



**AQUA PENNSYLVANIA, INC.  
PEOPLES NATURAL GAS  
COMPANY LLC**

**MANAGEMENT EFFICIENCY  
INVESTIGATION**

*FOLLOW-UP REVIEW OF THE  
2021 MANAGEMENT AND OPERATIONS  
AUDIT REPORT*

**Pennsylvania Public Utility Commission  
Bureau of Audits  
Issued April 2025**

**Docket Nos.:  
D-2024-3046564 & D-2024-3046565**

**Aqua Pennsylvania, Inc.  
Peoples Natural Gas Company LLC**

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## I. INTRODUCTION

### A. Background

In 2021, the Pennsylvania Public Utility Commission's (PUC) Bureau of Audits (Audits) conducted a management and operations audit (management audit) of Aqua Pennsylvania, Inc. (Aqua PA), Peoples Natural Gas Company LLC (PNGC), and Peoples Gas Company LLC (PGC). PNGC and PGC were collectively referred to as the Peoples Companies. In April 2021, Audits issued its final report with 47 recommendations for improvement. Aqua PA and the Peoples Companies submitted their April 2021 Implementation Plan indicating that 38 recommendations were accepted, eight recommendations were accepted in part, and one recommendation was rejected. On May 6, 2021; at Docket Nos.: D-2020-3018771, D-2020-3018773, and D-2020-3018774, respectively; the PUC released Audits' 2021 Management and Operations Audit Report and the companies' April 2021 Implementation Plan to the public and directed that the company should:

- proceed with the April 2021 Implementation Plan, and
- submit progress reports on the implementation, annually by May 1st, for each of the next three years.

Aqua PA and the Peoples Natural Gas Company LLC<sup>1</sup> (Peoples) submitted annual implementation updates as requested by the PUC reporting on the companies' progress in implementing the management audit recommendations. Based upon the review of these updates, Audits' Western Region Management Audits Team (auditors) conducted a management efficiency investigation (MEI) to verify Aqua PA's and Peoples' progress in implementing 25 of the original 47 recommendations. In addition, specific items of management effectiveness and operational efficiency are subject to investigation pursuant 66 Pa. C.S. § 516(b).

### B. Objective and Scope

The objective of this MEI was to review and evaluate the effectiveness of Aqua PA's and Peoples' efforts to implement specific recommendations contained within the 2021 Management and Operations Audit Report. The scope of the evaluation is limited to Aqua PA's and Peoples' efforts in implementing the recommendations in the following functional areas:

- Executive Management and Organizational Structure
- Corporate Governance
- Affiliated Interests and Cost Allocations
- Financial Management

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<sup>1</sup> On January 17, 2023, the Peoples Companies were consolidated into a single legal entity named Peoples Natural Gas Company LLC – see chapter III. Executive Management and Organizational Structure for additional details

- Water Operations
- Gas Operations
- Emergency Preparedness
- Materials Management
- Customer Service
- Fleet Management
- Human Resources and Diversity

In addition, the auditors deemed it prudent to review Aqua PA's and Peoples' compliance with the PUC's regulations at 52 Pa. Code § 101 regarding physical security, cybersecurity, emergency response, and business continuity plans.

### **C. Approach**

The auditors began fieldwork on April 10, 2024 and continued through August 20, 2024. The fact gathering process included:

- Interviews with Aqua PA's and Peoples' personnel
- Analysis of records, documents, and reports of a financial and operational nature primarily focused on the period 2021 – 2023 and the year 2024, as available
- Site inspections of select company facilities

## II. SUMMARY OF MANAGEMENT EFFECTIVENESS AND OPERATING EFFICIENCY

The auditors found that Aqua Pennsylvania, Inc. (Aqua PA) and Peoples Natural Gas Company LLC (Peoples) effectively or substantially implemented 15 of the selected 25 prior management audit recommendations reviewed and has acted on the remaining 10 recommendations. Among the more notable improvements are:

- Essential completed a successful request for proposals to ensure external audit services are being procured at a reasonable cost
- Aqua PA submitted and received the Pennsylvania Public Utility Commission's (PUC) approval of an office space lease agreement collecting an additional \$2 million in rent charges
- Peoples increased construction staffing which supported its ability to maintain its expedited pipeline replacement schedule
- Essential contracted a third-party vendor for vehicle leasing and management that could potentially save \$2.8 million over its fleet replacement cycle
- Peoples installed a safety management system which enhanced its safety monitoring and tracking and has also consistently met its safety goals throughout the review period
- Essential established a formal succession plan which covers all critical executive positions

Although these accomplishments are commendable, the auditors identified further opportunities for improvement. Specifically, Aqua PA and/or Peoples should:

- Correct the noted concerns in governance over transactions amongst affiliates throughout Essential's organization and then perform a comprehensive study of the affiliated transaction and cost allocation processes at PNG Companies, LLC and Peoples
- Complete a comprehensive market study, considering cost and service level, for all shared services to/from Aqua PA and Peoples and develop a formal policy to conduct periodic comprehensive market studies going forward
- Strive to reduce company-at-fault damages to a minimum and increase outreach efforts to decrease company-not-at-fault hits at Aqua PA
- Maintain focus on damage prevention strategies to further decrease line hits at Peoples
- Centralize the oversight of security and business continuity functions and establish verification controls to commit to an enhanced emergency preparedness culture throughout Essential's companies
- Establish relevant security requirements based on facility criticality
- Conduct investigations of inventory variances to determine root cause and then institute measures to improve inventory accuracy to within industry standards potentially saving \$615,000 – \$1.25 million.

Exhibit II-1 summarizes the 25 recommendations reviewed by the PUC's auditors with corresponding conclusions and 15 follow-up recommendations. Furthermore, the auditors identified an additional 13 new findings and offered corresponding recommendations for improvement at Aqua PA and/or Peoples. Overall, these 28 recommendations are aimed at further improvement to processes or operations at Aqua PA and Peoples.

Where possible, we have quantified the savings associated with Aqua PA's or Peoples' implementation of the prior management audit recommendations and the potential savings from implementing the new recommendations. However, for many recommendations, the anticipated benefits are of a qualitative nature and/or there was insufficient data available to quantify the effects. For example, it is difficult to estimate the actual benefit where new management practices or procedures are recommended when they previously did not exist or were not fully functional. Similarly, changes in workflow or implementation of good business practices could result in improved efficiency and effectiveness of a function that cannot be easily quantified.

**Aqua Pennsylvania, Inc.  
Peoples Natural Gas Company LLC  
Summary of 2021 Management and Operations Audit Recommendations and  
Current Findings, Conclusions, and Recommendations**

Prior Management Audit Recommendations	Current Findings and Conclusions	New Recommendations
<b>III. EXECUTIVE MANAGEMENT AND ORGANIZATIONAL STRUCTURE</b>		
Establish a single repository for all policies and procedures across the Essential Utilities' organization and establish a coordinated procedures review process.	Finding III-1 – Essential created a corporate policy repository and a universal policy template but more stringent control over review and update is warranted.	Designate a policy repository owner to oversee the continuation of corporate policy development and/or review and update.
Reduce or eliminate manual processes within the payroll function.	Finding III-2 – Essential successfully implemented timekeeping and payroll software.	None
<b>IV. CORPORATE GOVERNANCE</b>		
Periodically seek competitive bids for external audit services.	Finding IV-1 – Essential successfully completed a request for proposals for external audit services and has appropriate external auditor selection and management policies.	None
Establish a foundational understanding of internal audit needs as a result of the Peoples Companies' acquisition, then resource and staff accordingly.	Finding IV-2 – Essential's Internal Audit Department has experienced additional turnover and has consistently been unable to complete its annual internal audit plans.	Increase Internal Audit Department resources to consistently meet approved internal audit plans while ensuring equitable prioritization of financial and operational audit focus on Essential's utility companies operating in Pennsylvania.
<b>V. AFFILIATED INTERESTS AND COST ALLOCATIONS</b>		
Improve internal controls and other practices related to affiliate transactions and cost allocation to ensure the company is following best practices and Commission guidelines. Further, the Peoples Companies should consult with the PUC's Bureau of Technical Utility Services to perform a thorough review of the current AIAs on file to determine if changes to the AIAs are needed and/or if new AIAs need to be filed to ensure compliance with Title 66 Chapter 21.	Finding V-1 – PNG Companies and Peoples have made progress toward appropriate cost allocation and affiliate transaction governance but more improvement is needed.	Correct the noted concerns in governance over transactions amongst affiliates throughout Essential's organization and then perform a comprehensive study of the affiliated transaction and cost allocation processes at PNG Companies and Peoples.

**Aqua Pennsylvania, Inc.  
Peoples Natural Gas Company LLC  
Summary of 2021 Management and Operations Audit Recommendations and  
Current Findings, Conclusions, and Recommendations**

Prior Management Audit Recommendations	Current Findings and Conclusions	New Recommendations
<b>V. AFFILIATED INTERESTS AND COST ALLOCATIONS (CONTINUED)</b>		
Document all lease agreements between Aqua PA and its affiliates and submit them to the Commission for approval.	Finding V-2 – Aqua PA submitted and received the PUC’s approval for a lease agreement.	None
Expand Essential’s corporate charges allocation manual to include all transactions between affiliates.	Finding V-3 – There are critical elements missing from each of the two active cost allocation manuals maintained by Essential’s utility companies operating in Pennsylvania.	Analyze the cost allocation manuals at Essential’s companies to identify missing components and/or necessary cross-referencing to ensure each is current, thorough, and agrees to the related, approved affiliated interest agreements.
Conduct periodic market studies to confirm that services provided by affiliates to the utilities are at the lower of cost or market, and services provided by the utilities to affiliates are at the higher of cost or market.	Finding V-4 – Aqua PA performed some market analyses, but no market analyses or studies were performed for Peoples.	Complete a comprehensive market study, considering cost and service level, for all shared services to/from Aqua PA and Peoples and develop a formal policy to conduct periodic comprehensive market studies going forward.
<b>VI. FINANCIAL MANAGEMENT</b>		
Develop and implement capital and operations and maintenance (O&M) budget manuals/policies that include requirements for detailed written explanations of budget variances in excess of 10% for the Peoples Companies.	Finding VI-1 – Peoples developed and implemented the Financial and Capital Budget Policies and Process.	None
Develop and implement new accounting/finance policies and procedures at the Peoples Companies where appropriate and ensure the policies and procedures have all the key elements, including accountability and a regular review schedule to remain timely.	Finding VI-2 – Essential has not finalized its standardization of accounting and finance policies and procedures that would provide the necessary guidance for employees.	Finalize developing and implementing thorough and complete accounting and finance policies and procedures, along with an appropriate routine review schedule, for Essential’s companies.
<b>VII. WATER OPERATIONS</b>		
Implement a full-scale valve inspection and exercise program designed to identify what valves have not been operated or inspected in the last ten years.	Finding VII-1 – Aqua PA has implemented a comprehensive, documented valve inspection and exercise program but has not consistently met the program’s goals during the review period.	Increase valve inspection rates to meet goals outlined in the Aqua PA Critical Valve Inspection Program and the Aqua PA Non-Critical Valve Inspection Program.

**Aqua Pennsylvania, Inc.  
Peoples Natural Gas Company LLC  
Summary of 2021 Management and Operations Audit Recommendations and  
Current Findings, Conclusions, and Recommendations**

Prior Management Audit Recommendations	Current Findings and Conclusions	New Recommendations
<b>VII. WATER OPERATIONS (CONTINUED)</b>		
Implement measures to reduce company-at-fault hits.	Finding VII-2 – Aqua PA has made progress in reducing company-at-fault hits but more work is needed.	Strive to reduce company-at-fault damages to a minimum and increase outreach efforts to decrease company-not-at-fault hits.
Increase testing and replacement of meters to improve accuracy rates.	Finding VII-3 – Additional improvement is necessary on meter test-outs.	Monitor the percentage of meters failing on test-out and expand testing efforts and/or replacement efforts if failure rates remain high.
Focus efforts on reducing non-revenue water at the Roaring Creek system.	Finding VII-4 – Roaring Creek’s non-revenue water is trending in a positive direction but continued focus is warranted.	Determine and execute strategies to bring non-revenue water in the Roaring Creek system below 25%.
<b>VIII. GAS OPERATIONS</b>		
Expedite bare steel replacement efforts in the companies’ distribution systems and conduct ongoing staffing analyses to support any decision making to fully staff, train, and monitor the workforce needs for all of the engineering, construction, and field operations positions and support positions needed to maintain future accelerated main replacement rates.	Finding VIII-1 – Peoples bolstered its construction related staffing which resulted in its ability to replace targeted pipe, primarily bare steel, at an expedited rate.	None
Effectively modify, track, and enforce the damage prevention program and initiate preventative solutions to minimize second- and third-party damages in significant construction areas.	Finding VIII-2 – Peoples actively tracks and monitors second- and third-party line hits, and the number of line hits has improved.	Maintain focus on damage prevention strategies to further decrease line hits.
<b>IX. EMERGENCY PREPAREDNESS</b>		
None	Finding IX-1 – The division of responsibilities for physical security and business continuity between Essential and its regulated utility subsidiaries operating in Pennsylvania is overcomplicated and has the potential to allow for control gaps.	Centralize the oversight of security and business continuity functions and establish verification controls to commit to an enhanced emergency preparedness culture throughout Essential’s companies.

**Aqua Pennsylvania, Inc.  
Peoples Natural Gas Company LLC  
Summary of 2021 Management and Operations Audit Recommendations and  
Current Findings, Conclusions, and Recommendations**

Prior Management Audit Recommendations	Current Findings and Conclusions	New Recommendations
<b>IX. EMERGENCY PREPAREDNESS (CONTINUED)</b>		
None	Finding IX-2 – Designated funding for each cybersecurity and physical security is not prioritized in the budgeting process.	Establish dedicated budget line items for cybersecurity and physical security and review and document actual spend variances from budgeted amounts monthly to ensure adequate funding is secure.
None	Finding IX-3 – Essential has not established a standard access protocol for restricted areas.	Establish a standard access protocol for restricted areas throughout Essential's companies.
None	Finding IX-4 – Minor deficiencies in physical security were noted during inspections of Aqua PA's and Peoples' facilities.	Address minor deficiencies in physical security.
None	Finding IX-5 – There are opportunities for improved personal safety throughout Essential's companies.	Conduct routine employee security training for all employees and ensure documented annual inspection of all safety related components.
None	Finding IX-6 – Comprehensive emergency response drills with external emergency responders are not routinely scheduled.	Develop and implement routine emergency response drills and invite external emergency responders.
None	Finding IX-7 – Fire suppression systems may enhance employee and asset protection efforts in some of Essential's buildings	Evaluate fire suppression options for regularly occupied facilities and install fire suppression equipment based on risk.
None	Finding IX-8 – There are opportunities for improvement in cybersecurity.	Evaluate vulnerabilities and improve cybersecurity.
None	Finding IX-9 – Aqua PA's Security Alert Level Response Procedure is outdated.	Update Aqua PA's Security Alert Level Response Procedure to trigger according to the National Terrorist Advisory System's threat levels and strengthen emergency response plan review to include this level of detailed verification.

**Aqua Pennsylvania, Inc.  
Peoples Natural Gas Company LLC  
Summary of 2021 Management and Operations Audit Recommendations and  
Current Findings, Conclusions, and Recommendations**

Prior Management Audit Recommendations	Current Findings and Conclusions	New Recommendations
<b>IX. EMERGENCY PREPAREDNESS (CONTINUED)</b>		
None	Finding IX-10 – Security protocols are not established in coordination with Aqua PA’s defined tiers of criticality.	Establish relevant security requirements based on facility criticality.
None	Finding IX-11 – Peoples’ Facilities and Security Department has not defined tiers of criticality for its managed assets.	Define tiers of criticality for assets managed by Peoples’ Facilities and Security Department to most effectively apply appropriate security measures.
<b>X. MATERIALS MANAGEMENT</b>		
Incorporate inventory accuracy into key performance indicators at the Peoples Companies and improve accuracy in all storerooms.	Finding X-1 – Peoples established a goal of 90% for each dollar value and quantity accuracy for both cycle and physical inventory counts.	Perform benchmarking analysis to determine and implement appropriate inventory accuracy goals that, at a minimum, require industry average performance levels.
None	Finding X-2 – Peoples has excessive inventory variances.	Conduct investigations of inventory variances to determine root cause and then institute measures to improve inventory accuracy to industry standards.
None	Finding X-3 – Peoples has not reviewed the inventory count policies and procedures since 2018.	Establish and implement a routine review schedule for all supply chain related guiding documents.
<b>XI. CUSTOMER SERVICE</b>		
Continue outreach efforts to engage payment troubled customers, leverage low-income resources, grants, and programs to mitigate the overall level of unpaid customer balances, and accelerate first contact with customers who miss a payment.	Finding XI-1 – Aqua PA and Peoples have robust community education and outreach programs; however, participation in Peoples’ customer assistance programs has decreased.	Develop a strategy to enhance outreach efforts to improve customer assistance program participation.
Improve the functionality and workflow progression provided by Aqua Services’ customer information system (CIS).	Finding XI-2 – Aqua PA has not yet upgraded its customer information system.	Implement an updated customer information system as soon as is feasible following the SAP implementation.

**Aqua Pennsylvania, Inc.  
Peoples Natural Gas Company LLC**  
**Summary of 2021 Management and Operations Audit Recommendations and  
Current Findings, Conclusions, and Recommendations**

Prior Management Audit Recommendations	Current Findings and Conclusions	New Recommendations
<b>XI. CUSTOMER SERVICE (CONTINUED)</b>		
Benchmark with similar utilities to set separate net collections goals for primary and secondary collection agencies at the Peoples Companies and measure each collection agency to the respective collection goal.	Finding XI-3 – Peoples established separate primary and secondary net collection goals.	None
Perform an analysis of source data being gathered for arrearage level reports and remove any adjustments or inactive accounts that would adversely affect the integrity of arrearage data for the Peoples Companies.	Finding XI-4 – Peoples has corrected arrearage reporting queries and confirmed data integrity through verification.	None
<b>XII. FLEET MANAGEMENT</b>		
Perform a periodic vehicle lease versus buy analysis at Aqua Pennsylvania and the Peoples Companies, to ensure Pennsylvania operations is utilizing the least cost option for acquiring vehicles and equipment.	Finding XII-1 – Essential contracted a third-party vendor for vehicle leasing and management.	None
<b>XIII. HUMAN RESOURCES AND DIVERSITY</b>		
Establish an internal OSHA recordable rate goal for the Peoples Companies based upon industry performance and align safety programs to achieve the OSHA goal(s).	Finding XIII-1 – Peoples tracks and monitors standard safety metrics, and their safety programs have supported safety performance that consistently met their goals over the review period.	None
Implement a safety management system at the Peoples Companies.	Finding XIII-2 – Peoples installed a safety management system.	None
Expedite the succession planning process, alongside with Essential Utilities, to ensure the Peoples Companies develop and recruit key positions.	Finding XI-3 – Essential established a formal succession plan which covers all critical executive positions for Essential, Aqua PA, and Peoples.	Complete the process to enter the succession plan into <i>Workday</i> and to extend the succession plan to lower levels of management.

### III. EXECUTIVE MANAGEMENT AND ORGANIZATIONAL STRUCTURE

#### **Background**

Essential Utilities, Inc. (Essential), formerly Aqua America, Inc., is the parent corporation of Aqua Pennsylvania, Inc. (Aqua PA) and LDC Funding, LLC; amongst other water, wastewater, and natural gas related entities operating in Pennsylvania and other states. LDC Funding, LLC<sup>2</sup> is a holding company for PNG Companies, LLC (PNG Companies) which serves as a service company<sup>3</sup> and parent corporation of Essential's natural gas distribution operations. Peoples Natural Gas Company LLC (Peoples) is the direct subsidiary of PNG Companies and operates as a regulated natural gas distribution company in Pennsylvania. Aqua PA and Peoples are both regulated by the Pennsylvania Public Utility Commission (PUC). See chapter VII. Water Operations for additional information on Essential's Pennsylvania-based water/wastewater utility operations and chapter VIII. Gas Operations for additional information on Essential's Pennsylvania-based natural gas distribution operations.

During the prior management audit, there were two distinct natural gas distribution companies, Peoples Natural Gas Company LLC and Peoples Gas Company LLC, jointly referred to as the Peoples Companies within the 2021 Management and Operations Audit Report. On January 17, 2023<sup>4</sup>, those two entities were combined into one natural gas distribution company under the name Peoples Natural Gas Company LLC. Although Peoples became a single legal entity, as of the end of fieldwork of the current review period, Peoples continued to maintain two differentiated operational divisions under two distinct tariffs serving two separate rate bases. On December 29, 2023, Peoples filed a base rate case<sup>5</sup> that included a proposal to establish a consolidated tariff for all Peoples' customers to become effective upon approval of the rate case<sup>6</sup>.

