



Annual Engineering Consultant's Report

on the

Operation and Maintenance
of the Electric System
Fiscal Year 2011



**Electric Division
City of Dover, Delaware**

Project No. 66212

April 2012

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on the Operation and Maintenance
of the Electric System
Fiscal Year 2011**

Prepared for the

**Electric Division
City of Dover, Delaware**

April 2012

Project No. 66212

Prepared by

**Burns & McDonnell Engineering Company, Inc.
Kansas City, Missouri**

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April 18, 2012

Ms. Donna S. Mitchell, CPA
Controller/Treasurer
City of Dover
5 East Reed Street
Weyandt Hall, Suite 300
Dover, Delaware 19901

City of Dover
Annual Engineering Consultant's Report
Project No. 66212

Dear Ms. Mitchell:

In compliance with the requirements of Section 705 and Section 504 of the City of Dover, Delaware Resolution Authorizing and Securing Electric Revenue Bonds, adopted December 23, 1985 (Resolution), Burns & McDonnell submits this Annual Engineering Consultant's Report for the fiscal year ended June 30, 2011. This report summarizes our review and assessment of the City of Dover's (City) Electric System, its existing retail electric rates, its insurance coverage in effect, and its reserve funds. Financial, statistical, and operating data used in preparing the report were initially reported in the City's annual financial statements and accounting records, as well as additional information furnished by City and Electric Division staff.

In the preparation of this Engineering Consultant's Report, Burns & McDonnell completed assessments of the electric generating stations and the transmission and distribution system of the City's Electric Division. Assessments involved interviews, observations, and review of fiscal year 2011 expenditures and fiscal year 2012 budgets. In addition, an analysis of the balances of the Improvement and Extension Fund, as well as other funds benefiting the Electric Division was performed. Burns & McDonnell also reviewed the adequacy of the revenues provided by the current retail rates in relation to the requirements of the Resolution. Finally, a high-level assessment of the City's insurance coverage related to the Electric Division was completed.

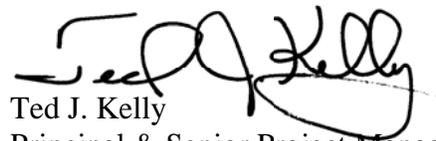
Based on these reviews and assessments, it is the opinion of Burns & McDonnell that the Electric System is being operated and maintained, including replacements and upgrades as appropriate, in a manner that is consistent with current electric utility practices. In addition, the current retail rates have provided sufficient revenues to satisfy the debt service coverage requirement in the Resolution.

Further, it is the opinion of Burns & McDonnell that the balances in the various reserve funds maintained by the City for the Electric Division are sufficient for their intended purposes.

Ms. Donna Mitchell, City of Dover
April 18, 2012
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We appreciate the cooperation and assistance provided by the City and the Electric Division staff in the preparation of this report. We will be happy to discuss the report with you at your convenience.

Sincerely,
BURNS & McDONNELL



Ted J. Kelly
Principal & Senior Project Manager
Business & Technology Services

TJK

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EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

INTRODUCTION

The 2011 Annual Engineering Consultant's Report (Report) has been prepared in compliance with the requirements of the City of Dover, Delaware Resolution Authorizing and Securing Electric Revenue Bonds, adopted December 23, 1985 (Resolution). Burns & McDonnell has been retained as Engineering Consultant by the City of Dover, Delaware (City) for this purpose.

The Resolution requires that the Engineering Consultant complete the following:

“The City covenants that it will cause the Engineering Consultants employed under the provisions of Section 705 of this Resolution . . . to make an inspection of the Electric System at least once each fiscal year and . . . to submit to the City Manager a report setting forth (a) their findings whether the properties of the Electric System have been maintained in good repair, working order and condition and whether they have been operated efficiently and economically and (b) their recommendation as to

- (i) the proper maintenance, repair and condition of the Electric System during the ensuing fiscal year and an estimate of the appropriations which should be made for such purposes,*
- (ii) the insurance to be carried under the provisions of Article VII of this Resolution,*
- (iii) the amount that should be deposited during the ensuing fiscal year to the credit of the Improvement and Extension Fund for the purposes set forth in Section 510 of this Article,*
- (iv) the extensions, improvements, renewals and replacements which should be made during the ensuing fiscal year, and*
- (v) any necessary or advisable revisions of the electric rates.”*

This is the ninth annual Engineering Consultant's Report prepared for the City by Burns & McDonnell.

ELECTRIC SYSTEM OVERVIEW AND ASSESSMENT

The Electric System owned by the City primarily consists of production plant, transmission plant, distribution plant, and general plant facilities.

The City owns two power plants, the McKee Run Generating Station (McKee Run) and the VanSant Generating Station (VanSant). McKee Run consists of three steam turbine generating units with a total combined capacity of 136 megawatts (MW). VanSant is a 39 MW simple-cycle combustion turbine unit.

Effective May 4, 2006, the City entered into a five-year Energy Management Agreement with PACE Global Asset Management (PACE), LLC of Fairfax, Virginia to assist the City with its energy procurement, energy sale, purchase of fuels, establishment and management of risk policies, the development and management of hedging protocols and related energy procurement challenges. The PACE contract expired June 30, 2011 and effective July 1, 2011, The Energy Authority, Inc. (TEA) began assisting the City with its energy management activities. Headquartered in Jacksonville, Florida, TEA is a non-profit energy manager owned by seven public utility systems operating across the nation.

North American Energy Services Corporation (NAES Corporation) operates the generating plants. The agreement between the City and NAES Corporation has been in effect since July 1, 2006. The Engineering Consultant's observations regarding the generating stations and units are described in the Electric System Overview and Assessment section of the Report.

The Electric Division served approximately 22,915 customers at the end of FY 2011, over 19,730 of which were residential customers. The distribution facilities include 219 miles of overhead lines and 219 miles of underground lines connected through fifteen substations. The Engineering Consultant's observations regarding the transmission and distribution systems are described in the Electric System Overview and Assessment section of the Report.

Four of the Electric Division customers take service off of the 69 kV transmission system. These customers include the Dover Air Force Base, Kraft, Proctor & Gamble, and NRG Energy Center (NRG). NRG is an exempt wholesale generator that sells power that must be transmitted through the City's transmission system to third party purchasers. When the NRG plant is not operational, the Electric Division provides power for the plant site.

The Electric Division has one contract for providing transmission service through the Electric System. As previously stated, the Electric Division provides transmission service to NRG for the output of its 16-MW electric generator.

General plant facilities consist primarily of Electric Division administrative and operations facilities and pollution control related equipment on McKee Run and VanSant. Other types of general plant include office furniture and equipment, transportation and power-operated equipment, and communication equipment.

The various systems and components of the generating stations reviewed by the Engineering Consultant are listed below:

Major Equipment Condition and Improvements

- Steam turbines/generators
- Boilers and auxiliaries
- Station cooling water systems
- Fuel handling systems
- Water treatment systems
- Station electrical systems
- Station control systems
- General facilities

Management and Organization

- Safety
- Training

Based on statements and information provided, as well as the observations and reviews performed, it is the Engineering Consultant's opinion that the City's power generation facilities are being operated and maintained consistent with accepted electric utility practice in the United States. In general, the performance, operation, maintenance, staff, planning, and training aspects for the McKee Run and VanSant were found to be above average. Specifically, the generation facilities have demonstrated a high level of availability despite the dispatching of the units primarily for peak demand.

The Engineering Consultant's observations regarding the generating stations and units are described in the Electric System Overview and Assessment section of the Report. The following list includes areas of the transmission and distribution system that were considered and reviewed.

- System reliability
- Power quality
- Operations and maintenance
- Design standards and specifications
- Transmission and distribution improvements

It is the Engineering Consultant's opinion that the design, construction, operation, and maintenance of the City's electric transmission and distribution system and the associated facilities are consistent with current generally accepted electric utility standards. In recent years, the City has done a good job of making appropriate upgrades and improvements which the Engineering Consultant has observed while conducting the reviews and assessments to complete the annual reports.

The Engineering Consultant's observations regarding the transmission and distribution systems are described in the Electric System Overview and Assessment section of the Report.

FINANCIAL ASSESSMENT

The level of revenues required from the retail electric rates for the Electric Division were determined through the analysis of the financial results and net income or net margins for FY 2011. The Resolution requires that the Electric Division maintain a debt service coverage ratio of 1.25. Following is an excerpt from Section 502(c) of the Resolution.

“(c) The total amount of the Revenues of the Electric System during the preceding fiscal year shall have been not less than the total of the following:

- (1) The Current Expenses of the Electric System during the current fiscal years shown by the Annual Budget . . . for such fiscal year, and*
- (2) One hundred twenty-five percent (125%) of the maximum amount of the Principal and Interest Requirements for any fiscal year thereafter on account of all bonds then Outstanding under the provisions of this Resolution.”*

Customers of the Electric Division of the City were charged for the electric service they received based on the City's rate schedules and contracts that were in place in FY 2011. A comprehensive cost-of-service and rate design study was completed in 2006 and subsequent rate analyses were completed in 2007 and 2008 to examine revenue requirements and revenue generation. Specifically, the 2006 rate study was conducted to address increased costs associated with a new power supply contract that became effective on July 1, 2006. The rate study recommended combining a number of rate classes and implementing rate increases on July 1, 2006. The 2006 rate study also recommended an additional increase be implemented on January 1, 2007 to cover increased costs associated with operating the generating station. The 2007 and 2008 rate analyses re-examined Electric Division revenues and expenses and recognized additional revisions to power supply costs. As a result of these analyses, additional rate increases were implemented

on July 1, 2007 and July 1, 2008. The July 2008 rate adjustments established the rate schedules utilized by the Electric Division today.

Total energy sales increased from 708.5 GWh in FY 2010 to 734.1 GWh in FY 2011, an increase of 3.6 percent. Total revenue from sales to electric customers in FY 2011 was approximately \$99.5 million, representing an increase of \$1.4 million from FY 2010 rate revenue of approximately \$98.1 million. In FY 2011, the average revenue per kWh for residential customers was 14.79 cents and the system-wide average price was 13.56 cents per kWh.

The Electric Division's largest cost in providing electric service to its customers is the wholesale cost of power purchased from the Pennsylvania New Jersey Maryland Interconnection (PJM) marketplace by its FY 2011 Energy Manager, PACE. From FY 2010 to FY 2011, the cost of power decreased from \$72.8 million to \$69.6 million. Net income decreased from \$3.3 million in FY 2010 to \$3.2 million in FY 2011. The net income decrease in FY 2011 was due in large part to operating transfers out, which reached a ten-year high of \$8.9 million.

The Resolution requires that annual revenues of the Electric Division be no less than the total current expenses plus 125 percent of the greatest remaining annual debt service. The Electric Division achieved debt service coverage ratios for FY 2009, FY 2010, and FY 2011 of 2.88, 4.24, and 5.45 respectively; therefore, the revenues generated by the current electric rates have been sufficient to meet the applicable covenant of the Resolution.

The City maintains a comprehensive insurance program to insure against varying types of liabilities, as well as significant losses related to various Electric Division properties. It is the opinion of Burns & McDonnell as Engineering Consultant, and not as insurance counselor, the insurance in full force and affect appears to satisfy the requirements of Section 706 of the Resolution.

