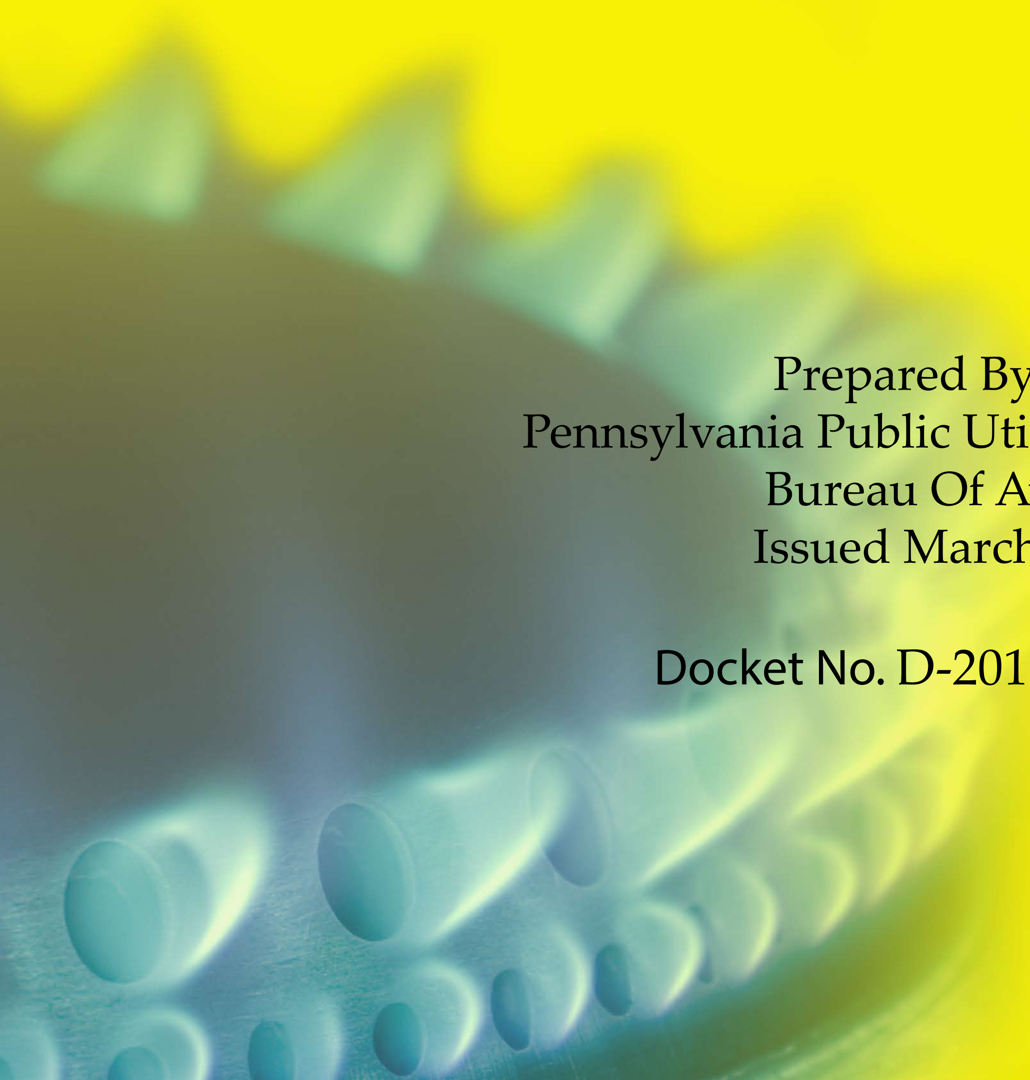
FOCUSED MANAGEMENT AND OPERATIONS AUDIT OF NATIONAL FUEL GAS DISTRIBUTION CORPORATION



Prepared By The
Pennsylvania Public Utility Commission
Bureau Of Audits

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Docket No. D-2017-2584893

PENNSYLVANIA PUC
PUBLIC UTILITY COMMISSION

NATIONAL FUEL GAS DISTRIBUTION CORPORATION
FOCUSED MANAGEMENT AND OPERATIONS AUDIT

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FOCUSED MANAGEMENT AND OPERATIONS AUDIT

LIST OF EXHIBITS

I. INTRODUCTION

In accordance with the Pennsylvania Public Utility Commission's (PUC or Commission) program to identify improvements in the management and operations of fixed utilities under its jurisdiction, it was determined that a focused management and operations audit should be conducted of National Fuel Gas Distribution Corporation's Pennsylvania Division (NFGDC-PA). NFGDC is a subsidiary of National Fuel Gas Company (National Fuel). Management and operational audits, which are required of certain utility companies pursuant to 66 Pa. C.S. § 516(a), come under the Commission's general administrative power and authority to supervise and regulate all public utilities in the Commonwealth, 66 Pa. C.S. § 501(b). More specifically, the Commission can investigate and examine the condition and management of any public utility, 66 Pa. C.S. § 331(a).

This report summarizes the work of the Commission's Management Audit team and outlines their conclusions. The findings presented in the report identify certain areas and aspects where weaknesses or deficiencies exist. In all cases, recommendations have been offered to improve, correct, or eliminate these conditions. The final and most important step in the management audit process is to initiate actions toward implementation of the recommendations.

A. <u>Objectives and Scope</u>

The objectives of this focused management and operations audit were:

- To provide the Commission, NFGDC, and the public with an assessment of the efficiency and effectiveness of NFGDC's operations, management methods, organization, practices, and procedures;

- To identify opportunities for improvement and develop recommendations to address those opportunities; and,

- To provide an information base for future regulatory and other inquiries into the management and operations of NFGDC.

The scope of this audit was limited to certain areas of NFGDC, as explained in Section B, Audit Approach.

B. Audit Approach

The focused management and operations audit was performed by the Management Audit Division of the PUC's Bureau of Audits (auditors). The process began with a pre-fieldwork analysis as outlined below:

- A five-year internal trend (2012 – 2016) and ratio analysis was completed using financial and operational data obtained from NFGDC, Commission, and other available sources.

- Input was solicited from Commission Bureaus and Offices, certain external parties, and NFGDC, regarding any concerns or issues they would like addressed during our review.

- Prior management and operations audits, follow-up management efficiency investigations, implementation plans, implementation plan progress reports, other Commission conducted audits, annual diversity reports, and other available documents were reviewed.

Information from the above steps was used to focus the auditors' work efforts in the field. Specifically, the following areas or functions were selected for an in-depth analysis and are included in this report:

- Executive Management and Organizational Structure
- Corporate Governance
- Affiliated Relationships and Cost Allocations
- Financial Management
- Gas Operations
- Customer Service
- Purchasing and Materials Management
- Emergency Preparedness
- Human Resources
- Fleet Management
- Information Technology

The pre-fieldwork analysis should not be construed as a comprehensive evaluation of the management or operations in the functional areas not selected for in-depth examination. Had we conducted a thorough review of those areas, weaknesses or deficiencies may have come to our attention that was not identified in the limited pre-fieldwork review.

The fieldwork began on March 21, 2017 and continued intermittently through August 17, 2017. The principal components of the fact gathering process included:

- Interviews with NFGDC and National Fuel personnel as well as other Commission Bureaus.

- Analysis of records, documents, and reports of a financial and operational nature. This analysis focused primarily on the period 2012-2016, and year-to-date 2017, as available.

- Visits to the corporate offices of NFGDC, various service centers which included warehouse and stockrooms, customer assistance and customer response centers, the gas control center; and direct observation of several other selected work practices.

C. Functional Area Ratings

For the functions or areas of NFGDC that were selected for in-depth examination, the auditors rated the operating or performance level relative to the expected level at the time of the audit. This expected performance level is the state at which each area or function should be operating given NFGDC's resources and general operating environment. Expected performance is not a "cutting edge" operating condition; rather, it is management of an area or function such that it produces reasonably expected operating results.

The following are the evaluative categories utilized to rate each function or area's operating or performance level:

- Meets Expected Performance Level
- Minor Improvement Necessary
- Moderate Improvement Necessary
- Significant Improvement Necessary
- Major Improvement Necessary

Our ratings for each function or area reviewed in-depth can be found in Exhibit I-1 on the next page.

Exhibit I – 1
National Fuel Gas Distribution Corporation
Focused Management and Operations Audit
Functional Rating Summary

Functional Area	Meets Expected Performance Level	Minor Improvement Necessary	Moderate Improvement Necessary	Significant Improvement Necessary	Major Improvement Necessary
Executive Management and Organizational Structure		x			
Corporate Governance		x			
Affiliated Interests and Cost Allocations	x				
Financial Management	x				
Gas Operations	x				
Customer Service		x			
Purchasing and Materials Management	x				
Emergency Preparedness	x				
Human Resources		x			
Fleet Management		x			
Information Technology	x				

D. <u>Benefits</u>

Where possible, the auditors try to quantify the potential savings that would be expected from effectively implementing the recommendations made in this report. However, for most of the recommendations, it is not possible or practical to estimate quantitative benefits as their benefits are of a qualitative nature or insufficient data was available to quantify the impact. For example, it is difficult to estimate the actual benefit where new management practices or procedures are recommended where such did not previously exist or was not fully functional. Similarly, changes in work flow or implementation of good business practices could result in improved effectiveness and efficiency of a specific function but cannot be easily quantified.

NFGDC will have options to implement the recommendations and so the auditors have not estimated the cost of implementation for recommendations where no savings were quantified. However, it should be noted to the reader that the cost of implementing certain recommendations could be significant.

E. Recommendation Summary

Chapters III through XIII detail the findings, conclusions and recommendations for each function or area reviewed in-depth during this focused audit. Exhibit I-2 summarizes the recommendations with the following priority assessments for implementation:

- INITIATION TIME FRAME – Estimated time frame for how quickly NFGDC should be able to initiate its implementation efforts, given NFGDC's resources and general operating environment. The time necessary to complete implementation is expected to vary depending on the nature of the recommendation, the scope of the efforts necessary, and resources available to effectively implement the recommendation.

- BENEFITS – Net quantifiable benefits have been provided, where they could be estimated, as discussed in Section D - Benefits. Our estimated overall level of benefits rankings is not solely based on quantifiable dollars, but the auditor's assessment of the potential overall impact of the recommendation on the efficiency and/or effectiveness of NFGDC, and/or the services it provides.

  - HIGH BENEFITS – Implementation of the recommendation would result in major service improvements, substantial improvements in management practices and performance, and/or significant cost savings.

  - MEDIUM BENEFITS – Implementation of the recommendation would result in important service improvements, meaningful improvements in management practices and performance, and/or meaningful cost savings.

  - LOW BENEFITS – Implementation of the recommendation is likely to result in service improvements, management practices and performances, and/or enhance cost controls.

National Fuel Gas Distribution Corporation
Summary of Recommendations

No.	Recommendation	Page	Initiation Time Frame	Benefits (including $ estimates)
Chapter III – Executive Management				
III-1	Expand the Senior Management Metric Dashboard Report to include performance metrics specific to NFGDC-PA operations and PAPUC regulatory metrics.	16	12 Months	Low
Chapter IV – Corporate Governance				
IV-1	Monitor the nomination process to ensure diverse business perspectives are included in the Board's membership to comply with Corporate Governance guidelines.	23	6-12 Months	Medium
IV-2	Formally document committee membership and rotation practices of the Board.	23	6-12 Months	Medium
IV-3	Update the Audit Services Department Manual to specifically include a procedure stating that all Audit Services Department employees, including the Chief Auditor, have unrestricted access to the external audit firm.	23	6 Months	Low
Chapter V – Affiliated Relationships and Cost Allocations				
	None			
Chapter VI – Financial Management				
	None			
Chapter VII – Gas Operations				
	None			
Chapter VIII – Customer Service				
VIII-1	Reduce gross write-off levels to more closely align with the panel average of peer gas distribution utilities in Pennsylvania.	48	18-36 Months	Low
VIII-2	Reduce billing lag by creating a process to issue atypical meter reads separately from the normal billing cycle reads.	48	12-18 Months	Low
Chapter IX – Purchasing and Materials Management				
	None			
Chapter X – Emergency Preparedness				
	None			

National Fuel Gas Distribution Corporation
Summary of Recommendations

Rec. No.	Recommendation	Page No.	Initiation Time Frame	Benefits (including $ estimates)
Chapter XI – Human Resources				
XI-1	Measure employee engagement on a routine basis to trend employee satisfaction and identify areas of improvement.	64	NA	High
XI-2	Reduce preventable OSHA recordable incidents to achieve at least industry performance levels and eliminate incidents labeled as "Hazard not Identified".	64	18-36 Months	High
Chapter XII – Fleet Management				
XII-1	Perform a lease versus buy analysis every three to five years to determine the most cost-effective vehicle acquisition method.	69	12 Months	Medium
Chapter XIII – Information Technology				
X-1	None			

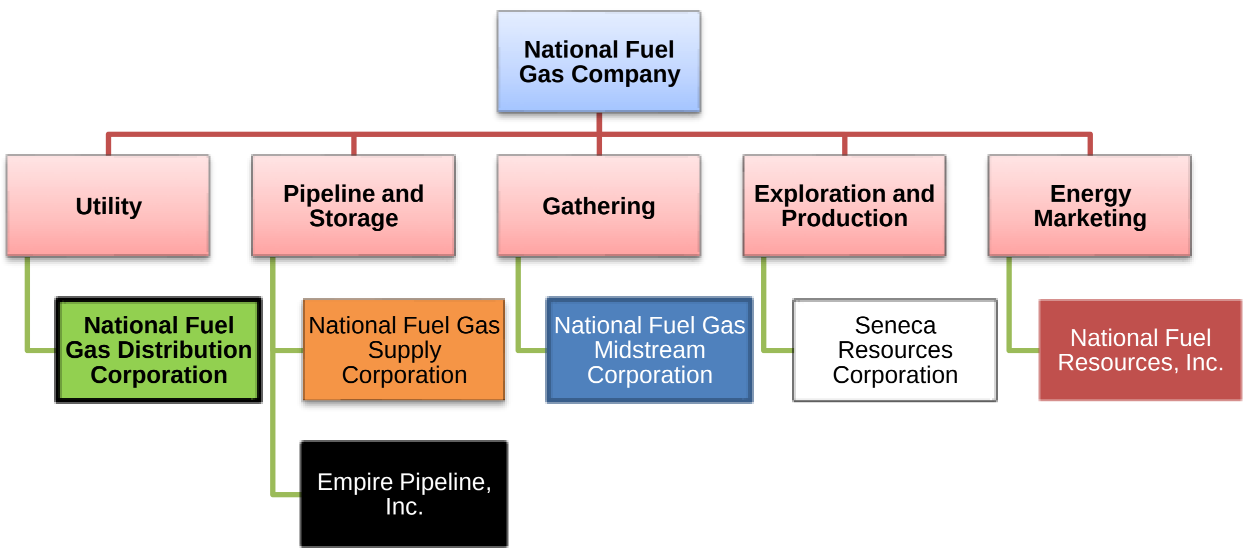
II. BACKGROUND

National Fuel Gas Distribution Corporation (NFGDC or company) is a natural gas distribution utility owned by National Fuel Gas Company (National Fuel). National Fuel is a diversified energy holding company headquartered in Williamsville, NY. The following is a description of the backgrounds of National Fuel and NFGDC.

A. <u>National Fuel Gas Company</u>

National Fuel is a holding company organized under the laws of the state of New Jersey (incorporated in 1902). National Fuel is a publicly traded company on the New York Stock Exchange under the ticker "NFG." The principle business segments of National Fuel include: utility, pipeline and storage, gathering, exploration and production, and energy marketing. The operating subsidiaries of the primary business segments are shown in Exhibit II-1.

Exhibit II – 1
National Fuel Gas Company
Corporate Entity Chart
As of February 2017



Source: Data Request EM-01

The utility segment operations are conducted by National Fuel Gas Distribution Corporation, a New York Corporation. NFGDC sells natural gas or provides natural gas transportation services to about 743,000 customers in western New York and northwestern Pennsylvania.[1] The principal metropolitan areas served by NFGDC include:

[1] This is based upon available information as of the end of August 2017.

- Buffalo, NY
- Niagara Falls, NY
- Jamestown, NY
- Erie, PA
- Sharon, PA

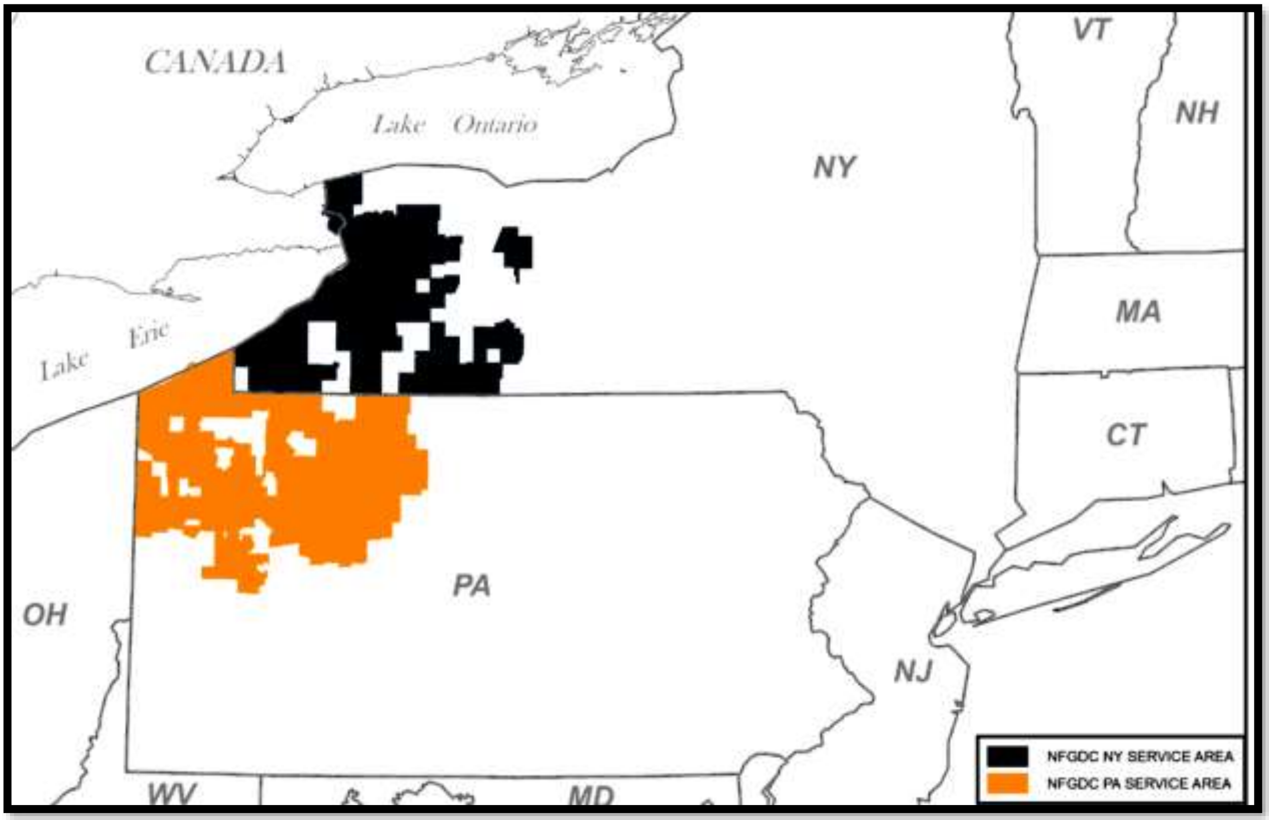
Pipeline and storage operations are provided by National Fuel Gas Supply Corporation (NFGSC), a Pennsylvania corporation; and Empire Pipeline, Inc, (Empire) a New York corporation. NFGSC and Empire provide regulated, interstate natural gas transportation and storage services to affiliated and nonaffiliated companies through an integrated system of pipeline and underground storage fields. National Fuel Gas Midstream Corporation is the gathering segment of National Fuel that builds, owns and operates natural gas processing and pipeline gathering facilities. Exploration and production operations are provided by Seneca Resources Corporation; services include the exploration, development and production of natural gas (mainly Appalachian region gas), and oil reserves in California. National Fuel Resources, Inc. represents the energy marketing segment and markets and sells competitively priced natural gas to wholesale, industrial, commercial, public authority and residential customers.

Although the National Fuel affiliates shown in Exhibit II-1 are legally organized as separate companies, all entities of National Fuel are collectively an integrated business model. National Fuel's organizational structure includes a key group of executives that may hold officer level positions across the various affiliates. However, these positions have specific responsibilities, and the auditors found that this structure does not inhibit organizational effectiveness.

