downtime costs and to systematically extend the useful life of PWSA's assets. In other words, instead of performing appropriate routine maintenance on its assets, no maintenance was performed on the assets, and nothing was done unless the asset failed. Additionally, Veolia recommended that PWSA needed to identify and conduct a condition assessment on its critical assets in order to properly plan for capital investments, as well as track and document all water main breaks for accountability.

Overarching these deficiencies is a lack of accountability. PWSA's leadership did not establish a framework for ensuring operating activities were properly tracked in order to monitor, assess, and evaluate performance. In addition to the lack of tracking of preventative maintenance, one example that Veolia found was that call center statistics, such as call abandonment and wait times, were not being generated to assess whether improvements could be made to customer service. PWSA also lacked a department-level budget in order to make each department accountable for its spending. These issues indicate a lack of proper management and leadership that likely existed for several years prior to the 2012 diagnostic evaluation.

#### **Why is the system in “deplorable” condition in 2017?**

In addition to what Veolia highlighted during its 2012 study regarding the mismanagement of PWSA operations, we identified three key factors that contributed to the system's negative condition:

- PWSA was operated and managed by Veolia.
- PWSA had frequent leadership turnover since 2014.
- PWSA had a severely insufficient capital investment program.

We discuss these factors below.

#### **PWSA Was Operated and Managed by Veolia**

From July 2012 through December 2015, Veolia took the helm of PWSA operations. In addition to Veolia bringing its consultants to assess PWSA operations, the contract required Veolia to supply an Interim Executive Director and other senior-level staff. The following table shows what key management positions were filled by Veolia during the contract:

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Position	Time period served
Interim Executive Director	July 2012 to May 2015
Interim Chief Operating Officer	July 2012 to September 2015
Interim Finance Director	September 2012 to August 2015

*Source: Developed by the Department of the Auditor General.*

In regard to the PWSA Board hiring an Interim Executive Director, in May 2015, the PWSA Board hired the same Veolia executive as its Permanent Executive Director, who served in that capacity until he resigned in March 2016 due to the ongoing billing problems noted above.

With these key operational positions filled by Veolia, Veolia managed the day-to day operations of the PWSA for approximately three years with some oversight by the PWSA Board. For example, the Board approved the implementation of the seven KPIs (and certain other KPIs) developed during Veolia's tenure. However, it was Veolia management who, as part of running PWSA operations, was charged with implementing these KPIs instead of PWSA employees leading the efforts to improve operations. And with the PWSA employees understanding that Veolia leadership was only there on a temporary basis, PWSA employees did not necessarily embrace all these changes positively. Consequently, there was tension between Veolia trying to quickly make changes before the contract ended and PWSA employees trying to stall or delay the changes. This was made evident in the Steering Committee meeting minutes that were provided for a portion of 2014 and 2015.

In addition to managing the day-to-day operations of the PWSA, its contract also required Veolia to make recommendations to improve efficiencies and operational effectiveness. Veolia was to be paid based on the amount of cost savings realized by PWSA from Veolia-initiated improvements or a pre-established amount for implementing KPIs. This cost driven focus was very important to Veolia. In fact, as part of the Veolia contract, and according to one of Veolia's representatives, a Steering Committee was established for the purpose of evaluating and approving the proposed KPIs and improvement initiatives and not for overseeing the day-to-day operations of the PWSA.

The contract also required the Interim Executive Director (and the then permanent Executive Director—who is the same person) to report to the Steering Committee in addition to his duties to report on day-to-day operating activities to the PWSA Board. Therefore, it appears that the Interim Executive Director could have been conflicted about which was more important—making decisions that would benefit Veolia's profitability or serving as PWSA's Interim (or permanent) Executive Director with loyalty to its Board, employees, and customers. Based on media reports and interviews with PWSA officials, PWSA ultimately believed that the Executive Director made decisions in the best interest of Veolia.

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#### Frequent Leadership Turnover

Since the end of Veolia's contract, PWSA has had difficulty in filling the Executive Director position. Within the 18-month period of January 2016 through June 2017, there have been four different individuals who have filled the Executive Director position and three of them, including the current Executive Director, have filled the position on an interim basis.

<b>Executive Director Turnover</b>	
<b>Dates served</b>	<b>Details</b>
May 2015 to March 2016	Permanent Executive Director – ex-Veolia employee
March 2016 to August 2016	Interim Executive Director – PWSA employee
September 2016 to March 2017	Interim Executive Director – contract employee
April 2017 – current	Interim Executive Director – contract employee <sup>a/</sup>

<sup>a/</sup> Individual has a one year contract beginning July 3, 2017.

*Source: Developed by the Department of the Auditor General.*

Based on our interviews, it appears that not offering a competitive salary and the requirement to be domiciled in the City has been a factor in PWSA being unable to maintain continuity in this position (we address the reasoning behind this in the second section of this finding). Additionally, it would be reasonable to believe that the continued negative publicity from the recent operational problems would keep potential candidates from applying for positions at the PWSA.

In addition, we found that between January 2014 and June 2017, all five senior-level management positions turned over at least once. In fact, four of the five positions have experienced turnover since the start of our audit in February 2017. We interviewed both the Director of Human Resources and the Director of Field Operations prior to their departure from PWSA employment for other jobs. Both indicated that they were leaving, in large part, due to the uncertainty and instability at the PWSA with the potential restructuring, as well as changes in executive directors.

Lack of continuity in leadership brings excessive changes and a loss of confidence by its employees. Additionally, since an Interim Executive Director is only temporarily in that position, that individual may not attempt to correct deficiencies or improve processes, particularly those that would require a longer time to implement and provide benefits that will pay off more in the long-term than the short-term, such as preventative maintenance and asset upgrades. Instead, the individual may just continue on the previous individual's course. However, the lack of strong leadership and the lack of effort or the delay in making changes could and seemingly has resulted in the diminishing of the health and effectiveness of the PWSA.

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#### Severely Insufficient Capital Investment

Overall, in the past 30 years, PWSA has not adequately funded its capital improvement program due, at least in part, to its heavy debt load. From the \$300 million in bond debt that PWSA had issued by 1995, PWSA's bond and loan debt has increased to \$680 million in 2012 and to more than \$750 million in 2016. See the Financial Highlights section in the Introduction and Background Section for more detailed information.

With this increase in debt, the overall financial condition of PWSA has been deteriorating over the past five years. PWSA's working capital (current assets less current liabilities) has decreased from a positive \$7.7 million in calendar year 2012 to a negative \$15.7 million in calendar year 2016. Working capital is a common measure of a company's liquidity, efficiency, and overall health. In other words, positive working capital generally indicates that a company is able to pay off its short-term liabilities immediately and negative working capital indicates a company is unable to do so.<sup>37</sup> In PWSA's situation, working capital went negative in 2013.

In addition, according to its audited financial statements, PWSA's debt service coverage ratio has been decreasing substantially, and is on the brink of violating the bond indenture covenant.<sup>38</sup> In fact, for the year ended December 31, 2016, the debt service coverage ratio covenant was to meet or exceed 1.2, while the actual debt service coverage ratio was 1.21. As a result, PWSA is 0.01 away from violating the bond indenture requirement.