The City established the Electric Revenue Fund and the Electric Improvement & Extension (I&E) Fund to ensure that moneys are available for specific purposes when they are needed. The following is a list of these funds' respective cash accounts:

Electric Revenue Fund

- Insurance Reserve Account
- Contingency Reserve Account
- Electric Rate Stabilization Reserve Account

- Interest and Sinking Account

Electric Improvement and Extension Fund

- Depreciation Reserve Account
- Future Capacity Reserve Account

The Engineering Consultant reviewed information on the accounts listed above and found that the balances in those accounts as of June 30, 2011, were consistent with the required or target balances.

CONCLUSIONS

Based on the reviews and assessments completed, it is the opinion of Burns & McDonnell that:

1. The City's power generation facilities are being operated and maintained consistent with accepted electric utility practice in the United States.
2. The design, construction, operation, and maintenance of the City's electric transmission and distribution system and the associated facilities are consistent with current generally accepted electric utility standards and over the past few years, the system has been upgraded in order to improve operation and service to customers.
3. The Electric Division capital projects included in the City's Capital Investment Plan and the FY 2012 Operating Budget are necessary and should provide improved reliability and power quality for the Electric System.
4. The balances as of June 30, 2011, for the various reserve funds maintained by the City for the Electric Division, appear to be sufficient for their defined purposes.
5. The insurance coverage in full force and effect as maintained by the City related to the various assets of the Electric Division appears to satisfy the requirements of Section 706 of the Resolution.
6. The electric revenues generated by the City's current retail rates are more than sufficient to fulfill the debt service coverage requirement (125 percent of current expenses) defined in Section 502(c) of the Resolution.

* * * * *

PART I - INTRODUCTION

PART I INTRODUCTION

The City of Dover, Delaware (City) operates a municipally-owned electric utility system that serves approximately 22,915 customers within the City and surrounding areas. The service area of the electric utility is located in central Delaware; with the City itself located approximately 70 miles south of Philadelphia, Pennsylvania.

PURPOSE OF REPORT

This 2011 Annual Engineering Consultant's Report (Report) has been prepared in compliance with the requirements of the City of Dover Electric Bond Resolution (Resolution) adopted December 23, 1985. Burns & McDonnell has been retained by the City as the Engineering Consultant defined in Section 705 of the Resolution, as follows.

“The City covenants that it will, for the purpose of performing and carrying out the duties imposed on the Engineering Consultants under the provisions of this Resolution, employ an independent engineer or engineering firm or corporation having a nationwide and favorable repute for skill and experience in such work.”

The required scope of the Report is described in Section 504 of the Resolution, as follows.

“The City covenants that it will cause the Engineering Consultants employed under the provisions of Section 705 of this Resolution . . . to make an inspection of the Electric System at least once each fiscal year and . . . to submit to the City Manager a report setting forth (a) their findings whether the properties of the Electric System have been maintained in good repair, working order and condition and whether they have been operated efficiently and economically and (b) their recommendation as to

- (i) the proper maintenance, repair and condition of the Electric System during the ensuing fiscal year and a estimate of the appropriations which should be made for such purposes,*
- (ii) the insurance to be carried under the provisions of Article VII of this Resolution,*
- (iii) the amount that should be deposited during the ensuing fiscal year to the credit of the Improvement and Extension Fund for the purposes set forth in Section 510 of this Article,*

(iv) the extensions, improvements, renewals and replacements which should be made during the ensuing fiscal year, and

(v) any necessary or advisable revisions of the electric rates.”

ORGANIZATION

The Public Utilities Director is responsible for the overall management of the Public Utilities Department. The Public Utilities Director oversees the day-to-day operations of the Electric, Water, and Wastewater Divisions and manages the Division's staff. The Director also provides oversight of the Power Plant budget and monitors the contracts the energy coordinator and the power generation operator/manager. The Electric Division is organized into three separate operating sections. Descriptions of the current Electric Division sections are provided below.

Administration Section – Administration provides the overall management of the Electric Division's Engineering and Transmission & Distribution Sections. This section performs all planning and budgeting, monitors all construction projects, administers all power supply and generating station operations agreements, and coordinates with customer service and public relations for the Electric Division.

Electric Engineering Section – Electric Engineering provides design, specifications, construction management, and project inspection for all capital investment projects of the Electric Division. This section also develops and maintains maps, plans, and specifications, as well as engineering standards for construction and maintenance of the Electric System. Lastly, it is responsible for the operation of a 24/7 system operations control center, referred to as System Operations.

Transmission & Distribution Section – Transmission & Distribution constructs, operates, and maintains the overhead and underground Electric Systems and fiber optic communication facilities. This section installs and maintains all electric metering, as well as street and security lighting. This section also investigates and resolves customers' power problems and oversees the work of tree trimming contractors.

Figures I-1 through I-4 provide organizational charts illustrating the staffing hierarchies of the various sections in the Electric Division. The number of individuals in each position was indicated as appropriate. Electric Division staff totaled 47 at the time the FY 2012 budget was issued.

Figure I-1: Organization

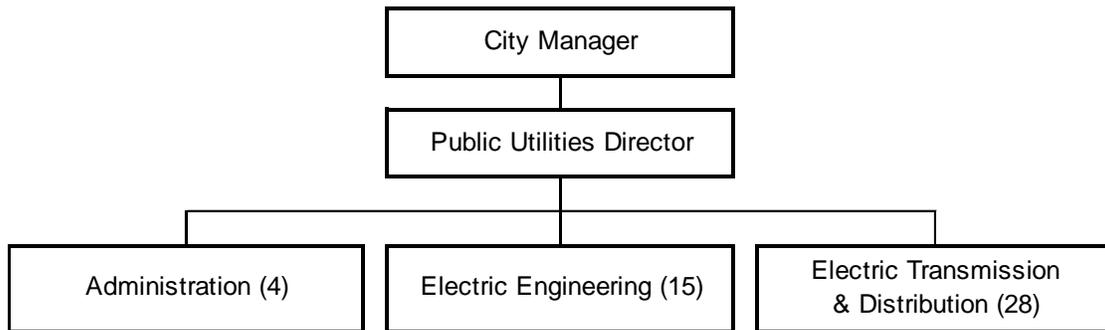


Figure I-2: Administration

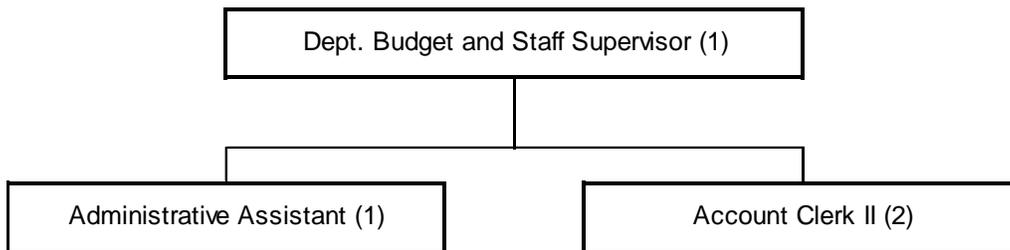


Figure I-3: Electric Engineering

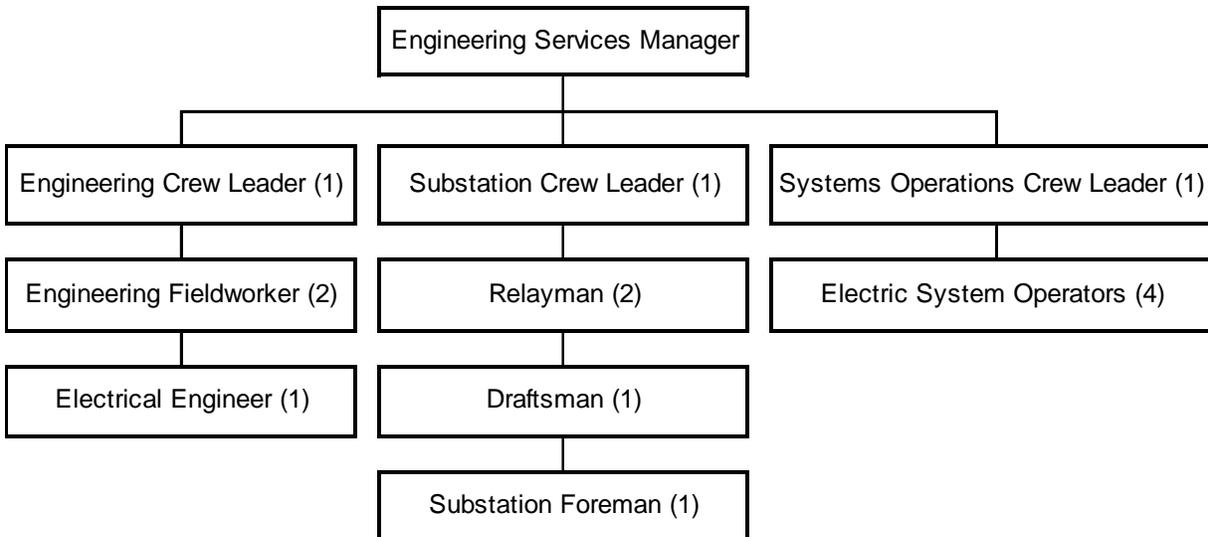
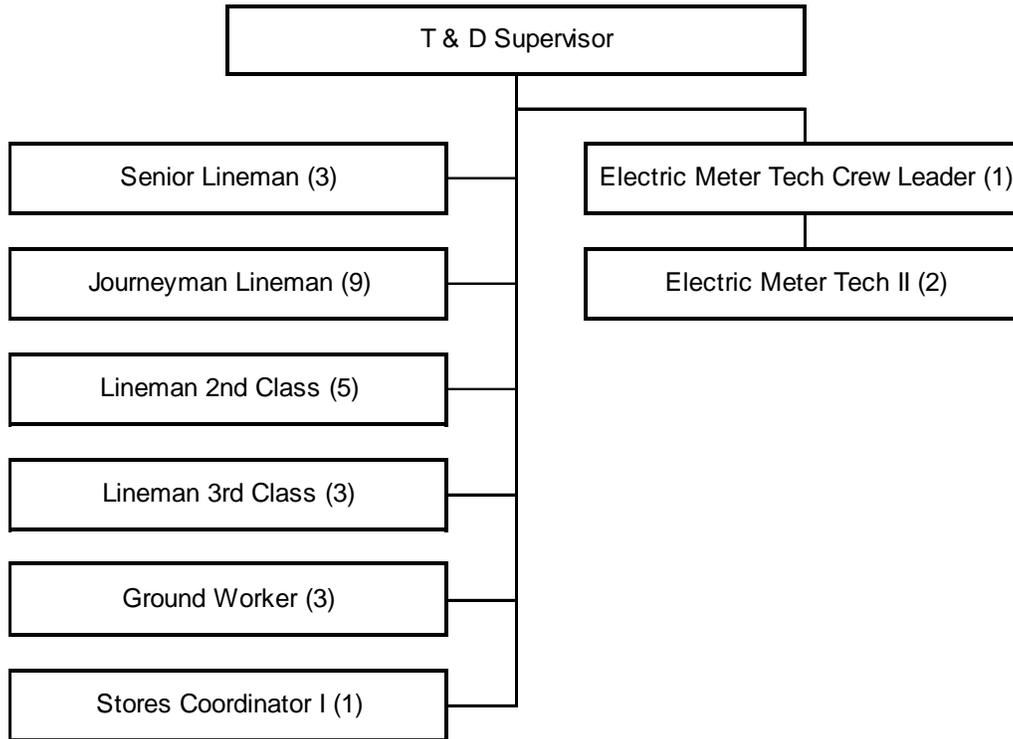


Figure I-4: Electric Transmission & Distribution



The subsequent sections of the Report provide a discussion of the required reviews and inspections conducted pursuant to Section 504 of the Resolution. Part II describes the assessment of the Electric System and its condition. Part III presents the financial results for the Electric Division, including an analysis of the adequacy of revenues provided by the electric rates. Part IV summarizes the conclusions of Burns & McDonnell regarding the operation and maintenance of the Dover Electric System.