B. <u>National Fuel Gas Distribution Corporation</u>

As the utility segment of National Fuel, NFGDC sells natural gas and provides transportation services to customers in New York and Pennsylvania, and is regulated by both the New York Public Service Commission and the Pennsylvania Public Utility Commission (PUC or Commission), for the respective operations in each state. A depiction of the operating territories, broken down by state, is provided in Exhibit II-2. NFGDC's headquarters is located in Williamsville, New York, and there is also an office located in Erie, Pennsylvania, which is dedicated to Pennsylvania (NFGDC-PA) specific operations. NFGDC-PA operates in 15 counties within Pennsylvania and divides its operating area into 12 service territories, based on geographical boundaries. NFGDC-PA staffs non-union and union employees throughout its territory; union employees are represented by the International Brotherhood of Electrical Workers and the National Conference of Fireman and Oilers unions.

Exhibit II – 2
National Fuel Gas Distribution Corporation
Operating Area – New York and Pennsylvania



Source: National Fuel Investor Presentation, August 3, 2017

Within the NFGDC-PA operating area, there were about 215,000 customers as of December 31, 2016. NFGDC-PA had sales and transportation revenue of approximately $173.5 million for calendar year 2016; revenue was based on the gas sales volumes of 43,681,559 MCF.[2]

Exhibit II-3 provides customer base statistics for residential, commercial and industrial customers for calendar year 2016. Residential customers accounted for 92.3% of the customer base, 41.6% of MCF sales, and 74.0% of operating revenue. Commercial customers accounted for 7.5% of the customer base, 20.6% of MCF sales, and 18.9% of operating revenue. Industrial customers accounted for 0.3% of the customer base, 37.8% of MCF sales, and 7.1% of operating revenue.[3]

[2] PUC Annual Report, Schedule 600
[3] PUC Annual Report, Schedule 600

Exhibit II – 3
National Fuel Gas Distribution Corporation
Pennsylvania Customer Base Statistics
As of December 31, 2016

Customer Class	No. of Customers	% of Customers	MCF Sold	% of MCF Sold	Sales/ Transportation Revenue ($)	% of Revenue
Residential	198,419	92.3%	18,173,502	41.6%	128,353,488	74.0%
Commercial	16,034	7.5%	8,988,394	20.6%	32,797,817	18.9%
Industrial	594	0.3%	16,519,663	37.8%	12,328,006	7.1%
TOTALS	**215,047**	**100.0%**	**43,681,559**	**100.0%**	**173,479,311**	**100.0%**

Source: PUC Annual Report Schedule 600 and Auditor Analysis

III. EXECUTIVE MANAGEMENT AND ORGANIZATIONAL STRUCTURE

Background

National Fuel Gas Distribution Corporation (NFGDC or company) is a natural gas distribution utility owned by National Fuel Gas Company (National Fuel). The corporate entity structure for NFGDC is displayed in Exhibit II-1 on page 8 of the report. Exhibit III-1 displays executive officers at NFGDC as of March 2017. In some cases, officers of NFGDC also serve as officers of the parent company (National Fuel) or, other affiliates. NFGDC has not changed their executive reporting structure within the past five years.

NFGDC's executive compensation is administered by National Fuel's Compensation Committee (see Chapter IV – Corporate Governance). As in the past, the Compensation Committee retains independent consulting firms to provide analyses of compensation practices; analyses are for both the energy industry as well as the general market. It is National Fuel's intention to attract, motivate, reward and retain executive talent by using a benchmark that includes companies with comparable business segments. Total compensation for executive officers is comprised of the following components:

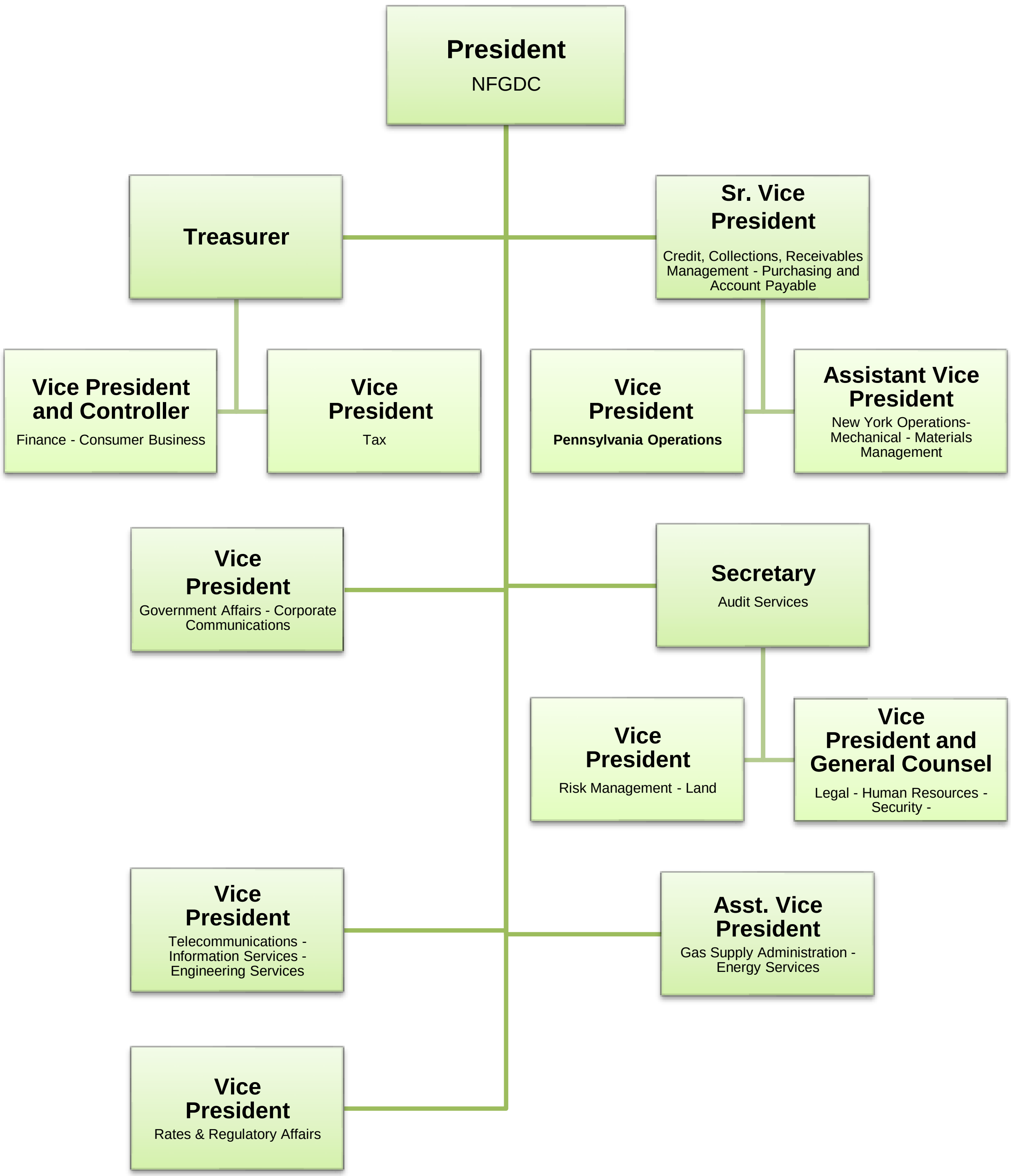
- Base Salary – fixed level of pay, with a target range of the 50th to 75th percentile of the peer median provided by independent consultants. Adjustments are documented, and made based on the Compensation Committee's business judgment along, with overall corporate performance as a subjective consideration.

- Annual Cash Incentive – target awards are set as a percentage of base salary to motivate performance and reward achievement on, near-term financial, operating and individual goals.

- Long-Term Equity Incentive Compensation – stock incentives based on three-year relative shareholder return on capital, accounting for two-thirds of the incentive; and time-vested restricted stock units accounting for one-third of the incentive. For select senior management positions, including the Chief Executive Officer, stock incentives are divided evenly between relative total return and total return on capital.

- Health, Welfare, and Retirement Benefits – provides executives with reasonable and competitive benefits that are comparable to similar utilities.

Exhibit III – 1
National Fuel Gas Distribution Corporation
Organizational Structure
As of March 2017



Source: Data Request EM-2 and Auditor Analysis

Succession planning for executive officers of National Fuel and subsidiaries is the responsibility of the National Fuel Board of Directors (see Chapter IV – Corporate Governance). For positions, other than officers of NFGDC, the responsibility is delegated to the departmental officers and managers, subject to officer oversight. Working with Human Resources Department, NFGDC officers and department heads review and document a succession model for 3-5 years, 10+ years, and for sudden loss of incumbent. The succession planning model is reviewed and updated annually, or as needed, in conjunction with the strategic and budget planning process. The finalized model is reviewed and approved by the NFGDC President and NFGDC officers.

Potential candidates identified in the succession planning model are provided with mentoring and developmental activities designed for specific position(s). NFGDC strives to recognize individuals who, with proper training and developmental opportunities, could move into larger roles for the company. Additionally, NFGDC utilizes a rotating engineering and a Master of Business Administration program, where candidates are rotated amongst various departments on a six-month basis. The rotation immerses the individual(s) into NFGDC's multifaceted work environment. Once finished with department rotations, the individual will be assigned to a designated department typically for a three to five-year assignment, based on the needs of the company.

As part of auditors' fieldwork, NFGDC's strategic planning process was reviewed. After developing a corporate vision and mission, NFGDC formulates its tactical approach, which addresses the challenges of how it plans to achieve its vision and mission. NFGDC's most recent plan, dated November 2016, was based upon a four-point vision:

- Safety – Operating a safe system for customers and employees is NFGDC's number one priority.

- Controlling Costs – Given the lack of population growth in NFGDC's service territory, controlling costs is critical to the financial success of NFGDC.

- Customer Service – NFGDC's goal is to provide consistent, superior customer service to all customers.

- Regulatory Relationships – NFGDC respects the role of state regulatory commissions that oversee NFGDC's operations and seeks to build and maintain constructive relationships.

The timeline for developing the strategic and operating plans begins in March when National Fuel establishes strategic goals and communicates them to NFGDC. The strategic goals cascade down throughout the organization and departments begin to prepare budgets for the upcoming fiscal year. A company-wide budget capital budget is prepared based on historical spend and impending large capital projects, as well as departmental, zero-based operations and maintenance (O&M) budgets. Each department head presents their O&M budget to National Fuel's Chief Executive Officer, Principal Financial Officer, Chief Operating Officer, the President of NFGDC and several other NFGDC executives. Once approved, O&M budgets are consolidated for review by the National Fuel Board of Directors to be approved at their September board meeting.

Findings and Conclusions

Our examination of the Executive Management and Organizational Structure function included a review of NFGDC's organizational structure; staffing levels and spans of control; the roles and responsibilities of executive management; strategic planning; and succession planning. Based on our review, NFGDC should initiate or devote additional effort to improving the efficiency and/or effectiveness of its Executive Management and Organizational Structure function by addressing the following:

1. The NFGDC Senior Management Metric Dashboard Report does not include specific data for NFGDC-PA.

NFGDC developed the Senior Management Dashboard Report (Dashboard Report) to create a standardized summary of key metrics for senior management. The Dashboard Report is updated on a quarterly basis, and a readily available report is issued to all NFGDC officers, to provide an overview of key performance metrics for the company. The process began in June 2013 by identifying key metrics to report in the Dashboard. NFGDC identified 33 metrics to track and report, and the list is shown in Exhibit III-2. Once the population of key metrics was approved, the data needs to be compiled and properly formatted for management. The first Dashboard Report was created and distributed in November 2016, and quarterly updates have continued since.

Exhibit III – 2
National Fuel Gas Distribution Corporation
Dashboard Report Metrics
As of June 2017

-Cumulative % of the Dollar Amount of Discounts Taken -Dollar Amount of Discounts Taken -% of Dollars Spent Via Purchase Order -% of Dollars Spent Via Non-Purchase Order -Miles of Leak Prone Mainline Removed -Leak Backlog – PSC (Type 1) -Leak Backlog – PSC (Type 2) -Leak Backlog – PSC (Type 2A) -Leak Backlog – PSC (Type 3) -NY Distribution Capital Spending -NY Distribution Special Projects –Capital Spending -Inventory Turnover Ratio -Cost Per Vehicle (All Vehicle Classes) -Average Meter Repair Cost (Class 1 Meters) -Cumulative OSHA Recordable Injury Rate -Dollar Amount of Line Hit Collections -Cumulative % of Audit Plan Not Yet Started	-Cumulative % of Audit Plan In Progress or Planning -Cumulative % of Audit Plan Completed or In Review -% of Calls Answered Within 30 Seconds -% of Customers Satisfied/Very Satisfied (Residential) -% of Customers Satisfied/Very Satisfied (Commercial) -Number of Chargeable PSC Complaints -Storage Inventory Fill % -Number of IS Help Desk Calls Received -Number of IS Requests Received -Cumulative IS Requests Outstanding -Number of One Call Tickets Completed –PSC -Number of Damages Per 1,000 One Call Tickets –PSC -Emergency Response % Within 30 Minutes –PSC -Emergency Response % Within 45 Minutes –PSC -Emergency Response % Within 60 Minutes –PSC -% of New Service Installations Within 10 Days

Source: Data Request EM-28

The auditors reviewed the most current Dashboard Report dated June 30, 2017, which gave data and trends for the calendar years 2013 through 2016. The Dashboard Report was created in response to a management audit conducted by a consultant for the NYPSC. It was noted that the Dashboard Report only included data for NFGDC's New York Division and metrics related to New York Public Service Commission (NYPSC) reporting requirements. Data specific to NFGDC-PA operations were not included. Including the data specific to the NY and PA operations, with metrics established pertinent to the respective state Commissions, would allow a more focused approach to achieve regulatory and operational objectives of New York and Pennsylvania.

Recommendations

1. Expand the Senior Management Metric Dashboard Report to include performance metrics specific to NFGDC-PA operations and PAPUC regulatory metrics.

IV. CORPORATE GOVERNANCE

Background

As previously discussed, National Fuel Gas Distribution Corporation (NFGDC) is a natural gas distribution utility headquartered in Williamsville, New York. NFGDC is owned by National Fuel Gas Company (National Fuel), a diversified energy holding company. The corporate entity structure for National Fuel is shown in Exhibit II-1 on page 8 of the report. National Fuel is a publicly traded company and is listed on the New York Stock Exchange (NYSE) under the ticker "NFG." Therefore, National Fuel is subject to the corporate governance requirements of the Sarbanes-Oxley Act of 2002 (SOX) and rules of the NYSE.

As of March 2017, National Fuel had a ten-member Board of Directors (Board) comprised of the Chief Executive Officer (CEO) of National Fuel, a prior CEO of National Fuel, and eight independent Board members as defined by the NYSE and Securities and Exchange Commission (SEC). The Board must consist of no less than seven, nor more than eleven directors, as decided by a majority vote of the full Board. In addition, the Board has the responsibility for selecting and nominating candidates for election to the Board, by the shareholders. The Board also has the responsibility of filling vacancies. The Nominating/Corporate Governance Committee will recommend nominees for election. A term lasts three years, and there is no limit to the amount of terms for which an individual may serve. However, a director must submit their resignation from the Board at the annual meeting of shareholders following their 75th birthday. Although the average tenure of the Board is approximately eight years, directors have served as many as 28 years. Each Board member, other than the CEO, is compensated with a retainer plus fees for their respective Board duties. The Board member compensation levels appear to be reasonable relative to other similarly sized-energy companies.

The Board conducts its business on behalf of National Fuel using the following committees, each with its own charter to set its governance guidelines:

- Audit Committee – Primary function is to help the Board in fulfilling its oversight responsibilities:

    - Integrity of National Fuel's financial statements;
    - Independent auditor's qualifications and independence;
    - Compliance with legal and regulatory requirements;
    - Performance of the internal audit function and independent auditors;
    - Preparation of the disclosure required by the SEC in the annual proxy statement; and
    - Review of transactions between the company and related persons, which are required to be disclosed by the SEC.

  As of March 2017, the Audit Committee was made up of four independent members; two of which are considered financial experts and one who is a

Certified Public Accountant (CPA). The Audit Committee met nine times in 2016.

- Compensation Committee – The purpose of the committee is as follows:

  - Exercise delegated authority of the Board regarding compensation of officers of the company and subsidiaries;
  - Make recommendations to the Board about compensation of the Board of Directors;
  - Exercise authority granted by various employee benefit plans approved by the Board and/or shareholders;
  - Review and discuss with management the company's compensation discussion and analysis that is included in the annual proxy statement or annual report;
  - Prepare the disclosure required by the SEC in the Compensation Committee Report in the annual proxy statement or annual report; and,
  - Make recommendations to the Board on compensation-related matters.

  As of March 2017, the Compensation Committee was comprised of four independent members, three of which are also on the Audit Committee. The Compensation Committee met five times in 2016.

- Nominating/Corporate Governance – The purpose of the committee is as follows:

  - Identify individuals qualified to become members of the Board, consistent with criteria approved by the Board, and select, or recommend that the Board select, the director nominees for the next annual meeting of shareholders;
  - Develop and recommend to the Board corporate governance principles applicable to the company; and,
  - Oversee the evaluation of the Board.

  As of March 2017, the Nominating/Corporate Governance Committee was comprised of four independent members, including one member who is a CPA. The Nominating/Corporate Governance Committee met four times in 2016.

In addition to these committees, National Fuel has an Executive Committee which includes the current CEO, two prior CEOs, and two independent Board members. The Chairperson of the Executive Committee, shown below in Exhibit IV-1, determines when the Committee meets. No meetings were held in 2016. The Executive Committee has, and may exercise, the authority of the full Board, except when prohibited by New Jersey corporate law. The last time the Executive Committee met was in 2014 (twice). Lastly, National Fuel has a Financing Committee that didn't have any information disclosed in the 2015, 2016, and 2017 Notices of Annual Meetings and Proxy Statements, including when it last met. Typically, a Financing Committee is responsible for the financial oversight of a corporation that would include budgeting and financial planning. As of March 2017, the Financing Committee consisted of the current CEO, two prior CEOs, and two independent Board members. Neither of the committees had a charter for the auditors to review.

NFGDC has a separate six-member Board, that consists of the President and CEO of National Fuel, President of NFGDC, Senior Vice President, General Counsel, and Secretary of National Fuel, Treasurer and Principal Financial Officer of National Fuel, Controller and Principal Accounting Officer of National Fuel, and a Senior VP of NFGDC.

The internal audit function is performed by NFGDC's Audit Services Department staff. The Audit Services Department Manual defines the mission, and provides guidance for each of the audit phases. The phases include risk assessment and annual planning, audit planning, fieldwork, communicating results, and audit follow-up and resolution. The Chief Auditor, who oversees the Audit Services Department, reports functionally to the Chair of the Audit Committee (who conducts the Chief Auditor's annual performance review) and administratively to both the Chair of the Audit Committee and National Fuel's Senior Vice President, General Counsel and Secretary (both individuals play an important role in hiring, compensating and terminating Audit Services Department employees). Annually, the Audit Plan is prepared based on the Audit Services Department's risk assessment, review and analysis of National Fuel's financial statements, the internal control review performed to comply with SOX, interviews with National Fuel's officers and management, and discussions with the Audit Services team. The Audit Plan is reviewed and approved by the Audit Committee before it is initiated.

The Audit Committee is responsible for the appointment, retention, compensation, evaluation, termination, and oversight of the external auditor. The Audit Committee meets with the external auditors multiple times throughout the year, including to review the results of the annual external audit and to review the external audit plan for the next year (i.e., audit scope and approach). The auditors reviewed the minutes documenting the Audit Committee meetings. The external auditor, PricewaterhouseCoopers (PwC) has been engaged with National Fuel for the past 76 years. PwC rotates the engagement partner assigned to the audit every five years as required by SOX. For 2014 and 2015, the Audit Committee compared the external auditor fees to its proxy peer group; the auditors reviewed and found the fees to be reasonable.

The Audit Committee's external auditor selection process occurs annually and considers several factors in their evaluation. The evaluation considers the caliber of the external auditor's engagement team, whether the team would be local, validation that the external auditor has communicated its independence and adheres to rotation rules, timeliness of deliverables and quality of services, competitiveness of the fees, discussion amongst the Audit Committee, and the level of time needed to conduct a Request for Proposal (RFP), and manage the process of changing firms if a change is warranted. Based on the evaluation, a determination is made to either retain the external audit firm or conduct a RFP process to engage an audit firm that can meet the

Audit Committee's requirements. This analysis has resulted in the retention of the same external audit firm for the past 76 years.

The Audit Committee Charter states that the committee shall establish and maintain free and open means of communication between and among the committee, external auditors, the Audit Services Department, and management, including providing opportunities to meet separately and privately with the committee on a periodic basis. The auditors reviewed documentation to demonstrate that free and open means of communication existed as stated.

The Code of Ethics and Business Conduct was established to define a standard for directors, officers, and employees of National Fuel and its subsidiaries for conducting company business in an honest and ethical manner. Concerns can be reported to National Fuel's dedicated toll-free hotline, operated by a third-party service company, or by sealed envelope to the Chairman of the Audit Committee.