With this negative financial position, the PWSA has lacked the opportunity to invest in capital improvements. Based on our review of PWSA's audited financial statements and concurrence by PWSA's Director of Finance, the following table shows the amount of PWSA's capital improvement investment over the most recent five-year period:

<b>PWSA's Annual Capital Improvement Investment (in millions)</b>					
<b>Calendar Year</b>					
<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>Total</b>
\$30.5	\$21.4	\$22.9	\$47.2	\$35.0	\$157.0

*Source: Developed by Department of the Auditor General.*

On average, PWSA invested \$31.4 million annually in capital improvements during those years. However, based on information provided by the Director of Finance, based on its size and value, on average the PWSA should be investing \$200 million annually. Therefore, PWSA has only been investing in capital improvements over the past five years at about 15

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<sup>37</sup> <http://www.investinganswers.com/financial-dictionary/financial-statement-analysis/working-capital-869> (accessed September 27, 2017).

<sup>38</sup> According to PWSA, the debt service coverage ratio (revenue plus beginning of year cash balance less operating expense) be at least equal to annual debt service times 1.2.

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percent of what it should have been. This lack of capital improvement investment contributes to the deteriorating infrastructure which continues to fail routinely.

On a positive note, PWSA in January 2017 created a written five-year capital improvement plan (CIP). According to the CIP, PWSA intends to invest the following in its capital improvements:

PWSA's Proposed 2017 Annual Capital Improvement Investment (in millions)					
Calendar Year					
2017	2018	2019	2020	2021	Total
\$48	\$98	\$131	\$191	\$188	\$656

*Source: Developed by Department of the Auditor General.*

Although this CIP does not match what should be invested (\$200 million annually), this plan, if fully implemented by PWSA, would collectively be more than four times what had been invested in the previous five years (previous table). This shows that management understands the need to invest in additional capital improvement and has laid out a plan to do so.

### City influence impairs PWSA's decision making and causes a financial burden.

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As previously stated, some of the issues we found during the audit were created several decades ago, but continue to have negative implications today. This certainly is the case with respect to how the City has over-extended its authority regarding the PWSA. According to a City representative, because the City owns the PWSA water and sewer system infrastructure, the City through the Mayor's Office is ethically, morally, and legally responsible for what occurs at PWSA and the City is committed to making sure that PWSA produces safe drinking water. Based on these comments, we would expect that the City and PWSA would work collaboratively when emergencies (e.g., a water main break) arise and City assistance is needed. However, when the City negotiated the contract for a PWSA Executive Director in 2016,<sup>39</sup> a responsibility that belongs to the PWSA Board, the City overstepped its authority and went beyond working collaboratively with the PWSA. The City exceeding its authority may have potentially been the impetus for three PWSA Board members resigning in March 2017.<sup>40</sup>

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<sup>39</sup> <http://www.post-gazette.com/local/city/2017/03/22/Three-PWSA-members-resign-mayor-Peduto-lindstrom-welch-mayoral-candidate/stories/201703220176> (accessed September 28, 2017).

<sup>40</sup> <http://triblive.com/local/alleggheny/12106529-74/3-pwsa-board-members-resign-in-the-same-week> (accessed September 28, 2017).



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With regard to the City's commitment to providing safe drinking water, the City passed on its responsibility of maintaining the condition of the City-owned infrastructure to the PWSA according to the 1995 lease agreement.

12. Maintenance and Repair. The [PWSA] shall at all times maintain the Leased Property in as good condition as it is in on the date hereof, ordinary wear and tear excepted. The [PWSA] shall take every other action necessary or appropriate for the preservation and safety of the Leased Property. The Lessee shall promptly make all alterations of every kind and nature, whether foreseen or unforeseen, which may be required to comply with the foregoing requirements of this Paragraph 12 or any authority having jurisdiction over the Lessee or the Leased Property.<sup>41</sup>

As of today, this lease agreement has not been amended. If the City was truly willing to financially invest in the system that it owns, with the dire situation that the infrastructure is presently in, the City (and PWSA) should be considering amending this agreement for the City to financially assist in rectifying this extremely serious situation that continues to plague Pittsburgh.

Instead, based on our audit, we found that the City continues to take financial advantage of the PWSA beyond PWSA's issuance of at least \$750 million in debt to repair and replace the City-owned infrastructure.

#### **PWSA's original governing documents demonstrate that the City never intended the PWSA to ever be truly independent from the City.**

Municipal authorities are intended to be and are typically independent from the granting authority. However, based on the original governing documents of PWSA, it appears that the City never intended the PWSA to be truly independent from the City.

The composition of the Board is prescribed in the PWSA's Articles of Incorporation, the Municipalities Authority Act,<sup>42</sup> and the Pittsburgh City Charter. The Board is to be comprised of seven members.<sup>43</sup> The Articles of Incorporation mandate that the City of Pittsburgh's Treasurer and the City's Director of Finance are permanent board members.<sup>44</sup> Additionally, Pittsburgh's Home Rule Charter requires the Mayor to appoint, and the City Council to approve, a City Councilperson to the PWSA Board as well as four additional members, which could also include other City employees.<sup>45</sup> Thus, all seven members have direct or indirect ties to the City Mayor. However, most concerning are the City employees and the City Councilperson, who receive compensation from the City.

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<sup>41</sup> Capital Lease Agreement, effective July 27, 1995, page 7.

<sup>42</sup> 53 Pa.C.S. § 5601 *et seq.*

<sup>43</sup> PWSA Articles of Incorporation.

<sup>44</sup> *Ibid.*

<sup>45</sup> Pittsburgh Home Rule Charter, Section 219 and 220.

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All PWSA Board members who receive compensation from the City (currently there are four) may, at times, find themselves in a quandary. The City-compensated members may be influenced by the wishes of their employer, the City Mayor's Office, despite the Board members owing a specific fiduciary duty to the entity (PWSA) they serve and its customers. Generally, each corporate or municipal authority board member is bound by the fiduciary duties of loyalty (putting the interest of the entity above himself/herself) and care (properly and efficiently overseeing the affairs of the entity).<sup>46</sup> According to the Governor's Center for Local Government Services within the Department of Community and Economic Development, "The board has the ultimate fiduciary responsibility for the authority."<sup>47</sup> However, the Board's bylaws do not address the fiduciary responsibility of each Board member. Additionally, according to a Board member, the Board members are not required to sign an acknowledgement of their understanding and willingness to fulfill their fiduciary duties. Without the bylaws addressing Board members' fiduciary responsibilities and the requirement to sign such an acknowledgement, in many ways, PWSA Board members' decisions may be tipped to the pressures of the City Mayor's Office and not the PWSA.

Once the Mayor appoints the PWSA Board members, the Mayor (and City) should step away and allow the Board to oversee the Authority without influence. The Governor's Center for Local Government Services perhaps, said it most concisely: "Once an authority is created and its members appointed, a municipality has little direct control over the operations of the authority."<sup>48</sup> However, as discussed later, the City has influenced decisions and policy approved by the PWSA Board during the audit period. Additionally, the City takes financial advantage of the PWSA through its 1995 cooperation (co-op) agreement.

#### **The 1995 co-op agreement between the PWSA and the City is outdated and is a financial burden to the PWSA.**

One of the intents of the 1995 co-op agreement was to establish what services the City would provide to the PWSA and how the PWSA would pay the City for these services. Some of the services included telephone and data services, vehicle fuel and repair, legal aid, computer services, payroll services, and administering benefit programs. In exchange, and under the terms of this co-op agreement, PWSA is providing the City the following through 2035:<sup>49</sup>

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<sup>46</sup> See 15 Pa.C.S. § 512 and 15 Pa.C.S. § 5712 which outline fiduciary duties of a "Corporation for profit" and Corporation not-for-profit", respectively. See 15 Pa.C.S. § 102 for definition. The duties include the requirement for both types of corporate entities to act in "good faith, in a manner he reasonably believes to be in the best interests of the corporation." [Emphasis added.] See 15 Pa.C.S. § 512(a) and 15 Pa.C.S. § 5712(a).