In the preparation of the Report, Burns & McDonnell reviewed and analyzed maintenance records, audited financial statements, and other data provided by the City. Burns & McDonnell has relied on the information provided without independent verification, and cannot guarantee its accuracy or completeness. In addition, Burns & McDonnell has used the information provided to make certain assumptions with respect to conditions that may exist in the future. While Burns & McDonnell believes the assumptions made are reasonable for the purposes of the Report, it makes no representation that the conditions assumed will occur.

* * * * *

PART II – ELECTRIC SYSTEM OVERVIEW AND ASSESSMENT

PART II

ELECTRIC SYSTEM OVERVIEW AND ASSESSMENT

ELECTRIC SYSTEM OVERVIEW

The Electric System owned by the City of Dover, Delaware (City), primarily consists of production plant, transmission plant, distribution plant, and general plant facilities, and construction work in progress. Table II-1 displays the year-end balances of the various plant components for FY 2009 through FY 2011. Table II-2 itemizes the specific capital investment plan projects and anticipated expenditures for FY 2011, as well as projections for other components included in the FY 2012 budget.

Table II-1

YEAR-END PLANT IN SERVICE City of Dover Electric Division

	FY 2009	FY 2010	FY 2011
Capital assets, not being depreciated			
Land	\$ 1,458,066	\$ 1,458,066	\$ 1,458,066
Construction in progress	17,272,520	12,772,089	424,809
Total capital assets, non-depreciable	<u>\$ 18,730,586</u>	<u>\$ 14,230,155</u>	<u>\$ 1,882,875</u>
Capital assets, being depreciated			
Buildings	\$ 16,676,093	\$ 16,922,580	\$ 17,383,566
Production	60,028,422	62,442,716	63,408,937
Transmission	20,821,161	22,651,256	32,558,944
Distribution	49,431,989	55,811,945	59,824,248
Administration	1,519,649	1,530,413	1,551,280
Vehicles	674,610	624,428	622,236
Total capital assets, being depreciated	<u>\$ 149,151,924</u>	<u>\$ 159,983,338</u>	<u>\$ 175,349,211</u>
Less accumulated depreciation for:			
Buildings	\$ (10,180,242)	\$ (10,574,839)	\$ (10,992,065)
Production	(37,316,699)	(38,692,760)	(39,931,442)
Transmission	(7,369,638)	(8,052,226)	(9,206,982)
Distribution	(20,962,765)	(22,260,895)	(23,817,302)
Administration	(937,556)	(1,029,427)	(1,102,778)
Vehicles	(405,418)	(427,752)	(435,188)
Total accumulated depreciation	<u>\$ (77,172,318)</u>	<u>\$ (81,037,899)</u>	<u>\$ (85,485,757)</u>
Total capital assets, being depreciated, net	<u>71,979,606</u>	<u>78,945,439</u>	<u>89,863,454</u>
Total capital assets, net	<u>\$ 90,710,192</u>	<u>\$ 93,175,594</u>	<u>\$ 91,746,329</u>

In FY 2011, the Electric System experienced an increase in the annual system peak demand and a decrease in annual energy sales from the previous year. The Electric System experienced its peak at 3

p.m. on June 9, 2011 when demand reached 164.6 MW. For the year, approximately 734.1 GWh of energy were sold, a decrease of 3.6 percent from the preceding year. The Electric Division projects energy sales to decrease in FY 2012 to 710.0 GWh, a decrease of 3.3 percent. From FY 2012, the Electric Division expects annual energy sales to remain relatively constant through FY 2016.

Table II-2

**FISCAL YEAR 2012 PLANNED CAPITAL EXPENDITURES
City of Dover Electric Division**

Electric Engineering Projects:	
Distribution System Upgrades	\$ 500,000
Lighting Project and Rehabilitation	50,000
Substation Equipment & Fencing (Division St)	40,000
SCADA Master Hardware Replacement	75,000
Transmission Line Maintenance Program	75,000
Distribution Feeder Replacement Program	377,510
Distribution Capacitors - Overhead	50,000
Distribution Capacitors - Underground	50,000
Frazier Substation Reliability Upgrade	155,000
Substation PT & CT Replacement Program	267,715
Vehicles, Trucks, & Equipment	150,491
Subtotal Electric Engineering Division	<u>\$ 1,790,716</u>
Electric Transmission & Distribution Projects:	
New Developments - UG Transformers	\$ 600,000
Vehicles, Trucks, & Equipment	48,337
Subtotal Electric Transmission Division	<u>\$ 648,337</u>
Electric Generation Projects:	
McKee Run Switchyard Blast walls	\$ 50,000
McKee Run Preservation of Structures	38,000
McKee Run Demineralizer Replacement	65,000
Unit 3 - Stack Repairs	25,000
Unit 3 Boiler Air Heater	440,000
Unit 3 Boiler Systems	130,000
Unit 3 - Gas Modification	36,206
Unit 3 FD & ID Fan Controller Upgrade	92,000
Unit 3 DCS Computers & Software Upgrades	85,000
Unit 3 Auxiliary System Components	113,000
Unit 3 Turbine Outage/Inspections	348,000
Unit 3 Cooling Water Line Replacement	25,000
Unit 3 Air Heater Expansion Joint	82,807
Units 1 & 2 Life Extension	196,331
Units 1 & 2 Cooling Tower Life Extension	25,410
Units 1 & 2 Control Modifications	25,700
VanSant component replacements	50,000
McKee Run Equipment replacements	70,000
Subtotal Electric Generation Division	<u>\$ 1,897,454</u>
Electric Metering Division	
Vehicles, Trucks, & Equipment	\$ 20,000
Total Planned Capital Investment Projects	<u>\$ 4,356,507</u>

Production Plant

The City owns two power stations, the McKee Run Generating Station (McKee Run) and the VanSant Generating Station (VanSant). McKee Run consists of three steam turbine generating units with a total combined capacity of 136 megawatts (MW). VanSant is a 39-MW simple-cycle combustion turbine unit.

Effective May 4, 2006, the City entered into a five-year Energy Management Agreement with PACE Global Asset Management (PACE), LLC of Fairfax, Virginia to assist the City with its energy procurement, energy sale, purchase of fuels, establishment and management of risk policies, the development and management of hedging protocols and related energy procurement challenges. The PACE contract expired June 30, 2011 and effective July 1, 2011, The Energy Authority, Inc. (TEA) began assisting the City with its energy management activities. Headquartered in Jacksonville, Florida, TEA is a non-profit energy manager owned by seven public utility systems operating across the nation. At the time of the Report, TEA was currently completing a useful life study focusing on Units 1 and 2 at McKee Run. The purpose of the study is for financial due diligence and proper accounting. A similar study was completed several years ago by the City's former energy manager, PACE.

North American Energy Services Corporation (NAES Corporation) operates the generating plants. The agreement between the City and NAES Corporation has been in effect since July 1, 2006. The Engineering Consultant's observations regarding the generating stations and units are described later in this section of the Report.

Transmission and Distribution Plant

The service area includes 44 miles of overhead transmission lines, 0.12 miles of underground transmission lines, 175 miles of overhead distribution lines and 219 miles of underground distribution lines. Four Electric Division customers take service off of the 69-kV transmission system. These customers include the Dover Air Force Base, Kraft, Proctor & Gamble, and NRG Energy Center (NRG). NRG is an exempt wholesale generator that sells power that must be transmitted through the City's transmission system to third party purchasers. When the NRG plant is not operating the Electric Division provides power for the plant site.

The Electric Division has two contracts for providing transmission service through the Electric System. As previously stated, the Electric Division provides transmission service to NRG for the output of its 16 MW electric generator. The Electric Division also has a point-to-point contract for the output of an NRG

Combustion Turbine which ties directly to the Kent Substation and is not part of the Dover transmission system.

General Plant

The general plant category consists primarily of Electric Division administrative and operations facilities, and pollution control related equipment at McKee Run and VanSant. The agreement with NAES Corporation stipulates NAES Corporation manage the operation and maintenance of the facilities and the City funds all replacements and upgrades required to maintain the capability of the two generating stations. The City is also responsible for the costs of compliance with new regulations promulgated. Other types of items included in the general plant category include office furniture and equipment, computer-related equipment, transportation and power-operated equipment, and communication equipment. Burns & McDonnell did not specifically assess the items in the general plant category for the Report.

ELECTRIC SYSTEM ASSESSMENT

Burns & McDonnell, the Engineering Consultant to the City, made observations and conducted assessments of the Electric System assets in support of the development of this annual Engineering Consultant's Report. The findings of Burns & McDonnell from the review of the City's Electric System are documented herein.

Electric Generating Stations

On February 22, 2012, Mr. Ted Kelly of Burns & McDonnell met with representatives of NAES Corporation to discuss the condition of the McKee Run and VanSant generating stations. Mr. Kenneth Beard, the Plant O&M Manager, coordinated the visit along with Mr. Phillip Kosek, the Plant Administration and Environmental Health & Safety Manager.

Description: McKee Run consists of three units. Units 1 and 2 were originally coal-fired units, which began operations in 1961 and 1962, respectively. In 1972, these units were converted to burn No. 6 fuel oil. Units 1 and 2 each have rated capacities of 17 MW. Unit 3 began operations in 1975 and was designed to fire No. 6 fuel oil and natural gas. Unit 3 has a rated capacity of 102 MW. In FY 2008, the City began work to convert all three units at McKee Run to burn No. 2 fuel oil in order to reduce pollution from the plant. To date, the necessary upgrades and new equipment had been installed allowing each of the units to burn both natural gas and No. 2 fuel oil.

VanSant consists of a simple cycle combustion turbine with a rated capacity of 39 MW. This unit commenced operation in 1991. VanSant remains unmanned, except when it is dispatched into service. On the occasions when the unit is dispatched, personnel from McKee Run are transferred to VanSant to startup and operate the unit.

Management and Organization: Station management is very well organized and knowledgeable, and takes a logical approach to the operation and maintenance of the generation facilities. Mr. Vince Scire serves as the Plant Manager. The management/leadership team consists of eight members including Mr. Scire. The Administrative & Employee Health and Safety Manager, Material Management Coordinator, and O&M Manager, all report directly to Mr. Scire. An Administrative Specialist position is currently open at the plant. This position is part of the management/leadership team as well.

The O&M Manager oversees a Maintenance Supervisor, a Compliance Specialist and four Operations teams. Each operations team consists of two supervisors and three operators working 12-hour rotating shifts. Two operators work eight-hour flex time shifts Monday through Friday, and fill in as needed. The maintenance team consists of a planner, a supervisor and five employees working eight-hour shifts. The operations and maintenance personnel are all union employees. The relationship between the union and management was reported to be excellent. McKee Run is currently at a staff level of 28 employees, with 32 approved positions.