Findings and Conclusions

Our examination of the Corporate Governance function included a review of National Fuel and NFGDC's Boards of Directors' committee structure and charters; Board fee structure; Director independence; documents related to corporate governance; policies, practices, and procedures related to internal management controls; relationships with the independent auditor, performance of non-audit services by the independent auditor and policies related to rotation of audit firms; internal audit function; code of ethics; annual reports to shareholders; etc. Based on our review, National Fuel should initiate or devote additional effort to improving the efficiency and/or effectiveness of their Corporate Governance function by addressing the following:

1. National Fuel Board members have experience exclusive to the energy industry.

National Fuel according to its 2017 Proxy Statement Corporate Governance Director Qualification Guidelines is to identify and evaluate director nominees for consideration in areas of expertise and experience aside from the natural gas industry that includes: information technology businesses, manufacturing, financial or investment banking, scientific research and development, senior level government experience, and academic administration or teaching. National Fuel has stated that it wants to cultivate a Board characterized by diverse perspectives and in-depth insight into the complex workings of each area of the energy industry operated within National Fuel operates (i.e., utility, pipeline and storage, midstream gathering, exploration and production, and energy marketing). However, in practice, National Fuel has historically nominated Board candidates with extensive backgrounds specifically in the energy and regulated utility industry (i.e., work experience of 30 years or more with an average age of 64.6 years), including former employees of National Fuel. The Board members do not have expertise or experience in the other fields of business listed in National Fuel's Director

Qualification Guidelines and Process for Identifying and Evaluating Nominees for Director.

Additionally, in the 2017 Notice of Annual Meeting and Proxy Statement, National Fuel commented on focusing towards making the Board more diverse. According to the VP and General Counsel of NFGDC, in recent years the Nominating/Corporate Governance Committee had pursued qualified potential candidates who would increase gender diversity. National Fuel had followed through in their pursuits by adding a female member to the Board in June 2016. National Fuel's Board of Directors regularly assesses the composition of the Board and each committee through self-evaluation. National Fuel expects several of its current directors to retire, over the next few years, per the Corporate Governance Guideline regarding director age. Three Board members are within three years of reaching the age limit of 75, and the vacancies will need to be filled in the coming years. This will give National Fuel more opportunities to increase Board diversity.

Expanding experience and perspectives outside of the energy industry could also be beneficial to National Fuel and its subsidiaries. The auditors noted other utilities with Board members with experience in fields outside the utility industry (e.g., education, regulatory, banking, environmental, retail, etc.) that could give different insights. The lack of experience from non-energy industries could limit perspectives for National Fuel and its subsidiaries, and ultimately NFGDC.

2. National Fuel does not have a Board committee member rotation policy.

National Fuel does not have a policy that requires Board members to rotate among committees. As previously mentioned, National Fuel has five committees and their compositions are shown below in Exhibit IV-1.

Any Board member attending a committee meeting, including one of which they are not a member, is encouraged to make comments or recommendations. However, if the committee has been delegated by the Board or shareholders the authority to make decisions, then the committee itself must make decisions.

National Fuel's Corporate Governance Guidelines state that "The Board will take into account tenure on a Committee and give consideration to rotating Committee members periodically, but the Board does not feel that rotation should be mandated as a policy." National Fuel stated changes to committee composition occur regularly, because of additions to and departures from the Board, and they believe it is important to retain flexibility in committee assignments to ensure broad perspectives and proper expertise. However, several Board members have remained on committees for extended periods. As of March 2017, the average tenure of a Board member is eight years with six of the ten directors joining in 2012 or later. Board and committee self-evaluations are performed annually to assess committee composition.

Exhibit IV – 1
National Fuel Gas Company
Committee Composition
As of March 2017

	AUDIT	COMPENSATION	EXECUTIVE	FINANCING	NOMINATING/ CORPORATE GOVERNANCE
Philip C. Ackerman			●	C	
David C. Carroll			●		●
Stephen E. Ewing	●	C		●	
Joseph N. Jaggers	●	●			
Craig G. Matthews	C	●	●	●	
Rebecca Ranich					●
Jeffrey W. Shaw	●				C
Thomas E. Skains		●			
David F. Smith			C	●	
Ronald J. Tanski			●	●	

C Chairperson ● Committee Member

Source: Committee Composition, as available on National Fuel's website at http://investor.nationalfuelgas.com/for-investors/corporate-governance/committee composition/default.aspx

Committee member rotation helps Board members maintain objectivity, and gain valuable experience from other Board committees. The auditors understand that certain committees cannot rotate members due to necessity (e.g., "Financial Expert" on the Audit Committee). Rotating members every five to seven years would give fresh perspectives and enhance directors' knowledge of the various aspects of National Fuel.

3. The Audit Services Department Manual does not procedurally provision for unrestricted access to the external audit firm.

In response to the auditors' inquiry, National Fuel provided the following Audit Committee Charter excerpt: "Establish and maintain free and open means of communication between and among the Committee, the Company's independent auditors, the Company's internal audit function…". Although the charter provisions for unrestricted access between the internal audit function and external auditor, NFGDC's Audit Services Department Manual does not contain a procedure affirming the existing business practice. National Fuel stated that Audit Services' employees, including the Chief Auditor, have direct access to the external audit firm.

The Institute of Internal Auditors Standard #2050 – Coordination and Reliance states "The chief audit executive should share information, coordinate activities, and consider relying upon the work of other internal and external assurance and consulting service providers to ensure proper coverage and minimize duplication of efforts." Operating practices should be reflected in the manual that governs the Audit Services Department.

There is the potential for duplicate, and therefore unnecessary audit work if no communication exists between internal and external auditors. Likewise, the potential exists to enhance the overall audit process with effective coordination of the internal and external auditors.

Recommendations

1. Monitor the nomination process to ensure diverse business perspectives are included in the Board's membership to more closely adhere with Corporate Governance guidelines.

2. Formally document committee membership and rotation practices of the Board.

3. Update the Audit Services Department Manual to specifically include a procedure stating that all Audit Services Department employees, including the Chief Auditor, have unrestricted access to the external audit firm.

V. AFFILIATED INTERESTS AND COST ALLOCATIONS

Background

This chapter presents the results of the auditors' review of the transactions between National Fuel Gas Distribution Corporation (NFGDC or company) and its affiliates. As discussed in Chapter II – Background, NFGDC is a natural gas distribution utility headquartered in Williamsville, New York, owned by National Fuel Gas Company (National Fuel), a diversified energy holding company. NFGDC's rates, services and other matters are regulated by the New York Public Service Commission with respect to services provided within New York (NFGDC-NY) and by the Pennsylvania Public Utility Commission (PUC or Commission) with respect to services provided within Pennsylvania (NFGDC-PA). National Fuel's organization, as of February 13, 2017, is shown in Exhibit II-1 on page 8 of the report. In addition to utility services, NFGDC also provides many non-utility services for itself and many of its affiliates (e.g., the Finance Department). A standalone service company does not exist within National Fuel's corporate structure.

NFGDC filed an updated affiliated interest agreement (Service Agreement) with the PUC on April 17, 2015, at Docket No. G-2014-2441017, between NFGDC and National Fuel, including certain subsidiaries of National Fuel, for administrative, engineering, accounting, maintenance, management or other services, including the leasing of property. The Service Agreement, which was approved by the PUC on June 16, 2015, indicates that costs are to be assigned via the following guidelines: direct assignment; allocated based on cost causative factors (when costs cannot be directly assigned); allocated based on a three-factor formula using net plant, operation and maintenance expense, and total throughput (when costs cannot be directly assigned or allocated based on cost causative factors). Bills for all amounts due for services and expenses are to be rendered as soon as practical after the last day of each month, or such other period as may be agreed upon by the respective parties, computed pursuant to the Service Agreement. National Fuel, NFGDC-NY, National Fuel Gas Supply Corporation, Empire Pipeline, Inc., Seneca Resources Corporation, National Fuel Resources, Inc., and National Fuel Gas Midstream Corporation are the affiliates listed in the Service Agreement. Services provided by Seneca Resources Corporation, National Fuel Resources, Inc. and National Fuel Gas Midstream Corporation are not described in the Service Agreement, due to the relatively small dollar value of these transactions with NFGDC. Services provided in the Service Agreement are detailed in Exhibit V-1.

Exhibit V – 1
National Fuel Gas Company
Services Provided by Parent or Affiliates per Affiliated Service Agreement

National Fuel Gas Company		
• Executive	• Financing	• Office Space Rental
National Fuel Gas Distribution Corporation		
• Accounting	• Accounts Payable	• Asset Management
• Audit Services	• Benefit Administration	• Budget
• Cash Management	• Corporate Communications	• Credit, Collections & Receivables Management
• Engineering	• Executive	• Finance - General
• Financial Planning	• Government Affairs	• Human Resources
• Information Services	• Investor Relations	• Land
• Leasing	• Legal	• Materials Management
• Operating & Maintenance - Distribution	• Operating & Maintenance - Gathering	• Operating & Maintenance - Transmission
• Payroll	• Purchasing	• Risk
• Security	• Tax	• Telecommunications
National Fuel Supply Corporation/Empire Pipeline, Inc.		
• Engineering	• Leasing	• Legal
• Operating & Maintenance - Distribution	• Operating & Maintenance - Gathering	

Source: Data Request No. AI-11

A Cost Assignment and Allocation Manual (CAAM) identifies the procedures that National Fuel and its affiliates follow in assigning and allocating costs among business units, among regulated services and non-regulated business activities, and among jurisdictions. Cost allocations are premised on the use of a fully distributed cost allocation method. All direct and indirect expenses such as labor, materials, and other related expenses are included in the cost of the various business activities performed. In addition, overhead charges, which include fringe benefits, department overhead, and corporate overhead, are applied to the direct and indirect labor charges to arrive at a fully distributed cost for each business activity performed. All resulting cost allocations are predicated on some relevant measure of cost causation for that business activity.

National Fuel follows a three-step approach to its allocation process. To the greatest extent practical, all costs that can be specifically attributed to a business unit are directly charged to that business unit. Secondly, indirect costs that cannot be directly charged are allocated to business units based on a causal relationship such as the level of activity within various business units, the level of output for each business unit, or the resources consumed by each business unit. The indirect costs are accumulated into clearing accounts or homogeneous pools and are allocated to various business units based on causal relationships. In the third step, any remaining costs which cannot be associated with a specific, identifiable, causal relationship, are pooled and allocated to business units based on common factors. The three-step approach is based on the philosophy that cross-subsidization between the regulated entities and non-regulated business activities of National Fuel is avoided and that all operations are charged for their proper share of costs.

NFGDC's Accounting Department uses PeopleSoft Financials for its accounting records and to develop its financial statements. When an affiliate transaction occurs, intercompany receivables and payables balances are updated automatically to reflect the transaction. Goods or services provided by affiliated companies for NFGDC-PA are shown in Exhibit V-2; while goods or services provided by NFGDC-PA for affiliated companies are shown in Exhibit V-3.

Total goods and services provided by affiliated companies for NFGDC-PA increased from $57.9 million in the fiscal year ended September 30, 2014, to $64.5 million in the fiscal year ended September 30, 2016, an increase of 5.56% per year. Total goods and services provided by NFGDC-PA for affiliated companies decreased from $12.5 million in the fiscal year ended September 30, 2014 to $6.0 million in the fiscal year ended September 30, 2016, a decrease of 30.75% per year.

NFGDC's Audit Services Department (Audit Services) has performed internal audits related to affiliate transactions during the period 2014 through 2016. Audits of the common cost allocation process and Gas Supply Administration Department (Gas Supply) were completed in July 2015 and December 2016, respectively. The results of the audit were satisfactory and there were no major findings. The internal audit of selected areas of the Gas Supply evaluated the capacity release program, regulatory reporting, and cost allocation. Regarding cost allocation, the Audit Services Department reviewed the processes for gas planning, gas purchases, and gas accounting to ensure costs were properly charged to NFGDC-NY and NFGDC-PA. Likewise, no significant issues or findings were noted.

The common cost allocation process involves the allocation of administrative and general salaries, office supplies, and expenses of a general nature that benefit the operations of more than one subsidiary of National Fuel. Common costs are allocated using a three-factor allocation method implemented in October 2014, in response to a management audit conducted by a consultant for the New York Public Service Commission. The three factors are net plant, throughput, and operations and maintenance expense. Prior to October 2014, common costs were allocated using a five-factor allocation method.

Exhibit V – 2
National Fuel Gas Distribution Corporation
Goods or Services Provided by Affiliated Companies for NFGDC-PA
For the Fiscal Years Ended September 30, 2014, 2015, and 2016

	Sep-14	Sep-15	Sep-16	Compound Growth
National Fuel	$ 8,514,141	$ 7,437,287	$ 7,558,586	-5.78%
Supply Corporation	$ 27,319,182	$ 32,419,082	$ 30,979,602	6.49%
New York Distribution	$ 21,933,367	$ 22,414,060	$ 25,804,016	8.47%
Midstream Corporation	$ 93,833	$ 99,081	$ 132,688	18.92%
National Fuel Resources	$ 1,776	$ 1,776	$ 1,776	0.00%
TOTALS	**$ 57,862,299**	**$ 62,371,286**	**$ 64,476,668**	**5.56%**

Source: Data Request No. AI-02 and Auditor Analysis

Exhibit V – 3
National Fuel Gas Distribution Corporation
Goods or Services Provided by NFGDC-PA for Affiliated Companies
For the Fiscal Years Ended September 30, 2014, 2015, and 2016

	Sep-14	Sep-15	Sep-16	Compound Growth
National Fuel	$ 338,586	$ 193	$ -	-100.00%
Supply Corporation	$ 4,479,908	$ 4,153,599	$ 3,335,323	-13.72%
New York Distribution	$ 7,019,460	$ 3,429,667	$ 2,870,417	-36.05%
Midstream Corporation	$ 58,078	$ 138,661	$ 79,879	17.28%
National Fuel Resources	$ 293,157	$ (237,987)	$ (513,772)	NA
Seneca Resources	$ 216,839	$ 191,805	$ 162,083	-13.54%
Empire Pipeline	$ 47,662	$ 26,769	$ 37,808	-10.94%
TOTALS	**$ 12,453,690**	**$ 7,702,707**	**$ 5,971,738**	**-30.75%**

Source: Data Request No. AI-02 and Auditor Analysis

National Fuel maintains two ring fencing protections for NFGDC's access to liquidity. As discussed in Chapter VI – Financial Management, National Fuel and its subsidiaries (including NFGDC) manage short-term financing needs through a money pool. Under the arrangement, National Fuel makes loans available to its subsidiaries, using the proceeds of borrowings from various sources such as commercial paper, short-term lines of credit, demand credit facilities, revolving lines of credit, and/or committed credit facilities. The Fourth Amended and Restated Money Pool Agreement (Money Pool) was filed with the Commission on February 25, 2009 at Docket No. G-2009-2092081, and approved via Secretarial Letter on June 4, 2009. Stipulations of the money pool include provisions for NFGDC to only borrow available cash from the Money Pool, and a prohibition for NFGDC to lend any excess cash balances. This ensures that any cash that NFGDC may have is only for its use, and cannot be used to fund the business operations of National Fuel's other subsidiaries. Furthermore, NFGDC has borrowing priority over all other participants in the Money Pool. In addition to the Money Pool, National Fuel remains committed to its investment grade credit rating. This commitment has been stated publicly to investors, as well as communicated directly to the credit rating agencies, and state regulatory commissions. To support this commitment, National Fuel's management is focused on prudent financial decision making. Consequently, National Fuel has kept an investment grade credit rating for each of the last three years. In addition, National Fuel ensures the availability of ample short-term liquidity, as a safeguard, in case of any sustained inability to access the long-term capital markets. NFGDC does not have its own credit rating, long-term borrowings or short-term credit facilities. However, if its financial condition changed, National Fuel would evaluate other ways in which to finance NFGDC's operations, including obtaining financing directly at NFGDC. There would, however, be significant costs associated with undertaking this and, to date, there has been no demonstrated reason as to why this would provide a material benefit to ratepayers that would offset the significant costs of doing so.

Factors to be considered if National Fuel and NFGDC were to separate their long-term debt issuances include the following:

- National Fuel is index-eligible in the public debt markets, which means there is a substantially larger supply of fixed income investors that can participate in the debt offering. This would provide National Fuel with more pricing power. For example, if NFGDC were to issue $100 million, it would likely have to use the private placement market as opposed to the index-eligible public market. In either case, the number of fixed income investors is dramatically reduced, which would almost certainly increase the cost to NFGDC. Furthermore, if NFGDC accessed the private placement market, it would likely be subject to restrictive covenants, or required to secure its debt with assets.

- Given its limited size, NFGDC would also lack liquidity. Liquidity is important to investors as they want to retain the ability to divest an investment prior to maturity, efficiently and without significantly affecting the price at which they would be selling their investment. Investors typically ask for a premium to cover the potential challenges faced with illiquid debt.

- NFGDC (as a standalone issuer) would be considered a new issuer, which historically has entailed a premium to a similarly situated company. The premium results from fixed income investors' lack of familiarity with NFGDC, along with no secondary trading levels from which to base pricing for a new issuance. Investors typically require a premium to invest in a new issuing entity.

NFGDC would not be able to share the costs of an issuance, in addition to the interest rate, with National Fuel's other subsidiaries. For example, on National Fuel's 2015 issuance of $300 million, in addition to underwriter's fees (which can change based on size and type of issuance), National Fuel incurred more than $1.3 million in fees (i.e., legal, audit, rating agencies, etc.). These fees are not generally affected by the size of an issuance, and therefore ratepayers would be burdened with the full load of these fees, as opposed to allocating them across the various National Fuel subsidiaries. Furthermore, NFGDC would need to obtain its own credit rating, become an SEC registrant, and create separate audited financial statements, among other things. These costs are difficult to estimate with any type of precision because of the need to bid these services out via a Request for Proposal process, but regardless, there would be a substantial added cost that would need to be borne by the ratepayers.

Findings and Conclusions

Our examination of the Affiliated Interests and Cost Allocations function focused primarily on a review of contracts and agreements governing transactions among affiliates, cost allocation methodologies, training efforts, compliance with existing allocation policies and practices, a review of ring-fencing efforts, competitive safeguards, etc. Based on our review of NFGDC's affiliated transactions, no evidence came to our attention that would lead the Auditors to conclude that the areas reviewed were inadequately addressed.

Recommendations

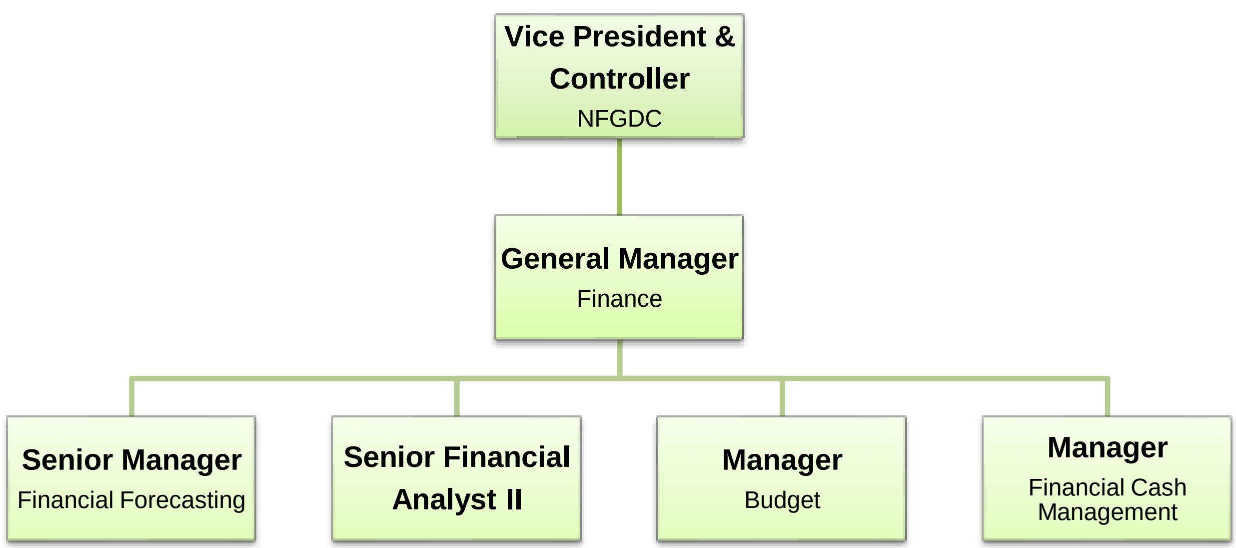
None

VI. FINANCIAL MANAGEMENT

Background

National Fuel Gas Company (National Fuel) is the parent of National Fuel Gas Distribution Corporation (NFGDC or company). NFGDC's Finance Department is divided into Financial Forecasting, Budgeting, and Cash Management groups. As shown in Exhibit VI-1, NFGDC's General Manager of Finance reports to the Vice President and Controller. The General Manager of Finance had four direct reports as of March 2017: Senior Manager of Financial Forecasting, Senior Financial Analyst II, Manager of Budget, and Manager of Financial Cash Management. The Senior Manager of Financial Forecasting and the Senior Financial Analyst II are responsible for projecting NFGDC's future financial outcomes and capital markets activity. The Manager of Budget is responsible for coordinating the preparation of the operations and maintenance budget, tracking expense levels, and communicating spending patterns to management. The Manager of Financial Cash Management is responsible for the collection, concentration, and disbursement of cash.