<sup>47</sup> Governor's Center for Local Government Services, Municipal Authorities in Pennsylvania, Tenth Edition, January 2015, page 18, [https://dced.pa.gov/download/municipal-authorities-in-pennsylvania/?wpdmdl=57758&ind=OoxWgybF709sdMRTVy4z7ML0ThTXUY5gA53YmtdeoE\\_oaWnEkSMdFd4eVpBLipByBrOSqv667NjlnkkTxPoNEg](https://dced.pa.gov/download/municipal-authorities-in-pennsylvania/?wpdmdl=57758&ind=OoxWgybF709sdMRTVy4z7ML0ThTXUY5gA53YmtdeoE_oaWnEkSMdFd4eVpBLipByBrOSqv667NjlnkkTxPoNEg) (accessed September 28, 2017).

<sup>48</sup> Ibid., page 12.

<sup>49</sup> Cooperative Agreement between the City of Pittsburgh and PWSA effective January 1, 1995, page 7.

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- Up to 600 million gallons of water each year. This includes its departments, agencies, and instrumentalities (i.e., Pittsburgh Zoo,<sup>50</sup> Phipps Conservatory,<sup>51</sup> National Aviary,<sup>52</sup> and Schenley Golf Course<sup>53</sup>). To the extent in excess of 600 million gallons is used, the PWSA may offset that cost against moneys owed the City.
- Equalization payments for citizens in certain portions of the City not serviced by PWSA.
- Actual direct expenses and overhead expenses for services provided by the City to the PWSA (which, during the audit period, totaled \$7.15 million annually).

The co-op agreement also establishes that “the City shall not be liable for any [PWSA] debt payments.”<sup>54</sup>

Based on interviews with PWSA officials, the PWSA Board is aware that the co-op agreement is outdated and needs to be amended. This is evidenced by language in the “First Amendment to Cooperation Agreement” (amendment), entered into by the City and PWSA on March 21, 2011. The amendment states, in part:

WHEREAS, over time, some of the services and activities articulated by the Cooperation Agreement have been assumed by the Authority, and are no longer performed for the Authority by the City.

WHEREAS, over time, the City has assumed and has performed on behalf of the Authority other services and activities not articulated by the Cooperation Agreement.

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<sup>50</sup> The Pittsburgh Zoo is one of only six major zoo and aquarium combinations in the [United States](#). Located in [Pittsburgh, Pennsylvania's Highland Park](#), the zoo sits on 77 acres of park land where it exhibits more than 4,000 animals representing 475 species, including 20 threatened or endangered species, [https://en.wikipedia.org/wiki/Pittsburgh\\_Zoo\\_%26\\_PPG\\_Aquarium](https://en.wikipedia.org/wiki/Pittsburgh_Zoo_%26_PPG_Aquarium) (accessed October 2, 2017). According to PWSA, the zoo is not metered nor billed for its water use.

<sup>51</sup> Phipps Conservatory, <https://www.phippsconservatory.org/>. Phipps Conservatory and Botanical Gardens is a botanical garden set in Schenley Park, Pittsburgh, Pennsylvania. It is a City of Pittsburgh historic landmark and is listed on the National Register of Historic Places, [https://en.wikipedia.org/wiki/Phipps\\_Conservatory\\_and\\_Botanical\\_Gardens](https://en.wikipedia.org/wiki/Phipps_Conservatory_and_Botanical_Gardens) (accessed October 2, 2017). According to PWSA, the conservatory is metered, but is not billed for its water use.

<sup>52</sup> National Aviary, <https://www.aviary.org/>. The National Aviary, located in Pittsburgh, Pennsylvania, is the only independent indoor nonprofit aviary in the United States. It is also the country's largest aviary, and the only accorded honorary "National" status by the United States Congress, [https://en.wikipedia.org/wiki/National\\_Aviary](https://en.wikipedia.org/wiki/National_Aviary) (accessed October 2, 2017). According to PWSA, the aviary has been metered and billed for its water use since at least 2012.

<sup>53</sup> Schenley Golf Course, renamed Bob O'Connor Golf Course at Schenley Park in 2007, is located in the rolling hills of Schenley Park between Oakland and Squirrel Hill in Pittsburgh, PA. It is the only golf course within the city limits. <http://www.thebobgc.com/>. The course had originally been publicly owned by the City of Pittsburgh, but it was privatized during the administration of Mayor [Sophie Masloff](#). [https://en.wikipedia.org/wiki/Bob\\_O%27Connor\\_Golf\\_Course\\_at\\_Schenley\\_Park](https://en.wikipedia.org/wiki/Bob_O%27Connor_Golf_Course_at_Schenley_Park) (accessed October 2, 2017). According to PWSA, the golf course has been metered and billed for its water use since at least 2012.

<sup>54</sup> Cooperative Agreement between the City of Pittsburgh and PWSA effective January 1, 1995, page 7.

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Additionally, the amendment acknowledges that both the City and the PWSA would like to renegotiate and enter into an amended Cooperation Agreement to be concluded and executed by August 2011; however, according to the City's Finance Director, who is also a PWSA Board member, an amended Cooperation Agreement was never executed for several reasons, two of which are:

- The co-op agreement is the key document that holds the PWSA responsible for the City's water related assets and no one would like to change that.
- The co-op agreement guarantees substantial revenue and free water to the City and the City administrators would not want to change that agreement without substantial restructuring of the City's revenue and expenses.

The Finance Director's response indicates that the City realizes it is getting a financial advantage by not renegotiating and amending the co-op agreement.

We attempted to evaluate what services the PWSA is receiving and paying for as part of the co-op agreement. Also, as part of our audit procedures, we identified services that the City benefits from (not described in the co-op agreement) that the PWSA either pays on behalf of the City or for which the PWSA does not bill the City. The following briefly describes our concerns regarding the items PWSA is to provide to the City.

#### Up to 600 million gallons of free water each year

Based on 2016 and 2017 rates, the value of the City receiving 600 million gallons of water during 2016 and 2017 is approximately \$6 million and \$6.84 million, respectively. However, PWSA does not know how much water the City actually uses each year because of the following:

1. PWSA does not have a complete list of all City-owned properties that receive free water.
2. Many City-owned properties are not metered.

PWSA's Director of Finance provided us a list of City-owned properties, but admitted that the list was incomplete. This list also showed that many properties are not metered. His response as to why the PWSA did not have a complete list of City-owned properties and why all the properties were not metered was that the PWSA and the city have held discussions on this matter, but there has never been a plan to address identifying and metering all City facilities. Considering the PWSA's dire financial condition, the failure to address this issue is unacceptable. Without all the City-owned properties being identified and meters placed at the properties to track water usage, the PWSA has no way of measuring exactly how much water the City is using free of charge. Therefore, if the City does use more than 600 million gallons of free water in any given year, the PWSA does not know it and cannot offset the value of the excess water against moneys owed the City in accordance with the agreement.

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A senior manager of the PWSA indicated to us that the actual city water usage may be close to one billion gallons annually. However, this is just one senior manager's estimate of the City's water usage. If the PWSA could determine total water used by the City, it would be able to charge the City, or offset costs against its annual payment to the City, of approximately \$1.14 million dollars for every 100 million gallons in excess of the 600 million gallons the City uses based on 2017 rates.<sup>55</sup> As the chart below shows, if the City exceeds its free water allotment, the revenue lost to the PWSA is substantial.

Hypothetical Water Use	PWSA lost revenue (2016 rates)	PWSA lost revenue (2017 rates)
700 million gallons	\$1 million	\$1.14 million
800 million gallons	\$2 million	\$2.28 million
900 million gallons	\$3 million	\$3.42 million
1 billion gallons	\$4 million	\$4.56 million

Source: Developed by the Department of the Auditor General.