Safety: “Safety First” is an overall theme and attitude of the Electric Division. Near-miss incidents are documented, reviewed, and corrective follow-up actions are taken as required. An employee-run safety committee is actively in place. This committee conducts monthly safety meetings, completes safety equipment inspections, and defines and implements tasks to improve safety in all areas. Members of the safety committee complete periodic visual inspections of employee work activities utilizing an observation checklist to detail their findings. Recorded observations are discussed and infractions corrected. Safety is the first topic discussed at all meetings at the generating plant. An indoctrination video emphasizing safety is shown to all visitors when entering the Station.

There were no restricted work days or lost time accidents reported in FY 2011. NAES ended the year with 22,831 man-hours worked with no OSHA recordable accidents.

Training: The required annual OSHA compliance training is completed and documented for each employee. A formal two-day employee orientation program is required for all new employees. This

orientation covers a multitude of subjects from employee benefits to a review of the various Station operating manuals.

For operator training, the Employee Development and Qualification Program (EDQP) has been established. EDQP is a formal program for training operators to progressively advance to positions with additional responsibilities. In addition to the above programs, cross training of various disciplines also occurs. An example of cross training would be plant operators training with maintenance staff.

Plant staff receive environmental and safety training online via the GPi Learning website. The training includes tutorials and exams to ensure comprehension of the subject matter. Plant manuals, meetings, etc. offer additional safety training.

Four employees completed formal training and received certification for Hazardous Waste Management: Resource Conservation and Recovery Act (RCRA) and US Department of Transportation (DOT) Regulations in FY 2011. The training was completed in East Windsor, New Jersey on April 6, 2011 and administered by Nexeo Solutions of Dublin, Ohio.

Major Equipment Operation and Maintenance: In general, the generation facilities appear to have been properly operated and maintained, and in good condition as evidenced by the high availability of the units. The generation facilities are dispatched sparingly and operate primarily as peaking units. As such, the individual units incur a relatively large number of starts per year and low annual capacity factor. Table II-3 summarizes the major FY 2011 operating statistics.

The large amount of time that units are not operating allows for maintenance and repair of the units. As a result, the FY 2011 overall equivalent availability factor for the generation facilities averaged 67.6 percent. Low net capacity factors are partially offset by Pennsylvania New Jersey Maryland Interconnection (PJM) capacity credits. In FY 2011, approximately \$11.4 million of PJM capacity credits helped cover the fixed operating and maintenance costs of the Electric System. PJM capacity credits are expected to continue to provide similar benefits in FY 2012 and beyond.

Electronic Management System: Maintenance activities are organized, planned, and managed using MP2™ by CMMS Data Group, a computer-based management system. All three major categories of maintenance activities (corrective, preventative, and predictive) are electronically managed by MP2™.

Table II-3

FISCAL YEAR 2011 OPERATING STATISTICS
City of Dover Electric Division

Unit Number	Rated Capacity - MW	Net Production - MWh	Net Capacity Factor	Net Heat Rate Btu/kWh	Number of Starts
VanSant	39	5,148.0	1.43%	13,300	39
McKee Run					
Unit 1	17	411.5	0.28%	15,804	3
Unit 2	17	1,408.8	0.95%	13,782	5
Unit 3	102	47,297.8	5.21%	11,464	49
Total	175	54,266.1	3.54%		96
Unit Number	Forced Outage Hours	Operating Hours	Service Factor	Equivalent Availability Factor	
VanSant	-	154.7	1.77%	97.17%	
McKee Run					
Unit 1	579.8	43.0	0.49%	63.18%	
Unit 2	-	159.7	1.82%	69.80%	
Unit 3	6.3	714.7	8.16%	69.73%	
Total	586.1	1,072.1	12.24%		

For corrective maintenance activities, any station operator or mechanic can enter a work order into the system at any terminal on the Station local area network (LAN). A supervisor reviews the request, turns it into a work order, and assigns a priority according to a predetermined categorization. The work order is planned, parts are ordered, and then the work order is assigned to an operator or maintenance technician for completion once the material has been received.

This system is also used to manage and track preventative maintenance activities that follow a schedule. Changing filters, turning on and off heat tracing are examples of preventative maintenance. Predictive maintenance activities practiced include oil analyses, vibration testing, and infrared surveys. Portable vibration testing equipment is used at the Stations to improve the frequency of and capabilities to troubleshoot rotating equipment. The technology allows personnel to identify problems and take corrective actions before equipment failure occurs.

Electric Generation Improvements: The following describes completed, on-going, and planned improvements to the City's generation assets:

Recently Completed:

- DOE Grant - Photovoltaic Panels
- McKee Run & VanSant Arc Flash
- McKee Run Driveway Repaving
- Unit 3 Fire Protection System
- Unit 3 Cooling Tower Life Extension
- Unit 1 Outage FY 2011
- Unit 2 - Boiler Inspection & Repair
- VanSant CT Mark IV Upgrades
- Work Management Software Replacement

On-Going:

- McKee Run Preservation of Structures
- Unit 3 - Gas Modification
- Unit 3 Air Heater Expansion Joint
- Units 1 and 2 Life Extension
- Units 1 and 2 Cooling Tower Life Extension
- Units 1 and 2 Control Modifications
- McKee Run Equipment Replacements

Planned:

- McKee Run Demineralizer Replacement
- McKee Run Turbine Level Window Modification
- McKee Run High Energy Piping
- Unit 3 - Stack Repairs
- Unit 3 Boiler Air Heater
- Unit 3 Boiler Systems
- Unit 3 FD and ID Fan Controller Upgrade
- Unit 3 DCS Computers & Software Upgrades
- Unit 3 Auxiliary System Components
- Unit 3 Turbine Outage/Inspections
- Unit 3 Cooling Water Line Replacement
- Unit 3 Generator Repairs
- Units 1 and 2 Stack Repairs
- Units 1 and 2 Boiler Repairs
- Units 1 and 2 Component Repairs
- VanSant Capacity Increase
- VanSant Component Replacements
- Metering System Upgrades

Condition Assessment: The following is a summary of the condition assessment of McKee Run major equipment and VanSant as presented by the NAES Corporation staff. Burns & McDonnell made no internal assessments of equipment during the facility tour.

Steam Turbines/Generators: The steam turbines and generators for VanSant and McKee Run Units 1 and 2 were reported to be in satisfactory condition with no major problems. McKee Run Unit 3 turning gear engagement problems were reported in the summer 2010 outage report. Plant staff developed a list of parts needed to complete the appropriate repairs. Plans were made to replace both mating clutch ends during the spring 2010 outage. Delays in parts availability postponed the planned repairs until FY 2012. XL Insurance completes inspections of the Energy Division production facilities on an annual basis. After each inspection the insurance provider issues a report detailing its risk reduction recommendations. A recommendation following the FY 2010 inspection addressed safety. XL Insurance recommended the

installation of a permanent fire protection system for the turbine generator bearings at McKee Run. The City completed the installation of the system in FY 2011 for Unit 3. The City and XL Insurance agree that portable foam generating carts are sufficient fire protection for Units 1 and 2, due to their light use.

In FY 2011, the McKee Run Units 1 and 2 turbine generators were degassed and removal of hydrogen fill piping was completed. The existing hydrogen fill piping was replaced with stainless steel piping to help reduce corrosion. Once the piping was installed it was checked for leaks. No leaks were reported. No other major repairs or replacements were required for the turbine/generators in FY 2011.

Boilers and Auxiliaries: Boiler inspections are conducted every year on each of the boilers. Each fiscal year, the inspections on each boiler typically include the inspection and cleaning of the major boiler components, including the mud and steam drums, the forced draft and induced draft fans, the windbox, condenser water box, condenser tubes, hotwell, air preheater components, and safety valves.

In FY 2010, McKee Run Unit 1 experienced a tube failure and excursion and consequently was shut down. The City hired a contractor to supply replacement parts and repair the tube by replacing a tube section. After an internal inspection, plant staff made the decision to replace six additional tubes in Unit 1. The City subsequently hired inspectors to examine the repaired unit and provide recommendations for additional repairs and inspections. These maintenance recommendations helped determine certain projects to be completed during future outages.

In FY 2011, outlet duct expansion joint was replaced at Unit 3. Operations removed the appropriate insulation and lagging to prepare the duct. The Electric Division contracted Apex to complete the installation the equipment. A complete seam weld was utilized to seal the joint and the job site was cleaned.

Following its FY 2010 annual inspection of the production facilities, XL Insurance recommended the City implement a program that tracks annual hot and cold settings of hangers in the steam, reheat, feedwater and boiler systems. In FY 2011, the City has met the recommendation by implementing a program that will examine the high energy piping systems on a five-year basis, beginning in 2014.

Station Cooling Water Systems: The Station has split cooling water systems with one system serving Unit 1 and Unit 2 and a separate system serving Unit 3. Projectile tube cleaning was completed on Unit 1 and Unit 2 condensers during the spring FY 2011 outage. All the tubes in each unit were cleaned utilizing

the scraper blade plug method. Samples were taken from the tube cleanings and retained for inspection. No leaks were detected in the expansion joint or condenser tubes. Each condenser box was cleaned. Projectile tube cleaning was last completed in the nineteen eighties. The cooling water systems are reported to be sufficiently sized and in satisfactory condition, with no major issues reported at the time of this Report.

Fuel Handling Systems: Natural gas comes into the station in a 4-inch diameter pipeline for Unit 1 and Unit 2 and in a 10-inch diameter pipeline for Unit 3. No. 2 fuel oil is delivered to the station and unloaded into tanks. Forwarding pumps deliver the fuel oil to each of the units. No major fuel projects were reported to be completed in FY 2011.

Water Treatment/Steam Purity: Quality control parameters for boiler feed-water, internal boiler water, cooling tower water, and steam purity are checked at a minimum of twice per day when systems are operating. Results are recorded and graphically compared to control limits. Adjustments are then made as required. Boiler feed water is treated city water (well water from City) using a regenerative ion resin demineralizer system, along with deaeration for oxygen control. Boilers 1 and 2 use a coordinated phosphate control for boiler internal purity control and Boiler 3 uses a balanced trisodium phosphate and disodium phosphate within a narrow pH range. A deep-bored water well was installed to provide water in addition to the city supplied water. City water has a high chlorine level which may exceed the Station permitted limits. By combining City water with the well water, the chlorine levels can be maintained at the permitted limits. Water for cooling tower makeup is also obtained from City water. The primary control parameter is silica concentration. Blow down is adjusted as required to maintain control. The City is currently undergoing the approval process with Kent County to obtain an integrated waste water permit to be able to discharge cooling water to the sewer system. No major issues were reported at the time of this Report.

Steam purity is not continuously monitored. Samples are taken twice daily and tested for pH, conductivity, and silica. There have not been any problems with steam purity. Annual inspections of the boiler drums and separation internals have verified that these systems are intact and operating properly.

Following its FY 2010 annual inspection of the production facilities, XL recommended the City implement lay-up procedures to protect water systems from corrosion. In FY 2011, the City worked to update plant procedures to conform to NAES standards.