Exhibit VI – 1
National Fuel Gas Distribution Corporation
Finance Organization
As of March 2017



Source: Data Request EM-02

Short-term borrowings for National Fuel and its subsidiaries are completed through the Money Pool. The Money Pool is funded by various borrowing facilities, including: short-term lines of credit, demand credit facilities, revolving lines of credit, committed credit facilities, and commercial paper facilities. In addition, most subsidiaries, except for NFGDC, can invest surplus cash in the Money Pool. National Fuel arranges long-term borrowings for NFGDC by issuing securities in public offerings or through private placement. NFGDC issues promissory notes to National Fuel, to secure debt capital. Interest rates and maturity dates of NFGDC's promissory notes are governed by the maturity dates and interest rates for debentures, or notes issued by National Fuel. Because NFGDC does not issue its own debt securities (described in greater detail in Chapter V), it does not have a credit rating from a major credit rating agency. National Fuel's Standard & Poor's (S&P) corporate credit rating was BBB as of February 14, 2017. An obligor rated 'BBB' has adequate capacity to meet its financial commitments. However, adverse economic conditions or changing circumstances are more likely to lead to a weakened capacity of the obligor to meet its financial commitments. An investment grade credit rating by S&P is BBB- or higher. NFGDC's long-term notes payable to National Fuel are shown in Exhibit VI-2. Interest payments are provided by NFGDC to the parent on a semi-annual basis.

Exhibit VI – 2
National Fuel Gas Distribution Corporation
Notes Payable to National Fuel Gas Company
As of December 31, 2016

Note #	Issued	Matures	Interest Rate	Principal ($000)
93-2	3/30/1993	3/30/2023	7.46%	$49,000
95-1	6/12/1995	6/13/2025	7.50%	$50,000
08-1	4/11/2008	4/15/2018	6.69%	$100,000
09-1	4/6/2009	5/01/2019	8.93%	$125,000

Source: Data Request No. FM-03

The Operations and Maintenance (O&M) Budget is prepared annually for each fiscal year, ending September 30th. The O&M Budget is a detailed plan outlining the acquisition and use of resources for the fiscal year. National Fuel's Budget Manual, prepared, by the Budget Group, describes the budget process and guides budget preparers and department heads with the preparation of the annual budget. Also, various pertinent information, such as loading rates, are available on the Budget group's website. The responsible person, usually the department head, reviews and approves their budget presentation and submits their budget for approval. The Budget group's function is to help budget preparers and responsible persons in the creation and allocation of the budget; with general guidance and assistance with monthly variance analysis, mid-year and third quarter projections, and general budget questions.

The O&M budget process begins in March with training provided to the budget preparers for the upcoming budget year. The budget preparers are designated individuals from each department, responsible for preparing the budget for the next fiscal year. The formal budget process begins in May, with the budget preparers developing their respective O&M budgets. The proposed budgets are submitted to the Budget group and entered in the PeopleSoft Budget module. Usually in June, each department makes their budget presentations to senior officers and the Budget group. During July to mid-August, the President of each subsidiary may modify the proposed budgets. Each budget preparer will then make any required adjustments on their Record of Annual Budget, and the Budget group modifies this in the PeopleSoft budget module. The President of each subsidiary will then approve the final budget, after which it is "locked down" for the year. This finalization occurs in time for the Board of Directors meeting, usually in September.

O&M budget variance analyses are performed using PeopleSoft-generated budget reports. Each month, reports are prepared for each budget, identifying variances by budget item. Each budget area is responsible for determining and reporting the causes of all significant variances. Four criteria are used to decide which of the variances are worthy of attention: materiality, consistency of occurrence, ability to control, and nature of the expense. Budget standards are also applied when reviewing variances. The Budget group compiles variance information from each budget area into a variance report, which is reviewed by the Controller, Treasurer, and the President.

Twice a year, once in April and again in July, each department must give an O&M budget update. This update includes a brief narrative of any major changes in the budget projection. Total O&M budget expenses for NFGDC-PA were 4.34% under budget for the fiscal year ended September 30, 2014, 2.75% over budget for the fiscal year ended September 30, 2015, and 7.70% under budget for the fiscal year ended September 30, 2016.

An annual capital budget is prepared for each National Fuel subsidiary. Capital spending is budgeted and tracked by plant account and activity type. As with the O&M budget, the capital budget is prepared for NFGDC's fiscal year (i.e., October 1st through September 30th). The preparation of capital budgets is administered by the Engineering Services Department under the direction of the Assistant Vice President. The General Manager, who reports to the Assistant Vice President, is responsible for NFGDC's capital budget. The Engineering Services Department is described in greater detail in Chapter VII - Gas Operations (see Exhibit VII-3).

Capital budget development and monitoring is the responsibility of capital spending coordinators for the various plant accounts and activity types. It is also the responsibility of department heads and executive management. After an initial executive review, a budget presentation is made by the capital spending coordinators, for NFGDC officers. The presentation includes a detailed budget review, special project justifications, a system integrity review, and an identification of the primary budget drivers. After the budget presentation, any final changes are incorporated, and the budget is sent to senior management for approval. The budget, as part of National Fuel's financial forecast, is then presented to the Board of Directors for approval.

Capital spending and budget variances are reviewed monthly at capital budget meetings attended by department heads and executives, Engineering Services Department personnel and Operations Department personnel. Budget reports which summarize the approved annual budget against fiscal year-to-date spending as of the prior month end, are presented and reviewed. Available capital budget and remaining forecasted spending are reviewed, in addition to the progress of major construction projects and pending work. Previous fiscal year-to-date spending is included for comparative purposes. Pending project schedules and discretionary spending are adjusted, as required, to meet program requirements, and regulatory and corporate goals.

Total capital expenditures for the base budget, which includes the total of Production Plant, Transmission Plant, Distribution Plant, and General Plant for NFGDC-PA, were 8.1% under budget for the fiscal year ended September 30, 2014, 0.4% under budget for the fiscal year ended September 30, 2015, and 3.6% under budget for the fiscal year ended September 30, 2016. For the period 2012 to 2016, the capital budget variance was just 0.13% under the base budget. Special projects are budgeted and monitored separately from the base budget. Any special project underspending that occurs is re-budgeted in the subsequent fiscal year, and is not re-allocated to the NFGDC-PA base budget, nor re-allocated to any other subsidiaries. Likewise, any special project overspending that occurs would reduce the budget in the subsequent fiscal year.

NFGDC-PA's net income and dividends for each of the last three years are shown in Exhibit VI-3. The dividend amounts, which are paid to National Fuel, are not excessive and allow for adequate investment in NFGDC-PA.

Exhibit VI – 3
National Fuel Gas Distribution Corporation
NFGDC-PA Dividend Payout Ratio
For the Fiscal Years Ended 9/30/2014 through 9/30/2016

Year	9/30/2014	9/30/2015	9/30/2016
Net Income ($000)	$32,729	$27,059	$22,045
Dividends Paid ($000)	$13,602	$11,685	$12,968
Ratio*	41.6%	43.2%	58.9%

*Dividends paid as a percentage of net income
Source: Data Request No. FM-42

NFGDC's (i.e., New York and Pennsylvania Divisions combined) interest coverage ratio over the last three years was strong, as shown in Exhibit VI-4. Analysts typically prefer to see a ratio of 3.0 or better.

Exhibit VI – 4
National Fuel Gas Distribution Corporation
Interest Coverage Ratio
For the Fiscal Years Ended 9/30/2014 through 9/30/2016

Year	9/30/2014	9/30/2015	9/30/2016
EBITDA ($000)	164,643	165,720	148,683
Interest Expense ($000)	27693	28,176	27,582
Interest Coverage Ratio	5.95	5.88	5.39

EBITDA = Earnings before interest, taxes, depreciation, and amortization
Source: Data Request No. FM-42

The funded status of National Fuel's Retirement Plan (Retirement Plan) and its Other Post-Employment Benefits Plan (OPEB Plan) is shown in Exhibits VI-5 and VI-6. Both plans are considered qualified defined benefit plans. National Fuel stopped admitting new participants to the Retirement Plan in 2003. At the current pace of funding, the company's actuarial firm expects National Fuel to achieve full funding of the Retirement Plan and OPEB Plan within five to ten years. Full funding of each plan depends on discount rate changes, asset returns, changes in mortality assumptions, and deviations between actual and expected benefit payments.

Exhibit VI – 5
National Fuel Gas Distribution Corporation
Retirement Plan Funding Status
For the Fiscal Years Ended 9/30/2015 and 9/30/2016

Year	9/30/2015	9/30/2016
Benefit Obligation ($000)	$1,026,190	$1,097,421
Fair Value of Assets ($000)	$834,870	$869,775
Funded Status	81.4%	79.3%

Source: Data Request No. FM-46

Exhibit VI – 6
National Fuel Gas Distribution Corporation
Other Post-Employment Benefits Plan Funding Status
For the Fiscal Years Ended 9/30/2015 and 9/30/2016

Year	9/30/2015	9/30/2016
Benefit Obligation ($000)	$464,987	$526,138
Fair Value of Assets ($000)	$477,959	$494,320
Funded Status	102.8%	94.0%

Source: Data Request No. FM-46

Findings and Conclusions

Our examination of the Financial Management function focused primarily on a review of accounting policies and procedures, the capital and O&M budget process, budget variance tracking and reporting, capital structure, long-term and short-term financing, the pension plan, and dividend policies. Based on our review, no evidence came to our attention that would lead the auditors to conclude that the areas reviewed were inadequately addressed.

Recommendations

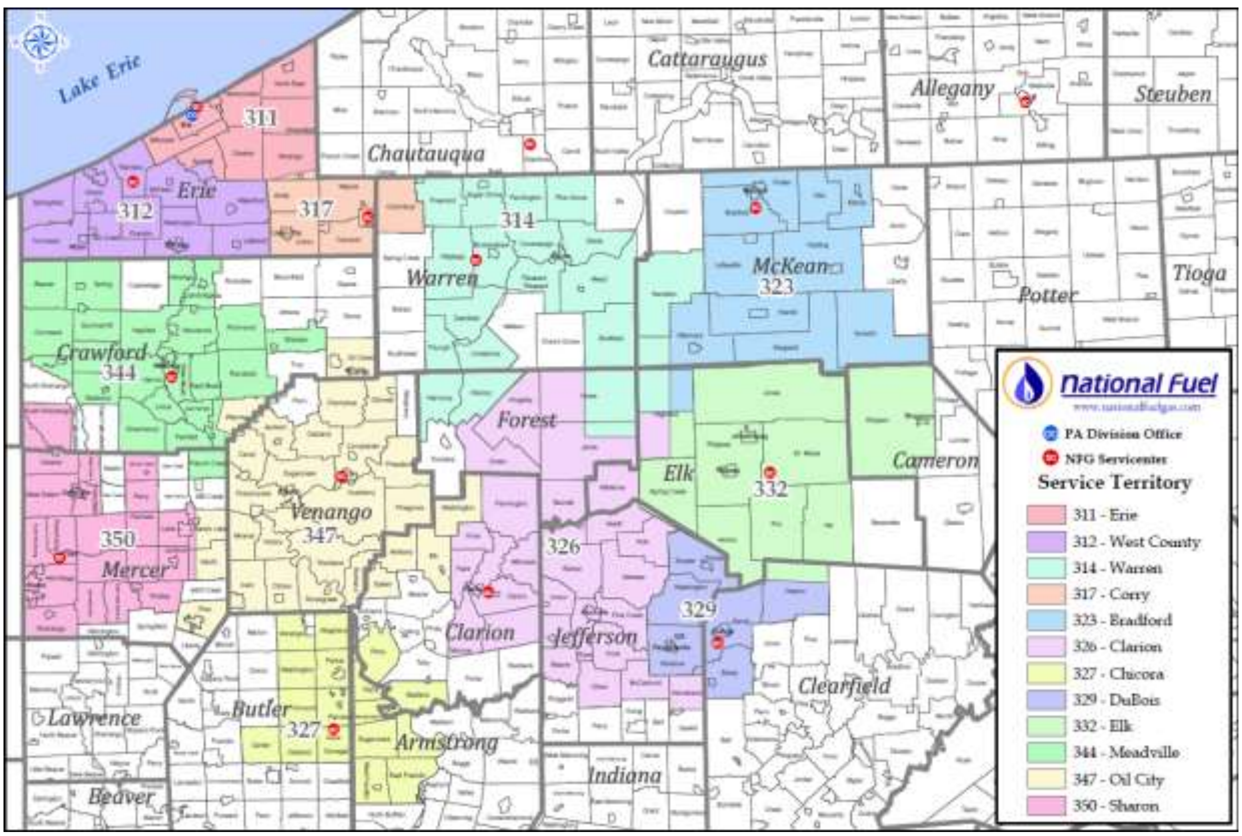
None

VII. GAS OPERATIONS

Background

National Fuel Gas Distribution Corporation (NFGDC or company) has separate groups for performing New York (NFGDC-NY) and Pennsylvania (NFGDC-PA) field operations. The Pennsylvania field operations are divided into 12 service centers. The 12 service centers are displayed in Exhibit VII-1. The Pennsylvania Division Office located in Erie is near, but at a separate location from, the Erie Service Center. As of August 2017, NFGDC indicated there are no plans to alter any service centers or field operation functions.

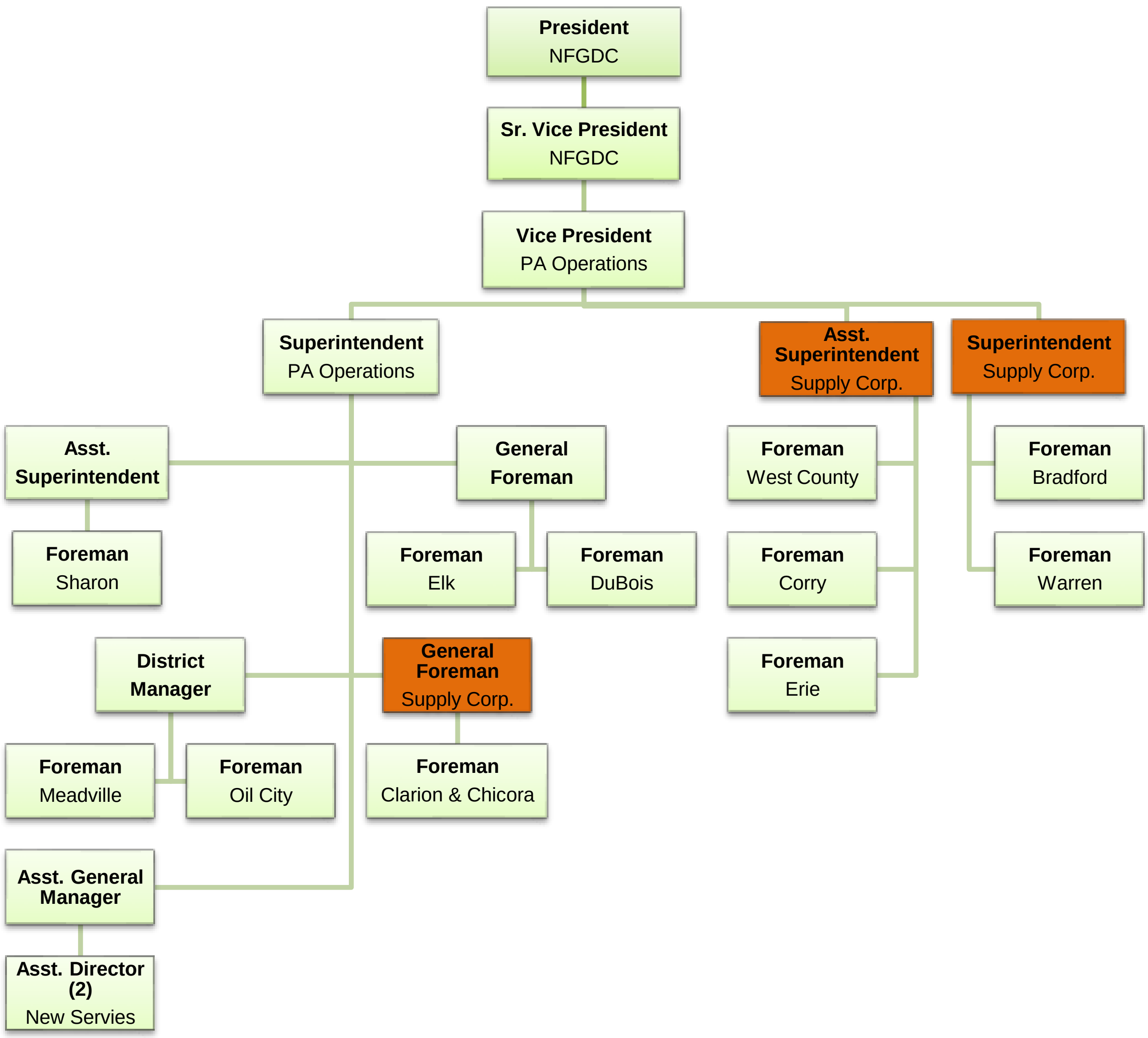
Exhibit VII - 1
National Fuel Gas Distribution Corporation
Pennsylvania Service Centers
As of August 2017



Source: Data Request GO-2

As shown in Exhibit VII-2, NFGDC-PA's field operations are directed by a Vice President. The Vice President reports to the Senior Vice President of NFGDC, and has two Superintendents and an Assistant Superintendent as direct reports. It should be noted that NFGDC has interactions with Supply Corporation, regarding operations, and there are occurrences of NFGDC employees reporting to positions that are from these affiliates (i.e., General Foreman of the Erie Service Center reporting to the Assistant Superintendent from Supply Corporation). The Foremen provide oversight of the 12 service centers and report indirectly to the Vice President. Reporting to the Foremen are positions that generally include fitters, measurement and regulation, service specialists, meter readers, crew chiefs, administrative, and clerk positions.

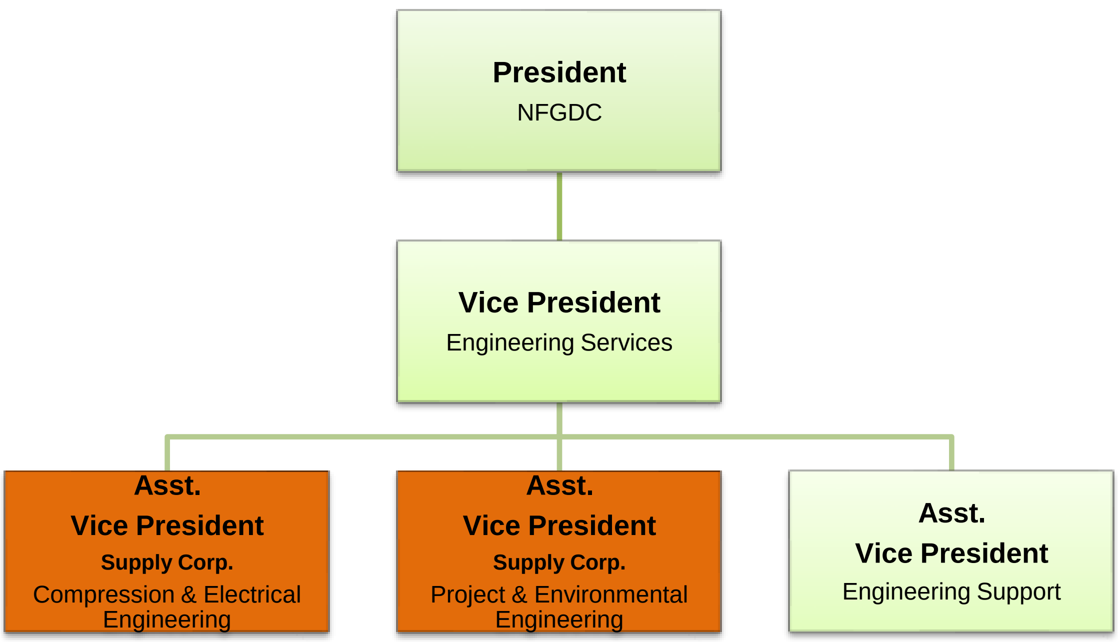
Exhibit VII - 2
National Fuel Gas Distribution Corporation
Pennsylvania Operations Department
As of March 2017



Source: Data Request EM-2

The Engineering Services Department supports the Pennsylvania Operations Department. The Engineering Services Department is primarily responsible for maintaining the Geographical Information System (GIS), the Pipeline Replacement Evaluation Program (PREP), and assisting with leak analysis (used in conjunction with PREP). The Engineering Services Department is under the direction of the Vice President of Engineering Services. Three Assistant Vice Presidents report to this position - the Assistant Vice President of Compression and Electrical Engineering (Supply Corporation); the Assistant Vice President of Project and Environmental Engineering (Supply Corporation); and, the Assistant Vice President of Engineering Support. The organizational structure of the Engineering Services Department is displayed in Exhibit VII-3.