#### Equalization payments for citizens in certain portions of the City not serviced by PWSA

The co-op agreement also requires PWSA to subsidize water service for Pittsburgh City residents in certain parts of the City (south and west of the Monongahela River) that are serviced by Pennsylvania American Water (PAW). See the following example:

If a PAW customer is to be billed \$50 for a month of water usage based on PAW rates, but the PWSA rate for the same water use is \$40, the PAW will charge the customer \$40 and bill PWSA for the \$10 difference (subsidy).

Using the invoices sent to PWSA from PAW, we calculated that during the period January 1, 2014, through December 31, 2016, PWSA provided approximately \$4.8 million in subsidy payments to PAW for City residents serviced by PAW as shown below.<sup>56</sup>

Year	Subsidy Amount
2014	\$1,902,155
2015	\$1,339,395
2016	\$1,549,256
<b>Total</b>	<b>\$4,790,806</b>

Source: Developed by the Department of the Auditor General.

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<sup>55</sup> The cost of providing water and sewer service to a commercial enterprise is \$7.47 and \$3.95, respectively per 1,000 gallons according to the 2017 PWSA rate schedule. The cost of providing water and sewer service to a commercial enterprise is \$5.52 and \$3.89 respectively per 1,000 gallons plus a 7 percent distribution infrastructure system charge added to the total according to the 2016 PWSA rate schedule.

<sup>56</sup> The above subsidy amounts were calculated by taking PAW's water rates less PWSA's water rates and sewer conveyance fees to arrive at the subsidy. PAW's water rates were higher than PWSA water and sewer rates combined. PWSA owns and maintains the sewer system used by PAW customers in the city.

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This subsidy amount is substantially understated, though, because the above subsidy amounts paid were lowered by the amount of PWSA's sewage conveyance charges that were used to off-set the amount of subsidy paid. In a typical customer's water bill, PWSA charges for water service, sewage and storm water conveyance service and ALCOSAN's sewage treatment charges. In order to reduce the PAW subsidy, PWSA waived its sewage treatment charges to customers receiving water service from PAW until January 2017. Since January 2017, PWSA has been including the sewage conveyance charge on customer bills and the 2017 subsidy amount increased to \$4.8 million **per year**, a level more representative of the true size of the subsidy.

Because the PWSA is responsible for the difference between its rate (lower) and PAW's rate (higher); anytime that the PAW is granted a rate increase from the Public Utility Commission (PUC),<sup>57</sup> the PWSA will be paying out more money to PAW because the subsidy will be greater. On the other hand, if the PWSA increases rates and PAW does not, then the subsidy payment would decrease.

The PWSA Board and the City, as part of renegotiating the co-op agreement, need to reconsider whether this subsidy is necessary, especially in light of the poor financial condition of the PWSA and the need for additional revenue to improve its infrastructure.

#### Actual direct expenses and overhead expenses for services provided by the City to the PWSA

During the audit period, the City billed the PWSA a total of \$7.15 million annually for direct expenses plus overhead in four quarterly invoices each totaling \$1,787,500. We reviewed the 12 quarterly invoices covering the 2014, 2015 and 2016 calendar years and found that none of the invoices contained detailed information as to what services were being billed. Instead, each quarterly bill simply includes two line items as noted below:

PWSA Indirects	\$ 462,500
PWSA Authority Payment	<u>\$1,325,000</u>
Total	\$1,787,500

There was no further detailed explanation of the charges on the invoices. When asked why PWSA was paying for these quarterly City bills that had no detailed explanation, PWSA indicated that the practice was to just pay the bill. This is not a good accounting practice. PWSA needs to ensure that each bill is accurate and correctly calculated prior to paying. As previously indicated, over time the services provided by the City have changed and PWSA needs to ensure that it is not being charged for services it is no longer using. The City may be taking financial advantage (intentionally or unintentionally) of this practice of what

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<sup>57</sup> The PUC regulates private water companies.

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appears to be arbitrarily invoicing the PWSA the same amount each quarter. This demonstrates the need to have the co-op agreement renegotiated.

In addition to reviewing the items noted in the co-op agreement, we also identified two additional items that should be included in the renegotiated co-op agreement with the City. Both items relate to fire hydrant service changes:

1. PWSA paying for fire hydrant service charges invoiced by the various water companies. In accordance with PUC regulations, private water companies charge the PWSA, on behalf of the City, a monthly fee to service public fire hydrants that are located within the City. According to PWSA's Director of Finance and our review of some of the invoices, PWSA paid these water companies more than \$960,000 for these service charges during the three-year period from January 2014 through December 2016. PWSA indicated that these bills have always been paid by the PWSA even though this service is not included in the language of the co-op agreement. Again, it is necessary to renegotiate the contract and include all services.
2. PWSA does not charge the City to service the 7,400 hydrants<sup>58</sup> in its service area. According to PWSA officials, the PWSA does not bill to service these fire hydrants because the PWSA does not charge the City for water. PWSA did not have an estimate of the cost of fire hydrant servicing and would have to undertake a study to determine the cost. PAW currently charges the City \$20 per hydrant each month for most of the 1,267 hydrants<sup>59</sup> it services in the city. Therefore, at that same rate, PWSA could be receiving approximately \$148,000 per month or \$1.8 million annually to service hydrants in the City.

If the City is unwilling to come to the table to renegotiate the co-op agreement, the PWSA should not, in good faith, continue to give the City any extra benefits. The PWSA Board must do what is best for the PWSA and giving away water and services or paying for charges that are not required to be paid by the co-op agreement is not good business, especially in its current situation. This would include not paying the \$7.15 million annual charge by the City for unknown expenses.

#### **City influence has impacted decisions and policies approved by the PWSA Board.**

Based on our audit procedures, we identified two PWSA Board decisions that created policies that were directly affected by City influence: (1) Domicile policy; and (2) Conflict of Interest policy. We will discuss each of these below.

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<sup>58</sup> PWSA 2017-2021 Capital Improvement Program, page 2.

<sup>59</sup> May 19, 2017, invoice from PAW.

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#### 1. Domicile policy

- a. Based on interviews with PWSA Board members, Interim Executive Directors, and senior-level management, the biggest impediment to hiring and/or maintaining a qualified and experienced workforce at PWSA is a requirement for employees to live in the City of Pittsburgh, known as domiciliary. However, in contrast to these opinions, we found that in February of 2016, the PWSA Board passed a resolution to develop a written policy requiring employees to be domiciled in Pittsburgh. According to the PWSA solicitor, this resolution was approved to clarify an unwritten residency policy that had been previously in place.<sup>60</sup>
- b. One would think, however, that if the domiciliary requirement was such a detriment to hiring and retaining employees, the PWSA Board would not have taken the action noted above.<sup>61</sup> PWSA officials and former and current board members indicated that the domiciliary requirement was influenced by the Mayor's Office because this policy applies at the City government offices. Additionally, according to the current Interim Executive Director, the City believes that the PWSA is still a department within the City and therefore, the Mayor's Office can dictate decisions and the direction of the Board. A City representative indicated that the City is willing to have a discussion about the domiciliary requirement, but is waiting to see the recommendations from the restructuring team. These statements indicates that the City does influence this decision though it acknowledges that the PWSA Board ultimately has the authority to change the requirement.
- c. To get around the domiciliary requirement, PWSA for years has been hiring contracted personnel including the Interim Executive Director and Interim Director of Engineering as well as many of the engineers.
- d. Rather than PWSA inconsistently applying a domiciliary requirement that deters employees and potentially costs PWSA more to hire contractors, the PWSA Board needs to stand up to the City and make the decision to rescind or amend the policy to allow for a larger pool of qualified applicants.