In FY 2011, the station did not experience any internal corrosion related failures, steam path deposits, or excessive condenser fouling. NALCO provides water treatment consulting services and chemicals. A representative visits the station periodically to review test data and check chemical usage rates. No major issues were reported at the time of this Report.

Station Electrical Systems: Overall, station electrical systems and transformers are considered to be in satisfactory condition. A condition assessment of the generation facilities' transformers was conducted in February 2011. Oil inspections and analyses were made. The inspector recommended that normal operation continue for all the transformers at the plant. Oil sampling is now completed twice per year on the GSUs. All plant transformers are examined annually.

Following its FY 2008 annual inspection of the production facilities, XL recommended the City build blast walls around transformers at the plant. In FY 2011, the City continued to research blast wall protection. The revised FY 2012 Capital Budget includes costs for blast wall installation at McKee Run.

Station Control Systems: Unit 1 and Unit 2 controls are electro-pneumatic and Unit 3 controls are a distributed control system (DCS). During the March FY 2011 spring outage, a controls upgrade was completed at McKee Run Units 1 and 2. The new devices will control igniters, pilots and shut down main fuel to protect the boiler. The project included the installation of new limit switches on main gas, pilot gas, and oil supply/return valves. The controls upgrades help the system meet national fire protection codes.

Following its 2007 annual inspection of the production facilities, XL Insurance recommended the City seal openings in fire barriers through which cables pass. The City has worked each year since to make progress on sealing openings in fire barriers. The City intends to seal the rest of the openings as part of its boiler controls and control room upgrades.

In general, the station control systems are considered to be in satisfactory condition. The Unit 1 and Unit 2 control systems are outdated but perform satisfactorily. All relays have recently been inspected at both McKee Run and VanSant for North American Electric Reliability Corporation (NERC), Pennsylvania-New Jersey-Maryland (PJM) Interconnection and Mid-Atlantic Area Council (MAAC) compliance. The EHC system will be modified in the future to become a primary/primary system. No major issues were reported at the time of this Report.

General Facilities: No major projects or improvements were completed to the General Facilities in FY 2011 other than routine maintenance and repairs. In general, the station facilities appeared clean and well maintained during the site visit.

VanSant Generating Station: In general, the unit is operated infrequently, but is well maintained. Although the station is only manned when operating, an operator performs a twice daily walk through with a checklist of items to review and the results are logged. The annual overhaul and inspections were conducted at VanSant during FY 2011. No major problems were found.

The VanSant unit now has the capability of completing black starts. Upgrades have been made to provide the capability of remote control of the unit; however, complications have not made remote control possible.

XL Insurance completes inspections of the Energy Division production facilities on an annual basis. After each inspection the insurance provider issues a report detailing its risk reduction recommendations. The lone recommendation for VanSant following the FY 2011 inspection addressed safety. XL Insurance recommended the installation of gas detection equipment at the plant. The City is making an effort to meet this recommendation. No date has been set for its expected completion. No other major repairs or upgrades were made at VanSant in FY 2011.

Transmission and Distribution Systems

On February 22, 2012, Mr. Ted Kelly visited the City to collect information and to observe the City transmission and distribution system, as operated and maintained by the Electric Division. Mr. Steve Enss, the Engineering Services & System Operations Superintendent, provided information related to the transmission and distribution system. Mr. Enss also led a tour of the electric transmission and distribution system.

The Electric Division distributes power to its customers by a network of transmission lines, distribution substations, and distribution lines. The transmission lines are rated at 69 kV and are connected to fifteen distribution substations located throughout the service area. The distribution substations reduce the power from transmission voltages to the primary distribution voltages of 12 kV to facilitate distribution of electric power to customers.

Safety: Mr. Jeremy Johnson – Public Utilities Director for the City, reported to Burns & McDonnell that there were no reportable injuries or lost workdays in FY 2011.

System Reliability: The Electric Division provides for reliability of its distribution system by configuring a majority of its distribution circuits in primary open loop arrangements, improving existing circuits, and installing adequate substation transformer capacity. Normal transformer and line loading are limited to provide sufficient margin to convey firm power requirements during an emergency or a switching operation, or for maintenance.

Power Quality: The Electric Division does not have any significant power quality problems. The overall power factor for the Electric System decreased from approximately 98.72 percent in FY 2010 to 98.43 percent in FY 2011. Power transformers are equipped with load tap changers regulate bus voltages at the distribution substations. Distribution transformers are equipped with no-load taps to make voltage adjustments. There are capacitors and voltage regulators on the Electric System that control voltage and vars on the portion of the system furthest away from the current source and generation. The system operators monitor the power factor closely and turn on capacitors or adjust the generation to compensate for low power factors.

Operations and Maintenance: The Electric Division has a SCADA system that is monitored continuously for any problems that may arise in the Electric System. The main control room has two system operator desks and a large screen where system operating information is displayed. System operators can monitor the Electric System operation, such as voltage levels, current flows, etc. and make necessary adjustments as problems arise. The systems operators have received some PJM training, but are not required to be certified as Delmarva Power is the controlling agency.

Loading on substation transformers used for an emergency, a switching operation, or maintenance is limited to 120 percent of the rated capacity, followed by a twelve-hour cool-down period. The Electric Division has nine line crews to work on the system. Four crews are responsible for overhead lines, four crews are responsible for underground lines, and one crew is responsible for maintenance. The primary responsibilities of the eight line crews are installation of new service connections and construction of new lines. The Trouble crew maintains the street lights, repairs underground services and is the first responder to outages. Tree trimming is contracted out and is no longer performed by the Electrical Division; however, their performance is monitored by the Line Crew Superintendent.

The Substation/Relay Maintenance Division is responsible for operation and maintenance of the substations and associated equipment. They perform visual inspections of substations, associated equipment, trip counter checks, battery systems checks, and oversee annual transformer condition assessments.

TJ/H2b Analytical Services completed the annual transformer condition assessments in February FY 2011. No abnormal gas was indicated and since the oil condition was within acceptable parameters, TJ/H2b recommended the continuation of normal operation. The City has a contract with an environmental consultant to check each substation for oil leaks and to provide instruction on cleaning up in the event of an oil spill.

The City contracts with an outside firm to inspect and chemically treat each wood pole in the Electric System every ten years. This is accomplished by awarding a five-year contract to spread out the expenses. No pole treatments were reported completed in FY 2011.

Design Standards and Specifications: The Electric Division designs the transmission and distribution circuits and some substation upgrades in conformance with national safety standards. Other substation and transmission design is contracted to Pike Electric, Inc.

The underground distribution design utilizes road or alley front access construction. This design means the electrical equipment, such as transformers and underground cable, are installed beside the road instead of behind houses or buildings. The advantage of front access construction is the accessibility for maintenance and repairs to cable and electric equipment. The underground cables are installed in PVC pipe for added protection and for easy cable replacement. The Electric Division installs jacketed, concentric cable that is rated at 15 kV, with 133 percent Ethylene Propylene Rubber (EPR) insulation.

The standard overhead distribution design utilizes a flat construction using a single cross-arm and insulators on 45-foot class 2 poles. Typically all electrical equipment locations have ground rods installed with measured readings of 25 ohms or less.

The substation design is generally a low-profile rigid bus design. The circuit breakers are SF₆ gas-filled and the relays are microprocessor based with SCADA control and monitoring.

Transmission and Distribution Capital Improvements: The following describes completed, on-going, and planned improvements to the City's transmission and distribution assets:

Recently Completed:

- 69-kV Feeders 3 and 4
- Replacement of 69-kV Breakers & Design
- Governors Avenue Rebuild
- Mid City Substation Upgrades
- 69-kV Substation Switch Replacement
- New Developments – Underground Conductors and Devices
- Single Phase Meters

On-Going:

- Distribution System Upgrades
- Lighting Project and Rehabilitation
- Substation PT and CT Replacement
- New Developments – Underground Transformers

Planned:

- | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> • Horsepond Road Substation Reliability Upgrade • Replace Substation Equipment and Fencing • McKee Run Yard Rebuild • North Street 69-kV Cable Replacement • Distribution Feeder Replacement Program • Transmission Relaying, Replacement and Calibrations • Distribution Capacitors - Overhead | <ul style="list-style-type: none"> • Distribution Capacitors - Underground • Outage Management System • System Automation & SCADA Equip. • Frazier Substation Reliability Upgrade • Horsepond Substation to Cartanza 69-kV Rebuild • 69-kV Substation Switch Replacement • General Scott Switchgear |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Condition Assessment: The transmission and distribution system assessment included drive-by observations of a sample of the transmission circuits, distribution circuits, and substations. Most of the fifteen substations were physically observed during the tour. The following substations were observed during the tour:

- | | |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> • Mid City Substation • Frazier Substation • North Street Substation • General Scott Substation • Lebanon Substation | <ul style="list-style-type: none"> • Division Street Substation • St. Jones Substation • Horsepond Substation • Cartanza Substation |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

The first stop during the transmission and distribution system evaluation was the Mid City Substation. In FY 2011, breaker change outs were completed. The oil breakers were replaced with SF6 breakers at the

substation. Routine maintenance was completed at the Frazier Substation in September 2010 and reliability upgrades are scheduled to begin in FY 2012. Switch replacement was completed at the North Street Substation and cable replacement is on the Electric Division's five-year capital plan. Switches were replaced at the General Scott Substation and the 69-kV breakers were replaced. The switchgear is scheduled for replacement in FY 2015 at the General Scott Substation.

The Lebanon, Division Street, St. Jones, and Horsepond Substations appeared to be in good condition. Routine maintenance was completed in FY 2011 at these locations. There was little to no vegetation visible and the yards appeared to be well maintained.

The Cartanza Substation was observed during the system tour. Cartanza is a 230/69-kV substation, which serves as a tie with Delmarva. Delmarva maintains the 230-kV side of the station, while the City of Dover maintains the 69-kV side. In FY 2011, tap changer seals were replaced at the substation. The Electric Division works Delmarva Power on transformer testing. Cartanza currently has four 69-kV lines leaving the station. The four circuits leave the station on two diverse pole lines, each holding a double circuit, until the circuits split down the line. This configuration allows for two separate loops for the entire 69-kV system to minimize total system failure should one common pole be critically damaged.

Along the transmission and distribution system tour route, additional projects were detailed. The replacement of old underground circuits was completed in December FY 2011. Also, a number of insulators were replaced due to some breakdowns primarily due to age. Specifically, a transmission line near McKee Run had to be replaced because of the continual damage sustained by cooling tower exhaust. Another transmission line connecting a 10-MW Sun Power solar project was completed during the fall of FY 2011. Force labor completed the job. The transmission line featuring composition poles was completed in time to shave 6 MW from the system peak.

In addition, the tour included driving through several residential areas that are served by underground distribution lines. The pad mounted transformers observed along the way appeared to be in good condition.

Conclusions

Based on statements and information provided, as well as the observations and reviews performed, it is the opinion of Burns & McDonnell that the City's power generation facilities are being operated and maintained consistent with accepted electric utility practice in the United States. In general, the

performance, operation, maintenance, staff, planning, and training aspects for the McKee Run and VanSant stations were found to be above average. Specifically, the generation facilities have demonstrated a high level of availability despite the dispatching of the units primarily for peak demand.