For the executive management functional area, two prior situations and recommendations were reviewed. Two follow-up findings are presented with one follow-up recommendation. The findings relate to corporate policy control and eliminating manual processes within the payroll function.

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<sup>2</sup> During the prior management audit, there was an additional holding company, LDC Holdings LLC, between LDC Funding, LLC and PNG Companies, LLC which has since been dissolved.

<sup>3</sup> See chapter V. Affiliated Interests and Cost Allocations for additional information on Essential's service companies

<sup>4</sup> Docket No.: A-2021-3029831

<sup>5</sup> Docket No.: R-2023-3044549

<sup>6</sup> Peoples' rate case was approved post fieldwork at the PUC's Public Meeting on September 12, 2024, and the consolidated tariff went into effect on September 27, 2024.

## **Finding III-1**

### **Prior Situation**

As a result of Essential's acquisition of the Peoples Companies on March 16, 2020<sup>7</sup>, Essential had an ongoing process to update and consolidate policies and procedures throughout the organization. Essential's General Counsel noted that guiding documents of greatest importance and control risk were being prioritized. Nonetheless, many guiding documents were outdated and needed to be updated. Furthermore, the entire Essential organization would benefit from ensuring that all guiding documents followed a consistent format and contained consistent detail.

**Prior Recommendation** – Establish a single repository for all policies and procedures across the Essential Utilities' organization and establish a coordinated procedures review process.

**Follow-Up Finding and Conclusion** – Essential created a corporate policy repository and a universal policy template but more stringent control over review and update is warranted.

### **Current Review**

Previously, Aqua PA and Peoples were not on the same internal network and therefore unable to have a common electronic location to house corporate policies for corporate-wide access. Thus, Essential's Information Technology Department was first tasked to create an intranet site for use by Essential's companies for document storage, applications, etc. The intranet went live in the first quarter of 2021.

The newly developed intranet site provided a common access folder for Essential's corporate policies. The company sorted the guiding documents into subfolders such as, but not limited to: Finance, Fleet, Human Resources, Information Technology, Records, Safety, Supply Chain, etc. The guiding documents uploaded therein were recently reviewed and followed a consistent template (i.e., title; purpose; strong guiding content such as definitions, workflows, and diagrams; policy owner; and review, update, and approval history).

Each guiding document was found to have a designated owner responsible for the routine review/update of the guiding document. The owner is an accountable party, such as a manager or department head, who is ultimately responsible for the execution of the processes described in the guiding document. While the owner has a vested interest in ensuring the process is documented correctly, updates are sometimes overlooked because departments are deemed to be operating effectively. Therefore, as an additional level of control, there should be a policy repository owner who is responsible for overseeing the policy maintenance processes to hold each policy owner accountable to ensuring the routine review and update schedule is upheld.

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<sup>7</sup> Docket No.: A-2018-3006061

**Follow-Up Recommendation – Designate a policy repository owner to oversee the continuation of corporate policy development and/or review and update.**

**Finding III-2**

**Prior Situation**

A 2020 internal audit revealed issues within the Payroll Department. Some observations from the audit included:

- Payroll policy and procedure documents were outdated
- Employee vacation hour balances were different between the financial system and the human resource system
- Payroll personnel utilization was not efficient

In September 2020, Essential began a project to implement a web-based timekeeping/reporting software already being used by PNG Companies LLC and its subsidiaries. The software was expected to automate complex payroll rules with a simplified user interface for employee time entry and a streamlined approval process. It was intended to be the system of record for time worked and leave and would expedite the elimination of paper time sheets.

**Prior Recommendation** – Reduce or eliminate manual processes within the payroll function.

**Follow-Up Finding and Conclusion** – Essential successfully implemented timekeeping and payroll software.

**Current Review**

Corporate planning began in January 2021 to implement an Essential-wide web-based timekeeping system by leveraging the system already in use at Peoples. By year-end 2021, the software was fully implemented and eliminated the need for physical timesheets. Furthermore, the implementation automated payroll rules and included electronic approval processes.

Simultaneously, Essential made the corporate decision to align Aqua America's payroll application to the application on the SAP platform already in use at Peoples. This ensured application consistency throughout Essential's companies allowing for electronic access of pay statements, taxes, and other personal records for all employees.

**Follow-Up Recommendation** – None

## IV. CORPORATE GOVERNANCE

### **Background**

As discussed in chapter III. Executive Management and Organizational Structure, Essential Utilities, Inc. (Essential) is the overarching parent corporation of Aqua Pennsylvania, Inc. (Aqua PA) and Peoples Natural Gas Company LLC (Peoples). During the prior management audit, Peoples was comprised of two distinct natural gas distribution companies, jointly referred to as the Peoples Companies; however, as of January 2023, they have been consolidated into a single entity with two operating divisions serving separate customer bases under two different tariffs<sup>8</sup>. Aqua PA provides water and wastewater services and Peoples provides natural gas distribution service in Pennsylvania, and both are regulated by the Pennsylvania Public Utility Commission (PUC).

Essential is a publicly traded company listed on the New York Stock Exchange (NYSE) under the symbol, "WTRG". Therefore, Essential is subject to the corporate governance requirements contained in both the Sarbanes-Oxley Act of 2002 (SOX) and the corporate governance rules of the NYSE.

For the corporate governance functional area, two prior recommendations and prior situations were reviewed, and two follow-up findings and one recommendation are presented. The findings relate to external audit firm bidding and Internal Audit Department (IAD) staffing and performance.

### **Finding IV-1**

#### **Prior Situation**

Essential had engaged Pricewaterhouse Coopers (PwC) for external auditing services for 20 years. Periodically, Essential's IAD conducted benchmark comparisons for audit fees. These comparisons typically covered a two-year period and compared Essential to three control groups: publicly held water companies, publicly held utilities with comparable assets, and publicly held utilities with comparable revenues. The most recent analysis had been completed in 2019 and did not identify any significant findings.

Although Essential regularly benchmarked external audit fees, the results of the comparisons did not provide a true cost gauge specific to Essential. Moreover, following the company's acquisition of the Peoples Companies, the benchmarking data was no longer relevant. Thus, the auditors contended that a competitive bid process would provide the most relevant market data to support reasonable external audit fees.

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<sup>8</sup> As of September 27, 2024, after fieldwork ended, the two separately tariffed operating divisions were consolidated under one tariff at Docket No.: R-2023-3044549.

**Prior Recommendation** – Periodically seek competitive bids for external audit services.

**Follow-Up Finding and Conclusion** – Essential successfully completed a request for proposals for external audit services and has appropriate external auditor selection and management policies.

### **Current Review**

In early 2022, Essential released a request for proposals (RFP) for external audit services. The company received three responses from top audit firms: Ernst & Young, KPMG, and PwC. However, since KPMG provided recent audit services to Aqua America, Essential did not consider KPMG independent.

The bids included details such as firm and team member qualifications, audit approach, independence, transparent fee schedule(s), and additional appendices. Upon review of the bids, Essential chose to continue to engage PwC to provide external audit services to Essential, Aqua America, and Peoples.

Supplementarily, a consultant review was conducted of Essential's Audit Committee Charter to ensure the following guidelines were documented:

- Lead audit partner to be rotated every five years
- RFP for independent registered public accountant to be released at least every 10 years

The competitive bid confirmed that Essential is receiving external auditing services at a competitive price. In addition, the updated Audit Committee Charter language documents Essential's intention to follow procedures as recommended by the Public Company Accounting Oversight Board for engaging an external auditor.

**Follow-Up Recommendation** – None

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## **Finding IV-2**

### **Prior Situation**

Following the acquisition of the Peoples Companies in 2018, the scope and responsibilities of the internal audit function were significantly expanded. Prior to being acquired, the Peoples Companies were privately held; therefore, they were not subject to SOX nor required to maintain key controls. The addition of SOX integration required additional effort and significant testing to ensure compliance, modify processes, and align functions among the entities.

Aqua Services' IAD was comprised of a director, a manager, and three staff auditors. The Peoples Companies had an IAD with a manager and one staff auditor. These two groups merged into a consolidated IAD. In April 2020, the former Peoples Companies' IAD manager left Essential. Essential decided not to fill this vacancy which reduced the department's complement from seven to six.

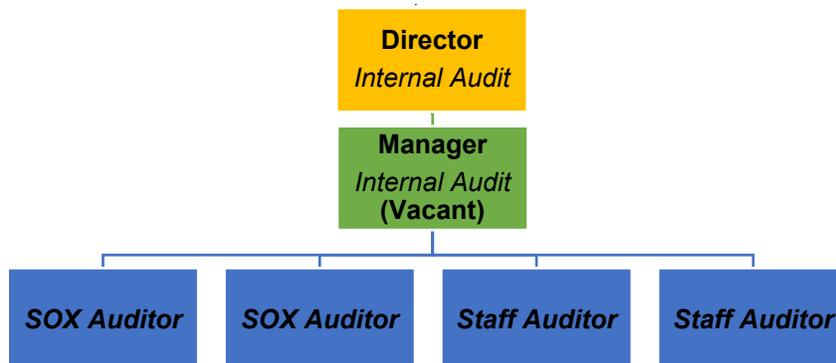
**Prior Recommendation** – Establish a foundational understanding of internal audit needs as a result of the Peoples Companies' acquisition, then resource and staff accordingly.

**Follow-Up Finding and Conclusion** – Essential's Internal Audit Department has experienced additional turnover and has consistently been unable to complete its annual internal audit plans.

**Current Review**

As of August 2024, Essential's IAD had an open vacancy for the Manager, Internal Audit. The previous manager separated from the company in April 2024, thus reducing the IAD's staffing level to five employees, a director and four staff auditors. During fieldwork, Essential was interviewing candidates for the manager position. The current organizational chart for Essential's IAD is provided in Exhibit IV-1.

**Exhibit IV-1  
Essential Utilities, Inc.  
Internal Audit Department Organizational Chart  
As of August 2024**



Source: Data Request CG-04

Essential's external audit firm, PwC, provides additional SOX compliance audit services to support Essential's SOX Auditors. Essential also retains a supplementary audit services contractor, Protiviti Inc., specializing in evaluating and testing information technology internal controls related to SOX. The services provided by these external partners have lessened the internal audit workload.

The Director, Internal Audit creates an audit plan for each year using a risk-based methodology with input from Essential's senior management and the

Board of Director’s Audit Committee (AC). These audit plans include operational audits, special investigations, external audit support, and SOX compliance projects. The draft audit plan and department staffing levels are submitted to the AC for review and final approval. Exhibit IV-2 provides a comparison of planned versus completed internal audit work projects.

**Exhibit IV-2**  
**Essential Utilities, Inc.**  
**Internal Audit Projects: Planned Versus Completed**  
**For the Years 2020 – 2023**

	2020	2021	2022	2023
<b>Total Planned</b>	11	11	10	10
<b>Total Completed</b>	6	7	7	7

Sources: Data Request CG-14 and auditor analysis

As depicted above, the number of audits completed were significantly less than the number planned during the review period. Over the course of four years, roughly 13 internal audits were either postponed or abandoned which reduces the value the IAD provided its internal customers. And it should be emphasized that not all the audits pertained to operations in Pennsylvania, thus revealing less internal audit focus on Aqua PA and/or Peoples.

Given the further reduced compliment of the IAD, the low number of total audits being completed, and the minimal focus on operations in Pennsylvania; the PUC’s auditors contend a more robust internal audit function is needed to support Essential and its regulated utilities operating in Pennsylvania. Essential may want to review peer utilities that have multistate operations with those that solely operate within a single jurisdiction to gain a better understanding of the service levels it should strive to attain both at the corporate level and at the local distribution company level. At a minimum, resource levels should be sufficient to consistently complete the approved risk-based audit plans and include sufficient focus on Pennsylvania to support optimal performance.

**Follow-Up Recommendation – Increase Internal Audit Department resources to consistently meet approved internal audit plans while ensuring equitable prioritization of financial and operational audit focus on Essential’s utility companies operating in Pennsylvania.**

## V. AFFILIATED INTERESTS AND COST ALLOCATIONS

### **Background**

As discussed in chapter III. Executive Management and Organizational Structure, Essential Utilities, Inc. (Essential) is the overarching parent corporation of Aqua Pennsylvania, Inc. (Aqua PA) and Peoples Natural Gas Company LLC (Peoples). During the prior management audit, Peoples was comprised of two distinct natural gas distribution companies, jointly referred to as the Peoples Companies; however, as of January 2023, they have been consolidated into a single entity with two operating divisions serving separate customer bases under two different tariffs<sup>9</sup>. Aqua PA provides water and wastewater services and Peoples provides natural gas distribution service in Pennsylvania, and both are regulated by the Pennsylvania Public Utility Commission (PUC).

PNG Companies, LLC (PNG Companies), Aqua Services, Inc. (Aqua Services), and Essential Utilities Services, Inc. (EUS) are the three companies that provide corporate support to Essential's regulated utilities operating in Pennsylvania, including accounting of affiliate transactions and cost allocations. For the affiliated interests and cost allocations functional area, four prior situations and prior recommendations were reviewed, and four follow-up findings with three follow-up recommendations are presented. The findings all relate to the governance process over transactions amongst affiliates and the various components thereof.

### **Finding V-1**

#### **Prior Situation**

The 2021 Management and Operations Audit Report highlighted multiple circumstances leading the PUC's auditors to conclude that PNG Companies and the Peoples Companies needed to strengthen its governance over transactions between affiliates. Some of the noted concerns included:

- Following multiple organizational structure changes, some transactions were being handled using outdated processes from rescinded affiliated interest agreements (AIAs)
- Transactions were ongoing that were not clearly identified and/or defined in approved AIAs
- Transaction descriptions were too vague to distinguish the actual services being provided to and from affiliates
- There was insufficient managerial review of transactions between affiliates

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<sup>9</sup> As of September 27, 2024, after fieldwork ended, the two separately tariffed operating divisions were consolidated under one tariff at Docket No.: R-2023-3044549.

- An internal audit highlighted errors employees were making when direct charging time; however, very little audit documentation was retained, and no resolution action had been taken
- The companies did not maintain accounting process flowcharts or a segregation of duty matrix to support an adequate internal control environment

It was also noted that the Peoples Companies were operating without the guidance of a cost allocation manual (CAM) for a portion of the prior audit period, and when a CAM was established, it did not follow best practices for cost allocation methodologies. This issue will be further addressed in Finding V-3.

**Prior Recommendation** – Improve internal controls and other practices related to affiliate transactions and cost allocation to ensure the company is following best practices and Commission guidelines. Further, the Peoples Companies should consult with the PUC’s Bureau of Technical Utility Services to perform a thorough review of the current AIAs on file to determine if changes to the AIAs are needed and/or if new AIAs need to be filed to ensure compliance with Title 66 Chapter 21.

**Follow-Up Finding and Conclusion** – PNG Companies and Peoples have made progress toward appropriate cost allocation and affiliate transaction governance but more improvement is needed.

### **Current Review**

On November 9, 2022, Peoples filed a revised AIA defining transactions between itself and the servicing company, PNG Companies. A Secretarial Letter<sup>10</sup> was issued approving the revisions on March 8, 2023. Although this agreement is between Peoples and PNG Companies, in Exhibit C of this AIA, a list of non-party affiliates is provided of parties with which transactions may also occur. PNG Companies is also a party to an AIA between itself, Aqua Services, and Aqua PA. Per this second agreement, approved by Secretarial Letter<sup>11</sup> on November 18, 2021, Aqua Services could provide various administrative, financial, legal, and consultative services as listed.

Since the approval of both AIAs described above, organizational changes occurred rendering certain parts of both AIAs in need of revision. In addition, the auditors noted that there were some discrepancies between how some transactions were described in the AIAs versus how they were being handled in practice.

Essential is listed as a non-party affiliate in the first AIA between Peoples and PNG Companies; however, there were only charges between PNG Companies and EUS which is not listed as a non-party affiliate. Also, there are charges to/from Aqua PA and Aqua Services to/from PNG Companies, but these affiliates are not listed as non-party affiliates in the first AIA and only services specifically from Aqua Services to PNG Companies are allowed per the second AIA. While the first AIA allows for services to be provided to unnamed affiliates as long as the terms remain the same and

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<sup>10</sup> Docket No.: G-2022-3036720

<sup>11</sup> Docket No.: G-2020-3019819

no additional costs are incurred, this does not follow the spirit of 66 Pa. C.S. §2102 for companies to maintain AIAs that fully detail all parties and services involved in transactions amongst affiliates. The auditors discussed with Peoples that a better practice would be to update the list of non-party affiliates as organizational changes occur through an informational filing of the revised Exhibit C to the PUC.

PNG Companies developed a stronger internal control structure over transactions amongst affiliates. Segregation of duties is supported within *SAP* through specific roles based on end users' job responsibilities. The system reports any potential segregation of duties conflicts associated with the privileges set in *SAP*. If a conflict is identified, the provisioning is either adjusted or overridden with appropriate approval documentation including any additional mitigating controls. Because PNG Companies is a wholly owned subsidiary of Essential, internal control is the responsibility of management but does not require the external auditor to opine on its adequacy.

The internal control structure at PNG Companies showed evidence of proactive measures designed to address deficiencies noted during the prior management audit. The auditors noted the following weaknesses during the current review period:

- PNG Companies had to provide revised data sets and/or explanations of affiliate transactions/cost allocations in certain situations for various reasons
- PNG Companies implemented software for account reconciliations and journal entry approval processes; however, there continues to be a number of manual transactions which elevates human error risk and would be better handled systematically
- PNG Companies maintains an internal control document, the Intercompany Detail Analysis document, which was established to be a control to provide verification that each affiliated transaction recorded within one company's accounting records had an exact reciprocal transaction recorded within the associated affiliate's accounting records – the company contends that during the monthly accounting close process, the team ensures that all intercompany transactions net to zero, but it was challenging for the company to provide auditable evidence of this process; the company should develop a documentation procedure to retain record of the achievement of transactional balance to retain for audit purposes to further strengthen this control

On August 11, 2022, Essential completed the internal audit, Affiliated Interest Agreements Review, for both Aqua Services and PNG Companies that concluded that the processes and controls appeared to be satisfactory; however, given the number of changes that have occurred and the weaknesses noted, PNG Companies and Peoples should continue to evaluate and strengthen these processes. Scheduling routine internal audits would be highly beneficial, and some companies have found great value in periodically engaging a third-party consultant to perform a comprehensive review of affiliate transaction and cost allocation processes.

Best practices for transactions between affiliates start with accurate, thorough AIAs which are supported by detailed, current CAMs (see Finding V-3). Controls should

be implemented and tested, routinely, to ensure procedures are occurring as defined by the AIAs and CAMs. Although some improvement in governance over transactions between affiliates was noted, PNG Companies and Peoples have weaknesses that do not comply with 66 Pa. C.S. § 2102, do not adhere to the National Association of Regulatory Utility Commissioners' (NARUC) guidelines, nor follow best practices.

**Follow-Up Recommendation – Correct the noted concerns in governance over transactions amongst affiliates throughout Essential’s organization and then perform a comprehensive study of the affiliated transaction and cost allocation processes at PNG Companies and Peoples.**

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## **Finding V-2**

### **Prior Situation**

Aqua PA leased office space to its affiliate, Aqua Services. Aqua PA explained that lease payments were based on square footage and overhead expenses. Office space leasing transactions, however, were not covered by any of the approved AIAs on file with the PUC. This issue was cited in both the Audit Bureau’s 2016 Management Efficiency Investigation Report<sup>12</sup> and the 2021 Management and Operations Audit Report.

In addition, the amount being charged per square foot had not changed since 2010 while the underlying overhead charges (i.e., property taxes, facility maintenance, etc.) and the general value of office space would have increased over that time. Aqua PA did not recalculate the rental charges using current overhead costs nor did it apply an inflation adjustment over those years which resulted in an under collection of rental charges for many years.

**Prior Recommendation** – Document all lease agreements between Aqua PA and its affiliates and submit them to the Commission for approval.

**Follow-Up Finding and Conclusion** – Aqua PA submitted and received the PUC’s approval for a lease agreement.

### **Current Review**

Aqua PA had an external market study completed in October 2021 that supported an updated lease rate of \$31.76 per square foot. A new lease agreement, using an updated rate of \$32 per square foot, was filed with the PUC and was approved on September 15, 2022<sup>13</sup>. This agreement also included language that the rate would be amended from time to time.

