**IMPLEMENTATION PLAN**

***Prepared by***

**Aqua Pennsylvania, Inc.**

**Docket No. D-2015-2496112**

**Submitted in Response to Recommendations Contained in the**

**Management Efficiency Investigation**

 **Prepared By The**

**Pennsylvania Public Utility Commission**

**Bureau of Audits**

**Issued August 2016**

**Introduction**

 Aqua Pennsylvania (herein referred to as “Aqua PA” or the “Company” is pleased to submit this Implementation Plan for the review of the Pennsylvania Public Utility Commission. The Implementation Plan details the Company’s commitment to evaluate the recommendations contained in the Management Efficiency Investigation D-2015-2496112 and implement the actions needed to not only respond to the recommendations of the Audit Team, but also bring benefits to Aqua PA customers.

 Of the 21 recommendations contained in the Audit Report, the Company accepted 20 of them completely, with 1 accepted in part.

 The Commission’s Audit Team identified important areas where enhancements may be made to improve Aqua PA’s operations, and the Company is confident that the results of this effort will demonstrate Aqua PA’s commitment to not only continued service and operational improvements, but to its customers as well.

**III. EXECUTIVE MANAGEMENT AND ORGANIZATIONAL STRUCTURE**

**III-1 - Staff’s Follow-up Recommendation** – **Reduce the number of 1:1 reporting relationships while striving to decrease the overall number of reporting relationships below a 1:4 ratio, and maintain sufficiently detailed justifications for all instances of narrow spans of control.**

**Response:** Accept

Aqua Human Resources Department will continue to do an annual report on the span of control. All reporting relationships below the recommended 1:4 will be evaluated and the department head will be required to document and justify the reporting relationship. Should the documentation not be sufficient to substantiate a deviation from the recommended span of control, the Human Resources Department will work with the department head to re-evaluate the reporting structure and recommend revisions to the organizational structure.

**Implementation Plan:**

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| **III-1 Implementation Milestones** | **Date (Actual/Estimated)** |
| Human Resources Team to develop annual report | Q1 2017 (E) |
| Human Resources analysis and review of annual report. Depart head feedback and substantiation for any deviation from recommended span of control parameters due form department heads | Q2 2017 (E) |
| Human Resources to provide any recommendations for revisions to reporting relationships | Q3 2017 (E) |
| This process will take place each year. | Ongoing |

**Responsible Officer: Karen Heisler, Senior Vice President and Chief Human Resources Officer**

**Responsible Manager: Matthew White, Director Human Resources**

**IV. AFFILIATED INTERESTS AND COST ALLOCATIONS**

**IV-3 - Staff’s Follow-up Recommendation – Expand the scope of the market analysis to include all services provided by Aqua PA to affiliates and services provided by affiliates (other than Aqua Services) to Aqua PA.**

**Response:** Accept

The Company will expand its next scheduled update of the Market Study, expected to be completed in 2017, to include both Aqua PA services to Affiliates and other Aqua Affiliates (other than Aqua Services) to Aqua PA.

**Implementation Plan:**

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| **IV-3 Implementation Milestones** | **Date (Actual/Estimated)** |
| Perform analysis of Aqua PA’s charges for services provided to and from its affiliates | Q2 2017 (E) |
| This process will take place every three years | Ongoing |

**IV-4 - Staff’s Follow-up Recommendation – Document all lease agreements between Aqua PA and its affiliates, and submit them to the Commission for approval.**

**Response:**  Accept

The Company will prepare a lease agreement between Aqua PA and each of its affiliates who occupy space at the Company Headquarters located in Bryn Mawr.  The lease agreement(s), when completed, will be filed with the PUC pursuant to 66 Pa. C.S. §2102(a) and §2102(b).  The expected completion of the lease agreement is in 2017/2018, following the Company’s planned update of its real estate market study and which is also contingent on the completion of certain building renovations occurring during 2017/2018.

**Implementation Plan:**

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| **IV-4 Implementation Milestones** | **Date (Actual/Estimated)** |
| File lease agreements with Commission | Q1 2018 (E) |

**IV-5 - Staff’s Follow-up Recommendation – Establish methods or techniques to improve cost assignment and where feasible increase the level of costs directly charged between affiliates.**

**Response:** Accept

The Company, at the time it updates its Market Study in 2017, will additionally prepare an assessment to evaluate direct versus indirect charges from Aqua Services to Aqua PA.  Based on the results of that study, where applicable, the Company will implement changes/techniques that could change the level of direct costs charged.