It is the opinion of Burns & McDonnell that the design, construction, operation and maintenance of the City's electric transmission and distribution system and the associated facilities are consistent with current generally accepted electric utility standards. In completing Annual Engineering Consultant's Reports over the past several years, Burns & McDonnell has observed that the City has done a good job of making appropriate system upgrades and improvements. The City and the Electric Division are proactive in preventative maintenance and expansion of the Electric System before problems arise.

* * * * *

PART III – FINANCIAL ASSESSMENT

PART III

FINANCIAL ASSESSMENT

The financial results of the City of Dover, Delaware (City) Electric System for the fiscal year (FY) ended June 30, 2011, were generated through the management and operation of the Electric System by the Electric Division. A review of the financial results is provided below.

FINANCIAL RESULTS

The total revenue of the Electric Division during FY 2011 included revenue from charges for electric service, as well as miscellaneous revenues from items such as rents, penalties, reconnection fees, and emission credits. On the Comparative Statement of Revenues, Expenses, and Changes in Unreserved Retained Earnings table, revenues were compared to the Electric Division's costs of providing services to its customers to determine whether the financial requirements of the Electric Division were met.

Required Revenue Level

The level of revenues required from the retail electric rates for the Electric Division were determined through the analysis of the financial results and net income or net margins for the most recent fiscal year. The City of Dover, Delaware Resolution Authorizing and Securing Electric Revenue Bonds, adopted December 23, 1985 requires that the Electric Division maintain a debt service coverage ratio of 1.25. The following is an excerpt from Section 502(c) of the resolution.

“(c) The total amount of the Revenues of the Electric System during the preceding fiscal year shall have been not less than the total of the following:

- (1) The Current Expenses of the Electric System during the current fiscal years shown by the Annual Budget . . . for such fiscal year, and*
- (2) One hundred twenty-five percent (125%) of the maximum amount of the Principal and Interest Requirements for any fiscal year thereafter on account of all bonds then Outstanding under the provisions of this Resolution.*

The City further covenants that, from time to time and as often as it shall appear necessary, it will adjust the electric rates as may be necessary or proper so that the revenues of the Electric System in each fiscal year will not be less than the total of the amounts set forth in subdivision (c) of this section.”

Electric Rates

Customers of the Electric Division of the City are charged for the electric service based on rate schedules, tariffs, or contracts that reflect the costs to the Electric Division of providing that service. For purposes of setting electric rates, customers with similar load and service characteristics should be placed in the same rate classification.

A comprehensive cost-of-service and rate design study was completed in 2006 and subsequent rate analyses were completed in 2007 and 2008 to examine revenue requirements and revenue generation. Specifically, the 2006 rate study was conducted to address increased costs associated with a new power supply contract that became effective on July 1, 2006. The rate study recommended combining a number of rate classes and implementing rate increases on July 1, 2006. The 2006 rate study also recommended an additional increase be implemented on January 1, 2007 to cover increased costs associated with operating the generating station. The 2007 and 2008 rate analyses re-examined Electric Division revenues and expenses and recognized additional revisions to power supply costs. As a result of these analyses, additional rate increases were implemented on July 1, 2007 and July 1, 2008. The July 2008 study established the rate schedules utilized by the Electric Division today. The current rate classes are listed below.

- Residential
- Small Commercial (1 Phase, 3 Phase, 1 Phase Heating, Church, and Municipal)
- Medium Commercial (1 Phase & 3 Phase)
- Large Commercial (3 Phase with Reactive Metering)
- Primary
- Transmission
- Outdoor Development Lighting
- Private Outdoor Lighting
- Water Pumping
- Supplemental for NRG

The City has retained Burns & McDonnell to begin a comprehensive cost-of-service and rate design study in fourth quarter FY 2012. The study will examine revenue adequacy, revenue responsibility, and revenue recovery for the Electric Division. The FY 2012 study will scrutinize customer classes and propose adjustments for demand rate components and any corresponding changes to energy charges.

Operating Results

Table III-1 presents a summary of the annual energy sales, the average monthly number of customer accounts, and the annual average kilowatt-hour (kWh) energy per customer of the Electric Division for FY 2009 through FY 2011. After reaching a low in FY 2010 for the three-year period, annual energy

sales increased to 734.1 GWh in FY 2011. On a percentage basis, the one-year increase equaled 3.6 percent.

Table III-1

ANNUAL SALES AND CUSTOMERS
City of Dover Electric Division

	FY 2009	FY 2010	FY 2011
Energy Sales (kWh)			
Residential	195,185,587	193,911,702	208,092,047
Commercial	248,757,087	237,608,938	243,985,517
Primary	156,096,547	148,381,527	153,879,249
Transmission	119,910,158	128,628,155	128,146,159
Total Energy Sales	719,949,379	708,530,322	734,102,972
Average Number of Customers (bills)			
Residential	19,685	19,785	19,730
Commercial	3,497	3,371	3,140
Primary	37	36	42
Transmission	4	4	3
Total Customers	23,223	23,196	22,915
Energy Per Customer			
Residential	9,915	9,801	10,547
Commercial	71,131	70,493	77,702
Primary	4,209,345	4,102,715	3,663,792
Transmission	30,615,359	32,157,039	42,715,386
Average Energy Per Customer	31,001	30,546	32,036

Table III-2 presents revenues from sales, revenue per kWh ratios, and average revenue per customer ratios for each revenue classification. Total revenue from sales to electric customers in FY 2011 was approximately \$99.5 million, representing an increase of \$1.4 million, or 1.5 percent from FY 2010. Total revenue from sales to electric customers includes utility tax revenue and power cost adjustment revenue.

In FY 2011, the average rate revenue per kWh for residential customers was 14.79 cents and the total average rate revenue was 13.56 cents per kWh. The July 2010, through June 2011 national average monthly utility-level retail sales of electricity and associated revenue per kWh, as published by the US Energy Information Administration (EIA), were 11.66 and 9.91 cents per kWh, respectively. For a state-wide comparison, the EIA summarized the Delaware July 2010, through June 2011 average monthly

utility-level retail sales of electricity and associated revenue per kWh to be 13.86 cents per kWh for residential customers and 11.90 cents per kWh across all sectors.¹

Table III-2

**ANNUAL REVENUES AND SALES RATIOS
City of Dover Electric Division**

	FY 2009	FY 2010	FY 2011
Revenue			
Residential	\$ 29,553,954	\$ 29,320,410	\$ 30,774,462
Commercial	37,547,855	36,856,716	36,572,134
Primary	18,988,842	18,025,548	18,450,238
Transmission	13,551,839	13,878,764	13,716,322
Total Revenue	\$ 99,642,490	\$ 98,081,438	\$ 99,513,156
Revenue/kWh			
Residential	\$ 0.1514	\$ 0.1512	\$ 0.1479
Commercial	0.1509	0.1551	0.1499
Primary	0.1216	0.1215	0.1199
Transmission	0.1130	0.1079	0.1070
Total Revenue/kWh	\$ 0.1384	\$ 0.1384	\$ 0.1356
Revenue Per Customer			
Residential	\$ 1,501	\$ 1,482	\$ 1,560
Commercial	10,737	10,935	11,647
Primary	512,059	498,402	439,291
Transmission	3,460,044	3,469,691	4,572,107
Average Revenue Per Customer	\$ 4,291	\$ 4,228	\$ 4,343

The Electric Division's largest cost in providing electric service to its customers in FY 2011 was the wholesale cost of power. The Electric Division purchased power from the PJM Interconnection marketplace through its Energy Manager, PACE. From FY 2010 to FY 2011, the net cost of non-generated power decreased from \$66.8 million to \$62.7 million. The cost of non-generated power includes energy and demand costs, power supply management expense, PJM charges and credits, generation fuels cost, and capacity charges and credits. Reduced demand and energy costs were the main driver behind the reduction in net cost of non-generated power.

The significance of power supply cost to the Electric Division is illustrated in Table III-3. The top portion of the table shows net operating revenue as the difference between total revenues generated by the rates

¹ US Energy Information Administration, Form EIA-826 Data Monthly Electric Utility Sales and Revenue Data, http://www.eia.gov/cneaf/electricity/page/sales_revenue.xls (Mar. 19, 2012)

and the cost of power supply.² The ratios of power supply cost to sales revenues were calculated for FY 2009 through FY 2011. As illustrated, the Electric Division's power supply cost as a percentage of rate revenue decreased from approximately 74.1 percent in FY 2010 to 70.0 percent in FY 2011.

Table III-3

**NET REVENUE MARGINS AND UNACCOUNTED FOR ENERGY
City of Dover Electric Division**

	FY 2009	FY 2010	FY 2011
Net Revenue Margins (\$)			
Sales Revenues	\$ 99,642,490	\$ 98,081,438	\$ 99,513,156
Power Supply	74,928,897	72,695,602	69,616,076
Net Revenue Margin	\$ 24,713,593	\$ 25,385,836	\$ 29,897,080
Net Revenue Ratio	75.2%	74.1%	70.0%
Unaccounted for Energy (kWh)			
Power Supply	751,171,000	751,250,000	768,254,000
Energy Sales	719,949,379	708,530,322	734,102,972
Unaccounted for Energy (Losses)	31,221,621	42,719,678	34,151,028
Percentage	4.2%	5.7%	4.4%

Table III-3 also illustrates the ratio of the amount of energy purchased and delivered to the electric system to total energy sales. This relationship identifies the level of unaccounted for energy in the Electric System. This unaccounted for energy may include energy that was unmetered, metered inaccurately, stolen, lost, PJM transmission line losses, local system line/transformer losses, etc. The bottom portion of Table III-3 presents these comparisons for the Electric Division for FY 2009 through FY 2011. As shown, the percentage ratio of the unaccounted for energy to the total energy purchased for FY 2011 was 4.4 percent. This is down from 5.7 percent in FY 2010.

Table III-4 presents a re-creation of the Electric Division's Statement of Revenues, Expenses, and Changes in Unreserved Retained Earnings for the Electric Revenue Fund for FY 2009 through FY 2011. Net income was down slightly from FY 2010, totaling \$3.2 million in FY 2011. Increased charges for electric service and reduced operating expenses equated to \$2.9 million increase in net operating income

² For the purposes of this Report, the phrase "Power Supply" refers to the sum of the costs of power purchased and power generated. This includes plant costs and the cost of fuel. Power Supply also includes any expenses in the CIP Fund that are not capital expenses. The phrase "Purchased Power" refers only to the cost of power purchased from the market and other directly associated costs.

for the year; however, operating transfers out resulted in an annual net income decrease. Annual operating transfers out totaled (\$8.9) million, the highest total for the past ten years.