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<sup>12</sup> Docket No.: D-2015-2496112

<sup>13</sup> Docket No.: G-2022-3031183

Aqua PA executed the office space lease agreement with Aqua Services on April 13, 2023. Aqua PA's calculated rent charges to Aqua Services and Aqua Customer Operations for 2024 were approximately \$2,400,000 and \$610,000, respectively, using the market rate of \$32 per square foot. By updating this lease agreement, Aqua PA increased its annual rent revenue by \$2,087,000<sup>14</sup>. Aqua PA further stated that due to recent and upcoming changes to staffing and building renovations, the rent calculation will be re-evaluated and changed in the future; however, no timeframe was provided.

### **Follow-Up Recommendation – None**

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## **Finding V-3**

### **Prior Situation**

Essential's CAM was the primary document used to describe the services being provided by Aqua Services and the corresponding charging methods. While this document did a satisfactory job describing some services, it lacked crucial information for it to be organizationally applicable once Essential acquired the Peoples Companies.

Moreover, Essential's CAM did not cover cost allocation practices with unregulated affiliates. Essential considered the AIAs on file with the PUC as complete documentation of the transactions occurring between these affiliates; however, the CAM did not reference the AIAs nor did it describe services beyond those being provided by Aqua Services that were occurring. The following is a list of missing details from Essential's CAM:

- List or an organizational chart showing the current affiliates beyond Aqua Services and its parent including the newly acquired regulated and unregulated affiliates
- Description of the types of services provided between all affiliated companies
- Examples or detailed descriptions of all shared services and the correlating cost allocation methods
- References to or copies of related AIAs and CAMs of other affiliated companies

The auditors asserted that a single, comprehensive corporate level CAM should include all the necessary information. The companies found it more practical to update the existing individual company CAMs with relevant information adding addendums covering specific circumstances by company or state.

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<sup>14</sup> \$2,400,000 + \$610,000 = \$3,010,000 compared to \$923,000 during the prior management audit

**Prior Recommendation** – Expand Essential’s corporate charges allocation manual to include all transactions between affiliates.

**Follow-Up Finding and Conclusion** – There are elements missing from each of the two active cost allocation manuals maintained by Essential’s utility companies operating in Pennsylvania.

### **Current Review**

According to NARUC guidelines for cost allocations and affiliate transactions, a CAM is defined as an indexed compilation and documentation of a company’s cost allocation policies and related procedures and, at a minimum, should contain the following:

- An organization chart of the holding company depicting all regulated and non-regulated affiliates
- A description of all assets being shared amongst and services and products being provided to and from the utility and each of its affiliates
- A description of the cost allocators and methods used by the utility and its regulated and non-regulated affiliates

Within Essential’s utility companies operating in Pennsylvania, there were two separate CAMs in effect during the review period: one for EUS and the other for PNG Companies. The auditors noted improvements; however, there are elements missing in each of the CAMs.

There were no organization charts to show how affiliates relate to one another nor a description of the shared services between the various affiliates in either of the CAMs. Some companies will reference related AIAs to limit the duplication of effort in showing these items directly in the CAMs; however, there were no references between the two CAMs nor to any related AIAs.

In addition, not all transaction types reviewed were explicitly detailed in the AIAs and/or CAMs. The company contended that these transactions were more generally included by areas of work such as Legal. The auditors do not feel this general level of description meets the spirit of a thoroughly defined list of shared services. The shared services should be defined by individual transaction type and there should be parallel consistency between the AIAs and CAMs.

Best practices indicate that AIAs and CAMs should be routinely reviewed and updated simultaneously to ensure consistency. There should be a formalized procedure to ensure this process is occurring.

**Follow-Up Recommendation – Analyze the cost allocation manuals at Essential’s companies to identify missing components and/or necessary cross-referencing to ensure each is current, thorough, and agrees to the related, approved affiliated interest agreements.**

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**Finding V-4**

**Prior Situation**

Per NARUC’s Guidelines for Cost Allocations and Affiliate Transactions, transactions between affiliates of regulated utilities should be charged using the asymmetric pricing principle. The asymmetric pricing principle indicates that charges for goods and services being performed by an affiliate for a regulated utility should be at the lower of cost or market, whereas charges for goods and services being performed by a regulated utility for an affiliate should be at the higher of cost or market. The underlying reason to adhere to the asymmetric pricing principle is to reduce the risk of cross-subsidization of operating expenses. For example, if the utility company provides customer service support for an affiliate company and charges a reduced rate for that service, the utility company’s ratepayers are essentially paying the cost of the customer service support which is instead benefiting a different, often unregulated entity. The resources being funded by a utility company’s ratepayers should be for the benefit of those ratepayers. And, if ratepayer funded resources are shared outside the utility, they should be recuperating a fair market rate to avoid cross-subsidization.

Obtaining current market price data is an integral part of ensuring that reasonable, market-driven pricing is charged for goods and services between affiliates. During the prior management audit, the auditors were unable to assess whether charges for products, services, and the use of assets provided by PNG Companies to the Peoples Companies were reasonable because the company had not obtained current market price data through a current market study.

The Peoples Companies asserted that no analyses were performed because all services had been provided at cost; however, the Peoples Companies were unable to provide support to show that the cost of services provided by PNG Companies were less than current market costs for similar services. The Peoples Companies further contended that they routinely conducted salary surveys to verify that employees’ salaries, which were the basis for most of the costs of shared services, were consistent with average market rates. However, the pricing of shared services should consider other factors than just related labor costs (e.g., overhead, equipment and supplies, reasonable profit margin, etc.). This is especially important for any services provided by utilities to affiliates which should be at the higher of cost or market for similar services.

The auditors had noted during the management audit that Essential was performing internal market rate analysis research by periodically comparing the costs of

specific services (i.e., accounting, engineering, legal, etc.) to the market rates of outside firms. However, this analysis compared average hourly rates without considering service levels, and, in some cases, the data was outdated. In addition, there was no analysis of the services that Aqua PA provided to affiliates, so they could not support if they were charging current market-based rates.

**Prior Recommendation** – Conduct periodic market studies to confirm that services provided by affiliates to the utilities are at the lower of cost or market, and services provided by the utilities to affiliates are at the higher of cost or market.

**Follow-Up Finding and Conclusion** – Aqua PA performed some market analyses, but no market analyses or studies were performed for Peoples.

### **Current Review**

Essential explained that Aqua PA had agreed to complete market studies to support affiliated transactions as part of prior commitments to the PUC as well as to other state regulatory agencies. The studies performed for Essential's water/wastewater subsidiaries provided some information to support the reasonableness of affiliated transactions, but they did not consider service levels within the assessment. Therefore, Aqua PA does not know the full extent of the difference between internal and external providers outside of cost per labor hour.

On March 28, 2022, Essential performed its own analysis, internally, using national professional trade group benchmarking data. Essential's internal hourly labor rate was found to be much lower than the hourly labor rate that would be charged by an external provider. Most of the sources; however, were outdated, and the level of service, which would be evaluated by comparing the amount of time it takes internal versus external providers to perform the service, was not considered. Essential included an estimated adjustment for the outdated information by using an inflation factor from the Consumer Price Index. While this adjustor helps to provide some parity, it may not be accurate or reliable.

In contrast, Peoples has never performed a market study to establish any baseline data to support the reasonableness of the charges for transactions with its affiliates. As shown in Exhibit V-1, Peoples charged approximately \$1 million each year for services it provided to regulated affiliates of other states and unregulated affiliates. The company explained that it charged cost for these services as opposed to the higher of cost or market. The auditors point out this practice goes against the asymmetric pricing principle recommended in the NARUC guidelines.

**Exhibit V-1**  
**Peoples Natural Gas Company LLC**  
**Charges for Services Provided to Regulated Affiliates of Other States and**  
**Unregulated Affiliates**  
**For the Years 2020 – 2023**

Year	Amount Charged
2020	\$ 1,203,000
2021	1,174,00
2022	931,000
2023	1,396,000

Sources: Data Request AI-01 and auditor analysis

Routine market studies provide current market pricing data necessary to ensure pricing of shared services is fair and reasonable. A comprehensive market study should compare the full cost and level of service for a service with that provided by the market. This data should then be compared to the fully loaded costs being incurred and the amount of time being spent for the utility to perform those same services. Ideally, services to/from affiliates should be reviewed at least every five years to verify parity with market unless a major change occurs in between intervals.

**Follow-Up Recommendation – Complete a comprehensive market study, considering cost and service level, for all shared services to/from Aqua PA and Peoples and develop a formal policy to conduct periodic comprehensive market studies going forward.**

## VI. FINANCIAL MANAGEMENT

### **Background**

As discussed in chapter III. Executive Management and Organizational Structure, Essential Utilities, Inc. (Essential) is the overarching parent corporation of Aqua Pennsylvania, Inc. (Aqua PA) and Peoples Natural Gas Company LLC (Peoples). During the prior management audit, Peoples was comprised of two distinct natural gas distribution companies, jointly referred to as the Peoples Companies; however, as of January 2023, they have been consolidated into a single entity with two operating divisions serving separate customer bases under two different tariffs<sup>15</sup>. Aqua PA provides water and wastewater services and Peoples provides natural gas distribution service in Pennsylvania, and both are regulated by the Pennsylvania Public Utility Commission (PUC).

All financial services are provided to Aqua PA and Peoples by Essential Utilities Services (EUS) and PNG Companies, LLC (PNG Companies), respectively. Essential's Executive Vice President and Chief Financial Officer (CFO) oversees financial management operations at EUS and PNG Companies. PNG Companies' Vice President and Segment CFO is accountable for financial management at Peoples and reports to Essential's Vice President and CFO.

For the financial management functional area, two prior situations and recommendations were reviewed and two follow-up findings with one follow-up recommendation are presented. The findings relate to the process for documenting explanations for significant variances within the operating and maintenance (O&M) and capital budgets and the accounting and finance policies and procedures.

### **Finding VI-1**

#### **Prior Situation**

The Peoples Companies maintained flowcharts and timelines describing the information flow and budget approval process. However, the Peoples Companies did not have formal budgeting policies/manuals to ensure procedural consistency across the complex organization. In addition, the companies did not have a formal policy to describe how budget variances were addressed and documented.

There were numerous significant variances, in both percentage and dollars, within the Peoples Companies' capital and O&M budgets. There were no explanations for any of the variances included in the capital budget reports, but there were vague explanations included in the O&M budget reports. The Peoples Companies explained that they reviewed and discussed budget variances monthly, and variances of \$200,000

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<sup>15</sup> As of September 27, 2024, after fieldwork ended, the two separately tariffed operating divisions were consolidated under one tariff at Docket No.: R-2023-3044549.

or greater and some specific variances below \$200,000 were investigated on a case-by-case basis. However, without documentation of these processes, the auditors could not verify if budget variances were investigated.

**Prior Recommendation** – Develop and implement capital and operations and maintenance (O&M) budget manuals/policies that include requirements for detailed written explanations of budget variances in excess of 10% for the Peoples Companies.

**Follow-Up Finding and Conclusion** – Peoples developed and implemented the Financial and Capital Budget Policies and Process.

### **Current Review**

Peoples implemented a formal policy, Financial and Capital Budget Policies and Process (Budget Policy), in the fourth quarter of 2022. The Budget Policy describes the major budget components including:

- Revenue Budget
- Expense Budget
- Capital and Depreciation Budget
- Financial Budget
- 5-Year Plan

Most importantly, the Budget Policy includes a monthly and quarterly reporting and analysis section that requires explanations to be included for all variances greater than 10%. The auditors observed that Peoples began documenting variance explanations in the routine budget reports as of the Budget Policy's implementation.

Having developed and implemented the Budget Policy, Peoples now has appropriate controls in place to manage variances within the capital and O&M budgets. Variance reports, with detailed explanations for material variances, provide a basis for operational decisions and a solid foundation for future budget development.

**Follow-Up Recommendation** – None

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## **Finding VI-2**

### **Prior Situation**

Essential's Chief Accounting Officer held responsibility for all accounting and finance guiding documents. However, the company did not maintain a schedule for routine review and update and instead discussed process changes as procedural problems arose. Thus, several of Essential's accounting and finance guiding

documents were not updated for many years. In addition, the Peoples Companies had certain accounting and finance policies and procedures (i.e., disposal of fixed assets, capitalization for software assets, expenditure control, etc.), but there were many accounting and finance processes that were not governed by formal guiding documents. Furthermore, there was not a standardized format for policies and procedures, so there was inconsistency on key elements like responsibility, accountability, and approval.

The Peoples Companies indicated their intention to standardize guiding documents. Essential had described a plan to create and implement updated corporate-wide guiding documents following the conversion to *SAP*. In addition, they were devising a plan to provide universal electronic access (see Finding III-1 for additional details). None of these changes had been initiated by the end of management audit fieldwork.

**Prior Recommendation** – Develop and implement new accounting/finance policies and procedures at the Peoples Companies where appropriate and ensure the policies and procedures have all the key elements, including accountability and a regular review schedule to remain timely.

**Follow-Up Finding and Conclusion** – Essential has not finalized its standardization of accounting and finance policies and procedures that would provide the necessary guidance for employees.

### **Current Review**

At Essential, financial consolidation through *SAP* was planned for the third quarter of 2024, and financial process planning and analysis is set for implementation in 2025. Peoples' Vice President and Segment CFO stated that Essential's *SAP* implementation took priority over the complete overhaul of the guiding documents but that the next priority is a "refreshment" of the policies and procedures. Meanwhile, certain updated accounting and finance guiding documents had become effective at Essential.

For instance, Essential's Policy Manual was in draft stage. Although the draft index included many necessary accounting and finance guiding documents, it did not have the comprehensive coverage of the accounting and finance processes observed at other utilities. The company explained that because the guiding documents will govern corporate-wide, they will include general language and cite job titles versus specific employees for parties of accountability and responsibility; however, specific details for Essential's various subsidiaries will be provided where necessary.

By end of fieldwork, there was one finalized corporate-wide guiding document, the Procure to Pay Policy, which went into effect January 1, 2024. There was also a draft version of the P-Card Policy. However, these guiding documents did not include evidence that a schedule for routine review was established. In addition, not enough policies and procedures were updated to ensure Essential was using a consistent comprehensive standard for all guiding documents.

It is a best practice for guiding documents to have the following elements to ensure processes within each functional area are carried out efficiently and effectively:

- Scope
- Purpose
- Responsibilities
- Definitions
- Effective dates
- Cross-referencing to related guiding documents
- Review and approval guidelines
- Designated party of accountability
- Documentation of dates of review and revision

In addition, a routine schedule of review and update is crucial to ensure guiding documents remain current and complete. Without comprehensive process coverage through updated guiding documents, employees may lack direction, make excessive errors, or spend unnecessary time planning work processes.

**Follow-Up Recommendation – Finalize developing and implementing thorough and complete accounting and finance policies and procedures, along with an appropriate routine review schedule, for Essential’s companies.**

## VII. WATER OPERATIONS

### **Background**

As discussed in chapter III. Executive Management and Organizational Structure, Essential Utilities, Inc. (Essential) is the overarching parent corporation of Aqua Pennsylvania, Inc. (Aqua PA). Aqua PA provides water and wastewater services to a total of 1.5 million people in 32 counties in Pennsylvania and is regulated by the Pennsylvania Public Utility Commission (PUC). Aqua PA generally divides the management of its districts into two groups: Southeastern PA (SEPA), which covers Philadelphia, and Greater PA which includes systems in the northeast, central, and western regions of Pennsylvania.

For the water operations functional area, four prior situations and recommendations were reviewed. Four follow-up findings with four follow-up recommendations are presented. The findings relate to valve inspection and exercise processes, system damage prevention processes, meter accuracy, and excessive non-revenue water specifically in the Roaring Creek system.

### **Finding VII-1**

#### **Prior Situation**

Aqua PA had a valve operating procedure, but it focused solely on critical valves and was not formally documented in an organized valve inspection manual or program. The valve operating procedure was a simple 9-step process for safely operating critical valves as opposed to a comprehensive valve inspection program.

On average, critical valves were being inspected once every 2.62 years; however, critical valves amounted to only 240 of the company's approximate 80,000 valves (or 0.3%). In addition, the company was replacing on average 3.3% of its valves, each year, during standard system maintenance projects such as main replacement, failed valve repairs, etc. While this activity was being captured by the company's mapping and work management systems, there was not an effective way to identify valves that had not been inspected or replaced within the last 10 years.

**Prior Recommendation** – Implement a full-scale valve inspection and exercise program designed to identify what valves have not been operated or inspected in the last ten years.

**Follow-Up Finding and Conclusion** – Aqua PA has implemented a comprehensive, documented valve inspection and exercise program but has not consistently met the program's goals during the review period.

## **Current Review**

Aqua PA has thorough and complete valve inspection programs for both critical and non-critical valves which include comprehensive exercise guidelines. Specific work orders, designed to capture all relevant valve identification data, are used to schedule and record valve exercising activities.

The American Water Works Association (AWWA), at G200-09, includes the following requirements for a valve inspection program:

*The utility shall have a valve exercising program. This program shall follow AWWA Manual M44 and the manufacturer's recommended procedures and include at least the following elements: a goal for the number of distribution valves to be exercised annually;...Critical valves in the distribution system shall be identified for exercising on a regular basis...The program shall track the annual results and set goals to reduce the percent of inoperable valves...A goal of replacing the inoperable valves identified during the operation and maintenance process shall be established as part of the exercising program.*

Aqua PA's critical valve inspection program, started in 2017, has 1-, 2-, and 4-year exercise rotation schedules based on each valve's criticality. Subsequently, the non-critical valve inspection program started in 2022. Activity for both of these programs is presented in Exhibits VII-1 and VII-2, respectively.

### **Exhibit VII-1 Aqua Pennsylvania, Inc. Critical Valve Inspections Conducted 2020 – 2023**

	<b>Critical Valves Exercise Target</b>	<b>Critical Valves Exercised</b>	
2020	120	99	83%
2021	135	128	95%
2022	133	93	70%
2023	161	134	83%

Source: Data Request WO-22

**Exhibit VII-2  
Aqua Pennsylvania, Inc.  
Non-Critical Valve Inspections Conducted  
2022 – March 2024**

Area	Valves in District	Target @ 1/12th	Actual Non-Critical Valves Exercised		
			2022	2023	Partial 2024 Through March
SEPA	85,366	7,114	8,227	7,648	2,074
Greater PA <sup>16</sup>	26,623	2,219	27 <sup>17</sup>	1,026	393
<b>Total</b>	<b>111,989</b>	<b>9,332</b>	<b>8,254</b>	<b>8,674</b>	<b>2,467</b>
<b>Total Percent of Target</b>		<b>100%</b>	<b>88%</b>	<b>93%</b>	<b>26%</b>

Source: Data Request WO-22

Aqua PA implemented a new work order system in 2022. During software conversion, a problem occurred which stopped the Greater PA’s work orders from being issued until the fourth quarter of 2022 which negatively impacted valve exercise work in that year. The company also indicated that due to organizational changes and the software implementation between 2022 and 2023, records may understate the number of critical valves that were exercised. In addition, the organizational changes in 2022 and 2023 may have impacted their ability to meet their goals. Aqua PA is planning to increase the rates of inspections over the next few years to eliminate the shortfall and get back on schedule.

Corrective actions were established for 2024 to improve the exercise frequency and meet the targets of the valve exercising programs. As of April 2024, Aqua PA claimed that significant progress was made to ensure work order issuance, tracking, and reporting were automated for the company’s valve exercising program. In addition, the company plans to roll out a formal distribution operator training program in the third quarter of 2024. The new training program will include classroom and on-the-job field training covering all key job aspects, including valve exercising requirements and procedures.

**Follow-Up Recommendation – Increase valve inspection rates to meet goals outlined in the Aqua PA Critical Valve Inspection Program and the Aqua PA Non-Critical Valve Inspection Program.**

<sup>16</sup> Northeastern, central, and western regions’ data consolidated

<sup>17</sup> Estimated by company

## Finding VII-2

### Prior Situation

Aqua PA was performing a number of damage prevention activities; however, company-at-fault line hits accounted for 60% of damages in 2020. The company claimed that the majority of the company-at-fault hits were related to recently acquired or abandoned facilities for which no records existed. In addition, Aqua PA claimed that employees were reporting minor hits that previously went unreported. The prior auditors noted that a range of 10% – 30% company-at-fault hits is considered standard among Pennsylvania water and gas utilities.

**Prior Recommendation** – Implement measures to reduce company-at-fault hits.

**Follow-Up Finding and Conclusion** – Aqua PA has made progress in reducing company-at-fault hits but more work is needed.