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<sup>60</sup> An individual may have more than one residence, but only one domicile. The term "residency" is defined on a factual place of abode evidenced by a person's physical presence in a particular place. In contrast, "domicile" is the place where people have their true, fixed, and permanent home and principal establishment, coupled with an intention of returning whenever they are absent.

<sup>61</sup> Based on our review of the Board meeting minutes, the actual written domiciliary policy was never approved by the Board. However, the PWSA provided us its Domicile Policy dated May 1, 2016.



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#### 2. “Conflict of Interest” policy

- a. In September of 2014, the Board was asked by the City to adopt a “Conflict of Interest” Policy. The City proposed that all City authorities adopt this policy. During the September 12, 2014 Board meeting, the proposed policy was discussed, amended and a recommendation to approve the policy was made. The Board made two substantive changes to the City-provided policy: (1) the policy would only be applicable to Board members, officers, directors, and managers but not the entire staff of the PWSA, and (2) the threshold for material financial interest was to match the existing PWSA’s *Ethics Handbook*. Prior to the request from the City to adopt the policy, the PWSA’s *Ethics Handbook* addressed conflict of interest and was applied to all employees, but did not require the submission of an annual report, as the City’s policy requires.
- b. This is another example of City influence on the Board. The intention of the City was perhaps a good one, but the Board acted on the request when it may not have been needed, since the existing *Ethics Handbook* addressed the issue. In this example, approving a Conflict-of-Interest Policy may not have had a positive or negative affect on the operations of the PWSA, but it is an example of how the City influences the Board.

In addition to these two examples, PWSA officials stated that the City influences the salary of not only the Executive Director position but other positions within the PWSA. We did not validate these statements, but based on the acknowledgement of the City in media reports that the City was directly negotiating the salary of a potential Executive Director, this appears to be possible. This, if true, indicates that the City is trying to have PWSA stay in line with City departments even though the PWSA is an independent authority.

**Overall conclusion:** The PWSA Board, current Interim Executive Director, and senior-level management inherited an aging and deteriorating water system infrastructure, a culture of mismanagement, a heavy debt load, and ongoing City influence. The City, through the years, has enjoyed financial benefits from its agreements with the PWSA, which has resulted in a financial burden on the PWSA, but has not meaningfully participated in investing in its own infrastructure. PWSA’s mismanagement of the system, based on the 2012 Veolia study, demonstrates an ongoing leadership dilemma. We hope that the conclusions reached by the “blue ribbon” panel and the recommendations offered in this report will provide the PWSA with guidance for positive and lasting improvements.

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#### **Recommendations for Finding 1**

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We recommend that the PWSA Board and/or management:

1. Develop a short-term and long-term executable action plan to address necessary improvements to operations and to preclude further potential imminent risks of not providing safe, reliable drinking water to its customers.
2. Stabilize the deteriorating infrastructure and eliminate current health hazards and request support from the City where necessary to make improvements.
3. Regain the confidence of its customers by promoting accountability and responsibility to its customers through communication and optimizing customer service.
4. Hire and establish a qualified and experienced management team, including a permanent full-time, Executive Director, committed to working through the tough problems and to lead and operate the PWSA. This would include establishing policy and a framework for monitoring the efficiency and effectiveness of all aspects of the operation to ensure regulatory compliance, routine asset management, and safety of its workforce and Pittsburgh citizens.
5. Offer market competitive wages and adapt the domiciliary requirement, to include the surrounding region to help in the hiring and retention of a dedicated and qualified workforce.
6. Comply with its 2017 Capital Improvement Plan and adequately invest in the necessary infrastructure replacements and improvements.
7. Develop a strategy to reduce and ultimately close the subsidy gap between the Pennsylvania American Water (PAW) company charges and the PWSA rates.
8. Make Board, management, and operational decisions, including domiciliary, salaries, etc., independent of City influence.
9. Work with the City to amend the PWSA's Articles of Incorporation to require PWSA Board seats be filled by individuals not compensated by the City. This could be accomplished by eliminating the mandate for the City's Director of Finance and Treasurer to be permanent Board members and or any City employees from being appointed to the PWSA Board.
10. Amend its Bylaws to include the necessary fiduciary responsibility of the Board as a whole, and the individual members.

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11. Require Board members to sign an acknowledgement that they understand and accept their fiduciary responsibility when serving on the Board.
12. Request the City to negotiate an amendment to the co-op agreement to have it accurately reflect what services the City is to provide and be paid for by PWSA and vice versa. The negotiations should include whether the PWSA should continue to be subsidizing the water bills of PAW customers and should ensure that the City is paying its fair share and that PWSA is only paying for costs or services it uses.
13. Obtain a complete list of all properties owned by the City on a routine basis, and regularly and routinely update PWSA's database.
14. Meter all City properties that currently are not metered.
15. Begin using the meter readings to track the amount of water used by the City annually and bill the City for all water usage over the allotted 600 million gallons in accordance with the co-op agreement.
16. Immediately request the City to provide detailed invoices (or detailed support) for each quarterly bill to verify charges for both actual direct expenses and overhead expenses.
17. Discontinue payment of City invoices for services unless those invoices have complete documentation to show valid details of those charges.

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#### **PWSA's Response and Auditors' Conclusions**

We provided copies of our draft audit finding and related recommendations to The Pittsburgh Water and Sewer Authority (PWSA) for its review. On the pages that follow, we included PWSA's response in its entirety. Following PWSA's response is our auditors' conclusions.

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# Audit Response from The Pittsburgh Water and Sewer Authority



October 17, 2017

Janet B. Ciccocioppo  
Director  
Bureau of Performance Audits  
302 Finance Building  
Harrisburg, PA 17120-0018

Dear Director Ciccocioppo:

The Pittsburgh Water and Sewer Authority (PWSA) received the Commonwealth of Pennsylvania Auditor General's draft performance audit. Our requested changes to the audit of PWSA have been incorporated and we respectfully submit the following responses:

**Recommendation # 1:** Develop a short-term and long-term executable action plan to address necessary improvements to operations and to preclude further potential eminent risks of not providing safe, reliable drinking water to its customers.

**Response:** In July 2017, PWSA staff, in conjunction with national experts Raftelis Financial Consultants, began the process of transitioning PWSA to a metrics-driven organization focused on providing the services, reliability and quality that the Pittsburgh ratepayers deserve. These metrics are being designed to be compliant with industry best practices as well as with Public Utility Commission (PUC) requirements. We are programming for a higher level of investment in the water, sewer and stormwater systems and to perform operational services appropriate for a utility PWSA's size.

**Recommendation # 2:** Stabilize the deteriorating infrastructure and eliminate current health hazards and request support from the City where necessary to make improvements.

**Response:** The plan described above addresses both immediate and long-term needs using a criticality-based approach. Our Capital Plan begins with immediate investment in our water filtration and treatment systems, water storage and pumping systems, water distribution lines, sewage conveyance lines, stormwater infrastructure, and technology systems to ensure efficiency and effectiveness for our ongoing operations.

**Recommendation # 3:** Regain the confidence of its customers by promoting accountability and responsibility to its customers through communication and optimizing customer service.

**Response:** The metric-based implementation plan outlined above will include performance measures for every aspect of our operations from water production to

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distribution to sewer operations to customer service. These metrics will be monitored, tracked and reported publicly to ensure transparency to all PWSA stakeholders.