**Implementation Plan:**

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| **IV-5 Implementation Milestones** | **Date (Actual/Estimated)** |
| Form a work group to review and conduct an analysis of direct/indirect charges and examine additional education opportunities | Q1 2017 (E) |
| As part of budget process, recommend any changes to allocation methodologies during this time | Q3 2017 (E) |
| Review allocation methodologies during budget review process | Ongoing |

**Responsible Officer: Robert R. Rubin, Senior Vice President, Chief Accounting Officer, Controller**

**Responsible Manager: William C. Packer, Jr., Controller**

**V. FINANCIAL MANAGEMENT**

**V – 2 - Staff’s Follow-up Recommendation – Enhance Internal Audit Department operating policies and procedures.**

**Response:** Accept

Aqua’s Internal Audit Department (“IA”) has made significant improvements to its internal policy and procedure documentation since the 2013 Focused Management and Operations Audit. As a result of the policies and procedures developed, the IA Department has clarified accountability and expectations, and established consistency for audit plans and reports. Aqua’s Internal Audit Department will continue to improve the operating policies and procedures, including documenting the processes related to budgeting, scheduling and time tracking for internal use.

**Implementation Plan:**

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| **V-2 Implementation Milestones** | **Date (Actual/Estimated)** |
| Document IA’s processes and procedures related to budgeting, schedule and time tracking | Q1 2017 (E) |

**Responsible Officer: Christopher P. Luning, Senior Vice President, General Counsel and Secretary**

**Responsible Manager: Chuck Twining, Director, Internal Audit**

**VI. WATER OPERATIONS**

**VI – 2 - Staff’s Follow-up Recommendation** – **Perform and document a cost-benefit analysis to assess the net benefit of automating the damage prevention program.**

**Response:** Accept

In August 2013, Aqua PA management met with a third-party vendor to review its damage prevention services such as mapping, tracking POCS tickets, etc. along with its associated costs. At that time, the Company concluded that most of the vendor services were already offered through POCS at minimal cost. Unfortunately, Aqua PA did not document this review and costs benefit analysis in writing. Aqua PA agrees that it is appropriate to revisit this issue and reform the committee to investigate this issue again.

**Implementation Plan:**

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| **VI-2 Implementation Milestones** | **Date (Actual/Estimated)** |
| Reform committee to undertake another cost benefit analysis study | Q1 2017 (E) |
| Draft report | Q1 2018 (E) |
| Final report | Q2 2018 (E) |

**VI – 4 - Staff’s Follow-up Recommendation** – **Complete development of a valve inspection manual and implement the planned critical valve inspection program in a timely manner.**

**Response:** Accept

Aqua PA strongly believes that a full-scale valve inspection program to operate/exercise all valves in its service territory is not the best use of Company resources. However, Aqua PA agrees that more focus could be placed upon confirming the operability of its critical valves. To that end, Aqua PA established a critical valve working group to examine the issue of critical valves including the related definition and to develop a critical valve inspection program. The working group was tasked with identifying critical valves condition of service while balancing the impact to current resources. In doing so the working group defined critical valves to include not only size, location in the distribution system including redundancy and the sensitive nature of customers served such as hospitals.

**Implementation Plan:**

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| **VI-4 Implementation Milestones** | **Date (Actual/Estimated)** |
| Develop a valve inspection manual | Q1 2017 (E) |
| Implement the limited critical valve inspection program | Q2 2017 (E) and Ongoing |

**VI – 5- Staff’s Follow-up Recommendation** –**Take corrective actions to reduce NRW levels to 25% or lower within the Greater PA region.**

**Response:** Accept in part

As noted by the Audit Staff, a number of systems within Divisions of the Greater PA Region were acquired by Aqua PA as small troubled water companies. Consequently, many of these systems inherently had significant infrastructure and operating issues which contribute to high levels of NRW/UFW. Aqua PA has an aggressive main replacement program and leak detection program and will continue to focus on NRW/UFW throughout its system. Due to the many varying factors associated with the Greater PA Region (small number of connections per system, fragmentation, location, age of the infrastructure, etc.) Aqua PA agrees to continue corrective action but asserts that it is not prudent to expect an actual percentage threshold for achievement or individual location.