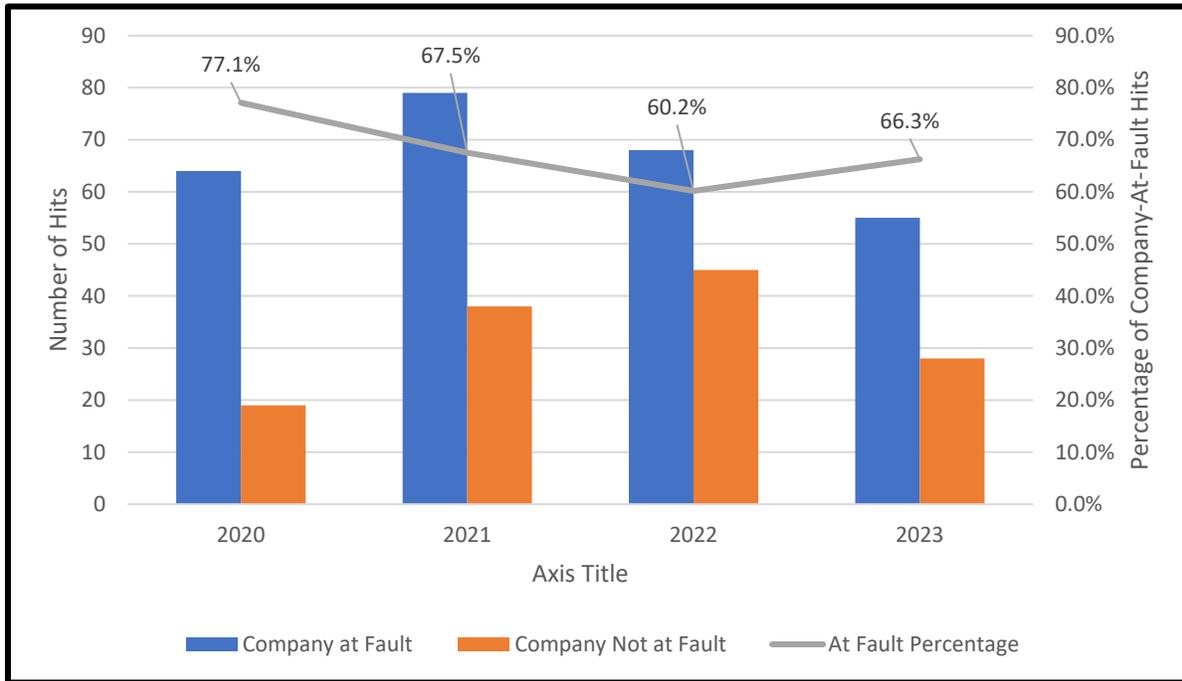
### Current Review

The most frequent causes of company-at-fault hits at Aqua PA are “Incorrect Markout” and, to a lesser extent, “Failed to Mark Abandoned Lines”. Act 287 states, “It shall be the duty of each facility owner...to mark, stake, locate or otherwise provide the position of the facility owner's underground lines at the work site within eighteen inches horizontally from the outside wall of such line in a manner so as to enable the excavator, where appropriate, to employ prudent techniques, which may include hand-dug test holes, to determine the precise position of the underground facility owner's lines.” Therefore, Aqua PA has taken a number of steps to reduce damages that are considered their fault.

Prior to 2023, there were two locators in each division who largely operated without clear guidance from the company. Aqua PA both increased staffing and created a Damage Prevention Department in 2023. In addition, Aqua PA requires all personnel with line location or excavation responsibilities to take Pennsylvania One Call training. The company also established a standardized operating procedure for line locating.

The Supervisor, Damage Prevention for the SEPA division has weekly meetings with the 17 locators on that team to discuss strategies on reducing the number of hits. The Supervisor, Damage Prevention for the SEPA division also assists the Greater PA division with program compliance and execution strategy, but the Greater PA division team manages its daily activities, independently. Now that damage prevention efforts have become more focused, Aqua PA has started to see slight improvement in company-at-fault hits in 2023 as shown in Exhibit VII-3. The blue and orange bars represent the number of pipeline hits whereas the grey line shows the percentage of the total pipeline hits that were determined to be company-at-fault hits.

**Exhibit VII-3  
Aqua Pennsylvania, Inc.  
Company-At-Fault Versus Company-Not-At-Fault Pipeline Hits  
2020 – 2023**



Source: Data Request WO-7

Company-at-fault hits still account for a significant number of damages to Aqua PA’s facilities despite the emphasis on internal damage prevention. While the company cannot control what outside parties do and therefore cannot prevent all damages, company-at-fault damages are within the company’s control. As Exhibit VII-3 shows, there has been a slight uptick in the number of damages from third parties (company-not-at-fault) that may require additional outreach efforts to ensure contractors are well trained and are following Pennsylvania One Call guidelines. However, Aqua PA should maintain focus to improve its internal procedures, training, mapping, etc. to reduce company-at-fault damages.

**Follow-Up Recommendation – Strive to reduce company-at-fault damages to a minimum and increase outreach efforts to decrease company-not-at-fault hits.**

### **Finding VII-3**

#### **Prior Situation**

Aqua PA was replacing meters on a 20-year schedule. Part of the company's standard procedure was to test a sample of the meters removed from service for accuracy. From 2017 – 2019, an average of 4,000 residential and commercial meters were tested each year. The passing rate varied between 34% – 55%. The auditors estimated that as many as 30% of residential meters were inaccurate at the 20-year mark.

**Prior Recommendation** – Increase testing and replacement of meters to improve accuracy rates.

**Follow-Up Finding and Conclusion** – Additional improvement is necessary on meter test-outs.

#### **Current Review**

Aqua PA established its meter accuracy goals based on manufacturer's specifications, industry standards, and the below cited regulatory requirement, among other factors. Aqua PA implemented a new meter testing policy, effective in 2024, in which its allowable meter failure rates and testing flow rates would comply with 52 Pa Code § 65.8. Per 52 Pa Code § 65.8, an error rate of 4% or less is allowable for existing meters and an error rate of 2% or less is allowable for new meters.

Under the new policy, new meters one inch and smaller need to be tested or replaced at least every 20 years and new meters one and a half inch and larger need to be tested or replaced at least every 8 years. In addition, Aqua PA requires 10% of all new meters to be tested. Used meters to be used again must be out-tested within 30 days of removal, but meters to be scrapped do not require out-testing. However, Aqua PA performs out-testing, for data analysis purposes, on some meters to be scrapped.

As shown in Exhibit VII-4, Aqua PA's percentage of meters failing test-out improved from 73% in 2020 to 54% in 2024. According to Aqua PA, these failure rates are partially the result of an incorrect setting used in their testing procedure where they used industry standards instead of those within regulation. Aqua PA has corrected their testing procedure; however, this change was implemented after the current review period. When Aqua PA finds a meter series that is underperforming on out-testing, they prioritize replacing those meters but have not historically accelerated overall replacement, especially since they have identified and corrected the flawed testing procedure.

**Exhibit VII-4  
Aqua Pennsylvania, Inc.  
Meter Test-Out Results  
2020 – April 2024**

	Failed		Passed		Total
<b>2020</b>	3,618	73%	1,370	27%	4,988
<b>2021</b>	999	76%	319	24%	1,318
<b>2022</b>	943	48%	1,006	52%	1,949
<b>2023</b>	7,489	58%	5,358	42%	12,847
<b>YTD April 2024</b>	1,013	54%	869	46%	1,882

Source: Data Request WO-10

Aqua PA has acted to improve meter test-out rates by implementing the new meter testing policy and correcting its testing procedures; however, there was not sufficient data to evaluate if the failure rates were due to this procedure error or if true meter inaccuracy is to blame. Aqua PA should continue testing with its updated procedures. However, if excessive failure rates persist, the company should perform statistical testing of meters to identify root causes. If failure rates persist in earlier vintage meters, the company may need to implement an accelerated replacement program.

**Follow-Up Recommendation – Monitor the percentage of meters failing on test-out and expand testing efforts and/or replacement efforts if failure rates remain high.**

**Finding VII-4**

**Prior Situation**

Roaring Creek’s non-revenue water (NRW) had increased from 40.6% to 46.8% from 2016 – 2019. According to Aqua PA, this was due to an increase in the percentage of real losses<sup>18</sup> over that period coupled with a decrease in the amount of water being delivered. A decrease in water being delivered could result in a higher percentage of NRW; however, in this case, the amount of water delivered decreased by 1.9% while NRW (in terms of volume as opposed to a percentage of total volume) increased by 4.9% over 2016 – 2019. The auditors estimated that by reducing Roaring Creek’s NRW to 20%, Aqua PA could have saved \$189,114, annually, in 2021 dollars.

<sup>18</sup> Real losses are physical losses of water from the distribution system from main breaks, leaks, and storage overflows.

**Prior Recommendation** – Focus efforts on reducing non-revenue water at the Roaring Creek system.

**Follow-Up Finding and Conclusion** – Roaring Creek’s non-revenue water is trending in a positive direction but continued focus is warranted.

### **Current Review**

Aqua PA’s NRW program is run by Corporate Engineering and Metrology who created a series of tools and efforts to reduce NRW. The two most important of these are an NRW dashboard and a production and consumption dashboard. The dashboards aggregate and compare data from production and billing. Aqua PA modeled its approach after the AWWA’s program.

The company tracks water main breaks and uses this information to prioritize main replacement projects. There is also a thorough leak detection and repair program in place. To minimize apparent losses<sup>19</sup>, Aqua PA established internal targets for metering accuracy to support correct billing. In addition, Aqua PA has a robust theft of service program. NRW reduction metrics are tracked and reported to senior management, monthly.

The Roaring Creek system was selected as one of two systems targeted for NRW reduction efforts in 2023. Since 2020, Aqua PA fixed a major leak and replaced some failing meters in the Roaring Creek system, but the bulk of actual loss reduction has come from pressure management. Each of the five Roaring Creek production meters was recalibrated, annually, during 2020 – 2024. In addition, two zone meters were installed in 2021.

As shown in Exhibit VII-5, Aqua PA’s focus on NRW reduction at Roaring Creek has led to improvement for that system. Roaring Creek’s NRW decreased from 42.68% in 2020 to 35.21% in 2024. In 2023, the year that Roaring Creek was targeted for NRW reduction, NRW at Roaring Creek reduced from 40.25% to 35.71%.

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<sup>19</sup> Apparent losses are non-physical losses of water that occur from metering inaccuracies, billing errors, or theft.

**Exhibit VII-5  
Aqua Pennsylvania, Inc.  
Roaring Creek Non-Revenue Water – Rolling 12-Month Average  
2020 – February 2024**

	<b>NRW in Million Gallons</b>	<b>Daily Gallons of NRW per Connection **</b>	<b>% NRW</b>
<b>2020</b>	649.97	89.66	42.68%
<b>2021</b>	670.55	103.77	44.51%
<b>2022</b>	654.07	100.10	40.25%
<b>2023</b>	577.69	86.33	35.71%
<b>YTD February 2024</b>	555.63	82.48	35.21%

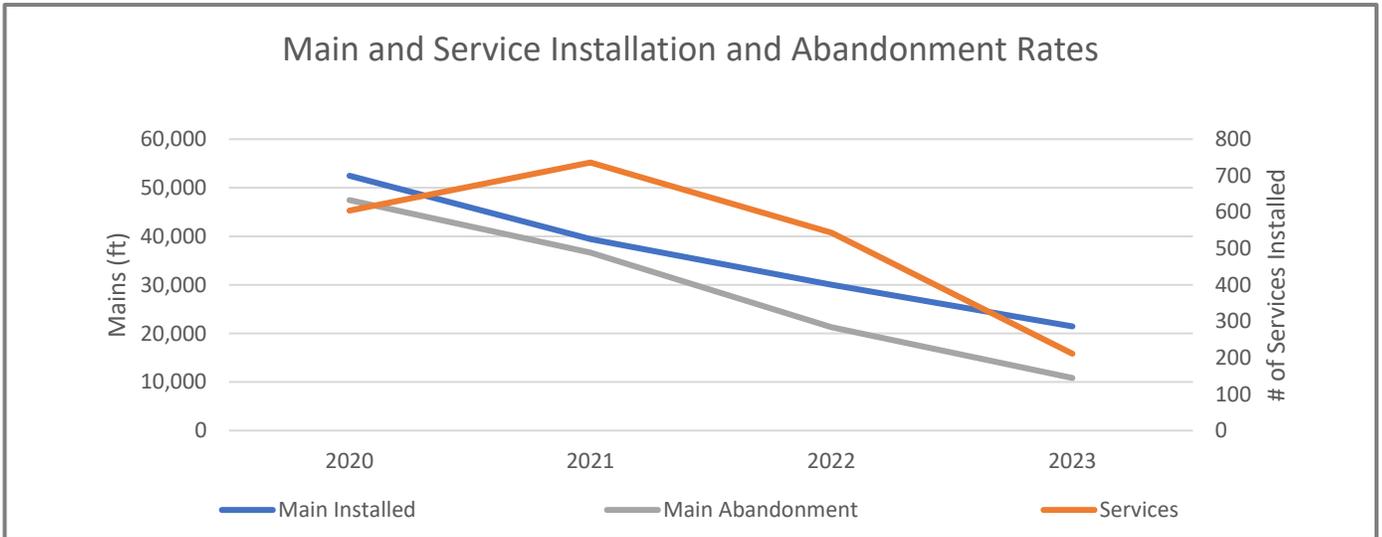
Source: Data Request WO-18

\*\* – The amount of NRW per customer connection per day – this metric provides a way to analyze system performance by normalizing NRW losses by consumer.

Between 2020 – 2023, Aqua PA saw decreasing capital investment in the Roaring Creek infrastructure as shown in Exhibit VII-6. For instance, Aqua PA has slowed meter pit installations, main replacement, service line replacement, and main abandonment since 2020. Specifically in the Roaring Creek system, main installation was decreased every year from 2020 – 2023. Service replacement increased in 2021 but decreased every year since. While capital investment in a system is driven by a number of factors including growth, replacement needs, system problems, etc., a decrease in capital investments often corresponds to a future increase in NRW. Naturally, there are many factors influencing NRW, but as a system ages, NRW will increase.

**Exhibit VII-6  
Aqua Pennsylvania, Inc.  
Roaring Creek Main and Service Line Installation and Main Abandonment  
2020 – 2023**

YEARS	Main Installed (feet)	Services Installed (each)	Main Abandoned (feet)
2020	52,476	604	47,456
2021	39,415	736	36,649
2022	30,042	543	21,270
2023	21,451	211	10,828



Source: Data Request WO-17

Aqua PA’s NRW reduction goal for targeted systems is 10% per year. For example, the 2024 target for the Roaring Creek system is 31.5%<sup>20</sup>. When the auditors questioned why main replacement was being reduced each year in the Roaring Creek system during focused NRW efforts, Engineering explained that Aqua PA is planning to replace the “Excelsior” main in 2025, which they believe will lead to additional NRW reduction, and that ongoing efforts; including pressure reduction, the zone metering program, and other main replacement at an average rate of 20,000 feet per year; will afford continued improvement. The auditors contend that further pressure reduction will produce diminishing returns once ideal pressures are reached for leak reduction and a zone metering program will help prioritize main replacement projects but will not directly reduce NRW on its own. Furthermore, main replacement at an average rate of 20,000 feet per year would be less than any year during the 2020 – 2024 YTD review period.

While Aqua PA’s NRW reduction program has produced improvement thus far, additional focus is warranted to continue to reduce NRW at Roaring Creek. While the PUC does not have a specific target for NRW, it does consider unaccounted-for water (UFW) over 20% to be excessive according to 52 Pa Code § 65.20. Roaring Creek would need to reduce its NRW to approximately 25% to meet the PUC’s 20% UFW

<sup>20</sup> 10% of 35% = 3.5% and 35% - 3.5% = 31.5%

level. By targeting mitigation efforts to reach that threshold, Aqua PA could save approximately \$100,000 per year in lost water expense. However, the cost to reduce lost water to the 20% threshold may exceed that anticipated savings. Nonetheless, continued investment in a water system is needed to ensure reliability, quality, etc. and relying on the aforementioned strategies alone, may prove ineffective.

**Follow-Up Recommendation – Determine and execute strategies to bring non-revenue water in the Roaring Creek system below 25%.**

## VIII. GAS OPERATIONS

### **Background**

As discussed in chapter III. Executive Management and Organizational Structure, Essential Utilities, Inc. (Essential) is the overarching parent corporation of Peoples Natural Gas Company LLC (Peoples). During the prior management audit, Peoples was comprised of two distinct natural gas distribution companies, jointly referred to as the Peoples Companies; however, as of January 2023, they have been consolidated into a single entity with two operating divisions serving separate customer bases under two different tariffs<sup>21</sup>. Peoples serves approximately 700,000 natural gas distribution customers and is regulated by the Pennsylvania Public Utility Commission (PUC).

For the gas operations functional area, two prior situations and recommendations were reviewed. Two follow-up findings are presented with one follow-up recommendation. The findings relate to bare steel pipeline replacement efforts and reducing line hits in high ticket areas.

### **Finding VIII-1**

#### **Prior Situation**

The Peoples Companies had a significant amount of unprotected bare steel in their gas systems compared to other natural gas distribution companies (NGDCs) operating in Pennsylvania. As of the end of 2019, the Peoples Companies had 19.7% and 26.5% unprotected bare steel pipe in their two systems whereas the average unprotected bare steel in the systems of a panel of the other NGDCs operating in Pennsylvania was at 11.9%. Unprotected bare steel is vulnerable to corrosion which increases the likelihood of leaks. Because this is a significant safety concern, unprotected bare steel pipe should be targeted for expedited replacement.

The Peoples Companies' pipeline replacement rates matched the approved 2017 Long-Term Infrastructure Improvement Plan<sup>22</sup> (LTIIP); however, obligations to replace targeted pipe significantly increased under the Second Combined LTIIP<sup>23</sup> which was approved by the PUC on January 14, 2021. The companies anticipated completing targeted pipe replacement by 2033. Nonetheless, the auditors were concerned that Peoples did not have the staffing, contractors, support, etc. to significantly expedite replacement. Therefore, the auditors urged the Peoples Companies to diligently review and plan for future staffing needs to meet the aggressive pipeline replacement goal.

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<sup>21</sup> As of September 27, 2024, after fieldwork ended, the two separately tariffed operating divisions were consolidated under one tariff at Docket No.: R-2023-3044549.

<sup>22</sup> Docket No.: P-2016-2563033

<sup>23</sup> Docket Nos.: P-2020-3022053 and P-2020-3021942

**Prior Recommendation** – Expedite bare steel replacement efforts in the companies' distribution systems and conduct ongoing staffing analyses to support any decision-making to fully staff, train, and monitor the workforce needs for all of the engineering, construction, and field operations positions and support positions needed to maintain future accelerated main replacement rates.

**Follow-Up Finding and Conclusion** – Peoples bolstered its construction related staffing which resulted in its ability to replace targeted pipe, primarily bare steel, at an expedited rate.

### **Current Review**

Peoples builds staffing models using an in-house forecasting tool. Staffing analysis takes into consideration pipeline replacement schedules from approved LTIPs, new construction plans, annual budgets, contractor availability, historical productivity, and other factors. Staffing models indicated a need for increased construction staffing beginning in 2020 which has continued throughout the current review period. Staffing levels for the Gas Operations' groups, for the years 2020 – April 2024, are presented in Exhibit VIII-1.

Notably, the overall Construction group staffing increased from 357 to 451 (26.3%). Specifically, the Pipeline Construction subgroup, those working on pipeline replacement and new construction; and the Construction Admin subgroup, those monitoring and tracking construction project data, had the largest increases. As for the Non-Construction group, staffing levels remained constant.