**Recommendation # 4:** Hire and establish a qualified and experienced management team, including a permanent full-time, Executive Director, committed to working through the tough problems and to lead and operate the PWSA. This would include establishing policy and a framework for monitoring the efficiency and effectiveness of all aspects of the operation to ensure regulation compliance, routine asset management, and safety of its workforce and Pittsburgh citizens.

**Response:** PWSA is currently seeking qualified candidates to fill the key Executive Director and Director roles on a permanent basis, but suitable candidates have not yet been identified. We actively recruit from a wide variety of professional organizations, and through our consultant's professional contacts.

**Recommendation # 5:** Offer market competitive wages and adapt the domiciliary requirement, to include the surrounding region to help in the hiring and retention of a dedicated and qualified workforce.

**Response:** The Board is evaluating options for compensation and other employment matters and will review the domiciliary policy for propriety.

**Recommendation # 6:** Comply with its 2017 proposed Capital Improvement Plan and adequately invest in the necessary infrastructure replacements and improvements.

**Response:** The proposed 2018 CIP, along with its corresponding 2018 budget and resulting water and sewer rate adjustments, will be presented to the Board of Directors at its next meeting. The proposed plan will result in a ten-fold increase in annual capital spending compared to the last two decades' average investment levels.

**Recommendation # 7:** Develop a strategy to reduce and ultimately close the subsidy gap between the Pennsylvania American Water (PAW) company charges and the PWSA rates.

**Response:** PWSA is committed to equality and fairness in its rate structure and will work with the City to address this issue. The PWSA Board has established a Customer Assistance subcommittee which is focused on the development and implementation of customer assistance programs.

**Recommendation # 8:** Make Board, management, and operational decisions, including domiciliary, salaries, etc., independent of City influence.

**Response:** PWSA is an important entity providing critically needed services to residents of the City of Pittsburgh and to many of the surrounding communities. It is PWSA's goal to work cooperatively with the City to provide the best services to our

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customers. We understand our fiduciary and public service responsibilities will be memorialized in a new Cooperation Agreement between the parties to be finalized by December 31, 2017.

**Recommendation # 9:** Work with the City to amend the PWSA's Articles of Incorporation to require PWSA Board seats be filled by individuals not compensated by the City. This could be accomplished by eliminating the mandate for the City's Director of Finance and Treasurer to be permanent Board members and or any City employees from being appointed to the PWSA Board.

**Response:** PWSA was originally created as a financing authority and as in that regard having the City Finance Director and Treasurer as Board members was appropriate. Since 1995, PWSA has functioned as an operating authority. Therefore, it is reasonable to reconsider the mandatory board seats for the City Director of Finance and Treasurer. PWSA expects to address this issue as a component of the new Cooperation Agreement now under preparation.

**Recommendation # 10:** Amend its Bylaws to include the necessary fiduciary responsibility of the Board as a whole, and the individual members.

**Response:** Since the PWSA Board members are legally required to make decisions in the best interest of the Authority and its ratepayers, all foundational documents of the Authority will be reviewed to ensure that they clearly describe responsibilities of all Board members, managers and employees.

**Recommendation # 11:** Require Board members to sign an acknowledgement that they understand and accept their fiduciary responsibility when serving on the Board.

**Response:** See comment above.

**Recommendation # 12:** Request the City to negotiate an amendment to the co-op agreement to have it accurately reflect what services the City is to provide and be paid for by PWSA and vice versa. The negotiations should include whether the PWSA should continue to be subsidizing the water bills of PAW customers and should ensure that the City is paying its fair share and that PWSA is only paying for costs or services it uses.

**Response:** PWSA commits to working with the City to develop a modern Cooperation Agreement that is fair to the City, its taxpayers, the Authority and its ratepayers.

**Recommendation # 13:** Obtain a complete list of all properties owned by the City on a routine basis, and regularly and routinely update PWSA's database.



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**Response:** PWSA is committed to working with the City to catalog all water delivery locations and maintaining accurate ownership records as City real estate holdings change.

**Recommendation # 14:** Meter all City properties that currently are not metered.

**Response:** Because of the cost of metering all of the various properties, it will take a number of years to complete this item. Presently, the City is actively metering City pool facilities. PWSA also has funded a program to meter all City-owned fountains. Part of PWSA's above-mentioned plan includes a system-wide metering solution to better manage water loss, respond to breaks and outages, provide customer leak detection and provide more accurate billing.

**Recommendation #15:** Begin using the meter readings to track the amount of water used by the City annually and bill the City for all water usage over the allotted 600 million gallons in accordance with the co-op agreement.

**Response:** PWSA expects to address this issue as an element of the new Cooperation Agreement.

**Recommendation # 16:** Immediately request the City to provide detailed invoices (or detailed support) for each quarterly bill to verify charges for both actual direct expenses and overhead expenses.

**Response:** PWSA will discuss this issue with the City.

**Recommendation # 17:** Discontinue payment of City invoices for services unless those invoices have complete documentation to show valid details of those charges.

**Response:** PWSA will discuss this issue with the City.

Thank you for the opportunity to review and respond to your draft finding and recommendations. If you have any questions, please do not hesitate to contact me.

Sincerely,

A handwritten signature in blue ink that reads 'Robert A. Weimar'.

Robert A. Weimar  
Interim Executive Director

Cc: PWSA Board of Directors  
Kent Lindsay, Director of Finance, PWSA  
Chris Corbo, Audit Manager, Department of the Auditor General



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#### **Auditors' Conclusions to The Pittsburgh Water and Sewer Authority's Response**

Based on its response, PWSA generally agrees with our finding and recommendations and has already begun to implement changes. We commend the current PWSA Board/management for recently seeking professional guidance in transitioning the PWSA to be compliant with industry best practices. Additionally, we are encouraged by its plan to more heavily invest in the PWSA's infrastructure and in being committed to working with the City of Pittsburgh to develop a new Cooperation Agreement, including reconsidering the mandatory Board seats of the City Director of Finance and Treasurer. Finally, we applaud PWSA's willingness to review its foundational documents to ensure that they clearly describe the fiduciary responsibilities of its Board, managers, and employees.

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#### Appendix A

#### Objective, Scope, and Methodology

The Department of the Auditor General conducted this performance audit in order to provide an independent assessment of governance within the Pittsburgh Water and Sewer Authority (PWSA).

We conducted this audit in accordance with *Government Auditing Standards*, issued by the Comptroller General of the United States. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our finding and conclusions based on our audit objective. We believe that the evidence obtained provides a reasonable basis for our finding and conclusions based on our audit objective.

#### Objective

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Our audit objective was to determine whether PWSA's governance structure and delineation of decision-making responsibilities were adequate to provide effective oversight of PWSA operations.

#### Scope

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This audit covered the period January 1, 2014, through June 30, 2017, unless otherwise indicated, with updates through the report date.

PWSA management is responsible for establishing and maintaining effective internal controls to provide reasonable assurances that the PWSA is in compliance with applicable laws, regulations, contracts, grant agreements, and administrative policies and procedures.

In conducting our audit, we obtained an understanding of PWSA's internal controls, including any system controls, if applicable, that we considered significant within the context of our audit objective.

For those internal controls that we determined to be significant within the context of our objective, we also assessed the effectiveness of the design and implementation of those controls as discussed in the *Methodology* section that follows. Any deficiencies in internal controls that were identified during the conduct of our audit and determined to be significant within the context of our audit objective are included in this report.