**Implementation Plan:**

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| **VI-5 Implementation Milestones** | **Date (Actual/Estimated)** |
| Take corrective action to reduce NRW/UFA levels within the Greater PA Region through the DSIC program and leak detection | Ongoing |

**Responsible Officer: Marc Lucca, Vice President Network**

**Responsible Manager: Joe Thurwanger, Director of PA Engineering**

 **Brennan Kelly, Senior Project Engineer**

**VII. EMERGENCY PREPAREDNESS**

**VII – 1- Staff’s Follow-Up Recommendation – Correct minor physical security deficiencies and continue to perform on-going physical security reviews of all facilities.**

**Response:** Accept

Aqua regularly conducts reviews of the security at each of its facilities and addresses any issues that arise.

**Implementation Plan:**

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| **VII-1 Implementation Milestones** | **Date (Actual/Estimated)** |
| Correct minor physical security deficiencies and continue to perform on-going physical security reviews of all facilities. | Ongoing |

**VII – 2 - Staff’s Follow-Up Recommendation – Annually review and update the Emergency Response Plans, Crisis Plans, and Integrated Contingency Plans.**

**Response:** Accept

**Implementation Plan:**

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| **VII-2 Implementation Milestones** | **Date (Actual/Estimated)** |
| Form a workgroup to identify key owners of each plan | Q4 2016 (E) |
| Aqua to review and update current ERPs, Crisis Plans and Integrated Contingency Plans | Q2 2017 (E) |
| Conduct review of all ERPs, Crisis Plans and Integrated Contingency Plans annually | Ongoing |

**VII – 3 - Staff’s Follow-Up Recommendation – Strive to perform a VA at least every ten years, and more often as appropriate due to circumstances, and revise the Physical Security Plan, Emergency Response Plan and Business Continuity Plan to address any new threats or vulnerabilities identified.**

**Response:** Accept

**Implementation Plan:**

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| **VII-3 Implementation Milestones** | **Date (Actual/Estimated)** |
| Form a workgroup, obtain estimates for the cost of performing the VA and perform cost benefit analysis with recommendations | Q1 2017 (E) |
| Based on recommendation of the workgroup, engage an outside vendor to perform the VA | Q3 2017 (E) |
| Revise the Physical Security Plan, Emergency Response Plan and Business Continuity Plan to address any new threats or vulnerabilities identified. | Q1 2018 (E) |

**VII – 4 - Staff’s Follow-Up Recommendation – Develop and implement a company-wide cyber security awareness training regimen, including both first time and refresher training programs.**

**Response:**  Accept

Aqua PA agrees it is a best business practice to maintain up­­‑to‑date cybersecurity training for all employees.

**Implementation Plan:**

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| **VII-4 Implementation Milestones** | **Date (Actual/Estimated)** |
| Propose comprehensive cyber security awareness training program for approval from Cyber Security Committee. | Q4 2016 (E) |
| Select and implement first time cyber security training program | Q3 2017 (E) |
| Implement refresher program to maintain ongoing security awareness training and communications. | Q4 2017 (E) |

**VII – 5 - Staff’s Follow-Up Recommendation – Actively ensure third-party contractor compliance with company security standards.**

**Response:** Accept

Aqua PA believes that it should actively ensure cyber security compliance by its third party vendors. Aqua PA does have a process in place for many of its vendors but recognizes there are gaps.

**Implementation Plan:**

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| **VII-5 Implementation Milestones** | **Date (Actual/Estimated)** |
| Form a workgroup to evaluate current compliance with company security standards | Q1 2017 (E) |
| Formulate recommendations | Q3 2017 (E) |
| Implement recommendations | Q1 2018 (E) |

**Responsible Officer: Steve Tagert, President, Aqua Pennsylvania, Inc.**

 **Whitney Kellett, Chief Information Officer**

**Responsible Manager: John Childers, Senior Manager, Information Security**

**VIII. MATERIALS MANAGEMENT**

**VIII – 1 - Staff’s Follow-up Recommendation – Continue to periodically identify and eliminate obsolete/inactive inventory.**

**Response:**  Accept

Aqua PA has created a process to identify obsolete/inactive inventory. As Aqua PA continues to review materials that are inactive additional effort will be spent on optimizing emergency stock levels.