Exhibit VII - 3
National Fuel Gas Distribution Corporation
Engineering Services Department
As of March 2017



Source: Data Request EM-2

To ensure uniform unaccounted-for gas (UFG) reporting, the PUC adopted standard reporting requirements for UFG calculations in 2013 at 52 Pa. Code § 59.111. The standard reporting requirements distinguish and separate the UFG values for distribution, transmission, storage, and gathering losses. The auditors investigated UFG calculations based on the standard reporting requirements and found that NFGDC was properly calculating and including the necessary adjustments as identified in the PA Code. Additionally, NFGDC's reported UFG levels are well within the distribution metrics specified in 52 Pa. Code § 59.111.

For a considerable number of years, NFGDC has been continuously updating and configuring their GIS to increasingly assist in mapping accuracy for pipeline and equipment locations, leak analysis, economic efficiency in pipeline replacement, and gas modeling. The GIS has enhanced features so that thorough system details can be investigated when needed. Details for system components (i.e., pipe, regulators, compressors, relief valves, etc.) are available to the user, as well as installation date, operating pressure, contractor(s) involved (if applicable), and project identification numbers when the component was installed. Specific to piping, this includes material type, size, pressure, and type of installation (e.g., trenchless, bore, insertion, etc.). This information is available to both office users and field operations personnel. This is especially useful when valves need to be isolated and shut off (or where the pipe can be squeezed if needed) resulting from line hits. The field employees can access the GIS on their mobile unit and input the location of the line hit. The GIS (and its various interacting software programs) can show the field employee all valves that are connected to that location, and suggest which valves need to be shut off, in order to stop gas flow to that location. These capabilities are also useful to designers, planners, and marketers by using what is called synergy gas modeling. This involves taking the existing system design and making virtual changes to the system to measure the impact.

The Leak Cluster Analysis (LCA) module, which interacts with the GIS, is used to monitor and map leak history in the system based on locations, frequency, and severity of leaks (e.g., type 1, 2, or 3 leaks). Existing leaks, as well as a history of previously repaired leaks, are displayed with the LCA. As with the GIS, the company is continually modifying the capabilities of the LCA, to better assist engineers (e.g., a recent initiative was to include latitude and longitude coordinates associated with each leak). Similar to the GIS software, each leak can be selected, and more details can be displayed including date of discovery, date of repair, employee involved in the repair, class of leak, history of leak, etc. Leak histories for the system have been available since 1995. The basic premise of the LCA is to select a radius for a given leak, to generate a cluster of surrounding leaks within the chosen radius. A table is then produced which shows the total number of clusters in the system. This table not only shows the leak clusters (which include the individual leaks in the clusters) but it also shows the operations and maintenance (O&M) cost per leak, O&M cost per cluster, and the weighted costs associated with the leak based on the location within the system (i.e., higher O&M costs are prevalent with pipes located under pavement in urban areas).

The PREP system is used to evaluate the most needed and most economic pipeline replacements, by considering risk factors from the company’s Distribution Integrity Management Plan (DIMP). This includes leak factors such as type, location, size, depth, frequency of repairs, type of soil, and surface and material type. Additionally, leak forecasting is completed by the material type (a bare steel section is expected to have more future leaks than coated steel or plastic).

Based on the 2016 Department of Transportation (DOT) annual report (which contains data as of mid-year 2016), NFGDC-PA had 1,140 miles of bare steel and wrought iron main in its system. NFGDC indicated that it intends to replace about 38 miles of antiquated pipe per year which corresponds to a 30 year replacement rate.

Based on the review of the previously mentioned GIS, LCA, and PREP capabilities in addition to historical analysis shown in Exhibit VII-4 (i.e., staffing, capital investment, pipeline replacement miles, and outstanding leaks/leak repair rate), the auditors believe the company has established a reasonable and attainable goal to replace all bare steel and wrought iron segments within 30 years.

Exhibit VII – 4
National Fuel Gas Distribution Corporation
Analysis of Historical Staffing, Capital Investment,
Pipeline Replacement and Outstanding Leaks
For the Years 2005 through 2016

	Operations Staffing	Capital Investment for Pipe Replacment ($)	Wrought Iron Replaced (Miles)	Bare Steel Replaced (Miles)	Protected Steel Replaced (Miles)	Plastic Replaced (Miles)	Fiberglass Replaced (Miles)	Total Pipe Replaced (Miles)	No. Leaks Oustanding @ End of Year
2005	219	$4,457,261	3.04	34.52	0.46	6.74		44.76	1,908
2006	215	$4,905,274	1.37	35.05	0.35	4.99		41.76	1,612
2007	219	$7,004,694	2.54	39.26	1.12	8.64		51.56	1,619
2008	230	$6,935,232	1.9	37.16	0.19	11.05		50.31	1,564
2009	226	$6,420,584	4.3	36.27	0.26	9.29		50.13	1,414
2010	219	$6,543,668	0.4	39.60	1.40	11.12		52.51	995
2011	211	$6,006,968	1.03	36.57	0	8.45		46.05	1,012
2012	212	$6,186,778	3.81	29.55	0.78	7.22		41.36	877
2013	214	$7,061,036	0.13	24.94	2.15	8.21		35.44	761
2014	218	$5,486,621	0.51	20.31	1.81	7.14		29.77	643
2015	233	$6,666,947	0.18	25.77	1.89	8.67	1.12	37.64	604
2016	239	$9,791,001	1.13	36.92	2.65	9.84		50.54	477

Source: Auditor analysis from Data Requests GO-7, 11, 15, 27, 53, 54, 55, 57, and 58.

Moreover, future capital investment projections in Pennsylvania, demonstrate NFGDC's intended commitment to invest in infrastructure replacement for the following years:

- 2017 - $8.650M
- 2018 - $9.125M
- 2019 - $9.175M
- 2020 - $9.575M
- 2021 - $9.625M
- 2022 - $9.525M

One area of more significant investigation for the auditors was the noted reduction in the replacement of bare steel from 2013 to 2015. The company stated that during this period, it completed high-pressure steel replacement projects (including a multi-year plan to address pipeline exposures on distribution pipelines), at a higher unit cost, as compared to traditional distribution pipeline replacement projects. During this period, the company also completed several leak-prone plastic replacement projects resulting from its DIMP and Plastic Integrity Program. Although these system improvement projects resulted in a temporary reduction in bare steel main replacement mileage, they were necessary in order to ensure system safety and reliability. For this reason, the auditors reviewed an extended 12-year period for this analysis, which included a period before the 2013 to 2015 reduction, to confirm NFGDC's assertion of its previous pipeline replacement levels. The auditors feel that it is a reasonable conclusion that the Company will return to previous replacement levels.

Findings and Conclusions

Our examination of Gas Operations function included a review of assigned responsibilities, policies and procedures, capital and operations and maintenance budgets and expenditures, system operations, preventative maintenance, capital planning, workforce management, emergency response, gas control, unaccounted-for-gas, safety, GIS, PREP, etc. Based on our review, no evidence came to our attention that would lead the auditors to conclude that Gas Operations-related functions were inadequately addressed.

Recommendations

None

VIII. CUSTOMER SERVICE

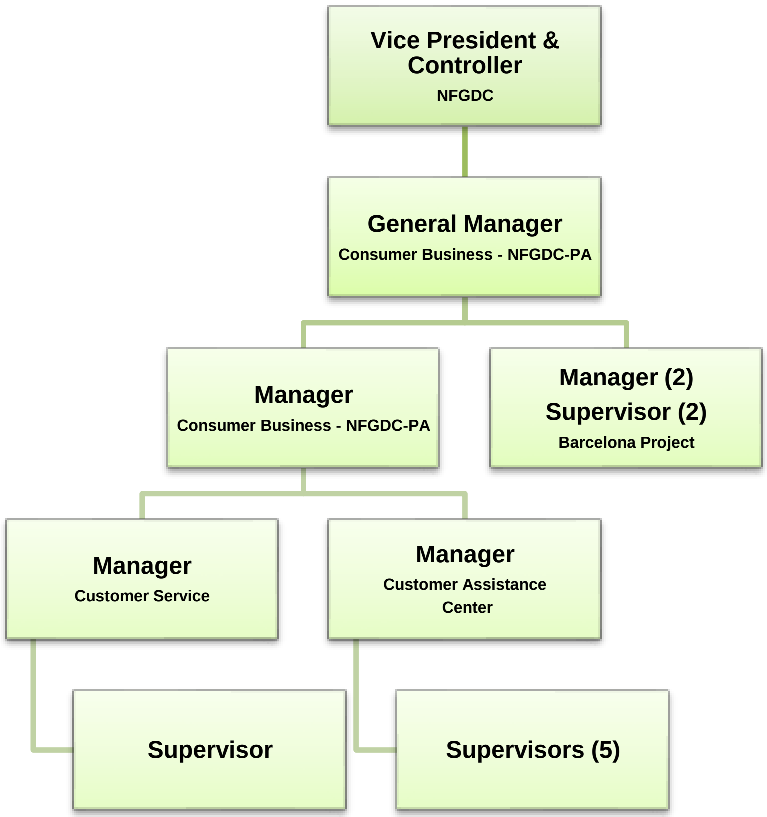
Background

As previously discussed, National Fuel Gas Distribution Corporation (NFGDC or company) is a natural gas distribution utility headquartered in Williamsville, New York, owned by National Fuel Gas Company (National Fuel). NFGDC has New York (NFGDC-NY) and Pennsylvania (NFGDC-PA) based field operations that are performed separately. For this chapter, the auditors reviewed the customer service structure and services provided exclusively for the Pennsylvania customers. NFGDC maintains four Departments that provide customer service functions for Pennsylvania:

1) Consumer Business
2) Credit, Collections & Receivables Management (CCRM)
3) Operations
4) Security

Exhibit VIII-1 shows NFGDC-PA's Consumer Business Department. The Consumer Business Manager, who reports directly to the General Manager oversees customer service activities and the Customer Assistance Center. Two managers report directly to the Consumer Business Manager. The Manager of the Customer Assistance Center is responsible for the service level and the quality of the calls taken by the customer service representatives (CSRs) that respond to telephone inquiries from Pennsylvania customers. They also manage clerical and supervisory staff, ensuring CSRs follow corporate policies and procedures, as well as Public Utility Commission (PUC or Commission) regulations. The Manager of Customer Service handles inquiries from walk-in customers, in-person customer payments, account maintenance, order processing, collection activity, etc. In addition, two managers and two supervisors are dedicated to providing Pennsylvania specific support for the implementation of a new Customer Information System (CIS) referred to as the Barcelona Project. The Barcelona Project was initiated to replace the pending obsolescence of legacy systems developed in-house in the late 1980s that had been in use by NFGDC for 26 years. Implementation of the CIS was completed in May 2016.

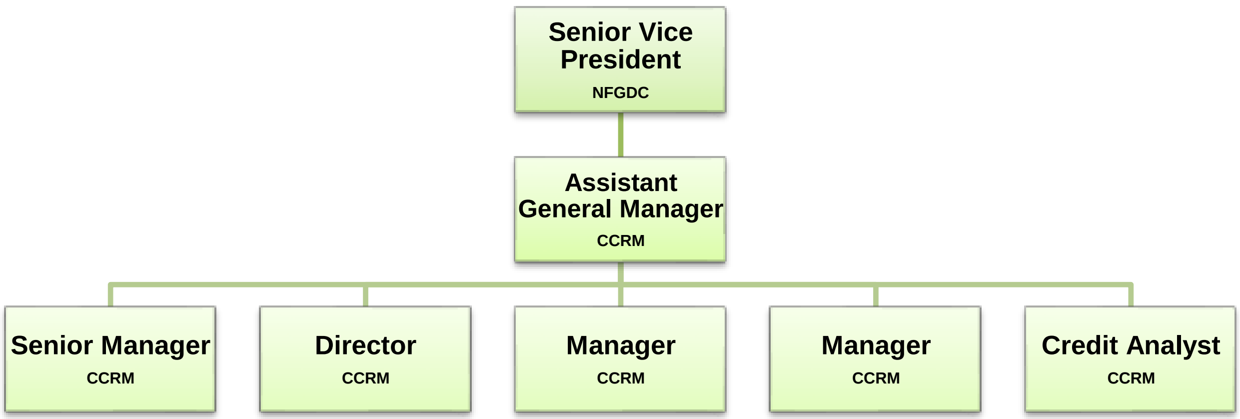
Exhibit VIII – 1
National Fuel Gas Distribution Corporation
Consumer Business Department
As of March 2017



Source: Data Request EM-2

NFGDC's CCRM organization is shown in Exhibit VIII-2. Reporting directly to the Assistant General Manager of CCRM are a director, a senior manager, two managers, and a credit analyst. The Senior Manager's primary responsibilities include credit and collection issues related to NFGDC's final bills and external collection agencies, non-residential customer (i.e., industrial and commercial) accounts, transportation customers and external marketers. The Director's primary responsibilities include credit and collection issues related to National Fuel Gas Supply Corporation and Empire Pipeline, Inc. customers. One of the Managers is responsible for the administration of National Fuel's corporate credit policy that seeks to minimize risk and financial loss to National Fuel. This is accomplished by directly evaluating the financial condition and related credit risk profiles of companies that do business with National Fuel. The other Manager's responsibilities are to prepare quarterly and monthly reports which analyze and report on risk assessment and mitigation of customers and vendors; analyze and forecast receivables, recoveries and bad debts; aid in facilitating the collections and recoveries process; analyze and prepare credit reports on requested vendors and/or customers; assist with methodologies, exhibits and interrogatories for rate cases; and prepare the department budget forecast.

Exhibit VIII – 2
National Fuel Gas Distribution Corporation
Credit, Collections & Receivables Management Department
As of March 2017



Source: Data Request EM-2

NFGDC-PA's Operations Department was previously discussed in Chapter VII – Gas Operation's Exhibit VII-2. The foremen at each service center are generally responsible for the following:

- evaluating new meter reader and customer service hires to ensure all employees are performing safely and efficiently while complying with all company policies and procedures;
- overseeing training initiatives and coordinating daily departmental efforts as well as long-term departmental goals and initiatives;
- monitoring employee productivity, including meter reading reports and collections activities, to evaluate employee success in relation to goals and standards;
- interacting with other service centers to evaluate and maintain manpower requirements and personnel;
- interviewing and recommendations related to meter reading hiring; and
- interacting with new services representatives to maintain an efficient work flow.

It should be noted that NFGDC has interactions with National Fuel Gas Supply Corporation (NFGSC), regarding operations, and there are occurrences of NFGDC employees reporting to positions from NFGSC (e.g., the General Foreman of the Erie Service Center reporting to the Assistant Superintendent from NFGSC). The other responsibilities of the Operations Department are discussed in detail on pages 36 and 37 of the report in Chapter VII, Gas Operations.

NFGDC's theft of service program is coordinated through its Security Department. An Investigator for NFGDC-PA inspects any possible theft of service conditions that have been identified. The Investigator also helps the Operations Department with meter access issues, and builds relationships with local law enforcement agencies. NFGDC-PA's Security Department is shown in Exhibit VIII-3. Other responsibilities of the Security Department are discussed in Chapter X, Emergency Preparedness and Chapter XI, Human Resources.

Exhibit VIII – 3
National Fuel Gas Distribution Corporation
Security Department
As of March 2017

Source: Data Request EM-2

Findings and Conclusions

Our examination of the Customer Service function included a review of the organizational structures, current policies and procedures, performance measures and levels, customer information systems, the call center, universal service programs, credit and collections procedures, theft of service, and meter reading. Based on our review, NFGDC should initiate or devote additional effort to improving the efficiency and/or effectiveness of its Customer Service function by addressing the following issues:

1. NFGDC-PA gross write-offs were higher than a panel average of Pennsylvania Natural Gas Distribution Companies (NGDCs).

NFGDC-PA's gross write-offs for residential customers were compared to a panel average of the Pennsylvania NGDCs (excluding Philadelphia Gas Works (PGW)), which appear in the PUC's Bureau of Consumer Services (BCS) Reports on Universal Service Programs and Collection Performance for the years 2012 through 2016. As shown in Exhibit VIII-4, NFGDC-PA was higher than a panel average of Pennsylvania NGDCs in all five years.

Exhibit VIII – 4
National Fuel Gas Distribution Corporation
Gross Write-offs Compared to a Panel of
Pennsylvania Natural Gas Distribution Companies
For the Years 2012 through 2016

	2012	2013	2014	2015	2016
Columbia	2.80%	2.00%	2.20%	2.50%	2.20%
Peoples	0.30%	3.60%	2.60%	4.30%	4.40%
Equitable	1.90%	1.90%	2.00%	1.10%	2.20%
PECO	0.70%	0.50%	0.50%	0.60%	0.30%
UGI Gas	2.30%	2.20%	3.00%	3.30%	2.50%
UGI Penn	1.80%	1.60%	2.20%	2.70%	2.25%
Panel average	1.63%	1.97%	2.08%	2.42%	2.25%
NFGDC-PA	2.60%	2.20%	2.10%	3.30%	3.20%

Source: 2012-2016 BCS Reports on Universal Service Programs and Collections Performance (excludes PGW)

NFGDC-PA claimed that a large decrease in the Low-Income Home Energy Assistance Program (LIHEAP) funding in 2012, and continuous subsequent annual decreases in 2013 through 2015, combined with weather, natural gas prices and economic conditions, affected gross write-off ratios, particularly for their low-income customers. LIHEAP is a federal program that provides financial assistance to needy households for home energy bills. In Pennsylvania, the Department of Human Services administers the LIHEAP program by providing both cash and crisis benefits to low-income households. Cash benefits help low-income customers pay for their home energy needs and crisis payments help with emergency home energy situations. LIHEAP funding was cut by 26% from 2012 to 2015 for all Pennsylvania NGDCs.

NFGDC-PA's percentage of eligible customers enrolled in CAP (Customer Assistance Program) trended down slightly from 2012 (35.2%) to 2016 (33.1%), although still remaining in the top half of NGDCs with regards to performance. The panels average percentage of eligible customers enrolled in CAP improved over the same timeframe (from 29.5% in 2012 to 34.2% in 2016). CAPs are payment assistance and debt forgiveness programs for payment troubled households. NFGDC and other NGDCs work with the customer to determine what the customer can pay versus the cost of energy used. Lower CAP enrollment levels at NFGDC-PA means lower CAP funding, which may have contributed to higher gross write-offs.

As shown in Exhibit VIII-5, NFGDC-PA's percentage of residential customers in debt were compared to a panel average of the Pennsylvania NGDCs (excluding PGW), which appear in the PUC's BCS Reports on Universal Service Programs and Collections Performance for the years 2012 through 2016. BCS requests that for reporting and comparative purposes, the natural gas utilities consider the due date as day zero and to report debt that is at least 30 days overdue (in arrears). BCS stated that NFGDC-PA reports debt that is about 40 days old, which means they are understating their customers in debt relative to the panel average. As shown in Exhibit VIII-5, NFGDC-PA trended upward, as a panel average of Pennsylvania NGDCs trended downward. As collectability of the amounts associated with the customers in debt becomes more difficult, this could lead to increased gross write-offs. If NFGDC-PA's gross write-offs were more in line with the panel average, the company could realize a savings from reduced borrowing from the NFG money pool. Although the current savings appears to be insignificant, it could become material if interest rates for borrowing were to increase.

Exhibit VIII – 5
National Fuel Gas Distribution Corporation
Percentage of Residential Customers in Debt Compared to a Panel of Pennsylvania Natural Gas Distribution Companies
For the Years 2012 through 2016

	2012	2013	2014	2015	2016	Compound Growth Rate
Columbia	9.65%	7.85%	8.49%	7.69%	7.09%	-7.42%
PECO	6.82%	6.94%	6.00%	5.34%	5.28%	-6.20%
Peoples	9.92%	9.12%	8.34%	8.21%	7.56%	-6.57%
Equitable	7.22%	7.76%	7.89%	8.08%	8.75%	4.92%
UGI Gas	8.17%	9.10%	9.87%	9.54%	8.51%	1.02%
UGI Penn	8.98%	10.00%	10.73%	10.21%	8.48%	-1.42%
Panel average	8.39%	8.22%	8.20%	7.79%	7.31%	-3.39%
NFGDC-PA	4.90%	4.94%	5.48%	5.35%	9.02%*	16.48%

*It should be noted that NFGDC installed a new, enterprise-wide customer information system in 2016. During this implementation, limited data was available to assess the percentage of residential customers in debt.
Source: 2012-2016 BCS Reports on Universal Service Programs and Collections Performance (excludes PGW)

2. NFGDC-PA operates with a three-day billing lag.

Customer meters are read bi-monthly by NFGDC-PA. For large commercial and industrial customers, meters are read monthly rather than bi-monthly. Three business days after the scheduled meter reading, a bill is generated. Bills are mailed, or the customer is notified by e-mail that their invoice is available for viewing online. NFGDC-PA batches all meter reads together and does not discern between normal and “other” (i.e., difficult reads). Instead of immediately processing all normal meter reads to be billed, they remain in the batch, while “other” reads are further investigated or initially obtained. NFGDC-PA stated that the lag (from scheduled read date to bill date), provides additional days for field employees to obtain an actual read, in cases where meters could not be read on the scheduled read date (e.g. inside meter without access). In addition, the lag is intended to provide additional time to validate meter reads and associated consumption levels before bills are processed.