**Exhibit VIII-1**  
**Peoples Natural Gas Company LLC**  
**Gas Operations – Staffing Levels**  
**For the Period 2020 – April 2024**

Construction	2020	2024	Change (+)
Design and Track and Trace	61	69	8
Land	-	4	4
Program Management	7	8	1
Construction Admin	5	22	17
Closeout	7	7	-
Pipeline Construction (Salaried)	29	32	3
Restoration	10	12	2
Staff Engineering	8	9	1
Pipeline Construction (Unionized)	230	288	58
<b>TOTAL</b>	<b>357</b>	<b>451</b>	<b>94</b>
Non-Construction	2020	2024	Change (+)
Field Customer Service	156	155	(1)
Operations Center	28	29	1
Meter Management	2	9	7
Compression	31	33	2
Demarcation	6	6	-
Gas Ops	8	10	2
Pipeline Maintenance	195	186	(9)
Pressure	70	67	(3)
Warehouse	8	8	-
Corrosion	56	57	1
Damage Prevention	64	65	1
Leak Survey	33	35	2
Pipeline Integrity	4	5	1
<b>TOTAL</b>	<b>661</b>	<b>665</b>	<b>4</b>

Source: Data Request GO-01

As shown in Exhibit VIII-2, Peoples successfully met its proposed targeted pipeline replacement plan which was mapped out in its LTIIP. It should be noted that Peoples specifically removed roughly 500 miles of unprotected bare steel during the review period. The remaining 280 miles replaced during this period was targeted pipe of other materials such as plastic, copper, wrought iron, etc. In addition, early data from 2024 replacement activities indicated the company was on pace to meet 2024 commitments. Therefore, Peoples has effectively increased its staffing and pipeline replacement activity to meet the approved accelerated schedule.

**Exhibit VIII-2  
Peoples Natural Gas Company LLC  
Proposed Versus Actual Pipeline Replacement  
For the Period 2020 – April 2024**

	Proposed		Actual	
	Miles	Millions \$	Miles	Millions \$
2020	132	\$ 216	137	\$ 198
2021	159	242	165	247
2022	159	282	163	326
2023	181	365	184	393
<b>Total</b>	<b>631</b>	<b>\$ 1,105</b>	<b>649</b>	<b>\$ 1,164</b>
<b>Average Per Year</b>	<b>158</b>	<b>\$ 276</b>	<b>162</b>	<b>\$ 291</b>
<b>YTD April 2024</b>	<b>186</b>	<b>430</b>	<b>132</b>	<b>207</b>
<b>Total</b>	<b>817</b>	<b>\$ 1,535</b>	<b>781</b>	<b>\$ 1,371</b>

Sources: Data Request GO-03 and 2024 Asset Optimization Plan

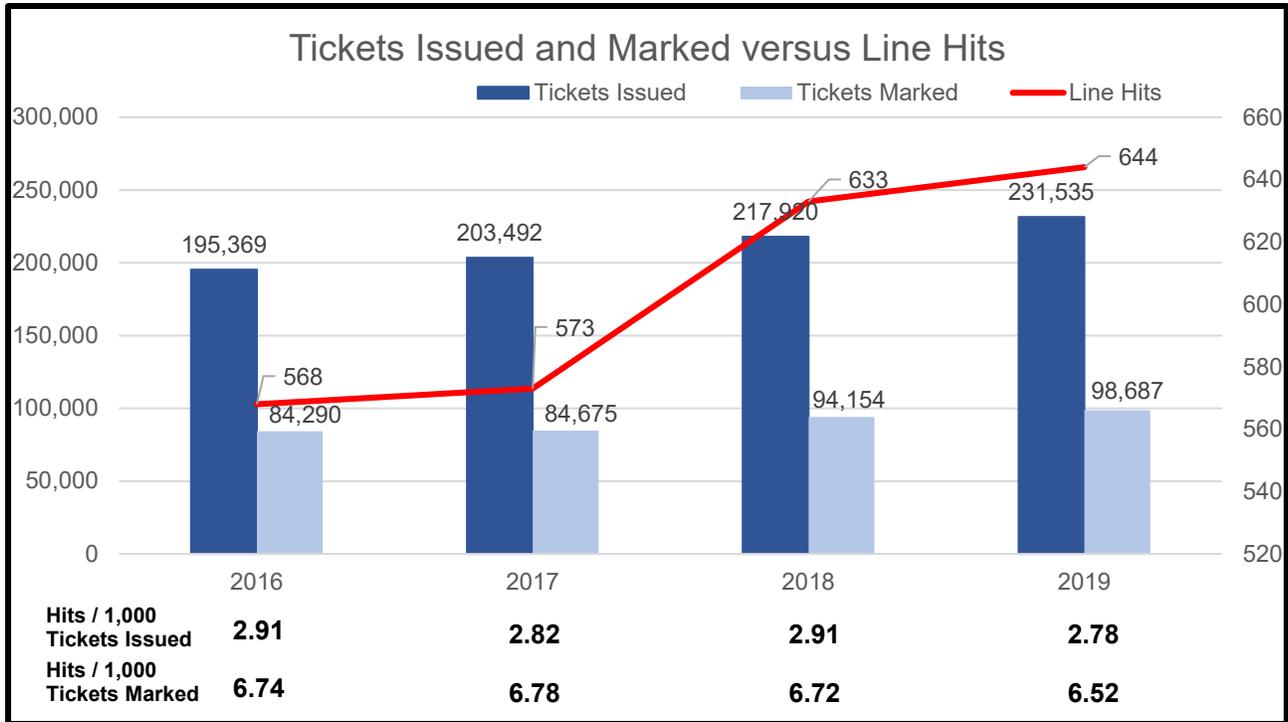
**Follow-Up Recommendation – None**

**Finding VIII-2**

**Prior Situation**

Utility companies monitor and track damage to infrastructure caused by line hits. Although line hits are inevitable, companies must know how and why line hits are occurring to take remedial action to reduce damage and other consequences. An industry standard, number of hits per 1,000 line marking ticket requests made to Pennsylvania One Call, can be used to evaluate if the number of line hits is excessive. Another similar rate can be calculated by determining the number of hits per 1,000 tickets coded as located and marked. Either or both of these rates can then be used in benchmarking performance analysis. Exhibit VIII-3 shows the line hits using tickets issued or tickets marked for the prior audit period.

**Exhibit VIII-3**  
**The Peoples Companies**  
**Third-Party Line Damages Measured Against Pennsylvania One Call Tickets**  
**For the Years 2016 – September 2020**



Source: Exhibit VIII-7 of 2021 Management and Operations Audit Report<sup>24</sup>

Companies then go a step further by performing in-depth causal analysis of the parties ultimately responsible for line hits. Line hits are typically categorized by who hit the line (i.e., company employees, contractors hired by the company known as second-party, or parties not associated with the company known as third-party), and furthermore if there was an underlying reason that the party who hit the line was not at fault (e.g., mismarked line, mapping errors, tracer wire malfunction, etc.).

Over the prior audit period, it was noted that both second- and third-party line hits were steadily increasing. The data showed an obvious trend that districts where construction work was most active were incurring the most damage due to line hits. It was also determined that third-party hits were more prevalent than second-party hits; however, contractors were noted to bear the brunt of the fault over both categories.

Because construction efforts were increasing, as described in Finding VIII-1, the increasing line hit trend was concerning. Therefore, the auditors indicated that the company needed to use line hit causal data to implement more effective line hit prevention strategies.

<sup>24</sup> Docket Nos.: D-2020-2018771, D-2020-3018773, and D-2020-3018774

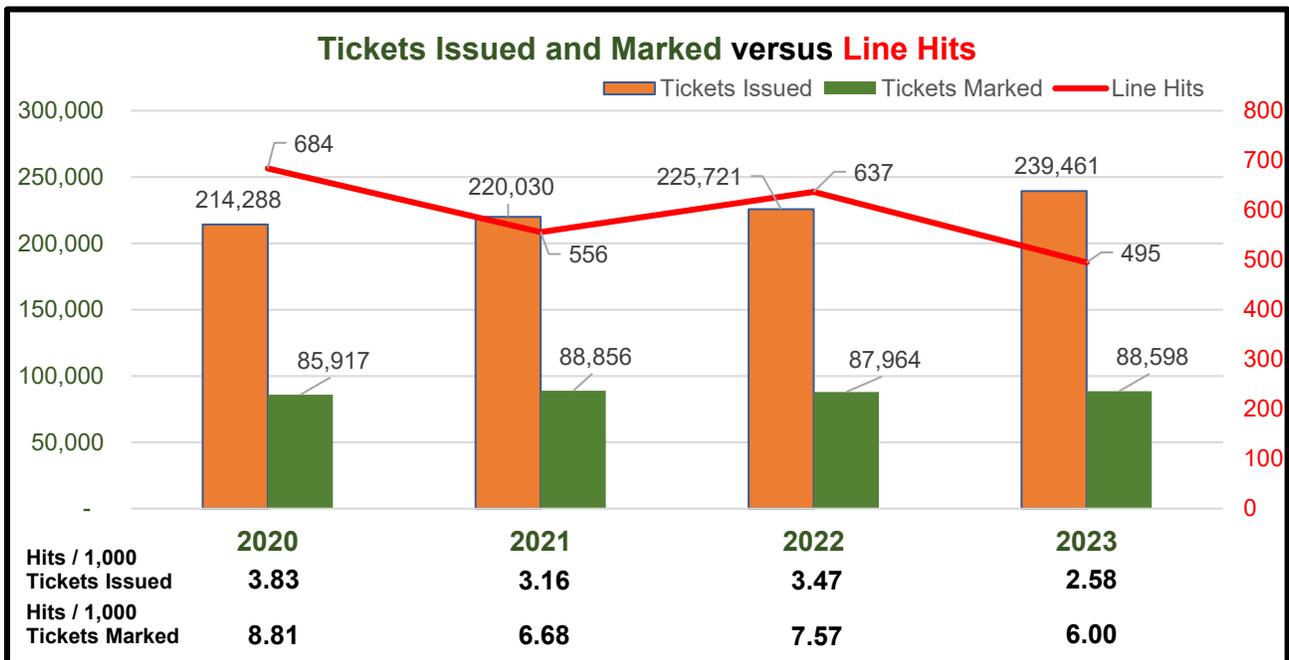
**Prior Recommendation** – Effectively modify, track, and enforce the damage prevention program and initiate preventative solutions to minimize second- and third-party damages in significant construction areas.

**Follow-Up Finding and Conclusion** – Peoples actively tracks and monitors second- and third-party line hits, and the number of line hits has improved.

**Current Review**

Exhibit VIII-4 shows the line hits rates for the current review period. It is important to note that there was increased replacement activities beginning in 2018 – 2023. The number of line hits reached a high of 684 in 2020 and then dropped significantly to 495 by 2023. Accordingly, the line hits rates also trended downward.

**Exhibit VIII-4  
Peoples Natural Gas Company LLC  
Third-Party Line Damages Measured Against Pennsylvania One Call Tickets  
For the Years 2020 – 2023**



Sources: Data Requests GO-05 and GO-06

The statistics for contractors’ line hits by location are provided in Exhibit VIII-5 and the results of at-fault party analysis are provided in Exhibit VIII-6. The Wilkinsburg and Gibsonia areas continued to have the heaviest construction activities and also experienced the most line hits.

Per Exhibit VIII-6, contractors were found to be the main contributor to line hits in both categories. The most frequent causal code was “EXCAVATOR DUG PRIOR TO VERIFYING MARKS BY TEST-HOLE” which was consistent for each year of the review period.

**Exhibit VIII-5**  
**Peoples Natural Gas Company LLC**  
**Third- and Second-Party (Contractor Only) Line Hits by Location**  
**For the Years 2020 – 2023**

	Third-Party Hits					Second-Party Hits				
	2020	2021	2022	2023	+/-	2020	2021	2022	2023	+/-
ALTOONA	8	6	9	12	4	9	13	12	7	(2)
BUTLER	11	8	9	9	(2)	-	-	1	1	1
GIBSONIA	53	55	66	62	9	9	5	3	4	(5)
GINGER HILL	26	29	22	17	(9)	7	4	3	6	(1)
GREENSBURG	23	17	12	12	(11)	9	5	18	14	5
GROVE CITY	10	7	6	1	(9)	1	-	1	1	-
HOPEWELL	18	16	14	13	(5)	-	1	2	-	-
INDIANA	5	9	1	6	1	1	2	-	2	1
JOHNSTOWN	30	27	20	9	(21)	5	10	5	11	6
KISKI	19	22	16	16	(3)	6	2	4	8	2
MCKEESPORT	17	24	28	18	1	6	16	10	8	2
VALLEY	7	5	6	2	(5)	1	6	6	3	2
WAYNESBURG	9	5	2	4	(5)	1	1	6	1	-
WILKINSBURG	207	178	241	135	(72)	79	72	72	52	(27)
<b>Total</b>	<b>443</b>	<b>408</b>	<b>452</b>	<b>316</b>	<b>(127)</b>	<b>134</b>	<b>137</b>	<b>143</b>	<b>118</b>	<b>(16)</b>

Source: Data Request GO-14

**Exhibit VIII-6**  
**Peoples Natural Gas Company LLC**  
**Third- and Second-Party Line Hits by At-Fault**  
**For the Years 2020 – 2023**

	3rd Party						2nd Party					
	2019	2020	2021	2022	2023	+/-	2019	2020	2021	2022	2023	+/-
AT-FAULT												
Company	157	165	97	92	116	(41)	33	30	29	25	27	(6)
Locator	36	61	48	65	34	(2)	9	5	4	5	8	(1)
Contractor	422	443	408	452	316	(106)	55	98	104	104	76	21
Other	29	15	3	28	30	1	8	1	0	9	7	(1)
<b>Total</b>	<b>644</b>	<b>684</b>	<b>556</b>	<b>637</b>	<b>496</b>	<b>(148)</b>	<b>105</b>	<b>134</b>	<b>137</b>	<b>143</b>	<b>118</b>	<b>13</b>

Source: Data Request: GO-14

Peoples made a concerted effort to increase the awareness and effectiveness of its Damage Prevention Program which, in turn, has limited damages and increased safety around its infrastructure. Some of the company's noted prioritized efforts included:

- Review and update of the standard operating procedure – “Damage Prevention Program” revised November 10, 2023
- Damage Prevention Steering Committee who meet monthly to review current performance and discuss updates, claims, legal issues, and industry best practices
- Damage Prevention Team who meet monthly with second-party contractors and as needed with third-party contractors and distribute reports detailing line hit causal analysis

The additional focus on minimizing damages has allowed Peoples to identify root causes of and implement remedial action for line hits despite increased construction workload. While Peoples' efforts are noteworthy, there is opportunity for further improvement. Ideally, line hits should be minimized due to the cost of damages and potential for severe consequences.

**Follow-Up Recommendation – Maintain focus on damage prevention strategies to further decrease line hits.**

## IX. EMERGENCY PREPAREDNESS

### Background

As discussed in chapter III. Executive Management and Organizational Structure, Essential Utilities, Inc. (Essential) is the overarching parent corporation of Aqua Pennsylvania, Inc. (Aqua PA) and Peoples Natural Gas Company LLC (Peoples). Aqua PA provides water and wastewater services and Peoples provides natural gas distribution service in Pennsylvania, and both are regulated by the Pennsylvania Public Utility Commission (PUC).

For the emergency preparedness functional area, the 2021 Management and Operations Audit Report contained eight recommendations. Although the PUC’s auditors reviewed the companies’ implementation efforts for those recommendations, the Bureau of Audits has deemed it prudent to perform a full review of the companies’ compliance with PUC regulations at 52 Pa. Code § 101 (Chapter 101) regarding physical security, cybersecurity, emergency response, and business continuity plans because of the criticality of these processes.

Effective June 2005, Chapter 101 requires all jurisdictional utilities to develop and maintain written physical security, cybersecurity, emergency response, and business continuity plans to protect infrastructure within the Commonwealth of Pennsylvania and ensure safe, reliable utility service. Furthermore, pursuant 52 Pa. Code § 101.1, all jurisdictional utilities are required to submit a Self-Certification Form to the PUC, annually, documenting compliance with Chapter 101. This form, available on the PUC’s website, includes 13 questions as shown in Exhibit IX-1.

### Exhibit IX-1 Pennsylvania Public Utility Commission Public Utility Security Planning and Readiness Self Certification Form

Item No.	Classification	Response (Yes–No–N/A)
1	Does your company have a physical security plan?	
2	Has your physical security plan been reviewed in the last year and updated as needed?	
3	Is your physical security plan tested annually?	
4	Does your company have a cybersecurity plan?	
5	Has your cybersecurity plan been reviewed in the last year and updated as needed?	
6	Is your cybersecurity plan tested annually?	
7	Does your company have an emergency response plan?	
8	Has your emergency response plan been reviewed in the last year and updated as needed?	
9	Is your emergency response plan tested annually?	
10	Does your company have a business continuity plan?	
11	Does your business continuity plan have a section or annex addressing pandemics?	
12	Has your business continuity plan been reviewed in the last year and updated as needed?	
13	Is your business continuity plan tested annually?	

Source: Public Utility Security Planning and Readiness Self-Certification Form available on the PUC’s website at [http://www.puc.state.pa.us/general/onlineforms/pdf/Physical\\_Cyber\\_Security\\_Form.pdf](http://www.puc.state.pa.us/general/onlineforms/pdf/Physical_Cyber_Security_Form.pdf).

The PUC's auditors use a NIST (National Institute of Standards and Technology) Cybersecurity Framework-based audit plan, modified to address the needs and capabilities of the PUC and Pennsylvania's utility companies. Aqua PA and Peoples each submitted a Self-Certification Form in 2023, which were reviewed along with the companies' physical security plans (PSP), cybersecurity plans (CSP), emergency response plans (ERP), business continuity plans (BCP), and all associated manuals and procedures. In addition, physical inspections were performed on a sample of the companies' facilities including warehouses, district offices, and remote field locations. Due to the sensitive nature of the information reviewed, specific details are not disclosed in the PUC's auditors' report; instead, this information is presented in generalities.

Although many individuals are involved in the overall emergency preparedness, key personnel provide oversight of the four main emergency focus areas. Aqua PA and Peoples maintain many plans and processes within these four focus areas to follow best practices, guidelines, and formal regulations. The companies test the various PSPs, ERPs, and BCPs at least annually, if not multiple times per year. Cybersecurity measures are growing increasingly crucial and are monitored on a continuous basis. The main overseer and purpose of the four main emergency focus areas are detailed, by company, in the following bullets.

- **PSP** (Aqua PA: Vice President of Operations) – the practices and procedures related to the protection of physical water assets and facilities
- **PSP** (Peoples: Facilities and Security Manager) – the practices and procedures related to the protection of physical natural gas assets and facilities
- **CSP** (Essential: Chief Information Officer and Information Security Director) – the practices and procedures related to the protection of, access to, and controls over cybersecurity systems including data management, protection, and recovery
- **ERP** (Aqua PA: Vice President of Operations) – the practices and procedures related to emergency prevention and response to water related emergencies
- **ERP** (Peoples: Director, Standards and Compliance) – the practices and procedures related to emergency prevention and response to natural gas related emergencies
- **BCP** (Essential: Risk Management Advisor) – the practices, procedures, and preparations related to ongoing continuous operations of the companies' business units.

## **Findings and Conclusions**

Our examination of the emergency preparedness function included a review of the PSPs, CSPs, ERPs, and BCPs as well as vulnerability assessments and associated security measures. Based on our review of the companies' emergency preparedness efforts; Essential, Aqua PA, and Peoples should initiate or devote additional effort to improving the efficiency and/or effectiveness of the emergency preparedness function by addressing the following:

- **Finding IX-1** – The division of responsibilities for physical security and business continuity between Essential and its regulated utility subsidiaries operating in Pennsylvania is overcomplicated and has the potential to allow for control gaps.
- **Finding IX-2** – Designated funding for each cybersecurity and physical security is not prioritized in the budgeting process.
- **Finding IX-3** – Essential has not established a standard access protocol for restricted areas.
- **Finding IX-4** – Minor deficiencies in physical security were noted during inspections of Aqua PA's and Peoples' facilities.
- **Finding IX-5** – There are opportunities for improved personal safety throughout Essential's companies.
- **Finding IX-6** – Comprehensive emergency response drills with external emergency responders are not routinely scheduled.
- **Finding IX-7** – Fire suppression systems may enhance employee and asset protection efforts in some of Essential's buildings.
- **Finding IX-8** – There are opportunities for improvement in cybersecurity.
- **Finding IX-9** – Aqua PA's Security Alert Level Response Procedure is outdated.
- **Finding IX-10** – Security protocols are not established in coordination with Aqua PA's defined tiers of criticality.
- **Finding IX-11** – Peoples' Facilities and Security Department has not defined tiers of criticality for its managed assets.

## **Discussion**

### **Finding IX-1 – The division of responsibilities for physical security and business continuity between Essential and its regulated utility subsidiaries operating in Pennsylvania is overcomplicated and has the potential to allow for control gaps.**

According to Essential's Senior Vice President, Chief Administrative Officer (Sr. VP, CAO), physical security for all Peoples' buildings, seven key or operational buildings of Aqua PA, Aqua PA's headquarters, and one water reservoir is managed at the corporate level; whereas Aqua PA oversees physical security for the remaining of Aqua PA's facilities. This management structure splits responsibility of physical security between Essential's Sr. VP, CAO and Aqua PA's Vice President of Operations.