**Implementation Plan:**

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| **VIII-1 Implementation Milestones** | **Date (Actual/Estimated)** |
| Continue to periodically identify and eliminate obsolete/inactive inventory. | Ongoing |

**Responsible Officer: Susan F. Haindl, Chief Administrative Officer**

**Responsible Manager: Charles Stevenson, Director, Fleet and Supply Chain Management**

**Jeffrey Feeney, Manager, Materials Management**

**IX. CUSTOMER SERVICES**

**IX – 1 - Staff’s Follow-up Recommendation – Complete deployment of the theft of service program.**

**Response:** Accept

Aqua PA has initiated a pilot partial theft of service program for all customer classes. As highlighted in the Phase One results of the pilot, lost water revenue can be attributed to factors other than theft of service such as defective meters. Defective meters can in fact result in notable losses in revenue posing as much financial harm to the Company as customer theft. Based upon preliminary results of Phase One and barring unexpected results from the Phase Two analysis, Aqua PA expects the savings trend to continue as it expands the theft of service algorithms to all customer classes. Full deployment will be dependent upon the results of Phase Two.

**Implementation Plan:**

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| **IX-1 Implementation Milestones** | **Date (Actual/Estimated)** |
| Complete Phase Two of testing and analysis | Q1 2017 |
| Based on results of Phase Two testing, design and implement a schedule to run the algorithm on a regular basis | Q2 2017 |
| Apply the algorithm in the Greater PA divisions | Q1 2018 |

**IX – 3 - Staff’s Follow-up Recommendation – Establish a policy governing the automated dispatch process for all districts including the satellite districts.**

**Response:** Accept

As noted in the audit report, certain satellite districts do not use a mail merge procedure. In these districts the operators self‑dispatch from their home and submit collection orders from their tablets as they dispatch themselves. This is primarily due to large territories that operators cover and the desire to eliminate the need for them to drive long distances to the central office. Aqua PA will formulate a policy which will consider the many factors involved to initiate the automated dispatch process. It should be noted that more than just the number of notices will be considered in this policy.

**Implementation Plan:**

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| **IX-3 Implementation Milestones** | **Date (Actual/Estimated)** |
| Formulate policy for when a district should utilize automation or manual processes | Q1 2017 (E) |

**Responsible Officer: Steve Tagert, President, Aqua Pennsylvania, Inc.**

**Responsible Manager: Joe Thurwanger, Director of PA Engineering**

 **Patrick Burke, Director of Operations, NE PA**

**X. HUMAN RESOURCES AND SAFETY PROGRAMS**

**X – 1 - Staff’s Follow-up Recommendation – Create a more comprehensive company-wide succession plan.**

**Response:** Accept

Aqua Human Resources Department will take steps to develop a formal management succession plan including identifying critical positions within the organization, identifying high potential employees, and devoting resources to develop the high potential employees to be prepared to move throughout the organization.

**Implementation Plan:**

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| **X-1 Implementation Milestones** | **Date (Actual/Estimated)** |
| Identify key positions within Aqua | Q1 2017 (E) |
| Identification of high potential employees | Q1 2017 (E) |
| Ongoing development of high potential employees | Ongoing |

**X – 2 - Staff’s Follow-up Recommendation** – **Complete efforts to create easy to follow organizational charts that are available to all employees and continue to streamline the cross-company reporting structure.**

**Response:** Accept

Human Resources is in the process of selection and transitioning to a new HRIS system with enhanced organizational charge capabilities. The selection and implementation project is expected to last several years. During this project, employees will be able to view organizational charts through the corporate intranet InfoStream. These charts not only include the reporting hierarchy, but also display contact information for employees.

**Implementation Plan:**

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| **X-2 Implementation Milestones** | **Date (Actual/Estimated)** |
| Selection of new HRIS system | Q1 2017 (E) |
| Implementation of HRIS with organizational charts | 2017 – 2019 (E) |

**X – 3 - Staff’s Follow-up Recommendation – Document the training process and develop a procedure to review training administered outside the HR Department and annually reconcile Safety Administrator and HR Department training records for accuracy and completeness.**

**Response:** Accept

Aqua Human Resources will develop a procedure to review and record training administered outside of the HR Department. Human Resources will send periodic reminders to managers to ensure all training records are sent to Human Resources so they can be incorporated into personnel files and the HRIS. Periodically, HR will reconcile all training records with the Safety Department to ensure they are accurate and complete.