Table III-4

**COMPARATIVE STATEMENT OF REVENUES, EXPENSES, AND
CHANGES IN UNRESERVED RETAINED EARNINGS
City of Dover Electric Division**

	FY 2009	FY 2010	FY 2011
Operating Revenues:			
Charges for Electric Service	\$ 99,642,490	\$ 98,081,438	\$ 99,513,157
Miscellaneous Services/Incomes	1,778,492	2,197,036	2,389,462
Total Operating Revenues	<u>\$ 101,420,982</u>	<u>\$ 100,278,474</u>	<u>\$ 101,902,619</u>
Operating Expenses:			
General Administration	\$ 4,084,382	\$ 5,529,887	\$ 5,298,869
Power Supply	74,928,897	72,695,602	69,616,076
Transmission/Distribution	4,032,931	3,146,123	3,083,714
Engineering	2,393,416	1,465,740	1,722,244
Metering	285,118	301,416	204,352
System Operations	559,743	496,195	486,894
Utility Tax	1,738,059	1,922,645	1,944,543
Depreciation	3,898,475	4,106,802	4,710,658
Retiree Health Care	1,830,903	531,843	1,839,110
Total Operating Expenses	<u>\$ 93,751,924</u>	<u>\$ 90,196,253</u>	<u>\$ 88,906,460</u>
Net Operating Income	\$ 7,669,058	\$ 10,082,221	\$ 12,996,159
Non-operating Revenues (Expenses)			
Interest Earned			
Operating Fund	\$ 141,310	\$ 37,849	\$ 832,145
Reserved Funds	1,041,655	865,878	511,922
Net Increase in Fair Value of Investments	239,624	(168,775)	(861,216)
Interest and Fiscal Charges	(726,448)	(648,581)	(1,385,035)
Bond Discount Amortized	(113,206)	(113,206)	(21,579)
Gain/(Loss) on Sale of Assets	115,638	17,984	16,830
Total Non-operating Revenues(Expenses)	<u>\$ 698,573</u>	<u>\$ (8,851)</u>	<u>\$ (906,933)</u>
Net Income Before Operating Transfers	\$ 8,367,631	\$ 10,073,370	\$ 12,089,226
Operating Transfers - In	1,332,350	-	-
Operating Transfers - Out	(6,758,100)	(6,758,100)	(8,856,000)
Total Net Operating Transfers	<u>\$ (5,425,750)</u>	<u>\$ (6,758,100)</u>	<u>\$ (8,856,000)</u>
Net Income	<u>\$ 2,941,881</u>	<u>\$ 3,315,270</u>	<u>\$ 3,233,226</u>

Adequacy of Electric Rates

The City's Bond Resolution requires annual revenues of the Electric Division be no less than the total current expenses plus 125 percent of the greatest remaining annual debt service. "Current expenses", as defined in the Resolution, includes all expenses necessary to maintain and repair the Electric System, all administrative expenses, and engineering, legal or other consultant fees. Transfers to reserve accounts and special purpose funds, and allowances for depreciation are specifically excluded from "current expenses."

In order to determine if the City and the Electric Division have met this requirement, the net income shown in Table III-4 was adjusted to include the interest on bonds, depreciation expense, and other non-cash income and expenses. Table III-5 presents the adjustments to net income and the determination of the revenues available for debt service for FY 2009 through FY 2011.

Table III-5

**DEBT SERVICE COVERAGE CALCULATION
City of Dover Electric Division**

	FY 2009	FY 2010	FY 2011
Net Income	\$ 2,941,881	\$ 3,315,270	\$ 3,233,226
Plus Excluded Expenses:			
Operating Transfers - In	\$ (1,332,350)	\$ -	\$ -
Operating Transfers - Out	6,758,100	6,758,100	8,856,000
Depreciation	3,898,475	4,106,802	4,710,658
Interest and Fiscal Charges	726,448	648,581	1,385,035
Bond Discount Amortized	113,206	113,206	21,579
Gain/(Loss) on Sale of Assets	(115,638)	(17,984)	(16,830)
Less Excluded Income:			
Net Increase in Fair Value of Investments	(239,624)	168,775	861,216
Interest Earned - Reserve Funds	(1,041,655)	(865,878)	(511,922)
Revenues Available for Debt Service	<u>\$ 11,708,843</u>	<u>\$ 14,226,872</u>	<u>\$ 18,538,962</u>
Maximum Principal and Interest in Any Year	\$ 4,058,700	\$ 3,347,479	\$ 3,401,954
Debt Service Coverage	<u>2.88</u>	<u>4.25</u>	<u>5.45</u>
Minimum Required Debt Service Ratio	1.25	1.25	1.25

As Table III-5 illustrates, the City and the Electric Division maintained a debt service coverage ratio each year that exceeded the required 125 percent plus current expenses. Therefore, the revenues generated by the current electric rates have been sufficient to meet the applicable covenants of the Resolution.

Section 502 of the Resolution requires that the annual debt service used in evaluating the revenues is to be the maximum amount for any fiscal year thereafter. Table III-6 presents the annual totals of principal and interest amounts due on bonds currently outstanding. The calculation of the debt service coverage ratio in Table III-5 is based on the total maximum debt service expense in any fiscal year. The FY 2011 calculation was based on the total FY 2016 debt service expense of \$3,401,954.

STATUS OF REVENUE BONDS

At the end of FY 2011, the City had two series of outstanding electric revenue bonds that were issued pursuant to the Resolution. The 2004 Electric Revenue Bonds (2004 Bonds) were issued in 2004, in the amount of \$22,535,000. These bonds were issued to refund the 1990 and 1993 bonds. On July 1, 2008, the City issued \$22,200,000 in Electric Revenue Bonds (2008 Bonds). The proceeds from the sale of the 2008 Bonds were used (i) to finance or reimburse the City for improvements to the City's electric system; (ii) to fund a Debt Service Reserve Fund; and (iii) to pay the costs of issuance of the 2008 Bonds.

On November 17, 2010, the City issued \$8,810,000 of Electric Revenue Refunding Bonds (Series 2010). The proceeds from the sale of the Series 2010 Bonds will be used (i) to refund the Series 2004 Bonds, and (ii) to pay the costs of issuance of the Series 2010 Bonds. The non-taxable Series 2010 Bonds received an underlying rating of Aa2 by Moody's Investors Services and an underlying rating of A+ by Fitch Ratings.

Table III-6 illustrates the debt service schedule for the Series 2008 and 2010 Bonds. The principal and interest and the annual total are shown for each series of bonds. At the time of issuance of the Series 2010 Bonds, the combined outstanding principal balance for both series of bonds was \$30,280,000.

Table III-6

DEBT SERVICE SCHEDULE OF ELECTRIC REVENUE BONDS City of Dover Electric Division

Period	2008 Electric Revenue Bonds			2010 Electric Revenue Refunding Bonds			Total Annual Debt Service
	Principal	Interest	Debt Service	Principal	Interest	Debt Service	
FY 2012	\$ 390,000	\$ 1,028,404	\$ 1,418,404	\$1,670,000	\$ 178,267	\$ 1,848,267	\$ 3,266,671
FY 2013	410,000	1,006,954	1,416,954	1,700,000	253,100	1,953,100	3,370,054
FY 2014	430,000	986,454	1,416,454	1,740,000	219,100	1,959,100	3,375,554
FY 2015	450,000	964,954	1,414,954	1,810,000	166,900	1,976,900	3,391,854
FY 2016	475,000	942,454	1,417,454	1,890,000	94,500	1,984,500	3,401,954
FY 2017	695,000	918,704	1,613,704	-	-	-	1,613,704
FY 2018	730,000	883,954	1,613,954	-	-	-	1,613,954
FY 2019	765,000	847,454	1,612,454	-	-	-	1,612,454
FY 2020	800,000	815,706	1,615,706	-	-	-	1,615,706
FY21-34	16,325,000	6,618,185	22,943,185	-	-	-	22,943,185
Total	\$21,470,000	\$ 15,013,223	\$36,483,223	\$8,810,000	\$ 911,867	\$ 9,721,867	\$46,205,090

INSURANCE

The City maintains a comprehensive insurance program to insure against varying types of liabilities and significant losses related to various Electric Division properties. Section 706 of the Resolution reads:

"The City covenants that it will maintain a practical insurance program, with reasonable terms, conditions, provisions and costs, which the City Manager determines, with the approval of the Engineering Consultants, will afford adequate protection against loss, including loss of Revenues, caused by damage to or destruction of the Electric System or any part thereof and also comprehensive public liability insurance on the Electric System for bodily injury and property damage in such amounts as may be approved by the Engineering Consultants."

Tables III-7 and III-8 summarize itemized insurance coverage procured by the City for the period July 1, 2011, through June 30, 2012. Burns & McDonnell has reviewed this list of insurance, and in the opinion of Burns & McDonnell, as Engineering Consultant and not as insurance counselor, the insurance in full force and effect appears to satisfy the requirements of Section 706 of the Resolution.

OPERATING AND RESERVE ACCOUNTS

The Electric Revenue Fund and the Electric Improvement & Extension (I&E) Fund are the City's two funds devoted to the Electric Division. The funds are used to manage cash and transactions related to utility operations and capital expenditures, respectively. Each fund includes certain cash accounts established to ensure that moneys are available for specific purposes when they are needed. The accounts maintained within the Revenue and I&E Funds are listed herein.

Electric Revenue Fund

- Insurance Reserve Account
- Contingency Reserve Account
- Electric Rate Stabilization Reserve Account
- Interest and Sinking Account

Electric Improvement & Extension Fund

- Depreciation Reserve Account
- Future Capacity Reserve Account

The following are descriptions of each Fund, their respective accounts and their purposes.

Electric Revenue Fund: The Electric Revenue Fund was established in Section 503 of the Resolution. All revenues are to be deposited into the Electric Revenue Fund when received. Current expenses are to be paid and other accounts are to be maintained from the Electric Revenue Fund. Moneys

are transferred from the Electric Revenue Fund to the Electric Rate Stabilization Reserve Account, the Interest and Sinking Account, the I&E Fund, the Depreciation Reserve Account, and the Future Capacity Reserve Account.

Insurance Reserve Account: The Insurance Reserve Account was established by the City to provide for the funding of insurance deductibles in the event of loss(es) covered by the City's insurance policies then in effect. The target minimum balance in the Insurance Reserve is \$350,000. The reserve balance at the end of FY 2011 was \$403,334.

Contingency Reserve Account: The Contingency Reserve Account was established by the City in FY 2003 to provide for unplanned expenditures that may not be avoidable. The City's Financial Policies require that a minimum balance be maintained in the Contingency Reserve Account equal to 1.0 percent of the current year revenues for the Electric Revenue Fund. The FY 2011 year-end balance was \$1,056,788, which is equal to 1.04 percent of the FY 2011 revenues for the Electric Revenue Fund.

Electric Rate Stabilization Account: The Electric Rate Stabilization Reserve Account was established in FY 2005 to offset the costs of the power cost adjustment to the customers of Dover. The account's target balance is a minimum of 3.0 percent, not to exceed 10.0 percent, of purchase power cost in any given year. Any excess of this amount will be refunded to customers by reducing the rate of the power cost adjustment. The account's FY 2011 end-of-year balance was \$6,160,167, which was 9.8 percent of the FY 2011 purchased power cost.

Interest and Sinking Account: The Interest and Sinking Account was established in Section 507 of the Resolution. This account consists of two restricted accounts: the Bond Service account and the Reserve Account. The Bond Service Account is funded with equal monthly transfers from the Electric Revenue Fund such that the balance, as of each payment date for interest or for principal and interest, will be equal to the amount of the payment due. The payments of principal and interest due on bonds are made from the Bond Service Account. The Reserve Account is funded by transfers from the Electric Revenue Fund, as necessary, to maintain a balance equal to the maximum combined principal and interest for any future fiscal year through the life of all bonds then outstanding. Moneys in the Reserve Account are used for paying interest on and principal of bonds when the balance in the Bond Service Account is insufficient for making those payments. Excess moneys in the Reserve Account are also used towards paying current interest payments. The total amount in the Restricted Accounts for the 2004 and 2008 bonds as of June 30, 2010, was \$3,519,382.