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#### Methodology

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To address our audit objective, we performed the following:

- Obtained and reviewed the Pennsylvania law that governs the PWSA, and other authorities, the Municipality Authorities Act (see 53 Pa.C.S. § 5601 *et seq.*, as amended).
- Obtained and reviewed the PWSA's governing documents including the Articles of Incorporation, PWSA Board bylaws, and the Pittsburgh Home Rule Charter.
- Obtained and reviewed the Governor's Center for Local Government Services, Municipal Authorities in Pennsylvania, Tenth Edition, January 2015, which provides the reasons for an authority and the authority's power and duties based on the Municipality Authorities Act.
- Obtained the March 1984 Lease and Management Agreement between the PWSA and City of Pittsburgh as well as the July 1995 Memorandum of Lease that terminated the 1984 agreement. We reviewed the terms and conditions of each agreement.
- Obtained and reviewed a portion of the Green International Report regarding the water treatment and pumping facilities that is referenced in the 1984 Lease and Management Agreement to attempt to evaluate the condition of the system.
- Obtained an understanding of the mission and purpose of the PWSA by reviewing the PWSA's purpose, value and mission statements, contained in PWSA Board's Resolution 95, adopted November 20, 2015.
- Conducted various interviews and/or corresponded via e-mail with the following PWSA management and members of the Board of Directors:
  - Current Interim Executive Director.
  - Most recent former Interim Executive Director.
  - Former Director of Human Resources (resigned subsequent to our interview).
  - Director of Finance.
  - Former Acting Director of Water Quality (resigned subsequent to our interview).
  - Current Interim Director of Engineering.
  - Former Director of Field Operations (resigned subsequent to our interview).
  - PWSA Solicitor.
  - Current Board Chairperson.
  - Most recent former Board Chairman.
  - City of Pittsburgh Treasurer / PWSA Board Member.
  - City of Pittsburgh Director of Finance / PWSA Board Member.

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- City of Pittsburgh Councilwoman / PWSA Board Member.
- Conducted various interviews and/or corresponded via e-mail with the following individuals who have a business relationship with PWSA:
  - Current Managing Partner of the auditing firm for the PWSA Single Audit and/or the Financial Statements for the years ended December 31, 2012, 2013, 2014, 2015 and 2016.
  - Chief Financial Officer, City of Pittsburgh.
  - Chief of Staff, Office of the Mayor, City of Pittsburgh.
  - City of Pittsburgh's Controller's Office Audit Team.
  - Pennsylvania Department of Environmental Protection (DEP) Southwest Regional Manager, Bureau of Clean Drinking Water.
  - Director of Rates and Regulations Pennsylvania American Water.
  - Senior Research Associate / Writer Allegheny Institute for Public Policy.
  - Senior Vice President of Operations, Veolia Water North America Northeast (Veolia), who was a representative on the Steering Committee.
  - Representatives from the Allegheny County Health Department, Bureau of Environmental Health.
- Reviewed PWSA's website to obtain background information: <http://pgh2o.com/>.
- Obtained various PWSA organization charts and listings of PWSA Board members.
- Reviewed proposed legislation (House Bill 1490) related to the PWSA.
- Reviewed the request for proposal and contract with the financial and legal advisory team related to possible options for restructuring the PWSA.
- Reviewed the advisory team's Briefing Book on PWSA Restructuring Options, dated August 28, 2017.
- Obtained and reviewed newspaper articles and other media articles regarding the PWSA's state of affairs during the audit period. These articles dealt with varying issues including changes in management personnel, infrastructure problems including water main breaks, contamination of the water with particular emphasis on lead, billing and customer service problems, issues with regulatory agencies and long term system improvement initiatives.
- Reviewed the Pittsburgh Office of City Controller's draft performance audit report of PWSA, released in February 2017, and the final performance audit report of PWSA, released in June 2017, to assess the Controller's objectives and the audit results.

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- Reviewed the Single Audit reports for PWSA for the years ended December 31, 2012, 2013, 2014, and 2015, as well as the PWSA Financial Statements and Required Supplementary and Supplementary Information for the year ended December 31, 2016, to assess the financial condition of the PWSA during that period.
- Reviewed DEP inspections and reports related to the PWSA from January 1, 2014, through April 5, 2017.
- Obtained and reviewed the PWSA's board meeting minutes which included financial updates and reports from the finance director, reports from the consulting engineers, executive director's reports, and board resolutions from January 2014 to August 2017.
- Attended PWSA board meetings from March 2017 to September 2017 to observe and document the proceedings.
- Obtained and reviewed the Agreement for Interim Management Services between PWSA and Veolia from July 2012 through June 2013, July 2013 through December 2014, and January 2015 through December 2015.
- Reviewed Veolia invoices to PWSA and the corresponding payments to Veolia by PWSA. Per the invoices and contract, these payments were for management services, key performance indicators, and improvement initiatives. Review of invoices and payments were to determine the amount paid to Veolia from the contract's inception in July 2012 until the final invoice sent in February 2016.
- Obtained and reviewed a portion of Veolia Steering Committee meeting minutes from 2014 and 2015 (others could not be located). Steering committee members included three PWSA board members and two Veolia representatives to evaluate and approve KPI's and improvement initiatives.
- Reviewed Veolia's Pittsburgh Water and Sewer Authority 2012 Study Report to determine areas of operational improvements that Veolia identified.
- Identified the management employees Veolia provided to PWSA from July 2012, through September 2015.
- Obtained from PWSA the number of water and sewer main breaks for the period January 2014 through May 31, 2017.
- Obtained information on the amount of clean/treated water produced compared to the amount of water that PWSA actually bills for 2014, 2015, and 2016.

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- Reviewed and assessed senior-level management turnover from January 2014 through August 2017.
- Reviewed PWSA's 2017 to 2021 Capital Improvement Program to compare amounts that PWSA is proposing to spend with the actual capital expenditures from 2012 to 2016.
- Obtained and reviewed the Cooperation Agreement (effective January 1, 1995) between the PWSA and the City to determine if the City and PWSA were abiding by the terms of the agreement.
- Obtained and reviewed the First Amendment to Cooperation Agreement, effective March 21, 2011, to assess any changes to the original agreement.
- Attempted, but was unable to assess, the annual amount of City water usage during the audit period.
- Researched websites for information regarding the Pittsburgh Zoo, Phipps Conservatory, National Aviary, and Schenley Golf Course.
- Reviewed quarterly invoices from the City for services provided to PWSA for the calendar years 2014, 2015 and 2016 to determine the amount that PWSA pays the City each year and what services are being invoiced by the City.
- Obtained and reviewed invoices from Pennsylvania American Water (PAW) for the years 2014, 2015 and 2016 to determine the amount PWSA paid annually to subsidize PAW customers.
- Obtained information from PWSA regarding the waiving of sewer conveyance fees for PAW customers.
- Obtained and reviewed some invoices paid by PWSA for fire hydrant servicing in areas that are not serviced by PWSA for the years of January 2014 through December 2016. We also determined whether PWSA was charging the City for hydrants located within its service area.
- Obtained the water rates of PWSA and PAW customers for July 2016 and January 2017, to calculate the difference between the water rates.
- Obtained and reviewed the PWSA *Ethics Handbook*, domicile and the conflict of interest policies.

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#### Data Reliability

For data that we obtain from PWSA, and which materially affect the findings, conclusions, or recommendations that we present, *Government Auditing Standards* requires us to assess the completeness and accuracy of computer-processed data.<sup>62</sup>

No computer-processed data from PWSA was used in presenting the results of this audit. As such, we did not perform data reliability assessments.

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<sup>62</sup> See United States Government Accountability Office, *Government Auditing Standards*, December 2011.