To further complicate this split responsibility, there are inconsistent views between corporate level management and Peoples' management as to which duties are performed by corporate and local personnel. Essential's Sr. VP, CAO claimed responsibility for the physical security of all Peoples' facilities; however, Peoples' Manager of Facilities and Security indicated that corporate level management does not oversee Peoples' physical security. Per Peoples' management, the Manager of Facilities and Security manages physical security for manned and storage facilities, and the Operations Department is tasked to oversee physical security for the remainder of Peoples' facilities. While Peoples' Manager of Facilities and Safety reports to the Sr. VP, CAO, there is no reporting relationship between the Peoples' Operations Department to either the Peoples' Manager of Facilities and Safety or Essential's Sr. VP, CAO. In addition, there are different budget pools for various portions of physical security which is discussed further in Finding IX-2.

The auditors noted several examples of inconsistent process management arising from this split management structure. Peoples' Operations Department maintains its own security cameras, but Peoples' Manager of Facilities and Security is unaware of where those cameras are located or how they are managed. The camera streams are functional and archived but are not always optimized or shared. Although the Manager of Facilities and Security and the Operations Department maintain delineated responsibilities, improved coordination could decrease the risk of gaps in security planning and oversight.

In addition, at Aqua PA, facilities have been ranked according to tiers of criticality, but the security protocols are not specific to those tiers of criticality. Peoples has not fully developed tiers of criticality for its facilities. Instead, Peoples established a minimum allowable security policy at some facilities. Creating standardization among Essential's companies would enhance security oversight and strengthen control. This issue is further addressed in Findings IX-10 and IX-11, respectively.

Each company creates and manages its own BCP, which are all reviewed and approved by Essential's Sr VP, CAO, instead of having one centralized BCP that highlights procedures for each specific location. Because each is an individualized BCP, each is reviewed and revised on a different schedule. BCPs for large facilities are reviewed and revised annually, while some of the BCPs for the smaller offices are

managed locally on a completely random schedule. Essential has developed an Enterprise Risk Management Team tasked with the goal to consolidate the business continuity function Essential-wide. This process was ongoing at the end of fieldwork.

Essential combined the governance of the cybersecurity program under a centralized team for all state-level utility companies. The Sr. VP, CAO explained that cybersecurity is easier to consolidate because the work for the CSP can be handled mostly remotely whereas physical security has a heavier on-site component. It was the company's opinion that the physical security policy is centralized under Essential's Sr. VP, CAO, but the auditors contend that effective centralization has not yet occurred for physical security. For example, although some policies are established at the corporate level, there are no procedures in place to verify the local companies are complying. Therefore, processes differ significantly between Aqua PA and Peoples and even within the same company.

Although there was some progress toward consolidated corporate-wide oversight, there are opportunities for improvement to ensure consistent application of the standardized protocols. Specifically, Essential needs to establish a process to verify controls are consistent across its footprint and continue to consolidate functions that belong at the corporate level. Essential is in a position to leverage the size and scale of the company to provide more robust leadership, governance, and support in security. Ensuring there is a direct reporting relationship for all those involved in the emergency response focus areas to designated corporate level management would help to ensure consistency throughout Essential's companies.

Essential could leverage its best performers as well as research benchmarking data and industry standards, such as the NERC CIP<sup>25</sup> set of standards, to develop thorough and effective emergency preparedness policies and protocols. While NERC CIP standards are designed for electric utilities, many other utilities have voluntarily adopted similar standards to establish quality security measures.

**Recommendation – Centralize the oversight of security and business continuity functions and establish verification controls to commit to an enhanced emergency preparedness culture throughout Essential's companies.**

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**Finding IX-2 – Designated funding for each cybersecurity and physical security is not prioritized in the budgeting process.**

According to Essential's Director of Information Security, the information technology (IT) budget is set at the corporate level, and then, the total IT budget is divided amongst Essential and its subsidiaries. Exhibits IX-2 through IX-6 show the

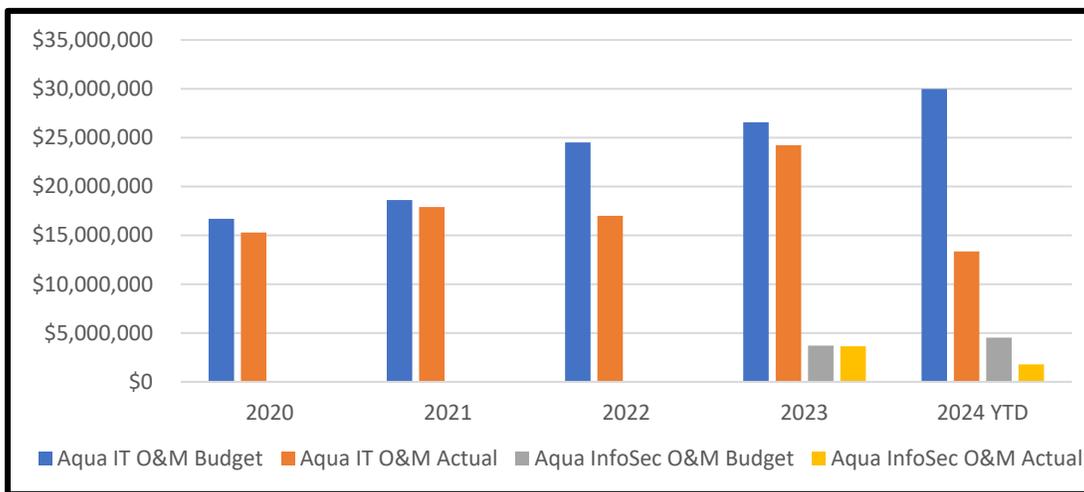
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<sup>25</sup> North American Electric Reliability Corporation – Critical Infrastructure Protection

amounts of Essential’s total IT budget that were distributed to the utility companies operating in Pennsylvania and the corresponding actual amounts spent.

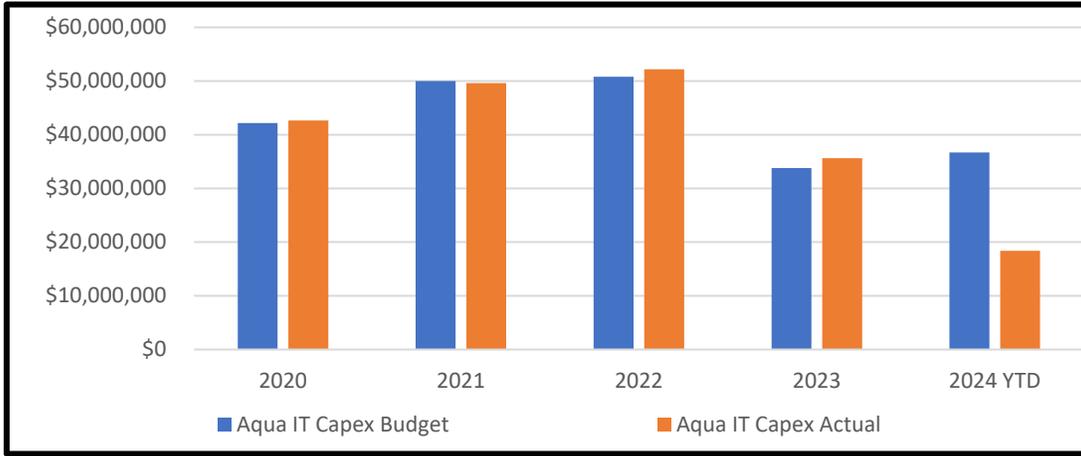
Information security (InfoSec) is a generalized term when referring to cybersecurity processes. At both Aqua PA and Peoples, InfoSec processes were mainly funded from the general IT budget and were only tracked and planned separately since 2023 and 2021, respectively. Exhibits IX-2 and IX-3 show the funding dedicated to Aqua PA’s IT operating and maintenance (O&M) and capital projects versus actual spend. Exhibits IX-4 and IX-5 show the funding dedicated to Peoples’ IT-related O&M and capital projects versus actual spend.

**Exhibit IX-2**  
**Aqua Pennsylvania, Inc.**  
**Information Technology Operating and Maintenance**  
**Budget Versus Actual Spend**  
**2020 – August 15, 2024 YTD**



Source: Data Request EP-A-10

**Exhibit IX-3  
Aqua Pennsylvania, Inc.  
Information Technology Capital Budget Versus Actual Spend  
2020 – August 15, 2024 YTD**

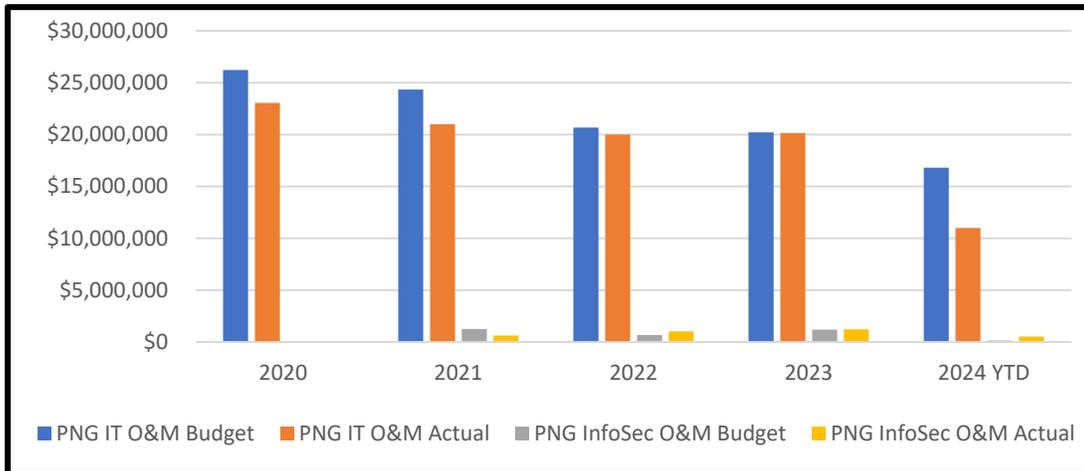


Source: Data Request EP-A-10

Capex = capital expenditure

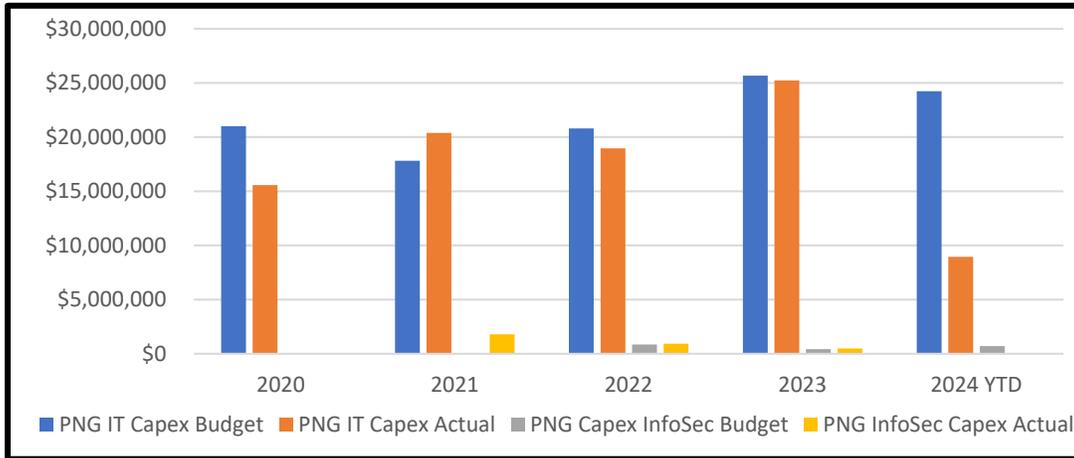
From 2020 – 2023, Aqua PA’s InfoSec capital budget varied between \$133,000 and \$505,000, and actual spend varied between \$134,000 and \$563,000. The 2024 InfoSec capital budget was \$933,000, and actual spend as of August 15, 2024 was \$26,500. These amounts were too small to be visible on the graph.

**Exhibit IX-4  
Peoples Natural Gas Company LLC  
Information Technology Operating and Maintenance  
Budget Versus Actual Spend  
2020 – August 15, 2024 YTD**



Source: Data Request EP-A-10

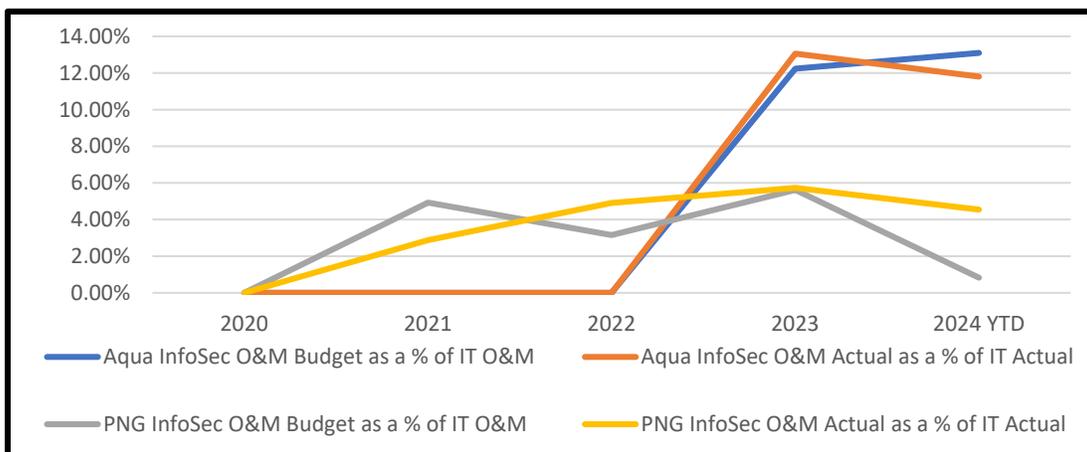
**Exhibit IX-5  
Peoples Natural Gas Company LLC  
Information Technology Capital Budget Versus Actual Spend  
2020 – August 15, 2024 YTD**



Source: Data Request EP-A-10  
Capex = capital expenditure

Exhibit IX-6 shows a comparison of InfoSec budget and spend to general IT budget and spend. Aqua PA’s InfoSec budget and spend have increased significantly whereas Peoples’ has stayed relatively static. The auditors found the low percentage of budget dedicated to InfoSec processes concerning and noted that several projects were delayed or not considered due to minimal levels of dedicated funding.

**Exhibit IX-6  
Aqua Pennsylvania, Inc.  
Peoples Natural Gas Company LLC  
Comparison of Information Security Budget and Spend to  
Total Information Technology Budget and Spend  
2020 – August 15, 2024 YTD**



Source: Data Request EP-A-10

Similarly, Peoples does not have dedicated funding for physical security. Funding for physical security projects comes from the general facilities budget although there is a percentage set aside for security projects. Peoples' Manager of Facilities and Security claimed that not having a dedicated budget for the security program has not presented any challenges; however, there was a list of initiatives that were not approved due to insufficient available funding.

It is a best practice for utilities to have dedicated budgets for cybersecurity and physical security to reduce the potential for security to be underprioritized. These budgets should be developed through careful risk and needs analysis.

**Recommendation – Establish dedicated budget line items for cybersecurity and physical security and review and document actual spend variances from budgeted amounts monthly to ensure adequate funding is secure.**

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**Finding IX-3 – Essential has not established a standard access protocol for restricted areas.**

Restricted areas at Aqua PA and Peoples protect water and natural gas control, natural gas dispatch for emergency response, and sensitive data. Essential has not established a standard access protocol for its utilities operating in Pennsylvania. A standard should be established at the Essential level and applied for all critical areas requiring restricted access. As noted in Finding IX-1, there are opportunities at Essential to consolidate functions which will improve its overall security.

**Recommendation – Establish a standard access protocol for restricted areas throughout Essential's companies.**

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**Finding IX-4 – Minor deficiencies in physical security were noted during inspections of Aqua PA's and Peoples' facilities.**

The auditors inspected a sample of Essential's, Aqua PA's, and Peoples' office, storage, and operations facilities. Various minor vulnerabilities or deficiencies in physical security were noted and discussed with Aqua PA's and Peoples' physical security teams. Most of the identified deficiencies were due to facility age and general wear and tear.

Routine physical security risk and vulnerability assessments should be performed and any deficiencies should be addressed as soon as possible. Deficiencies in individual layers of security could render the layer ineffective, so these issues should be remediated in the interest of maintaining effective security.

**Recommendation – Address minor deficiencies in physical security.**

**Finding IX-5 – There are opportunities for improved personal safety throughout Essential’s companies.**

During physical inspections at various of Aqua PA’s and Peoples’ facilities, the auditors noted the following:

- Expired inspection tags on some fire extinguishers
- Understocked and/or difficult to read inspection logs on first-aid kits
- Safety data sheets (SDS) lacking documentation of recent routine review
- Some facilities have not yet adopted the electronic SDS system which is more accessible and reliable

Unrelated to the physical inspections, the auditors also discovered that not all employees receive routine security training. All employees should receive security training deemed appropriate for their specific role and office location. Security training can include:

- Active shooter
- Incident reporting
- Threat awareness
- First-aid, ergonomics, CPR, etc.
- Fire drills and/or emergency evacuation

Whether safety components or safety related training are the duties of the local distribution companies or a third party, ultimately, Essential is responsible for employee safety. Essential should establish and implement controls to ensure that employees have access to appropriate resources and receive proper training for emergency response.

**Recommendation – Conduct routine employee security training for all employees and ensure documented annual inspection of all safety-related components.**

**Finding IX-6 – Comprehensive emergency response drills with external emergency responders are not routinely scheduled.**

The COVID-19 pandemic interrupted the utility companies' participation in drills and tabletop exercises with external emergency responders (i.e., state/county emergency management agencies and local fire, emergency medical, and hazardous material departments) which have not yet resumed. The lack of participation in multi-agency drills and tabletop exercises may lead to a loss of contacts and familiarity with emergency response partners and lack of external professional input and experience as part of Essential's emergency response planning.

**Recommendation – Develop and implement routine emergency response drills and invite external emergency responders.**

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**Finding IX-7 – Fire suppression systems may enhance employee and asset protection efforts in some of Essential's buildings.**

During physical inspections at various of Aqua PA's and Peoples' facilities, the auditors observed that some buildings did not have fire suppression/sprinkler systems. These buildings, however, pre-date current modern codes and are exempt from these requirements. Despite being grandfathered in, best practices would dictate upgrading older buildings to have fire suppression systems where possible and appropriate to minimize risks to employees and assets.

**Recommendation – Evaluate fire suppression options for regularly occupied facilities and install fire suppression equipment based on risk.**

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**Finding IX-8 – There are opportunities for improvement in cybersecurity.**

Site visits and interviews with company personnel revealed opportunities for improvement in cybersecurity. Due to the sensitivity of the information, the companies have been made aware of our specific recommendation(s) to address those concerns.

**Recommendation – Evaluate vulnerabilities and improve cybersecurity.**

**Finding IX-9 – Aqua PA’s Security Alert Level Response Procedure is outdated.**

The Security Alert Level Response Procedure (SARP), which is included as an attachment to Aqua PA’s PSP, uses an outdated version of the Department of Homeland Security’s (DHS) color-coded terrorist alert levels and associated responses. In 2011, the DHS discontinued color-coded terror alerts and replaced them with the National Terrorist Advisory System which only has two levels: Elevated Threat and Imminent Threat. Therefore, Aqua PA has not updated or used its SARP since 2011.

It is a best practice to base response procedures on current threat level criteria from federal agencies rather than obsolete rating systems that are no longer reported. This level of process verification should be built into the routine review and update of emergency response plans.

**Recommendation – Update Aqua PA’s Security Alert Level Response Procedure to trigger according to the National Terrorist Advisory System’s threat levels and strengthen emergency response plan review to include this level of detailed verification.**

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**Finding IX-10 – Security protocols are not established in coordination with Aqua PA’s defined tiers of criticality.**

Aqua PA’s PSP includes a chart that depicts ranking of four tiers of criticality for its facilities. According to Aqua PA’s Vice President of Operations, the company does not use these specifications elsewhere and does not tie security level requirements to criticality.

It is an industry best practice to establish physical security requirements based on the criticality of each facility. Basing physical security requirements on criticality allows a utility to focus resources where they are most needed. Although Aqua PA has made the effort to rank the criticality of its facilities, it has not used this data to ensure it is most effectively focusing its security efforts.

**Recommendation – Establish relevant security requirements based on facility criticality.**

**Finding IX-11 – Peoples’ Facilities and Security Department has not defined tiers of criticality for its managed assets.**

At Peoples, assets are managed by two separate groups, the Facilities and Security Department and the Operations Department. The Facilities and Security Department generally manages buildings which are routinely manned or provide storage for vehicles or materials. The Operations Department manages all other assets not managed by the Facilities and Security Department.