At similar utilities, the auditors have typically seen a billing lag to be no greater than one day for normal reads. Normal reads are processed for billing overnight, and the “other” difficult reads are investigated further, and billed later. Although the cost savings associated with avoided borrowing (assuming NFGDC is not in a cash position) would be minimal, the auditors believes it to be a good business practice to limit billing lag to no greater than one day.

Recommendations

1. **Reduce gross write-off levels to more closely align with the panel average of peer gas distribution utilities in Pennsylvania.**

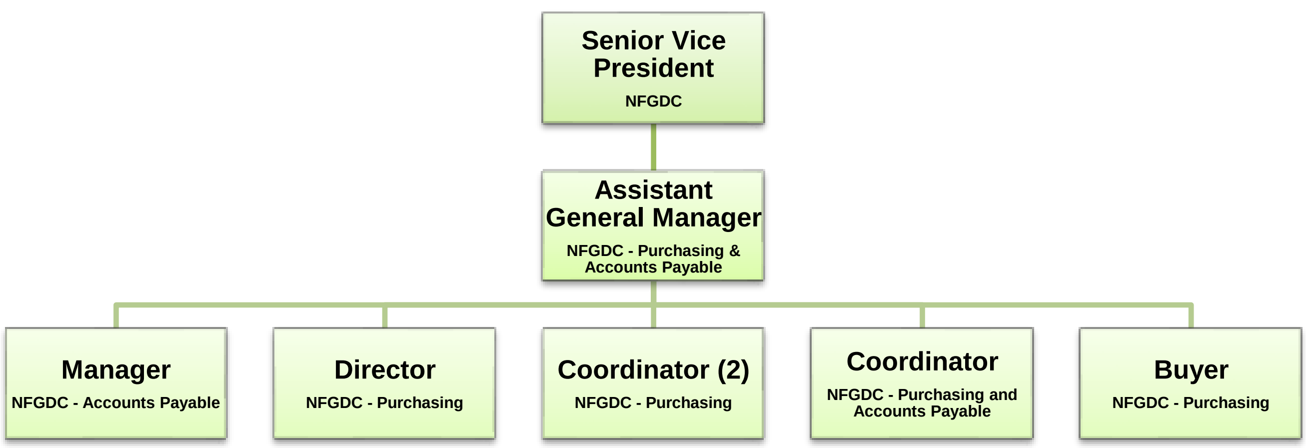
2. **Reduce billing lag by creating a process to issue atypical meter reads separately from the normal billing cycle reads.**

IX. PURCHASING AND MATERIALS MANAGEMENT

Background

As previously discussed, National Fuel Gas Distribution Corporation (NFGDC or company) is a natural gas distribution utility headquartered in Williamsville, New York, owned by National Fuel Gas Company (National Fuel). NFGDC has New York (NFGDC-NY) and Pennsylvania (NFGDC-PA) based field operations that are performed by separately. For this chapter, the auditors reviewed the Purchasing and Accounts Payable Department and Materials Management Department organizational structures and services provided exclusively for NFGDC-PA. NFGDC's Purchasing and Accounts Payable Department is shown in Exhibit IX-1. Reporting to the Senior Vice President of NFGDC is the Assistant General Manager of Purchasing and Accounts Payable. Under the Assistant General Manager are a Manager, three Coordinators, a Director, and a Buyer.

Exhibit IX – 1
National Fuel Gas Distribution Corporation
Purchasing and Accounts Payable Department
As of March 2017



Source: Data Request EM-2

To assist in the procurement and invoicing process, the Department utilizes Oracle's PeopleSoft Purchasing module to automate and manage transactions with suppliers. Additionally, the software assists with:

- maintaining supplier information;
- managing items, requests for quotes, vendor rebates;
- managing and changing requisitions;
- administering purchase order contracts;
- creating, processing, changing, and managing purchase orders;

- managing returns and receipts;
- using procurement cards;
- analyzing procurement;
- running reports; and
- controlling expenditures against authorized budgets.

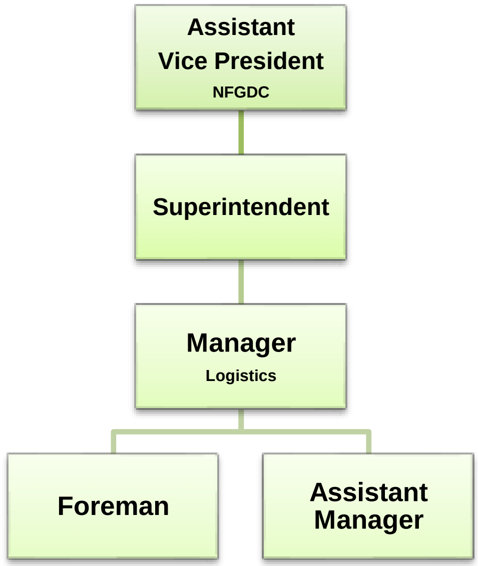
The auditors reviewed NFGDC's Procurement Manual that contained policies and procedures to guide departments participating in the procurement process. The manual provided the following sections to assist in the procurement process:

- Procurement methods
- Specification of goods and services
- Vendor qualifications
- Vendor selection
- Vendor relations
- Vendor performance evaluation
- New products and samples
- Employee purchases
- Disposal of scrap, obsolete and surplus assets
- Guidelines for approvals

NFGDC's Materials Management Department is shown in Exhibit IX-2. Reporting to the Assistant Vice President is a Superintendent. The Manager of Logistics reports to the Superintendent and has two direct reports, a Foreman and an Assistant Manager. NFGDC-PA's stockrooms receive almost all their materials from NFGDC's main warehouse, located at the Mineral Springs Service Center in New York. As of March 1, 2017, NFGDC-PA had stockrooms at each of the following service center locations:

- Bradford
- Chicora
- Clarion
- Corry
- Dubois
- Elk
- Erie
- Meadville
- Oil City
- Sharon
- Warren
- West Erie County

Exhibit IX – 2
National Fuel Gas Distribution Corporation
Materials Management Department
As of March 2017



Source: Data Request MM-6

The Materials Management Department is supported by the PeopleSoft Supply Chain Management (SCM) module and Matrix Information Systems (Matrix). Matrix is used to enable bar code and radio frequency technologies when performing the main functions at the warehouse. NFGDC also utilizes SCM to calculate economic order points (EOP) and economic order quantities (EOQ) for most items stocked in the main warehouse. In addition, the SCM creates a materials requisition daily, for items in which balances drop below the EOP. The system will in turn process the requisitions and issue purchase orders.

At the main warehouse, a material stock request transaction is used to charge material from inventory to an end user. Once a material stock request has been entered in the system, a pick list is generated. The pick list is entered in the bar code system by a warehouse employee to facilitate the material item picking process. Each item is displayed in a picking sequence. The employee scans the item bar codes and bin location to determine that the correct item is being picked, and enters the quantity picked. Upon completion of picking all the items on a pick list, the data is transferred from the bar code system into the SCM. The warehouse employee brings the order up in SCM for review, and upon saving the transaction, the system updates and generates a packing slip.

An employee creates a "put away" document for each item when it is received at the main warehouse. The put away document allows the material to be moved from the staging area to its warehouse designated storage area. Items moved from the staging area to the designated warehouse location are scanned, recorded, and updated in the system.

NFGDC-PA stockroom material replenishments from the main warehouse, can be requested through SCM automatically by using the established EOPs and EOQs, or manually via a material stock request. These requests are filled based on a delivery schedule. Requests for material from other stockroom locations requires coordination between the stockrooms performing the requested transfer. A stockroom to stockroom transfer occurs if it would be more economical and efficient.

The expenses from the Purchasing and Accounts Payable Department are allocated across the National Fuel subsidiaries. The allocation method uses a three-factor allocation formula provided by the NFGDC Accounting Department. The formula is based on the actual results of the prior 12 months ending September 30th (the end of the fiscal year) and are effective October 1 of the new fiscal year. The allocation factors are reviewed quarterly or when a significant event occurs, and are adjusted as necessary. The allocation factors are:

- Total net plant
- Total throughput
- Total operating and maintenance (O&M) expenses (exclusive of purchased gas costs, inter-company transmission/gathering/storage costs, administrative and general expenses, and transmission and compression of gas by others)

NFGDC-PA is also charged for Materials Management Department labor and benefit expenses, and associated overheads (i.e., sales tax, equipment, material delivery, etc.), that are provided by NFGDC. The labor and benefit charges are calculated using a three-year weighted average of the dollar value of NFGDC-PA's inventory issues and returns relative to overall inventory issues and returns at the main warehouse.

Every other year wall-to-wall physical inventory counts are performed by an NFGDC employee at each NFGDC-PA stockroom. After the inventory counts have been completed, the results are generated and provided to the respective NFGDC-PA stockroom employee. Explanations are provided for each item with inventory count variances greater than $100. A reconciliation of the inventory detail to the general ledger is also performed monthly by a warehouse supervisor, and the results are forwarded to the Accounting Department, for review and entry of any necessary accounting adjustments.

On a quarterly basis, the Materials Management Department supplies the Vice President of NFGDC-PA's Operations Department with a report that contains inventory information for each of the stockrooms. The information contained in this report includes: item numbers, quantity on hand, annual usage, average monthly inventory, re-order points, re-order quantities, unit cost, current inventory value, annual inventory value, and average monthly inventory value. As shown in Exhibit IX-3, NFGDC-PA's stockrooms had a combined inventory turnover ratio above 4.0 for 2012 through 2015.

Regarding the inventory turnover ratio, NFGDC-PA has maintained an inventory turnover level above 4.0. This is accomplished by establishing goals, through the ongoing review of performance against those goals, and via management communication to the Operations Department Superintendents and District Managers on the importance of the inventory turnover ratio. Quarterly, the Vice President, Superintendents and District Managers review inventory levels, noting any items exceeding a 60 to 90-day supply of inventory. In cases where inventory is at a level higher than desired, re-order points and/or re-order quantities are modified. Similarly, these changes would occur if any stock outs were experienced in the field.

Exhibit IX – 3
National Fuel Gas Distribution Corporation
Inventory Turnover Levels by PA Stockroom
For the Years 2012 through 2015

Stockroom	2012	2013	2014	2015
Erie	4.63	4.47	3.56	2.91
West Erie	4.88	5.83	5.12	6.54
Warren	4.19	2.20	2.37	4.21
Corry	5.98	4.46	4.68	4.91
Bradford	3.86	3.33	1.62	3.58
Clarion	4.72	7.10	5.62	4.62
Chicora	4.30	2.60	3.93	4.24
DuBois	6.95	4.62	4.90	4.53
Elk	3.51	2.83	3.23	3.62
Meadville	7.35	3.14	4.29	6.28
Oil City	8.49	4.57	6.60	7.15
Sharon	7.73	5.27	6.75	4.55
Total	**5.47**	**4.11**	**4.17**	**4.39**

Source: Data Request MM-13 and Auditor Analysis

Findings and Conclusions

Our examination of the Purchasing and Materials Management function included a review of assigned responsibilities, policies and procedures, information systems, reporting capabilities, inventory controls, inventory levels, inventory turnover rates, procurement, accounts payable, and warehouse operations. Based on our review, no evidence came to our attention that would lead the auditors to conclude that the areas reviewed were inadequately addressed.

Recommendations

None

X. EMERGENCY PREPAREDNESS

Background

Effective June 2005, Public Utility Commission (PUC or Commission) regulations at 52 Pa. Code § 101 (Chapter 101) require 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, continuous and reliable utility service. Along with the requirement to establish these "emergency preparedness" plans, a jurisdictional utility is required to annually file a Self Certification Form to the Commission documenting compliance with Chapter 101. This form, available on the PUC website, is comprised of the following questions.

Exhibit X - 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 cyber-security plan?	
5	Has your cyber security plan been reviewed in the last year and updated as needed?	
6	Is your cyber security 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, as available on the PUC website at http://www.puc.state.pa.us/general/onlineforms/pdf/Physical_Cyber_Security_Form.pdf.

During fieldwork, the auditors reviewed the most recent (i.e., 2016) Self Certification Forms submitted by National Fuel Gas Distribution Corporation (NFGDC) to determine the status of its responses. It was determined that NFGDC maintains additional manuals, which complement the four emergency preparedness plans with additional information, and these manuals became a part of the review as well. Our examination of NFGDC's emergency preparedness included a review of the physical security plans, cybersecurity plans, emergency response plans, business continuity plans, and associated manuals and security measures. All the emergency preparedness plans, and related manuals, were deemed complete and appropriate. In addition, the auditors performed inspections at a sample of the NFGDC's facilities; including the headquarters and some remote field locations. Due to the sensitive nature of the information reviewed, specific information is not revealed in this report, but rather the generalities of the information are summarized.

To protect physical and cybersecurity, NFGDC uses the following measures:

- Physical access to buildings, service centers, garages, and maintenance areas is restricted through various security measures.
- Information and Operational Technology network access varies across the internet, intranet and software applications. The access levels are determined by an employee's job description and title.
- NFGDC utilizes multiple types of clustered industry standard firewalls to secure and protect its critical cyber infrastructure.
- Cyber risk and vulnerability assessments are conducted periodically, which include aspects of social engineering.

NFGDC tests its Physical Security, Cyber Security, Emergency Operations and Business Continuity Plans at least annually, and in some instances, multiple times per year. This includes, but is not limited to cyber and physical social engineering tests (e.g., online testing which involves revealing passwords or clicking on links, etc., and penetration testing such as having appropriate badges, identification, etc.), tabletop testing, and field testing. A review is completed to ensure each plan has been tested, results of testing have been evaluated, and the necessary corrective measures have been taken as necessary. The plans are updated following the testing and review of each individual plan. The individuals and their department(s) assigned to each plan are as follows:

- Physical Security Plan – Assistant General Manager, Security Department
- Cyber Security Plan – General Manager, Information Services Department
- Emergency Response Plan – Assistant Vice President and Vice President, National Fuel Gas Distribution Corporation
- Business Continuity Plan – General Manager of Operations Compliance

Findings and Conclusions

Our examination of Emergency Preparedness included a review of the physical security plan, cybersecurity plan, emergency response plan, business continuity plan, vulnerability assessment and all associated security measures. Based on our review of NFGDC's emergency preparedness efforts, no evidence came to our attention that would lead the auditors to conclude that the areas reviewed were inadequately addressed.

Recommendations

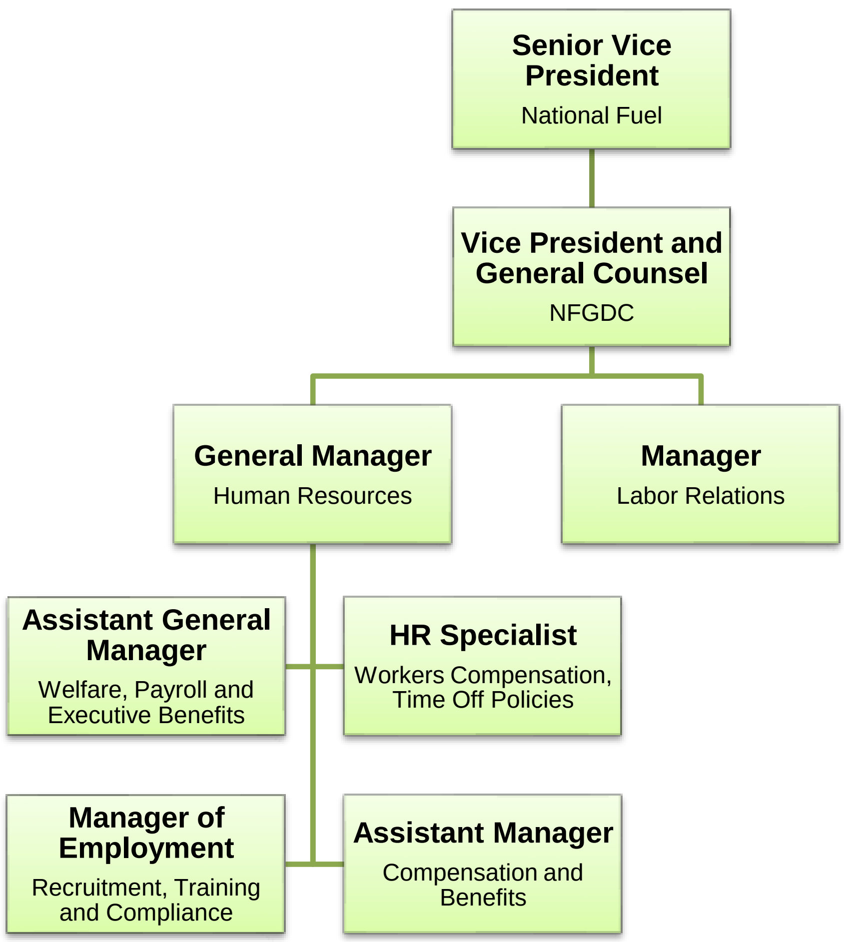
None

XI. HUMAN RESOURCES

Background

As previously discussed, National Fuel Gas Company (National Fuel) operates as an integrated holding company. In the case of the Human Resource (HR) Department, National Fuel Gas Distribution Corporation (NFGDC) performs HR related work on behalf of National Fuel and its affiliates, except for Seneca Resources Corporation (SRC) (i.e., the Exploration and Production segment). However, note that the HR departments for both NFGDC and SRC report corporately through the same Vice President and General Counsel of NFGDC and Senior Vice President of National Fuel. The NFGDC HR organizational structure is displayed in Exhibit XI-1.

Exhibit XI – 1
National Fuel Gas Distribution Corporation
Human Resources Organization
As of March 2017



Source: Date Request EM-2

The General Manager of Human Resources and the Manager of Labor Relations report to the Vice President and General Counsel of NFGDC. A rotating trainee reports to the Manager of Labor Relations; rotating positions are further explained in Chapter III – Executive Management and Organizational Structure. The General Manager of HR has four direct reports: Assistant General Manager of Welfare, Payroll and Executive Benefits; Manager of Employment for Recruitment, Training and Compliance; HR Specialist of Worker's Compensation and Time Off Policies; and Assistant Manager of Compensation and Benefits.

Year-end staffing levels by department for NFGDC-PA employees are displayed in Exhibit XI-2. NFGDC-PA has increased its overall staffing levels from 2012 to 2016 year-end by 45 employees (a 13.8% increase). As shown in Exhibit XI-2, notable staffing level increases occurred in Customer Service (+25.4%), Operations (+25.0%) and the PA Customer Response Center (+24.7%). The increase in staffing for customer-related operations is in alignment with the company's focus on providing superior service to its customers.

Exhibit XI – 2
National Fuel Gas Distribution Corporation
Number of Pennsylvania Employees
End of Year for 2012 through 2016

	2012	2013	2014	2015	2016
Budget	1	1	1	1	1
Customer Assistance Center	7	7	7	5	5
Construction	101	101	103	106	99
Corporate Communications	2	2	3	2	2
Customer Service	67	68	66	73	84
Distribution	7	7	7	8	8
Energy Services	6	6	6	6	6
Engineering Services	5	7	9	8	8
Executive Office	3	3	3	2	2
Government Affairs	1	1	1	1	1
Human Resources	3	4	4	5	6
Land	6	7	7	6	6
Legal	1	2	2	2	1
Mechanical	2	2	3	3	3
MRC Control	2	2	2	2	2
Operations	28	27	28	33	35
PA Customer Response Center	73	76	94	88	91
Risk Management	8	8	8	8	8
Security	3	3	3	4	3
TOTAL	**326**	**334**	**357**	**363**	**371**

MRC – Measurement, Regulation, Corrosion
Source – Data Request HR-30

The Human Resource Information System (HRIS) that NFGDC utilizes is PeopleSoft, an Oracle module. The application is used as a record keeping system for HR activities. PeopleSoft can store basic demographic information, employment and contact data for each employee, benefits program participation, and payroll data. PeopleSoft also has many add-on components available (e.g., a time and labor component which NFGDC uses for management, planning, reporting and storing employee time). The software can generate standard reports for HR to review at regular intervals, on the following topics: benefits and payroll, tax filings, leave and attendance, employee information, time reporting, new hires, terminations, travel reporting, etc. Additionally, HR staff can customize existing reporting tools to extract specific information from the HRIS.