**Implementation Plan:**

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| **X-3 Implementation Milestones** | **Date (Actual/Estimated)** |
| Develop procedure to review and record training | Q1 2017 (E) |
| Reminders send to managers to send all departmental training to HR | Quarterly beginning in 2017 (E) |
| Reconcile training records with Safety Department | Q1 2017 (E) |

**Responsible Officer: Karen Heisler, Senior Vice President and Chief Human Resources Officer**

**Responsible Manager: Matthew White, Director, Human Resources**

 **Colleen Arnold, Deputy Chief Operating Officer**

**XI. DIVERSITY**

**XI – 1 - Staff’s Follow-up Recommendation – Strive to increase representation in deficient or underutilized job categories to meet Company goals.**

**Response:** Accept

Aqua PA strives to increase the utilization of minorities and females, along with other underutilized populations during both internal and external candidate searches. Most positions are posted internally and give employees the opportunity to apply prior to external candidates. Aqua PA offers various training and development opportunities including but not limited to a generous tuition reimbursement benefit.

All external advertisements state that Aqua PA is an Affirmative Action employer and include the tag line M/F/D/V. We notify all of our outreach and placement agencies annually of our continued commitment to Affirmative Action and Equal Employment Opportunity.

Aqua PA takes affirmative steps to reach out to minority and other under-represented populations. Aqua contacts universities and two-year colleges, vocational technical schools, high schools and state and community organizations to attract qualified minority candidates. For each position, Aqua contacts America’s Job Exchange and Pennsylvania Career link and utilizes various publications and organizations when recruiting candidates.

**Implementation Plan:**

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| **XI-1 Implementation Milestones** | **Date (Actual/Estimated)** |
| Continue with internal and external efforts to promote and recruit M/F/D/V candidates and continue with on-going evaluation of opportunities to support our Affirmative Action program.  | Ongoing |

**Responsible Officer: Karen Heisler, Senior Vice President and Chief Human Resources Officer**

**Responsible Manager: Matthew White, Director, Human Resources**

**XI – 2 - Staff’s Follow-up Recommendation – Continue efforts to identify new MWDBE vendors and strive to increase MWDBE spend levels.**

**Response:** Accept

The Company continues to make significant outreach efforts to MWDBE (“Diversity”) vendors, and tracks Diversity procurement activity. The Company currently utilizes a Vendor Questionnaire to verify and update existing records on Diversity firms. These forms are sent to vendors annually to update the Company’s vendor database. Procurement-related reports are generated from Aqua’s Lawson system to compile Diversity purchase data for the PUC annual diversity report.

The Company belongs to the Greater Philadelphia Chamber of Commerce and participates in business fairs and associations that include the exchange of information with Diversity vendors regarding doing business with the Company. The Company has engaged in conversations with other companies and third party Diversity consultants regarding program enhancements and a strategy to bolster Diversity spend.

In addition, the Company includes Diversity vendors from its database on a separate list posted to the Company Intranet. The purpose is to make Diversity vendors more widely known and promote their use to Aqua employees. The Company posts PennDOT prequalified diversity vendors on its internal intranet to promote use to Aqua employees.

The Company solicits quotation for goods and services from vendors taking into consideration price, availability, delivery, etc., with all bids given consideration. Aqua PA does not set specific Diversity procurement goals. Aqua PA will, however, continue its firm commitment to Diversity procurement not only by continuing to utilize its current measures but also by continuing to evaluate other possible means for successful Diversity vendor recruitment and training. Finally the Company is in the process of developing a formal Diversity policy that it expects to have implemented in 2017.

**Implementation Plan:**

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| **XI-2 Implementation Milestones** | **Date (Actual/Estimated)** |
| Continue with existing efforts to recruit MWDBE vendors, and continue with ongoing evaluation as to additional measures for successful recruitment of same. | Ongoing |
| Development and implementation of formal diversity policy | Q3 2017 (E) |

**Responsible Officer: Susan F. Haindl, Chief Administrative Officer**

**Responsible Manager: Charles Stevenson, Director, Fleet and Supply Chain Management**

**Bernard Thompson, Manager, Procurement**