Peoples’ Operations Department has four defined tiers of criticality which help determine appropriate security protocols (i.e., locks, cameras, fencing, monitoring, etc.); however, the Facilities and Security Department does not denote any level of distinction and/or criticality for the assets it manages. Instead, the Facilities and Security Department manages security based upon a consistent security standard without consideration for criticality. Tiers of criticality would help delineate the risks and consequences of security compromise to best focus security efforts.

**Recommendation – Define tiers of criticality for assets managed by Peoples’ Facilities and Security Department to most effectively apply appropriate security measures.**

## **X. MATERIALS MANAGEMENT**

### **Background**

As discussed in chapter III. Executive Management and Organizational Structure, Essential Utilities, Inc. (Essential) is the overarching parent corporation of Aqua Pennsylvania, Inc. (Aqua PA) and Peoples Natural Gas Company LLC (Peoples). During the prior management audit, Peoples was comprised of two distinct natural gas distribution companies, jointly referred to as the Peoples Companies; however, as of January 2023, they have been consolidated into a single entity with two operating divisions serving separate customer bases under two different tariffs<sup>26</sup>. Aqua PA provides water and wastewater services and Peoples provides natural gas distribution service in Pennsylvania, and both are regulated by the Pennsylvania Public Utility Commission (PUC).

For the materials management functional area, one prior situation and recommendation was reviewed. There is a follow-up finding and recommendation to the prior recommendation, and there are two new findings presented related to Peoples' inventory management processes and performance.

### **Finding X-1**

#### **Prior Situation**

The Peoples Companies were using both cycle and physical inventory counts. During cycle counts, the companies used the ABC analysis cycle count method which more frequently focused on higher moving/higher value items. During physical inventory counts, all warehouse operations would be suspended and every item would be physically counted. The Peoples Companies tracked both dollar value accuracy (total value versus expected value) and quantity accuracy (total number of items versus expected number of items). Accuracy for both dollar value and quantity were poor for the prior audit period (2015 – 2019) as displayed in Exhibit X-1.

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<sup>26</sup> As of September 27, 2024, after fieldwork ended, the two separately tariffed operating divisions were consolidated under one tariff at Docket No.: R-2023-3044549.

**Exhibit X-1**  
**Peoples Gas Company LLC**  
**Peoples Natural Gas Company LLC**  
**Inventory Accuracy by Company**  
**For the Years 2015 – 2019**

Company	Dollar Value Accuracy Lowest – Highest Range	Quantity Accuracy Lowest – Highest Range
Peoples Gas	48% – 75%	56% – 86%
Peoples Natural Gas	63% – 74%	52% – 82%

Sources: Exhibit X-5 of the 2021 Management and Operations Audit Report<sup>27</sup> and auditor analysis

No cause could be determined for the excessive inventory variances because the companies had limited support data. In addition, the Peoples Companies were not monitoring an inventory accuracy key performance indicator (KPI) for the supply chain function. Meanwhile, other Pennsylvania natural gas distribution companies had established goals of 99% for dollar value accuracy and 97% for quantity accuracy (i.e., per the Bureau of Audits’ 2016 UGI Management Efficiency Investigation Report and 2013 PECO Management and Operations Audit Report). Therefore, it was suggested that establishment of inventory accuracy KPIs would encourage improvement.

**Prior Recommendation** – Incorporate inventory accuracy into key performance indicators at the Peoples Companies and improve accuracy in all storerooms.

**Follow-Up Finding and Conclusion** – Peoples established a goal of 90% for each dollar value and quantity accuracy for both cycle and physical inventory counts.

**Current Review**

Peoples established a goal of 90% for each dollar value and quantity inventory accuracy. This goal was established as a KPI in the first quarter of 2023. The company stated that the inventory accuracy goal was established based on best practices.

The auditors believe that Peoples’ inventory accuracy goal is unreasonably low compared with industry average. As stated in the prior situation, the auditors have observed significantly higher goals at other natural gas distribution companies operating in Pennsylvania. Furthermore, Aqua PA has established a goal of 99% dollar value accuracy and 97% quantity accuracy. Although Aqua PA is a different utility type, it could offer best practices to its affiliate for consideration.

Exhibit X-2 details the potential decrease in unaccounted-for inventory based on increasing inventory accuracy levels. For this analysis, the auditors used Peoples’ most recent total inventory balance, approximately \$3 million. From there, unaccounted-for inventory amounts were calculated based off of various accuracy rates (i.e., prior audit period performance, Peoples’ current target of 90% accuracy, and Audits’ recognized

<sup>27</sup> Docket Nos.: D-2020-2018771, D-2020-3018773, and D-2020-3018774

industry average performance of 95% accuracy). As demonstrated in Exhibit X-2, if the company achieved a 90% accuracy target, the company would reduce unaccounted-for inventory by \$465,000 – \$1.1 million. Meanwhile, the industry average performance of 95% accuracy would reduce unaccounted-for inventory by \$615,000 – \$1.25 million.

**Exhibit X-2  
Peoples Natural Gas Company LLC  
Estimated Value of Unaccounted-For Inventory  
Based on Varying Inventory Accuracy Levels**

Inventory Balance \$3,000,000	The Peoples Companies		Peoples	Industry Avg
	2015 – 2019 Avg Performance		Current Target	Performance
	Low	High		
	55.5%	74.5%	90.0%	95.0%
Estimated Value of Unaccounted-For Inventory	\$1,400,000	\$765,000	\$300,000	\$150,000

Sources: Exhibit X-5 of the 2021 Management and Operations Audit Report<sup>28</sup>, Data Request MM-2, and auditor analysis

As discussed in Finding X-2, Peoples’ current inventory accuracy performance is still in need of improvement. Although historical performance is typically a component of goal setting, the auditors contend that inventory accuracy goals should be set at industry standards at a minimum. The company should leverage its affiliates’ success to glean opportunities for improvement.

**Follow-Up Recommendation – Perform benchmarking analysis to determine and implement appropriate inventory accuracy goals that, at a minimum, require industry average performance levels.**

**Finding X-2**

**Additional Finding and Conclusion – Peoples has excessive inventory variances.**

**Current Review**

Exhibit X-3 shows Peoples’ most recent inventory accuracy performance. As noted in the exhibit, not all service centers recorded a physical inventory count in 2023. Results that did not meet the company’s 90% accuracy goal (see Finding X-1) are shown in red.

<sup>28</sup> Docket Nos.: D-2020-2018771, D-2020-3018773, and D-2020-3018774

**Exhibit X-3**  
**Peoples Natural Gas Company LLC**  
**Inventory Accuracy by Service Center**  
**Most Recent Record Available as of December 2023**

Peoples' Service Center	Most Recent Year of Available Data	Dollar Accuracy	Quantity Accuracy
Altoona	2022	64%	63%
Butler	2023	91%	85%
Grove City	2023	82%	86%
Gibsonia	2023	73%	81%
Ginger Hill	2023	90%	90%
Greensburg	2023	88%	95%
Hopewell	2023	58%	66%
Indiana	2023	68%	67%
Johnstown	2023	76%	82%
Kiski	2023	59%	68%
McKeesport	2021	55%	50%
Valley	2023	32%	61%
Waynesburg	2022	45%	47%
Wilkinsburg	2023	83%	90%
WLKB (Etna)	2023	51%	51%

Source: Data Request MM-06

According to the company, the main contributors to inventory count variances are residual effects from COVID and not all Peoples' locations are manned by a full-time warehouse employee. The company stated that material cages with card-reader access and cameras are being installed throughout its facilities. The auditors observed evidence of these improvements during site visits. It should also be noted that the company does not have bar code technology which is a beneficial tool for materials tracking that positively impacts inventory accuracy. There are no current plans to implement this technology.

Exhibit X-4 demonstrates the potential financial impact of inaccuracy using warehouse data for 2023. If Peoples was able to meet its target of 90%, the company would have an unaccounted-for inventory value of \$298,000. However, based upon 2023 performance, the auditors calculated that Peoples' total unaccounted-for inventory levels was approximately \$944,000. Therefore, by reaching its goal, Peoples would have eliminated \$648,000 of unaccounted-for inventory. As was explained in Finding X-1, Peoples' goal of 90% accuracy is below industry average and should be higher to yield a more reasonable level of unaccounted-for inventory.

**Exhibit X-4**  
**Peoples Natural Gas Company LLC**  
**Potential Reduction of Unaccounted-For Inventory with Improved Controls**

Peoples' Service Center	Value of Inventory	Actual Dollar Variance	Dollar Variance at 90%	Potential Reduction of Unaccounted-For Inventory
	(a)	(b) = ^	(c) = (a) * 10%	(d) = (b) – (c)
Altoona	\$ 143,321	\$ 51,596	\$ 14,332	\$ 37,263
Butler	145,554	13,100	14,555	---
Grove City	61,227	11,021	6,123	4,898
Gibsonia	253,870	68,545	25,387	43,158
Ginger Hill	274,362	27,436	27,436	---
Greensburg	162,999	19,560	16,300	3,260
Hopewell	118,826	49,907	11,883	38,024
Indiana	112,694	36,062	11,269	24,793
Johnstown	150,072	36,017	15,007	21,010
Kiski	262,765	107,734	26,277	81,457
McKeesport	309,952	139,478	30,995	108,483
Valley	121,020	82,294	12,102	70,192
Waynesburg	183,773	101,075	18,377	82,698
Wilkinsburg	411,500	69,955	41,150	28,805
WLKB (Etna)	265,978	130,329	26,598	103,731
<b>Total</b>	<b>\$ 2,977,918</b>	<b>\$ 944,109</b>	<b>\$ 297,791</b>	<b>\$ 647,773</b>

Sources: Data Request MM-06 and auditor analysis

^ – the value in column (a) multiplied by 100% less the dollar accuracy performance percentage in Exhibit X-3

**Recommendation – Conduct investigations of inventory variances to determine root cause and then institute measures to improve inventory accuracy to industry standards.**

### **Finding X-3**

**Additional Finding and Conclusion** – Peoples has not reviewed the inventory count policies and procedures since 2018.

#### **Current Review**

Peoples has the following four inventory count guiding documents:

- Cycle Count Preparation
- Cycle Count
- Physical Inventories
- Physical Inventory Reporting

All four documents were noted to have been reviewed on December 18, 2018. There was no evidence of routine review and/or update since that date. The company stated that there have been discussions on the need to review supply chain related policies and procedures, but nothing was scheduled.

Policies and procedures must be routinely reviewed and updated to have appropriate internal controls over guiding documents. For a routine schedule to exist, the review process should be defined and documented with a formal review and approval process that is included within all guiding documents. Without routine review, guiding documents could become outdated, inadequate, or inaccurate which could elevate risk at the company.

As an example, the auditors discovered incomplete information regarding cycle count frequency within the Physical Inventories Procedures guiding document. There was no documentation for the physical inventory count frequency for the Ginger Hill and Waynesburg districts. All other district's inventory count frequency information was detailed. It should be noted that the company is performing inventory counts at these two locations despite the missing detail, but the count frequency was not documented in the guiding document.

**Recommendation** – Establish and implement a routine review schedule for all supply chain related guiding documents.

## XI. CUSTOMER SERVICE

### **Background**

As discussed in chapter III. Executive Management and Organizational Structure, Essential Utilities, Inc. (Essential) is the overarching parent corporation of Aqua Pennsylvania, Inc. (Aqua PA) and Peoples Natural Gas Company LLC (Peoples). During the prior management audit, Peoples was comprised of two distinct natural gas distribution companies, jointly referred to as the Peoples Companies; however, as of January 2023, they have been consolidated into a single entity with two operating divisions serving separate customer bases under two different tariffs<sup>29</sup>. Aqua PA provides water and wastewater services and Peoples provides natural gas distribution service in Pennsylvania, and both are regulated by the Pennsylvania Public Utility Commission (PUC).

For the customer service functional area, four prior situations and recommendations were reviewed. The first situation relates to Aqua PA's and Peoples' customer participation in the companies' universal service programs and includes a follow-up recommendation to further enhance efforts. The second situation relates to the planned update of Aqua PA's customer information system and contains a corresponding follow-up recommendation. The third and fourth situations relate to Peoples' third-party collections management and arrearage reporting, respectively.

### **Finding XI-1**

#### **Prior Situation**

Between January 2017 and December 2019, Aqua PA's balances in arrears in excess of 90 days was less than \$6 million. However, in the period observed between March and August 2020, that amount increased by more than 40%. Furthermore, while not as pronounced as Aqua PA's, Peoples also experienced notable increases in their greater than 90 days past due balances.

On March 13, 2020, the PUC issued an emergency order<sup>30</sup> to set forth a moratorium on service termination due to non-payment. This action restricted the companies' ability to encourage timely payment through service termination. The companies indicated that communication and education of available customer assistance programs was heightened during the period.

**Prior Recommendation** – Continue outreach efforts to engage payment troubled customers; leverage low-income resources, grants, and programs to mitigate the overall level of unpaid customer balances; and accelerate first contact with customers who miss a payment.

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<sup>29</sup> As of September 27, 2024, after fieldwork ended, the two separately tariffed operating divisions were consolidated under one tariff at Docket No.: R-2023-3044549.

<sup>30</sup> Docket No.: M-2020-3019244

**Follow-Up Finding and Conclusion – Aqua PA and Peoples have robust community education and outreach programs; however, participation in Peoples’ customer assistance programs has decreased.**

**Current Review**

Essential’s Director of Community Outreach explained that utility companies develop formalized consumer education and outreach programs (CEOP) to ensure a multi-pronged approach to consumer education. The goal is to connect the eligible population, for whom customer assistance programs (CAP) are most beneficial, with universal programs and other external resources that can help them. Peoples and Aqua PA both have approved CEOPs on file with the PUC<sup>31</sup>.

Success of a company’s outreach efforts can be partially correlated with participant levels. Exhibits XI-1 and XI-2 show the number of customers enrolled in Peoples’ and Aqua PA’s various universal service programs throughout the current review period. It should be noted that although Peoples has merged into a single natural gas distribution company as of January 2023, Peoples continued to track universal service participation and expense by operating division because it still had two specified customer bases under two different service tariffs. The data is based on fiscal year-ended September 30th.

**Exhibit XI-1  
Peoples Natural Gas Company LLC  
Universal Service Program Enrollment  
2020 – July 2024**

		2020	2021	2022	2023	2024 YTD	+/-	% Change
<b>PNGC *</b>	CAP Enrollment	31,202	32,421	28,367	28,159	28,345	(2,857)	(9.2%)
	Hardship Fund*	2,930	3,258	3,022	3,043	2,762	(168)	(5.7%)
	Emergency Repair	236	250	191	189	146	(90)	(38.1%)
	LIURP	204	238	312	298	98	(106)	(52.0%)
<b>PGC **</b>	CAP Enrollment	2,986	2,890	2,548	2,338	2,322	(664)	(22.2%)
	Hardship Fund^	221	286	250	NA	NA	NA	NA
	Emergency Repair	16	17	13	14	10	(6)	(37.5%)
	LIURP	20	14	23	27	13	(7)	(35.0%)

Source: Data Request CS-24

PNGC = Peoples Natural Gas Company Operational Division; PGC = Peoples Gas Company Operational Division

^ – Beginning in 2023, PNGC’s and PGC’s Hardship Fund enrollments were combined and is displayed under PNGC thereafter.

<sup>31</sup> Aqua PA’s approved CEOP, at Docket No.: R-2021-3027385 – filed on December 3, 2023; Peoples’ approved CEOP, at Docket No.: M-2020-3021343 – filed on March 7, 2024

Overall, each program presented in Exhibit XI-1 experienced reduced enrollment. The negative trend began in 2022 which was when the COVID pandemic was starting to pass and after the PUC lifted the aforementioned moratorium in March 2021. The company explained that since income documentation requirements were waived as part of the PUC's pandemic procedural guidance, once the moratorium was lifted, some participants either would not or could not provide the appropriate documentation to support they met income level eligibility requirements.

**Exhibit XI-2**  
**Aqua Pennsylvania, Inc.**  
**Universal Service Program Enrollment**  
**2020 – July 2024**

		2020	2021	2022	2023	2024 YTD	±	% Change
<b>Aqua PA</b>	Helping Hand Payment Plan	1,174	778	688	NA	NA	NA	NA
	CAP Enrollment	NA	NA	5	2,981	5,608	NA	NA
	Hardship Fund	64	202	5	20	46	-18	-28.1%
	Emergency Repair	NA	NA	NA	4	15	NA	NA

Source: Data Request CS-24

Aqua PA made several changes to the universal service programs it offers. Aqua PA started a CAP in the fourth quarter of 2022 which replaced the Helping Hand Payment Plan. CAP has been broadly promoted and those who were deemed eligible for the Federal Low Income Household Water Assistance Program were enrolled through a data sharing mechanism provided by the Department of Human Services resulting in higher enrollment levels. Aqua PA implemented the Emergency Repair program in 2023 which is similar to Peoples' Emergency Repair program.

In addition to internal outreach efforts, the companies maintain contracts with community-based resource partners and third-party administrators to assist with the task of communicating the availability of these programs as well as providing the most effective accessibility to these programs. Utility companies need to ensure to verify that those partners are providing the expected level of service because the utility is ultimately responsible for ensuring its universal service programs and outreach efforts are effective.

The companies indicated that they continue to monitoring customer feedback on the effectiveness of current programs with the intention to meet their customers' needs. Overall, Aqua PA's and Peoples' efforts in consumer education and outreach have seen mixed results and continued work is needed to ensure optimal performance.

**Follow-Up Recommendation – Develop a strategy to enhance outreach efforts to improve customer assistance program participation.**

## **Finding XI-2**

### **Prior Situation**

Aqua PA's legacy customer information system (CIS) was cumbersome and lacked intuitive screen progressions and workflows typically available within customer information systems the auditors have observed in use at other regional utilities. The platform was described as "serviceable but antiquated". The less than optimal conditions noted were:

- Numerous icons for which operators had to memorize a variety of commands
- Multiple access paths to customer data which created inconsistent approach and confusion between operators
- Customer premise/account searches with incomplete fields required operators to use a multitude of workflow processes to complete
- Telephone payments required use of a third-party transfer to process

Aqua PA started implementation of *SAP* to replace its major information systems, except for its legacy CIS, and planned to start the process of replacing its legacy CIS in 2023.

**Prior Recommendation** – Improve the functionality and workflow progression provided by Aqua Services' customer information system (CIS).

**Follow-Up Finding and Conclusion** – Aqua PA has not yet upgraded its customer information system.

### **Current Review**

Aqua PA originally planned to implement a new CIS that would be integrated with *SAP* by 2023; however, the project has been suspended. Aqua PA is spending extra time to implement the financial components of *SAP* correctly to ensure the company will have optimal functionality. These unanticipated delays in the *SAP* implementation have caused Aqua PA to postpone the replacement of the CIS. The goal remains to integrate the new CIS with *SAP* once *SAP* is successfully implemented. However, Aqua PA indicated that a CIS replacement project is a significant, involved large project requiring care and focus. Aqua PA further explained it does not want to rush into a CIS upgrade haphazardly particularly in light of the recent considerable focus on the transition to implement *SAP*.

While Aqua PA has not replaced its CIS, it has added a customer portal to its website and a mobile app to allow customers to pay bills, set up payment plans, view past bills and payment history, and view and compare historical usage. These self-service tools should alleviate some pressure on the customer service call centers and give customers additional options. Furthermore, there are plans to enhance these self-service tools to allow customers to report outages and start or stop service, but these features were not added as of end of fieldwork.

Aqua PA monitors three main customer service call center goals:

- Calls answered within 30 seconds – 82% or greater
- Busy-out rate<sup>32</sup> – .25% or less
- Call abandonment rate<sup>33</sup> – 4% or less (2020-2021); 3% or less (2022-2023); 2.5% or less (2024)

As illustrated in Exhibit XI-3, call center metrics are improving and have met company goals in 2023 and 2024 YTD.

**Exhibit XI-3  
Aqua Pennsylvania, Inc.  
Annual Call Center Service Levels  
2020 – July 17, 2024**

	2020	2021 <sup>34</sup>	2022	2023	YTD July 17, 2024
% of Calls Answered Within 30 Seconds	84.1%	79.4%	83.2%	83.5%	83.9%
Busy-Out Rate	0.02%	0.05%	0.00%	0.00%	0.00%
Abandonment Rate	4.6% <sup>35</sup>	12.6%	4.4%	1.7%	2.3%

Source: Data Request CS-17

While the call center metrics are improving, it is a best practice to simplify the customer service representatives' (CSR) workflows for optimal performance. Unfortunately, the lack of a new CIS continues to obstruct the CSRs' workflows and the circumstances have not changed since the management audit. Aqua PA made notable improvements in overall customer service processes by implementing self-service tools which have supported average call center performance. However, a new CIS will maximize workflow efficiency which should aid in improving service levels and/or mitigate external challenges.