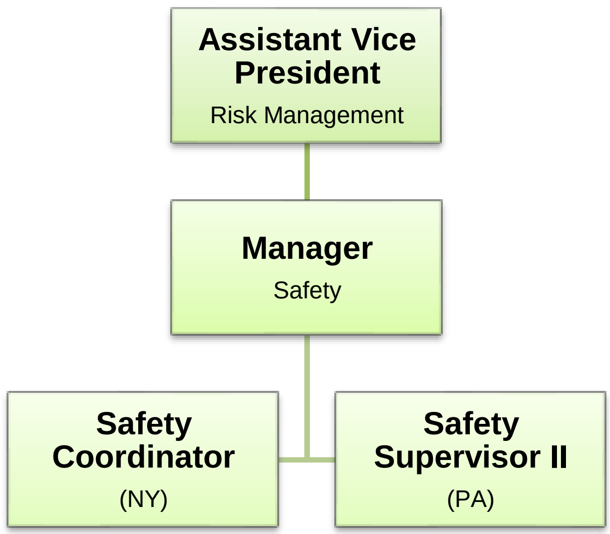
The benefits available to NFGDC employees are consistent for all employees (i.e., union, exempt and executives), except for some benefits which differ for union workers. The following employee benefits are offered to NFGDC employees and were found to be comparable to industry norms:

- Medical and prescription drug coverage
- Dental Coverage
- Vision Coverage
- 401(k) savings plan with company match
- Defined Retirement Plan (employees hired prior 2003)
- Company funded retirement savings account
- Life Insurance
- Long Term Disability Insurance
- Parental Leave for Mothers and Fathers
- Flexible Spending Account
- Tuition Reimbursement
- Flexible Work Schedule

The auditors reviewed compensation levels at NFGDC, including positions at management, supervisory and non-management levels. Management compensation was previously discussed in Chapter III – Executive Management and Organizational Structure. For non-executive positions, NFGDC HR evaluates the impact of compensation as a critical factor for retention and attraction of employees. In 2014, NFGDC HR began to subscribe to web-based market wage studies and databases, to analyze its current and future levels of wages. The databases provide the ability for NFGDC to compare salaries by job title and industry. Currently, the company uses this information to establish starting wages for new hires. The web-based studies and databases provide NFGDC with the necessary tools to ensure current employee, and job offer compensation, is competitive with other companies in the same industry and is also competitive with geographic location. Based on current practice of competitive wage research, it appears NFGDC is compensating and retaining employees in a suitable manner.

At NFGDC, safety is the responsibility of the Manager who reports to the Assistant Vice President of the Risk Management Department. The reporting relationship is provided in Exhibit XI-3. A Safety Supervisor II (PA) and Safety Coordinator (NY) report directly to the Manager of Safety. The Safety Supervisor II has the responsibility of the Pennsylvania operating territory.

Exhibit XI – 3
National Fuel Gas Distribution Corporation
Safety Group – Risk Management Department
As of March 2017



Source: Data Request EM-2

The Safety group is responsible for, but not limited to, Occupational Security and Health Administration (OSHA) requirements, investigations, safety programs, and trainings. The Safety group administers and maintains several safety initiatives and accident prevention programs, which help to direct and enhance NFGDC's safety culture. Representative samples of these programs and initiatives include, but are not limited to:

- Safety Culture Survey (2014, 2016) - employees participated in an anonymous survey hosted by the Interstate Natural Gas Association of America (INGAA) to gauge employee perceptions on safety training. Management shared results and lessons learned through a series of safety meetings at each work location.

- Tool improvements and modifications were made to reduce the risk of injury.

- Ergonomic Safety – sprains and strains are commonly a leading type of injury. NFGDC has worked with a professional ergonomist, who is also a physical therapist and chiropractor, to develop an ergonomic training program that helps reduce the likelihood of injury. The program consists of live, interactive training events led by the doctor, as well as periodic refreshers that are coached by Safety group representatives and/or Operations Department Supervisors.

- Monthly Safety Calls - initiated hourly employee participation in 2014, with a focus on union safety coordinator participation.

- Root Cause Analysis/Lessons Learned –The company performs investigations, in conjunction with the injured party and union safety coordinator, for learning lessons to prevent recurrence. Lessons are shared company-wide via safety tips and safety calls.

- Slip/Trip/Fall Prevention Initiative: 2017 field evaluation of retractable spiked footwear.

- NFGDC initiated (2016) a program of widespread sharing of safety lessons learned, throughout the American Gas Association (AGA) member companies.

- NFGDC Safety Manager chairs the AGA task force on flame resistant (FR) garments and fire protection for the natural gas industry (2016).

- NFGDC Safety Manager chairs the INGAA Foundation Lessons Learned Repository Committee (2016) for sharing safety lessons learned in the gas industry.

- Personal Protective Equipment (PPE) – based on employee input and field evaluations, the company initiated the following PPE improvements: safety goggle upgrade (2013); hearing protection upgrade (2013); FR coveralls (2014); anti-slip footwear (2015); cut resistant gloves (2016); and a poison ivy encapsulation topical application.

- Lyme Disease Prevention – deer ticks and Lyme Disease are prevalent throughout NFGDC's operating territory. NFGDC developed a robust awareness campaign, supported with PPE. Employees are provided with tick-repellent pants, shirts, and repellent sprays.

- Employee Safety Incentive Program Revisions (2017) – employees who work safely, with no reported violations of safety rules, are eligible for a safety incentive award every six month.

- Dog Bite Prevention Training – training with live dogs, including a nationally recognized dog trainer, was rolled out to all Pennsylvania employees in 2015.

- Pennsylvania State Trooper Department of Transportation training (2012, 2014, 2016) – Troopers provided hands-on training with employees, regarding vehicle and equipment safety.

- Situational Awareness training (2016) – worked with the Mercyhurst University Public Safety Institute, to develop a program for utility employees regarding communication, situational awareness, and diffusing potentially unsafe situations in the workplace.

- Safety Leadership Training (2015, 2016) - initiated training to improve communication, listening, and leadership skills, helping to build a stronger safety culture.

- New Employee Safety Orientations – when hired, new employees are welcomed with a safety orientation program, to ensure they are familiar with company safety procedures, PPE and expectations.

- Expanded First Aid/CPR training to include all field employees (2016).

- Initiated the launch of a safety team at NFGDC's largest operating center (Erie Service Center), to address local safety issues, and improve communications between labor and management (2014).

Diversity

The Pennsylvania Public Utility Commission (PUC or Commission) has encouraged utilities to proactively improve diversity in their workforce and purchasing efforts for more than two decades. In February 1995, the Commission adopted Chapter 69 regulations, which encouraged utilities to include diversity efforts as a component of their business strategy. Since March 1997, the Commission has required utilities to file annual reports that identify their efforts in improving diversity in their workforce and purchasing efforts. NFGDC filed its most recent annual diversity report to the Commission in April 2017, and continues to be timely with annual diversity report filings. Included in the diversity report are sections related to HR and procurement.

Diversity at NFGDC is the responsibility of the Manager of Employment, as shown in Exhibit XI-1 on page 57 of the report. The Manager of Employment is accountable for Affirmative Action Plan programs and goals, as well as employee recruitment, retention and development. The Assistant General Manager of Purchasing and Accounts Payable Department is responsible for managing NFGDC's day-to-day procurement activities, including the company's efforts to utilize minority, women, and persons with disabilities-owned businesses, as part of the company's overall procurement practices (see Chapter IX – Purchasing and Materials Management). Diversity related programs, promotions, and utilizations at NFGDC are routinely monitored, with timely monthly, quarterly, and annual reports.

Findings and Conclusions

Our examination of the HR function included a review of NFGDC's HR information systems, policies and procedures, safety programs, training, compensation, benefits, and diversity programs. Based on our review, NFGDC should initiate or devote additional effort to improving the efficiency and/or effectiveness of the NFGDC's HR areas by addressing the following:

1. National Fuel does not regularly conduct employee engagement surveys.

Employee engagement is an important driver of organizational success and is a measurement of an employee's satisfaction and willingness to maximize productivity for the employer. Satisfied employees are often more productive and thus satisfaction can be linked to operating and financial performance of the company. Also, it can promote talent retention, organizational performance and boost stakeholder value.

During our fieldwork, NFGDC's HR Department contracted with a third-party, to conduct an employee engagement survey for employees in management and supervisory positions from NFGDC, National Fuel Gas Supply Corporation and National Fuel Gas Midstream Corporation. The survey was administered in March 2017 and had a 90% employee participation rate. The survey included questions and requested comments on the following topics:

- Your Impression
- Satisfaction
- Priorities
- Motivation
- Recommendations
- Company Loyalty
- Community Support
- Benefits
- Teamwork and Accountability
- Resources and Workspace
- Professional Experience
- Management
- Recognition and Compensation
- Work/Life Balance
- Changes
- Recruitment and Retention
- About You

The final report was made available to National Fuel in June 2017 and was reviewed on-site by the auditors. The survey results gave the company insight on employee satisfaction and confidence, identified areas of improvement, and provided various feedback to help enhance the employee experience. As of June 16, 2017, National Fuel was evaluating survey responses, to formulate a final action plan for potential changes. During audit field work, there were no formal plans to perform employee engagement surveys in the future for any of National Fuel's subsidiaries.

2. **NFGDC-PA's OSHA recordable rate exceeds the industry average, and the company does not have an attainable recordable rate goal established.**

The annual OSHA recordable incident rate is the number of injuries and illnesses per 100 full-time workers (i.e., a lower rate indicates a better performance). During the period 2012 to 2016, NFGDC-PA exceeded the industry average every year, except 2012, as shown in Exhibit XI-4 (the company has an internal goal of zero incidents).

A breakdown of incidents (i.e., injuries and illnesses) was provided to the auditors for review. The data shows that two types of injuries account for most of the recordable incidents. These incidents are "Poor Ergonomic Technique" (12) and "Improper Work Technique" (10) which are considered preventable. Additionally, 11 "Hazard not Identified" incidents occurred during the period analyzed. Combined, these accounted for 33 of the total 60 incidents (55%) between 2012 and 2016.

Exhibit XI – 4
National Fuel Gas Distribution Corporation
Pennsylvania OSHA Recordable Rate
For the Years 2012 through 2016

Year	OSHA Recordable Rate	Industry Average Rate*
2012	**1.67**	2.90
2013	**4.93**	3.00
2014	**4.39**	2.60
2015	**4.09**	2.40
2016	**3.78**	2.50

* - North American Industry Classification System (NAICS) code 2212, Natural Gas Distribution

Source: Data Request HR-25

NFGDC indicated that it considers the prevention of workplace injuries and illnesses to be of primary concern. The company strives to maintain and enforce an effective safety program, to protect its employees, visitors, contractor personnel, and the public. Due to the high percentage of field personnel and the geographical location of its operating area, NFGDC-PA is exposed to increased risk of workplace injuries (snow, ice, ticks, etc.). To ensure its continued dedication to safety improvement, NFGDC reviews its current safety practices. The company modifies and/or creates new safety programs, in response to these reviews and suggestions received from employees. It should be noted a list of safety initiatives was provided earlier in the Background of this chapter.

<u>Recommendations</u>

1. **Measure employee engagement on a routine basis to trend employee satisfaction and identify areas of improvement.**

2. **Reduce preventable OSHA recordable incidents to achieve at least industry performance levels and eliminate incidents labeled as "Hazard not Identified."**

XII. FLEET MANAGEMENT

Background

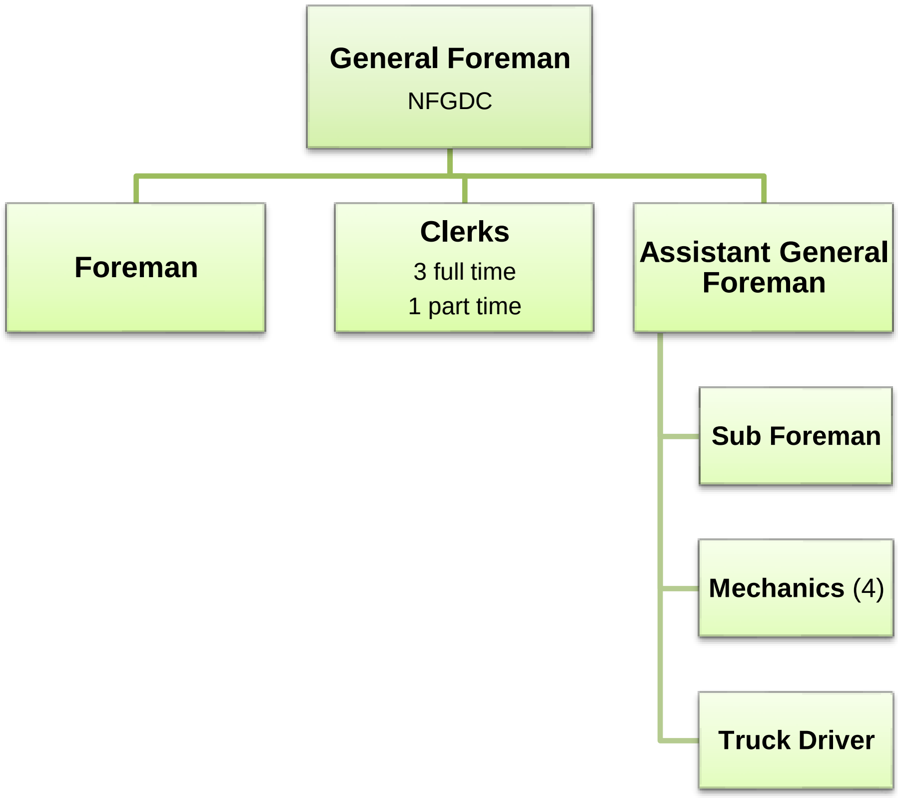
The Fleet Services group, part of the Mechanical Department (Fleet Services) of National Fuel Gas Distribution Corporation (NFGDC or company) is responsible for maintaining the transportation fleet. As part of its mission, Fleet Services specifies and evaluates vendor bids, as well as purchases, maintains and disposes of all fleet units and construction equipment. Fleet Services works closely with various NFGDC Departments, particularly the Operations Department, to: develop vehicle specifications that meet business needs, balance business needs against standardized specifications, and maintain a competitive bid process. Standardization helps to minimize parts inventory, and attains optimal equipment utilization, both of which result in reduced operations and maintenance (O&M) expenses.

NFGDC currently purchases all vehicles and equipment. Fleet Services utilizes manufacturer incentive allowances when purchasing vehicles, and will consider vendor bids with help from the Audit Services Department to ensure that the agreed upon specifications are met. The company had three separate volume purchase contracts in use during 2017: FCA Group LLC - Volume Incentive Program; Ford Motor Company – Competitive Price Allowance Program; and General Motors Fleet – Competitive Assistance Program.

The Fleet Services group is shown in Exhibit XII-1. The General Foreman manages fleet operations, including budgeting and all administrative needs. The General Foreman has six direct reports: four clerical union staff responsible for registration requirements and processing invoices pertaining to vehicles and tools; a Foreman responsible for overseeing all mechanical vendors, vehicle acquisition (in conjunction with the General Foreman), monthly preventive maintenance scheduling, accident reporting, and vehicle remarketing; and an Assistant General Foreman responsible for the company-owned repair facility in Buffalo, NY, company-owned tools, and assistance with preventive maintenance scheduling. A truck driver, four mechanics, and a Sub Foreman report directly to the Assistant General Foreman. Vehicle and equipment utilization is monitored by each Operating District Superintendent. Any vehicles identified with insufficient usage are re-evaluated for potential reuse. This process is coordinated by the Fleet Services group.

The fleet consists of passenger cars, trucks, construction equipment (e.g., tow behind compressors, construction type tractors such as a backhoe, front-end loaders, right-of-way tractors, and mini excavators), and trailers that are used to transport construction equipment, pipe, meters, etc. Exhibit XII-2 shows the total number of vehicles and pieces of equipment, by class for NFGDC-PA, at year end 2012 – 2016.

Exhibit XII – 1
National Fuel Gas Distribution Corporation
Fleet Services Department
As of July 2017



Source: Data Request No. VE-10

Exhibit XII – 2
National Fuel Gas Distribution Corporation
Pennsylvania Vehicle and Equipment Totals
At Year End for 2012 through 2016

Year	Vehicle Class						Total
	C	E	G	J	L	N	
2012	4	190	28	34	47	46	**349**
2013	4	163	26	33	45	43	**314**
2014	3	159	23	45	42	48	**320**
2015	3	170	20	38	51	51	**333**
2016	3	183	20	37	49	50	**342**

Class C - Passenger cars
Class E – Trucks below 10,000 lbs.
Class G – Trucks 10,000 lbs. and over
Class J – Construction trucks
Class L – Large construction equipment
Class N – Small construction equipment

Source: Data Request No. VE-16

Annually, the Fleet Services group prioritizes units to be replaced. Vehicles designated for replacement are disposed of through auto auctions, internet sales, trade-ins, or other means to receive fair market value. Replacement guidelines have been developed for the various classes of vehicles and construction equipment. The trade-in policy for each class is shown below. It should be noted that the maintenance cost history of each vehicle or piece of equipment is also factored into replacement decisions.

- Class C Full and Mid-Size Passenger Cars - a minimum of 60,000 miles and five years for senior officers; a minimum of 60,000 miles and six years for other passenger cars.
- Class E Trucks (under 10,000 lbs.) - a minimum of 60,000 miles and five years.
- Class G Trucks (10,000 lbs. and over) - seven to 12+ years and greater than 100,000 miles.
- Class J Construction Trucks - seven to 12+ years and greater than 100,000 miles.
- Class L Large Construction Equipment - six to 10+ years and greater than 3,000 hours.
- Class N Small Construction Equipment - variable (depending on condition).

Scheduling of preventive maintenance (PM) work is completed by Automotive Resources International (ARI), a global fleet management services company. A monthly PM listing is generated by ARI, with appropriate locations notified via PM job orders. Through the course of the month, these PM’s are scheduled to be completed. Fleet Services or commercial vendors complete the PM work, as outlined on the PM sheets. The vendors are notified by each service center. NFGDC has developed a Fleet Services Vendor Guide to guide vendors performing repairs on fleet units. In addition, Fleet Services conducts vendor audits, at least once per year, and employs a vendor evaluation. The completion of each PM item is noted on the PM job order by the person performing the inspection, including, any recommendations, notes or exceptions. The actual date of completion and utilization readings are also recorded on the PM sheet. Authorization for repair items is obtained from ARI. A record of completed PM inspections is maintained by ARI for the life of the vehicle.

NFGDC has retained ARI since 2011. ARI maintains vehicle information system referred to as *Insights*. *Insights* tracks vehicle costs, fuel usage, key performance indicators (KPI), schedules service appointments, and generates management analysis reports including features and vehicle replacements. The company also acquires all vehicles/equipment through the *Insights* system. ARI tracks various KPIs, such as: vendor grading (issues arising from each vendor), low usage vehicles (vehicles with less than 50 miles per month), fuel usage (average gallons used on a company-wide basis), and life of vehicle (high maintenance cost vehicles).

NFGDC has approximately 100 vendor repair shops, which includes a mixture of general repair facilities, body repair shops, and dealerships. NFGDC does not have its own repair facilities in Pennsylvania. The company has a liaison between ARI and the vendor repair shops, to manage work needed on the fleet. The Assistant General Foreman manages fleet repairs in both New York and Pennsylvania. He works with vendors and NFGDC service centers to coordinate repairs and maintenance promptly. In addition, Foreman manages repairs on tools and vehicles at the NFGDC garage.

Findings and Conclusions

Our examination of the Fleet Management function focused primarily on a review of the vehicle and equipment acquisition process, including the use of lease versus buy analyses, competitive bidding, vehicle and equipment maintenance and repair, and the process for monitoring vehicle and equipment utilization. Based on our review, the company should initiate or devote additional effort to improving the efficiency and effectiveness of its fleet management function by addressing the following:

1. National Fuel Gas Distribution Corporation does not periodically perform a lease versus buy analysis as part of its vehicle and equipment acquisition process.

The company has not performed a lease vs. buy analysis in the last five years. NFGDC leased all vehicles and equipment during the period 2000 to 2006. Since 2006, the company has only purchased vehicles and equipment. A lease versus buy analysis for the acquisition of vehicles and equipment should be performed periodically. Some companies schedule the lease vs. buy analysis each year, while others perform the analysis whenever any procurement contract is up for renewal. The choice between owning and leasing of company vehicles and equipment will have an impact on a company's cash flow, income statement and balance sheet.

Current advantages of leasing include: the preservation of capital, off balance sheet[4] treatment of the lease transaction, less administration of the paperwork and recordkeeping requirements, and lessor acquisition and disposal of the vehicles. Advantages of ownership include: depreciation of the vehicles (which can be used to offset profits), pricing leverage from using local dealerships for all acquisitions, the ability to sell vehicles individually (lowering net depreciation), and a lower net present value cost by eliminating the lessor's profit factor.

Although the lease versus buy analysis is usually performed by the Finance Department, the Fleet Services General Foreman will need to provide certain assumptions and data, such as vehicle acquisition costs, replacement criteria and projections, and lease rate factors. The company indicated purchasing is intuitively more cost-effective given the current interest environment. When NFGDC previously leased vehicles and equipment, due to the wear and usage, it ultimately purchased the leased vehicles or equipment. However, by performing a periodic lease vs. buy

[4] Effective after December 15, 2018, the Financial Accounting Standards Board will require capital and operating leases to be recognized on a company's balance sheets assets and liabilities for leases with terms of more than 12 months (http://ww2.cfo.com/accounting-tax/2016/02/new-fasb-lease-standard-inflate-balance-sheets/)

analysis, NFGDC can confirm that purchasing all vehicle and equipment needs is the most cost-effective approach for the company.