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#### Appendix B

#### PWSA Board Members as of September 29, 2017

The following chart shows the name, title and term for the Board Members as of September 29, 2017:

<b>Name</b>	<b>Occupation</b>	<b>Board Title</b>	<b>Term</b>
Debbie Lestitian	City Chief Administration Officer	Chairperson	May 2, 2017 – April 30, 2020
Margaret Lanier	City Treasurer	Vice Chairperson	March 1, 2017 – February 26, 2021
Paul Leger	City Director of Finance	Treasurer	March 1, 2017 – June 30, 2018
Jim Turner	Retired City worker	Secretary	May 2, 2017 – April 30, 2020
Deb Gross	City Councilperson	Assistant Secretary	March 31, 2015 – March 6, 2018
Chaton Turner	Private citizen	Board Member	May 2, 2017 – April 30, 2020
Mike Weber	Union Representative	Board Member	November 9, 2015 – December 31, 2020



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#### Appendix C

#### Reported PWSA Problems During The Audit Period

##### 1. Billing/Customer Service Issues: September 2014 to current

In September of 2014, PWSA terminated its contract with a company that produced and serviced its water meters and meter reading interface equipment. The Pittsburgh City Controller's report stated that PWSA decided to change billing systems due to the new system being cheaper and more tailored to the utility business, however there were problems with compatibility issues during the transition. Additionally, electronic meter readers were not programmed correctly to the appropriate multiplier on the meters causing bills to be 10 to 1,000 times higher than they should have been in some cases.

A June 16, 2015, PWSA press release indicated customers expressed concerns regarding what they feel are inaccurate bills and service terminations. The release indicated that PWSA was working to resolve issues.<sup>63</sup>

The billing problems continued throughout 2015 into 2016. In March 2016, according to a city councilwoman who was also a PWSA board member there were nearly 50,000 inaccurate bills. Pittsburgh City Council members fielded complaints from constituents of rude treatment by PWSA employees, inconsistent answers to the same question, dismissive attitudes and excessive phone call hold time.<sup>64</sup>

In September 2017, PWSA announced it is looking to outsource billing and the related customer service for billing. The Interim Executive Director indicated he wants the billing system to be less costly, more efficient and have bills that are 100% accurate. Additionally, the current customer service system and billing systems are not compatible leading to long call times.<sup>65</sup>

##### 2. Corrosion Control and Elevated Lead Levels: 2014 to current

PWSA made changes to its corrosion control chemicals in its water distribution system in 2014 and 2015. PWSA switched from using soda ash to using caustic soda in water treatment process and failed to receive approval from the Pennsylvania Department of Environmental Protection (PA DEP).

In February 2016, the PA DEP issued a Notice of Violation, because PWSA did not provide corrosion control chemicals in accordance with its permit by eliminating soda ash in 2014 and 2015. In April 2016, the PA DEP also issued an Administrative Order to PWSA, regarding the changes in corrosion control which required among other things PWSA to test a sample of homes by June 30, 2016, to determine lead and copper levels were not above the EPA's minimum established levels. The results of the June 2016 testing showed a higher than acceptable level of lead content in PWSA's drinking water. As a result of exceeding the lead threshold, PWSA was required to complete testing every six months and replace seven percent of its lead service lines each year. By July of 2017, PWSA failed to replace seven percent of its lead service lines by the June 30, 2017 deadline. Water samples collected and tested for compliance with U.S. Environmental Protection Agency (EPA) water quality standards, showed the lead content in the water exceeded the EPA's threshold in December 2016 but was in compliance with EPA lead content thresholds in June 2017.

In September 2017, the Interim Executive Director indicated during interviews that the PA DEP and EPA are preparing a consent order involving all lead related issues that may include a large fine. As of October 16, 2017, there has been no consent decree and the resolution of these matters remain pending.

<sup>63</sup> <http://www.pgh2o.com/release?id=4640> (accessed October 12, 2017).

<sup>64</sup> <http://triblive.com/news/alleggheny/10142854-74/pwsa-billing-donahoe> (accessed May 11, 2017).

<sup>65</sup> <http://www.post-gazette.com/local/city/2017/09/18/PWSA-billing-questions-outsourcing-Robert-Weimar-pittsburgh-water-authority/stories/201709170223> (accessed September 18, 2017).

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#### 3. Flush and Boil Advisories: February 2017 and August 2017

In February 2017, PWSA issued a flush and boil water advisory that affected 100,000 customers in the central and eastern sections of the city, due to testing that showed low levels of chlorine in treated drinking water.

In August 2017, another advisory was issued affecting 18,000 homes in the northern section of the city, Millvale, and Reserve Township due to deficiencies in the cover of the Lanpher reservoir.<sup>66</sup> The torn reservoir cover could lead to contamination of the treated water being maintained in the reservoir.

#### 4. Water Line Breaks: 2014 to current

According to a PWSA official, the PWSA experienced 3,581 water and sewer line breaks<sup>67</sup> from January 2014 through May 31, 2017. Breakage rates increased by 79 percent from 2014 to 2016. Also, by projecting the number of breaks for the first five months of 2017, 2017 is on target to equal the number of breaks in 2016. See details in the below table.

Calendar Year	Water Mains	Service Lines	Lead Service Lines	Sewer Mains	Sewer Laterals	Totals
2014	439	281	–	33	–	753
2015	492	339	–	98	–	929
2016	533	472	267	31	44	1,347
2017 <sup>a/</sup>	205	217	116	4	10	552
<b>Totals</b>	<b>1,669</b>	<b>1,309</b>	<b>383</b>	<b>166</b>	<b>54</b>	<b>3,581</b>

*a/ - From January 1, 2017 through May 31, 2017.*

<sup>66</sup> <http://www.pgh2o.com/release?id=6953> and <http://pgh2o.com/release?id=7598> (both accessed September 13, 2017).

<sup>67</sup> PWSA definitions: **Water and Sewer Mains:** PWSA main water distribution main and main sewer conveyance, **Service Lines:** water lines servicing commercial or residential properties, **Lead Service Lines:** material type for water lines servicing commercial or residential properties, **Sewer Laterals:** sewer lines that service commercial or residential properties from the PWSA main sewer to the building.

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#### Appendix D

#### Distribution List

This report was distributed to the following officials:

**The Honorable Tom Wolf**  
Governor

**Ms. Debbie Lestitian**

Chairperson  
The Pittsburgh Water and Sewer Authority

**Ms. Margaret Lanier**

Vice Chairperson  
The Pittsburgh Water and Sewer Authority

**Mr. Paul Leger**

Treasurer  
The Pittsburgh Water and Sewer Authority

**Mr. Jim Turner**

Secretary  
The Pittsburgh Water and Sewer Authority

**Ms. Deb Gross**

Assistant Secretary  
The Pittsburgh Water and Sewer Authority

**Ms. Chaton Turner**

Board Member  
The Pittsburgh Water and Sewer Authority

**Mr. Mike Weber**

Board Member  
The Pittsburgh Water and Sewer Authority

**Mr. Robert Weimar**

Executive Director  
The Pittsburgh Water and Sewer Authority

**Mr. Kent Lindsay**

Director of Finance  
The Pittsburgh Water and Sewer Authority

**The Honorable William Peduto**

Mayor  
City of Pittsburgh

**Mr. Michael E. Lamb**

Controller  
City of Pittsburgh

**The Honorable Randy Albright**

Secretary of the Budget  
Office of the Budget

**The Honorable Joseph M. Torsella**

State Treasurer  
Pennsylvania Treasury Department

**The Honorable Josh Shapiro**

Attorney General  
Office of the Attorney General

**The Honorable Sharon P. Minnich**

Secretary of Administration  
Office of Administration

**Mr. Brian Lyman, CPA**

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**Ms. Mary Spila**

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