<sup>32</sup> Percentage of calls that receive a busy signal

<sup>33</sup> Percentage of callers who chose to hang up while on hold

<sup>34</sup> Multiple challenges (i.e., lingering impacts from COVID 19 pandemic, staffing shortages, inclement weather events, continued United States Postal Service (USPS) delays), largely outside the company's control, plagued 2021 resulting in unpredictable call volumes and reduced call center service levels.

<sup>35</sup> The 2020 abandonment rate through December 25, 2020 was 3.9%, which was on track to meet the goal, but USPS delays caused an inordinate, significantly increased call volume during the last week of the year.

**Follow-Up Recommendation – Implement an updated customer information system as soon as is feasible following the SAP implementation.**

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**Finding XI-3**

**Prior Situation**

Peoples established a gross collections goal of 10%, for primary and secondary collections combined, for its third-party collections partners. The auditors had two main concerns with this methodology. First, gross collection numbers include the commission due for the service which artificially inflates the appearance of collection success. Second, it is more effective to monitor primary and secondary collections activities separately to provide proper oversight of each party and address specific performance failures directly.

As observed at regional natural gas distribution companies, typical primary net collections goals were set between 8% – 10%, and secondary net collections goal were set at 1%. The Peoples Companies' primary net collections results were within that range; however, their secondary net collections results were notably below 1%. The auditors estimated that if the Peoples Companies had achieved a secondary net collection of 1%, they could have collected an additional \$78,000, annually, between 2015 – 2020.

**Prior Recommendation** – Benchmark with similar utilities to set separate net collections goals for primary and secondary collection agencies at the Peoples Companies and measure each collection agency to the respective collection goal.

**Follow-Up Finding and Conclusion** – Peoples established separate primary and secondary net collection goals.

**Current Review**

Peoples used American Gas Association (AGA) benchmarking data to establish reasonable net collections goals. Net primary and secondary collections goals were established not only for Peoples but also Aqua PA. Generally, Peoples and Aqua PA operate separately for most customer service activities. However, when possible, the companies develop standardized processes considering best practices learned from one another.

Based on the AGA data and historic performance levels, the primary net collections goal was set at 8% and the secondary net collections goal was set at 0.8%. These goals were established in late 2021 to coincide with a request for proposals (RFP) for third-party collections service to begin in 2022. Five agencies were selected following the RFP. Four of the five agencies are used by Peoples, and all five agencies are used by Aqua PA.

Since 2022, Peoples has tracked and monitored primary, secondary, and tertiary<sup>36</sup> collections results. Peoples' third-party collections results are displayed in Exhibit XI-4. It should be noted that the agencies did not meet the primary net collections goal and only sometimes met the secondary net collections goal. However, the auditors did find merit in the company's contention that changing economic conditions, such as inflation and less funds available for customer assistance in the post-COVID environment, have made collections activities challenging during the review period.

**Exhibit XI-4**  
**Peoples Natural Gas Company LLC**  
**Third-Party Collections Performance**  
**For Years 2022 and 2023**

	<b>Placed Amount</b>	<b>Gross Collected Amount</b>	<b>Commission Amount</b>	<b>Net Back Amount</b>	<b>Net % Collected</b>
<b>Primary</b>	<b>\$ 36,772,819</b>	<b>\$ 2,636,193</b>	<b>\$ 315,829</b>	<b>\$ 2,320,365</b>	<b>6.31%</b>
2022	15,516,159	1,221,532	146,164	1,075,368	6.93%
2023	21,256,660	1,414,662	169,665	1,244,997	5.86%
<b>Secondary</b>	<b>\$ 25,130,944</b>	<b>\$ 189,190</b>	<b>\$ 39,567</b>	<b>\$ 149,623</b>	<b>0.60%</b>
2022	11,841,544	94,274	19,737	74,537	0.63%
2023	13,289,400	94,916	19,830	75,086	0.57%
<b>Tertiary</b>	<b>\$ 16,293,095</b>	<b>\$ 61,882</b>	<b>\$ 20,421</b>	<b>\$ 41,461</b>	<b>0.25%</b>
2022	5,011,113	26,211	8,650	17,561	0.35%
2023	11,281,982	35,671	11,772	23,899	0.21%

Source: Data Request CS-04

With the establishment of net collections goals, the company can now properly monitor collections performance. Collections goals should be reviewed and updated as conditions justify based on data from the AGA and other applicable data.

**Follow-Up Recommendation – None**

<sup>36</sup> Tertiary collections, considered a final attempt to collect outstanding balances, typically begin when past due balances have been outstanding for at least a year – these outstanding balances are extremely difficult to collect and success is minimal.

## **Finding XI-4**

### **Prior Situation**

During the prior management audit, the Peoples Companies discovered that the reporting query was not accurately pulling data used for the PUC's Bureau of Consumer Services' Universal Service Program and Collection Performance Report. The query itself was incorrect, including data from accounts on budget billing, payment arrangements, and deactivated accounts.

**Prior Recommendation** – Perform an analysis of source data being gathered for arrearage level reports and remove any adjustments or inactive accounts that would adversely affect the integrity of arrearage data for the Peoples Companies.

**Follow-Up Finding and Conclusion** – Peoples has corrected arrearage reporting queries and confirmed data integrity through verification.

### **Current Review**

Peoples made corrections to the data queries by the third quarter of 2020. The company stated that reporting queries were adjusted to properly pull the appropriate arrearage data that represents authentic past due balances. The company segregated reporting of other account payment circumstances such as payment arrangements, budget billing, inactive accounts, paid ahead accounts, etc. Once the configurations were adjusted, the company conducted data integrity verification to confirm that appropriate data was being pulled from *SAP*.

**Follow-Up Recommendation** – None

## XII. FLEET MANAGEMENT

### **Background**

As discussed in chapter III. Executive Management and Organizational Structure, Essential Utilities, Inc. (Essential) is the overarching parent corporation of Aqua Pennsylvania, Inc. (Aqua PA) and Peoples Natural Gas Company LLC (Peoples). During the prior management audit, Peoples was comprised of two distinct natural gas distribution companies, jointly referred to as the Peoples Companies; however, as of January 1, 2023, they have been consolidated into a single entity with two operating divisions serving separate customer bases under two different tariffs<sup>37</sup>. Aqua PA provides water and wastewater services and Peoples provides natural gas distribution service in Pennsylvania, and both are regulated by the Pennsylvania Public Utility Commission (PUC).

There are approximately 2,300 vehicles between the two utility companies operating in Pennsylvania. Approximately 1,100 of these vehicles are used by Aqua PA for water operations, and the remaining 1,200 are used by Peoples for gas operations. For the fleet management functional area, one prior situation and recommendation was reviewed relating to lease versus buy decisions for Aqua PA's and Peoples' vehicle fleets.

### **Finding XII-1**

#### **Prior Situation**

Aqua PA purchased its vehicles since 2008 and did not perform a lease versus buy analysis for at least the five prior years. Meanwhile, Peoples had last performed a lease versus buy analysis in 2017 from which the buy option was chosen. In addition, Peoples used a third-party vendor, Element Fleet Management, for fleet management and maintenance services during the prior audit period. Essential indicated it had been planning to perform a lease versus buy analysis for both of its utility companies operating in Pennsylvania but had not yet done so by the end of the management audit fieldwork.

**Prior Recommendation** – Perform a periodic vehicle lease versus buy analysis at Aqua Pennsylvania and the Peoples Companies, to ensure Pennsylvania operations is utilizing the least cost option for acquiring vehicles and equipment.

**Follow-Up Finding and Conclusion** – Essential contracted a third-party vendor for vehicle leasing and management.

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<sup>37</sup> As of September 27, 2024, after fieldwork ended, the two separately tariffed operating divisions were consolidated under one tariff at Docket No.: R-2023-3044549.

## **Current Review**

In the first quarter of 2021, Essential finalized a lease versus buy review that resulted in the decision to outsource certain fleet management services and lease vehicles. Following a formal request for proposals process, Essential selected Holman Fleet (Holman), which was formerly known as Automated Resources International or ARI, as its vehicle management partner.

Holman provides maintenance tracking, global positioning systems, and roadside assistance and extends fuel provision services through its subcontractor, WEX Inc. In addition, Holman provides tax planning for qualifying employees who have been assigned fleet vehicles. Essential leverages these services as part of its fleet management program and receives a cost-saving benefit from economies of scale. As a value-added benefit, Essential can procure parts at wholesale pricing and training for its internal mechanics through original equipment manufacturer (OEM) partners. Furthermore, Holman offers Essential a lease to buy option when procuring vehicles. Vehicles that are not ultimately purchased would be salvaged, released to auction, or may be sold to the assigned employee driver.

The company could not quantify total cost savings from this implementation since Holman is integrated into nearly every aspect of fleet management. However, the company provided examples of benefits it has realized through its contract with Holman.

- According to the company, an analysis of usage and cost across the two legacy companies indicated that the GMC Acadia was considered to be the “average vehicle”. Per their analysis, the vehicle would have cost the company \$45,516 to buy while leasing the vehicle cost the company \$41,861. The realized savings for this vehicle is approximately \$3,655 or a savings of approximately 8%.
- A local service company provided a quote for a complete light duty brake and tire replacement at \$2,594. Holman, through its OEM partner accounts, was able to provide the parts for Essential to do the same services internally for \$1,731. The projected savings for this example was \$863 or a savings of approximately 33%.

It has become increasingly common for large utility companies to use third-party vendors for fleet services and vehicle leasing to realize national level economies of scale from vendors’ networks. Although there are other savings being realized due to the reduced costs associated with fleet maintenance, the auditors estimate that, based on the reduced procurement costs per vehicle associated with the leasing terms as described, Essential could realize approximately \$2.8 million in one-time savings upon one turn of Aqua PA’s and Peoples’ fleets under the Holman contract.<sup>38</sup>

## **Follow-Up Recommendation – None**

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<sup>38</sup> The auditors estimated an approximate total of 780 vehicles of this type in Aqua PA’s and Peoples’ fleets that would be leased through Holman with a savings of approximately \$3,600 per vehicle.

## **XIII. HUMAN RESOURCES AND DIVERSITY**

### **Background**

As discussed in chapter III. Executive Management and Organizational Structure, Essential Utilities, Inc. (Essential) is the overarching parent corporation of Aqua Pennsylvania, Inc. (Aqua PA) and Peoples Natural Gas Company LLC (Peoples). During the prior management audit, Peoples was comprised of two distinct natural gas distribution companies, jointly referred to as the Peoples Companies; however, as of January 1, 2023, they have been consolidated into a single entity with two operating divisions serving separate customer bases under two different tariffs<sup>39</sup>. Aqua PA provides water and wastewater services and Peoples provides natural gas distribution service in Pennsylvania, and both are regulated by the Pennsylvania Public Utility Commission (PUC).

For the human resources functional area, three prior situations and recommendations were reviewed, and three follow-up findings with one additional recommendation are presented. Two of the follow-up findings relate to the companies' safety programs and practices, and the third relates to Essential's ongoing development of a formal succession plan.

### **Finding XIII-1**

#### **Prior Situation**

Safety performance is most often measured by standardized metrics developed by the Occupational Safety and Health Administration (OSHA). Two commonly monitored metrics are the OSHA Recordable Incident Rate<sup>40</sup> and the Lost Time/Restricted Time (LT/RT) Rate<sup>41</sup>.

During the prior management audit, the Peoples Companies monitored safety performance relative to a company determined goal for LT/RT. However, the Peoples Companies were not consistently meeting their LT/RT Rate goals, and the Peoples Companies had not set an annual goal for the OSHA Recordable Incident Rate.

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<sup>39</sup> As of September 27, 2024, after fieldwork ended, the two separately tariffed operating divisions were consolidated under one tariff at Docket No.: R-2023-3044549.

<sup>40</sup> The OSHA Recordable Rate is calculated by multiplying the number of recordable incidents by 200,000, the standard number of hours 100 employees would work in a year, and then dividing by the total number of hours all employees worked in the year.

<sup>41</sup> The LT/RT Rate, also known as the Days Away, Restricted, or Transferred (DART) Rate, is calculated by multiplying the number of incidents resulting in DART by 200,000 and then dividing by the total number of hours all employees worked in the year.

**Prior Recommendation** – Establish an internal OSHA recordable rate goal for the Peoples Companies based upon industry performance and align safety programs to achieve the OSHA goal(s).

**Follow-Up Finding and Conclusion** – Peoples tracks and monitors standard safety metrics, and their safety programs have supported safety performance that consistently met their goals over the review period.

**Current Review**

Peoples’ safety program consists of various components focused on employee training, oversight activities, root cause analysis, and risk minimization. Many of these components are integrated into the operator qualification process and standard operating procedures. In addition, Peoples maintains a safety committee called C.A.R.E. (Combined Accident Reduction Effort) that has been active for more than 40 years. Peoples’ mission through C.A.R.E. is to promote and support a strong safety culture to assure a safe and healthy working environment for all employees. Committee membership includes both company personnel and bargaining unit representatives.

The safety groups at Aqua PA and Peoples have been collaborating since the merger to share best practices. In August 2021, Peoples implemented a safety management system (SMS) to track and manage safety incidents and learning opportunities, often referred to as “near misses”. Peoples implemented the same platform its affiliate, Aqua PA, has been using. See Finding XIII-2 for additional details on how Essential’s utilities operating in Pennsylvania use the SMS to support their safety programs.

As required by OSHA, Peoples tracks recordable incidents as well as incidents that result in LT/RT. Essential’s National Safety Director explained that although it was recommended that the company establish an internal OSHA Recordable Incidents Rate goal, the company focuses on the LT/RT Rate because it captures the most severe incidents to its employees and its operations. In contrast, the overall OSHA Recordable Rate includes minor incidents and, in some cases, can misrepresent a company’s safety performance. In addition to establishing a goal for the LT/RT Rate, the company also sets goals for a Responsible Vehicle Accidents Rate. Exhibits XIII-1 and XIII-2 show Peoples’ safety performance compared to its goals.

**Exhibit XIII-1  
Peoples Natural Gas Company LLC  
Lost Time/Restricted Time Rate Performance  
For the Years 2020 – 2023**

	Goal	Actual
2020	1.50	0.90
2021	1.20	1.20
2022	1.10	0.96
2023	1.00	0.91

Source: Data Request HR-01

**Exhibit XIII-2**  
**Peoples Natural Gas Company LLC**  
**Responsible Vehicle Accident Rate Performance**  
**For the Years 2020 – 2023**

	Goal	Actual
2020	2.90	2.30
2021	2.50	2.00
2022	2.40	1.90
2023	2.35	1.90

Source: Data Request HR-01

Peoples uses safety benchmarking data from the American Gas Association’s (AGA) Safety Panel as well as its internal historic safety performance data to develop annual safety goals. The AGA requires its members to maintain confidentiality of its Safety Panel reports; however, the company was able to disclose that it has consistently performed at the second quartile level from 2020 – 2023 in LT/RT Rate, OSHA Recordable Incidents Rate, and Responsible Motor Vehicle Accident Rate.

The US Bureau of Labor Statistics (BLS) is another resource for comparing safety performance of companies of similar industries. Exhibit XIII-3 compares Peoples’ safety performance to industry average.

**Exhibit XIII-3**  
**Peoples Natural Gas Company LLC**  
**Safety Performance Compared to Industry Average**  
**For the Years 2020 – 2022**

Year	OSHA Reportable Incidents Rate		OSHA Lost Time Rate		OSHA Restricted Rate	
	Actual	BLS Average	Actual	BLS Average	Actual	BLS Average
2020	1.38	3.50	0.61	1.20	0.31	1.00
2021	1.42	4.70	0.30	1.80	0.75	1.00
2022	1.14	4.80	0.46	1.90	0.38	0.70

Sources: Data Request HR-11, <https://www.bls.gov/iif/soii-data.htm>, and auditor analysis

In addition, Peoples participates in the Energy Association of Pennsylvania’s Job Safety Awards Program. Throughout the period 2021 – 2024, the company has been awarded 12 safety awards in categories such as safety achievement, safety improvement, safety sustainability, and motor vehicle safety improvement and achievement.

Peoples has a comprehensive safety program and monitors the necessary metrics comparing its performance to industry standards. Its safety performance has consistently met internal goals and has exceeded industry average throughout the review period.

## **Follow-Up Recommendation – None**

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### **Finding XIII-2**

#### **Prior Situation**

It was discovered during the prior management audit that the Peoples Companies did not use an SMS to help mitigate and manage workplace risk. The Peoples Companies had indicated the intention to implement an SMS by 2021. In order to have consistent safety practices with Essential's subsidiaries, the Peoples Companies were planning to install the same SMS that was being used by Aqua PA.

**Prior Recommendation** – Implement a safety management system at the Peoples Companies.

**Follow-Up Finding and Conclusion** – Peoples installed a safety management system.

#### **Current Review**

It is a best business practice for companies to perform root cause analysis of safety incidents to identify operational procedure and/or training deficiencies to help minimize risk. An SMS is an advanced tool to help a company organize, track, and analyze safety incident data.

On August 12, 2021, Peoples installed the *Cority Safety Management System* which is the same SMS that Aqua PA uses. Although there are separate safety teams at each Aqua PA and Peoples, the teams collaborate closely to share and align best practices. Both teams consider the SMS as the “single source of truth” for the retention of safety incident and learning opportunity data used for root cause investigation and tracking. Therefore, the SMS is further strengthening Aqua PA's and Peoples' safety cultures by organizing a wealth of analytical data which is instrumental in targeting training and fostering procedural improvements.

**Follow-Up Recommendation – None**

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### **Finding XIII-3**

#### **Prior Situation**

During the prior management audit, PNG Companies, LLC and the Peoples Companies maintained a list of key senior leadership positions, but the list did not identify potential successor candidates. The Peoples Companies were in the process of developing a formal succession plan in 2018, but when the company was acquired by Essential, that process was postponed.

**Prior Recommendation** – Expedite the succession planning process, alongside with Essential Utilities, to ensure the Peoples Companies develop and recruit key positions.

**Follow-Up Finding and Conclusion** – Essential established a formal succession plan covering all critical executive positions for Essential, Aqua PA, and Peoples.

#### **Current Review**

In its 2021 Implementation Plan, the company explained that it created the Essential Utilities Succession Plan (Succession Plan) which was approved by Essential's Board of Directors (BOD) in spring of 2021. Since then, succession planning for the executive level leadership at Essential, Aqua PA, and Peoples is reviewed and updated annually and is approved by Essential's BOD in February each year.

Essential's Succession Plan, which is overseen by Essential's Senior Vice President & Chief Human Resources Officer, covers executive positions such as Chief Executive Officer, Chief Administrative Officer, Chief Financial Officer, etc. and some key specialty positions. The Succession Plan identifies candidates available for emergency immediate replacement, short-term replacement within 1 – 3 years, and long-term replacement within 3 – 5 years. In some circumstances, there are no viable internal candidates in which case the Succession Plan indicates that an external hire would be the best option.

Along with the establishment of a formal succession plan, Essential implemented a leadership development program. The goal of the program is to support the development of those identified as potential leaders within the company. Essential partnered with Drexel University to offer a two-year program. Program curriculum can be applied toward a master's degree. The first cohort of participants successfully completed the program in the first quarter of 2024.

Essential is actively grooming an established pipeline of leadership talent, and it is aware of key skills and experience that it will need to acquire externally as leadership roles are vacated. Throughout the remainder of 2024, Essential is planning to expand the Succession Plan to cover the director level, and it intends to enter the Succession Plan into its human resources information system, *Workday*.

**Follow-Up Recommendation** – Complete the process to enter the succession plan into *Workday* and to extend the succession plan to lower levels of management.

#### **XIV. ACKNOWLEDGEMENTS**

We wish to express our appreciation for the cooperation and assistance given to us during this management efficiency investigation by the officers and staff of Essential Utilities, Inc., Aqua Pennsylvania, Inc., and Peoples Natural Gas Company LLC. This review was conducted by auditors Craig Bilecki, CPA; Mike Flynn; Jim Harrison; Timothy Kerestes; and Eric McKeever of the Management Audit Division of the Pennsylvania Public Utility Commission's Bureau of Audits.



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