Recommendations

1. Perform a lease versus buy analysis every three to five years to determine the most cost-effective vehicle acquisition method.

XIII. INFORMATION TECHNOLOGY

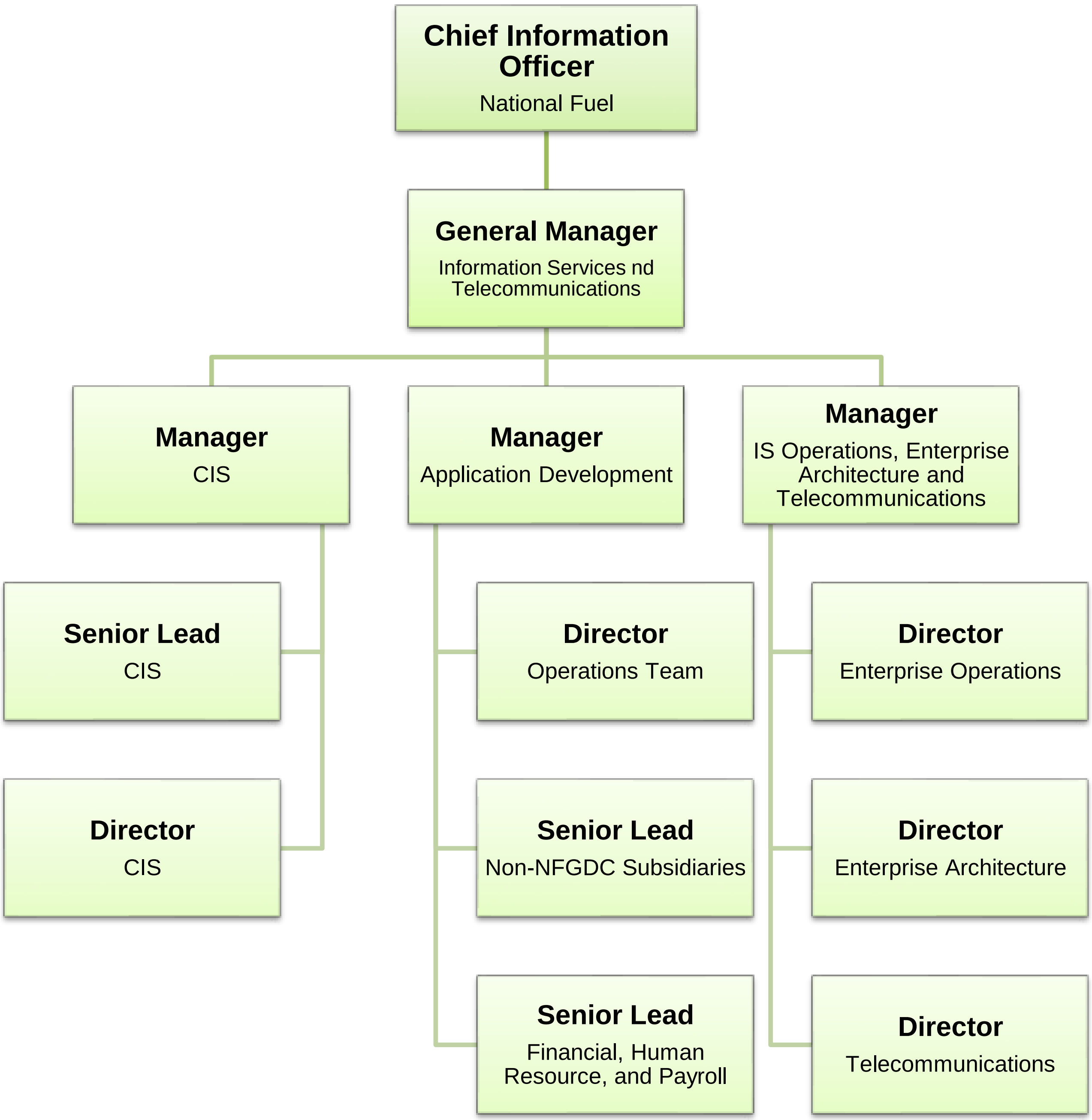
Background

As previously discussed, National Fuel Gas Distribution Corporation (NFGDC) is a natural gas distribution utility headquartered in Williamsville, New York owned by National Fuel Gas Company (National Fuel). The Information Technology (IT) function is provided by the Information Services (IS) and Telecommunication (Telecom) Departments of NFGDC which also provide services all subsidiaries of National Fuel with the exception of Seneca Resources Corporation.

The IT function is managed by NFGDC's General Manager of IS and Telecom. As shown in Exhibit XIII-1, the General Manager of IS and Telecom reports to the Chief Information Officer of National Fuel. Three managers report directly to the General Manager: Manager of the Customer Information System(CIS); Manager of Application Development; and Manager of IS Operations, Enterprise Architecture and Telecommunications. Each subgroup generally consists of network and application analysts, architects, and database administrators. The mission and duties of the IS and Telecom subgroups are summarized below:

- Information Services – to enable safe, reliable, secure, cost-effective, customer centric business processes using computer and information technologies.
    - Responsible for, but not limited to: network architecture, mainframe infrastructure, application development, supporting business unit application requests, cybersecurity activities, office automation solutions (i.e., e-mail, Microsoft Office, *OnBase* document management), database maintenance, disaster recovery, and employee IT training.
- Telecommunications – to provide the company integrated voice, radio, data and video communication services that utilize best practices, are reliable and continuously available, are cost-effective and align with company initiatives and safety policies.
    - Responsible for, but not limited to: managing phone systems, maintaining corporate voice and data networks, procuring wired and cellular services, installing radio and cellular equipment in fleet vehicles, maintaining relationships with vendors, administering customer service telephonic applications, and managing audio visual functions.

Exhibit XIII – 1
National Fuel Gas Distribution Corporation
Information Services Department
As of March 2017

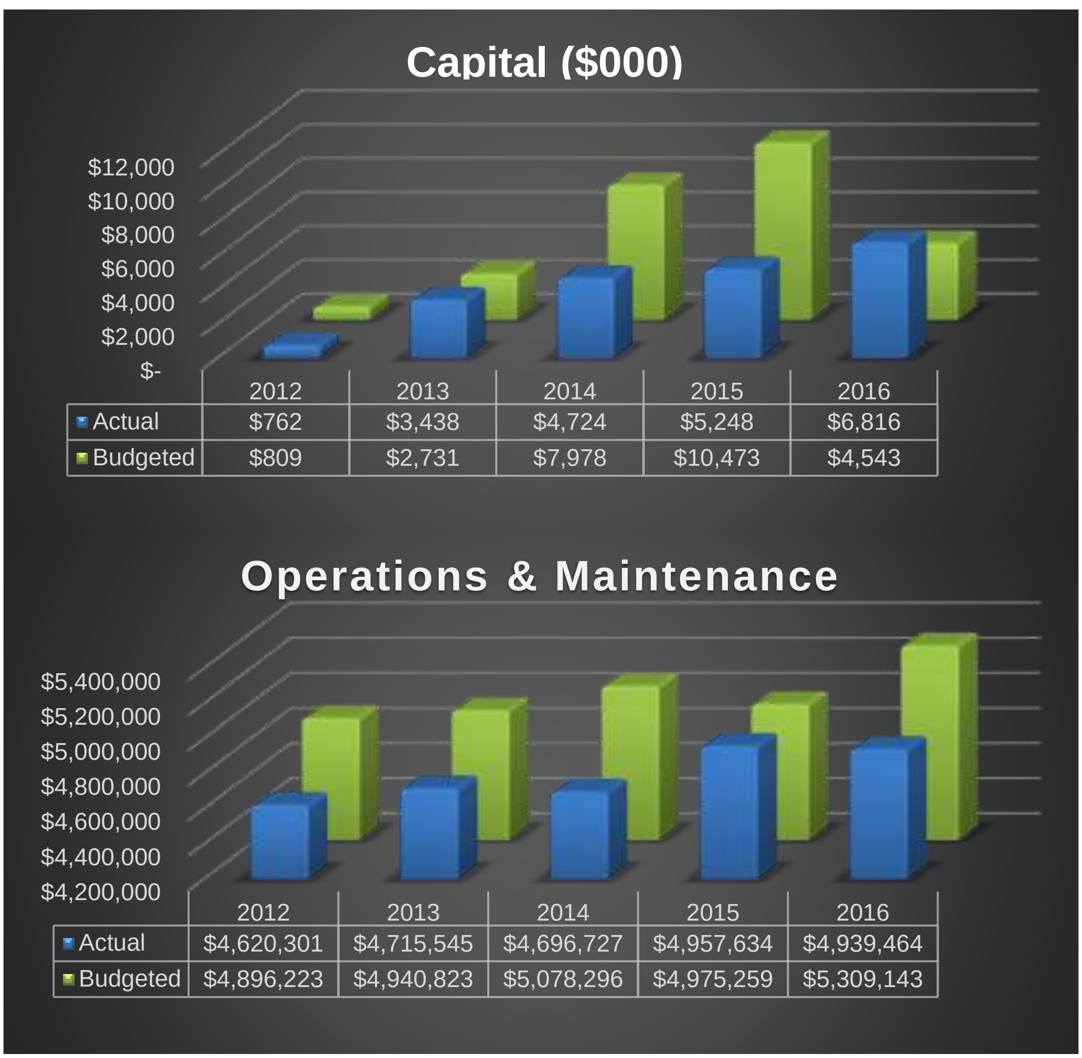


Source: Data Request No. EM-2

National Fuel has retained a third-party to provide certain IT services for NFGDC and all other National Fuel subsidiaries. The outsourcing agreement is in place with a vendor that provides managed lifecycle services for all non-mainframe infrastructure, software and hardware product lifecycle support, asset inventory management, network monitoring and repair, computer and printer designs, on-site desktop support, and day-to-day management of the Helpdesk for all employees.

IS and Telecom capital and operations & maintenance (O&M) expenditures are displayed in Exhibit XIII-2. Capital spending ranged from $762,000 in 2012 to over $6.8 million in 2016. Capital expenditures increased during this period because of initiatives/major projects related to acquisition and installation of hardware upgrades (i.e., phasing out the legacy mainframe), implementation of software (e.g., customer information and payroll systems), and data connectivity throughout each of its service territories. O&M expenditures gradually increased from $4.6 million (2012) to $4.9 million (2016), with the company's increasing focus on cybersecurity and customizing applications, further enhancing operational effectiveness.

Exhibit XIII – 2
National Fuel Gas Distribution Corporation
Pennsylvania IS and Telecom Capital and O&M Expenses
For the Fiscal Years 2012 through 2016



Source: Data Request No. IT-6 and IT-15

To optimize business system functionalities, existing systems need to be constantly updated and/or upgraded, by implementing the newest technologies on the market. In their efforts to enhance and ensure that goals are met, NFGDC has various projects underway, and conducts annual IT/cybersecurity audits and employee training sessions. Due to the sensitive nature, projects and audit results were provided to and reviewed by the auditors but are not disclosed in this report.

Findings and Conclusions

Our examination of NFGDC's Information Technology included a review of the organizational structure, staffing levels, operational expenses, policies and procedures, cybersecurity measures, employee IT training techniques and all related information. Based on our review of NFGDC's information technology efforts, no evidence came to our attention that would lead the auditors to conclude that areas reviewed were inadequately addressed.

Recommendations

None

XIV. ACKNOWLEDGEMENTS

We wish to express our appreciation for the cooperation and assistance provided by the officers and staff of National Fuel Gas Distribution Corporation during this Focused Management and Operations Audit.

This audit was conducted by Eric McKeever, Bryan Borres, Timothy Kerestes and Craig Bilecki of the Management Audit Staff of the PUC Bureau of Audits.

XV. APPENDICES

Appendix A National Fuel Gas Distribution Corporation
Pennsylvania Financial and Operating Data and Statistics

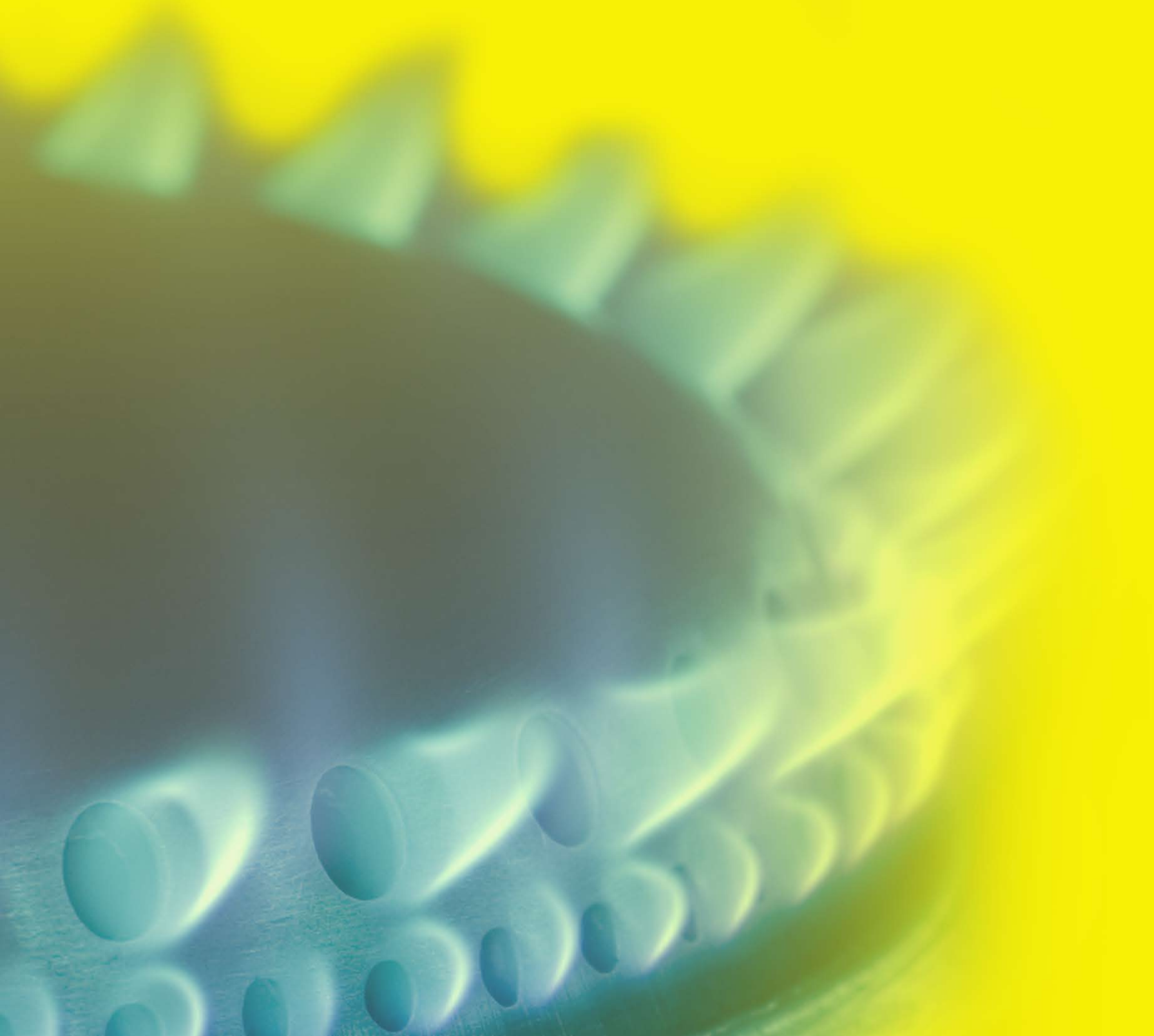
National Fuel Gas Distribution Corporation
Financial and Operating Data and Statistics

Operating Statistics	**2011**	**2012**	**2013**	**2014**	**2015**	**Compound Growth**
Gross Utility Plant	$494,031,325	$505,139,394	$520,124,180	$539,918,292	$560,922,274	3.2%
Depreciation & Amortization	(181,084,069)	(182,688,983)	(187,560,343)	(194,849,872)	(201,241,138)	2.7%
Net Utility Plant	$312,947,256	$322,450,411	$332,563,837	$345,068,420	$359,681,136	3.5%
Operating Revenue:						
Residential	$186,225,584	$156,882,688	$171,657,631	$182,539,634	$144,033,826	-6.2%
Commercial	$42,367,319	$35,833,249	$40,561,332	$44,354,999	$36,634,425	-3.6%
Industrial	$12,804,285	$12,737,259	$14,574,917	$15,754,040	$13,289,210	0.9%
Other	$6,656,835	$10,407,640	$8,682,671	$5,620,414	$2,972,428	-18.3%
Totals	$248,054,023	$215,860,836	$235,476,551	$248,269,087	$196,929,889	-5.6%
Deliveries by Volume (Mcf)						
Residential	18,808,634	16,537,918	19,456,787	21,213,388	19,694,060	1.2%
Commercial	8,820,702	7,823,036	9,140,682	10,079,164	9,531,933	2.0%
Industrial	14,053,334	14,268,105	16,106,394	18,119,527	16,520,503	4.1%
Other	1,383,708	3,149,702	1,905,257	941,064	578,813	-19.6%
Total Mcf Sales	43,066,378	41,778,761	46,609,120	50,353,143	46,325,309	1.8%
Injected into Storage	6,523,996	5,943,096	6,880,695	7,379,925	6,738,724	0.8%
Company Use						
Exchange Gas, Off System Sales, etc.	160,880	189,529	232,126	281,719	203,367	6.0%
Total Deliveries (Mcf)	49,751,254	47,911,386	53,721,941	58,014,787	53,267,400	1.7%
Total Receipts (Mcf)	49,184,565	48,247,368	54,202,395	58,111,594	53,758,353	2.2%
Unaccounted for Gas (Mcf)	566,689	335,982	480,455	96,806	490,953	-3.5%
UfG as a % of Total Receipts	1.2%	0.7%	0.9%	0.2%	0.9%	-5.6%
Customers (Average):						
Residential	196,826	196,845	197,160	197,262	197,505	0.1%
Commercial	15,355	15,409	15,543	15,661	15,685	0.5%
Industrial	652	591	586	584	578	-3.0%
Transportation						
Other						
Totals	212,833	212,845	213,289	213,507	213,768	0.1%
Employees (Average)	321	321	324	339	355	2.5%
Distribution Mains (M. Ft.)	24,363	24,387	25,829	25,856	25,853	1.5%
Transmission Mains (M. Ft.)	1,784	1,787	1,668	1,687	1,686	-1.4%
Total Main Pipeline (M. Ft.)	26,147	26,174	27,497	27,543	27,539	1.3%
Total Main Pipeline (Miles)	4,952	4,957	5,208	5,216	5,216	1.3%
Services	210,816	211,749	212,560	213,635	193,661	-2.1%

NM = Not Meaningful
Source: PUC Annual Reports

Gas Operation & Maintenance Expenses	2011	2012	2013	2014	2015	Compound Growth
Natural Gas Production Expenses	97,811	82,598	37,604	-6,033	20,833	-32.1%
Other Gas Supply Expenses	93,165,689	70,003,858	80,630,782	87,766,290	41,585,176	-18.3%
Natural Gas Storage, Terminating, & Processing Expenses:						
Underground Storage Expenses	10,538,033	10,864,492	11,042,236	10,622,764	10,531,573	0.0%
Transmission Expenses:						
Operation	31,296,270	29,829,502	27,861,812	27,015,382	28,429,233	-2.4%
Maintenance	222,191	207,846	461,440	413,818	155,198	-8.6%
Totals	31,518,461	30,037,348	28,323,252	27,429,200	28,584,431	-2.4%
Distribution Expenses:						
Operation	9,499,728	9,527,376	9,730,927	9,930,524	10,751,804	3.1%
Maintenance	3,531,828	2,943,267	3,377,008	3,799,865	3,946,716	2.8%
Totals	13,031,556	12,470,643	13,107,935	13,730,389	14,698,520	3.1%
Customer Accounts Expenses	7,588,425	9,247,563	8,287,021	10,648,974	12,479,618	13.2%
Customer Service & Inform. Expenses	3,761,106	3,622,215	3,651,875	3,498,257	3,493,169	-1.8%
Sales Expenses	272,734	124,804	162,185	185,064	160,327	-12.4%
Administrative & General Expenses:						
Operation	29,409,832	28,892,777	31,177,350	27,713,865	27,892,444	-1.3%
Maintenance	119,691	149,936	140,155	146,382	288,457	24.6%
Totals	29,529,523	29,042,713	31,317,505	27,860,247	28,180,901	-1.2%
Total Gas Operation & Maintenance Exp.	189,503,338	165,496,234	176,560,395	181,735,152	139,734,548	-7.3%

NM - Not Meaningful
Source: PUC Annual Reports



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