Electric Improvement and Extension Fund: The I&E Fund was established in Section 507 of the Resolution. Funds are added to the I&E Fund from the Electric Revenue Fund to the extent that the amount of funds available from the Electric Revenue Fund exceeds the total of the amounts required to be added to the Interest and Sinking Account. The I&E Fund also receives additional funding from the Depreciation Reserve Account, the Future Capacity Reserve Account, the Insurance Reserve Account, and from the State of Delaware. Section 510 of the Resolution indicates that, except for certain situations, moneys held in the I&E Fund are to be used only for payment of costs of unusual maintenance or repairs, renewals or replacements, obtaining or replacing equipment, constructing extensions, additions, or improvements, and engineering expenses related to the foregoing activities.

Depreciation Reserve Account: The Depreciation Reserve Account represents moneys that have been set aside for the sole purpose of funding renewals and replacements of the Electric System as components or equipment wear out, deteriorate, or otherwise become unsuitable for the intended purpose. Transfers from the Electric Revenue Fund and investment earnings are the only sources of additional moneys for the Depreciation Reserve Account. Transfers to the I&E Fund are made as necessary to fund capital projects. The target appropriation for the Depreciation Reserve Account each year is the excess of depreciation expense for the year over the amount of principal included in debt service payments made during the year. The reserve balance at the end of FY 2011 was \$10,412,221.

Future Capacity Reserve Account: The Future Capacity Reserve Account was established to set aside and accumulate funds from the Electric Revenue Fund for use in evaluating and pursuing activities related to the Electric Division's alternatives for power supply resources for future demand for electricity. The original target balance for this reserve was \$5,000,000. The reserve balance at the end of FY 2011 was \$9,178,771.

Table III-9 presents FY 2009 through FY 2011 year-end summaries of the activity within the cash accounts described above. The Insurance Reserve Account, the Contingency Reserve Account, the Electric Rate Stabilization Reserve Account, and the Interest and Sinking Account are accounts within the Electric Revenue Fund. The Depreciation Reserve Account and the Future Capacity Reserve Account are accounts within the I&E Fund.

Table III-7

**SCHEDULE OF INSURANCE COVERAGE IN EFFECT
City of Dover Electric Division**

Starr Technical Risks Agency	July 1, 2011 - June 30, 2012 <u>Coverage</u>
Property	
Earth Movement -Per Occurrence and in the Annual Aggregate, except	\$20,000,000
Earth Movement in High Hazard Earth Movement Zones;	EXCLUDED
Earth Movement in California;	EXCLUDED
Flood -Per Occurrence and in the Annual Aggregate;	10,000,000
Accounts Receivable;	100,000
Business Interruption;	EXCLUDED
Contingent Time Element Coverage;	EXCLUDED
Debris Removal (or 25% of Direct Property Loss, whichever the greater);	2,500,000
Demolition and Increased Cost of Construction;	10,000,000
EDP Media;	1,000,000
Errors and Omissions;	2,000,000
Expediting Expense;	1,000,000
Extra Expense, excluding replacement power or increased cost of generation, transmission and/or distribution of electricity, water or natural gas;	2,000,000
Fire Department Service Charges and Extinguishing Expenses;	500,000
Hazardous Substances -Per Occurrence and in the Annual Aggregate;	500,000
Inland Transit;	2,500,000
Newly Acquired Locations -90 Days reporting;	1,000,000
Personal Property Temporarily Off Premises;	100,000
Professional Fees;	250,000
Incidental Course of Construction;	5,000,000
Miscellaneous Unnamed Locations (except perils of Flood, Earth Movement and Valuable Papers and Records);	500,000
	100,000

Deductibles

For each Occurrence giving rise to a claim under this policy, the Insured agrees to retain for its own account an initial amount of:

In respect of Damage to Insured Property:

\$350,000 per Occurrence, except;

\$100,000 per Occurrence as respects Transit.

In respect of Time Element loss (Extra Expense):

45 days per Occurrence, except;

72 hours per Occurrence in respect of Service Interruption.

Table III-8

**SCHEDULE OF INSURANCE COVERAGE IN EFFECT
City of Dover Electric Division**

XL Insurance	July 1, 2011 - June 30, 2012 Coverage
Property	
per Occurrence and in the Annual Aggregate in respect of Flood;	\$ 10,000,000
per Occurrence and in the Annual Aggregate in respect of Earth Movement, Excluded. per Occurrence and in the Annual Aggregate applicable in High Hazard Movement zones;	20,000,000
per Occurrence and in the Aggregate in respect Hazardous Substance;	500,000
per Occurrence in respect of Business Interruption;	EXCLUDED
per Occurrence in respect of Accounts Receivable;	100,000
per Occurrence in respect of scheduled, direct Contingent Time Element;	EXCLUDED
per Occurrence in respect of Incidental Course of Construction;	5,000,000
(or 25.00% of the direct physical loss, whichever greater) per Occurrence in respect of Debris Removal;	2,500,000
per Occurrence in respect of Demolition and Increased Cost of Construction;	10,000,000
per Occurrence in respect of Electronic Data Processing Media;	1,000,000
per Occurrence in respect of Errors and Omissions;	2,000,000
per Occurrence in respect of Expediting Expense;	1,000,000
per Occurrence in respect of Extra Expense excluding replacement power of increased cost of generation, transmission and/or distribution of electricity, water or natural gas;	2,000,000
per Occurrence in respect of Fire Department Service Charges and Extinguishing Expenses;	500,000
per Occurrence in respect of Newly Acquired Locations (ninety (90) days reporting);	1,000,000
per Occurrence in respect of property in Course of Inland Transit;	2,500,000
per Occurrence in respect of Miscellaneous Unnamed Locations, except: Excluded. per Occurrence in respect of Flood; Excluded. per Occurrence in respect of Earth Movement; Excluded. per Occurrence in respect of Named Storm;	500,000
per Occurrence in respect of Valuable Papers and Records;	100,000
per Occurrence in respect of Personal Property Temporarily Off Premise.	100,000

Deductibles / Retentions

For each Occurrence giving rise to a claim under this policy, the Insured agrees to retain for its own account an initial amount of:

In respect of Damage to Insured Property:

\$350,000, Per Occurrence, except;

\$100,000, per Occurrence as respect Transit;

In respect of Time Element loss (Extra Expense)

45 days per Occurrence except;

72 hours Per Occurrence in respect of Service Interruption

Table III-9

RESERVE ACCOUNT ACTIVITY AND BALANCES
City of Dover, Delaware

	Insurance Reserve Account	Contingency Reserve Account	Electric Rate Stabilization Account	Bond Reserve Account	Depreciation Reserve Account	Future Capacity Account
Year Ended June 30, 2009						
Balance in Account on July 1	\$ 370,802	\$ 894,169	\$ 2,471,465	\$ 3,257,091	\$ 4,451,663	\$ 8,457,351
Receipts						
Interest Earned	14,300	34,484	95,314	252,718	338,327	306,512
Appropriations	-	-	2,085,748	4,041,632	5,000,000	-
Total Funds Available	<u>\$ 385,102</u>	<u>\$ 928,653</u>	<u>\$ 4,652,527</u>	<u>\$ 7,551,441</u>	<u>\$ 9,789,990</u>	<u>\$ 8,763,863</u>
Disbursements						
Debt Service Payments	-	-	-	(6,046,632)	-	-
Transfer to Capital Projects	-	-	-	-	(2,000,000)	-
Balance in Account on June 30	<u>\$ 385,102</u>	<u>\$ 928,653</u>	<u>\$ 4,652,527</u>	<u>\$ 1,504,809</u>	<u>\$ 7,789,990</u>	<u>\$ 8,763,863</u>
Year Ended June 30, 2010						
Balance in Account on July 1	\$ 385,102	\$ 928,653	\$ 4,652,527	\$ 1,504,809	\$ 7,789,990	\$ 8,763,863
Receipts						
Interest Earned	11,428	27,613	123,992	211,615	231,165	260,065
Appropriations	-	83,500	-	4,066,610	-	-
Total Funds Available	<u>\$ 396,530</u>	<u>\$ 1,039,766</u>	<u>\$ 4,776,519</u>	<u>\$ 5,783,034</u>	<u>\$ 8,021,155</u>	<u>\$ 9,023,928</u>
Disbursements						
Debt Service Payments	-	-	-	(2,445,212)	-	-
Transfer to Capital Projects	-	-	-	-	-	-
Balance in Account on June 30	<u>\$ 396,530</u>	<u>\$ 1,039,766</u>	<u>\$ 4,776,519</u>	<u>\$ 3,337,822</u>	<u>\$ 8,021,155</u>	<u>\$ 9,023,928</u>
Year Ended June 30, 2011						
Balance in Account on July 1	\$ 396,530	\$ 1,039,766	\$ 4,776,519	\$ 3,337,822	\$ 8,021,155	\$ 9,023,928
Receipts						
Interest Earned	6,804	17,022	83,648	108,706	141,066	154,843
Appropriations	-	-	1,300,000	3,588,881	2,250,000	-
Total Funds Available	<u>\$ 403,334</u>	<u>\$ 1,056,788</u>	<u>\$ 6,160,167</u>	<u>\$ 7,035,409</u>	<u>\$ 10,412,221</u>	<u>\$ 9,178,771</u>
Disbursements						
Debt Service Payments	-	-	-	(3,516,027)	-	-
Transfer to Capital Projects	-	-	-	-	-	-
Balance in Account on June 30	<u>\$ 403,334</u>	<u>\$ 1,056,788</u>	<u>\$ 6,160,167</u>	<u>\$ 3,519,382</u>	<u>\$ 10,412,221</u>	<u>\$ 9,178,771</u>

* * * * *

PART IV – CONCLUSIONS

PART IV CONCLUSIONS

In the preparation of this Engineering Consultant's Report, Burns & McDonnell completed assessments of the electric generating stations and the transmission and distribution system of the City Electric Division. The investigations included interviews, observations, and reviews of FY 2011 expenditures and FY 2012 budgets. In addition, an analysis of the balances of the Improvement and Extension Fund and other funds benefiting the Electric Division was performed. Burns & McDonnell also reviewed the adequacy of the revenues provided by the current retail rates in relation to the requirements of the City of Dover, Delaware Resolution Authorizing and Securing Electric Revenue Bonds, adopted December 23, 1985. A high level assessment of the City's insurance coverage related to the Electric Division was also completed. Based on these reviews and assessments, it is Burns & McDonnell's opinion that:

1. The City's power generation facilities are being operated and maintained consistent with accepted electric utility practice in the United States.
2. The design, construction, operation, and maintenance of the City's electric transmission and distribution system and the associated facilities are consistent with current generally accepted electric utility standards and over the past few years, the system has been upgraded in order to improve operation and service to customers.
3. The Electric Division capital projects included in the City's Capital Investment Plan and the FY 2012 Operating Budget are necessary and should provide improved reliability and power quality for the Electric System.
4. The balances as of June 30, 2011 for the various reserve funds maintained by the City for the Electric Division appear to be sufficient for their defined purposes.
5. The insurance coverage in full force and affect as maintained by the City related to the various assets of the Electric Division appears to satisfy the requirements of Section 706 of the Resolution.
6. The electric revenues generated by the City's current retail rates are more than sufficient to fulfill the debt service coverage requirement defined in Section 502(c) of the Resolution.

* * * * *



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