UTILITY COMMITTEE

A G E N D A

February 28, 2011 - 5:00 P.M. - Council Chambers - City Hall - City of Dover

Public comments are welcomed on any item and will be permitted at appropriate times. When possible, please notify the City Clerk *(736-7008 or e-mail at CityClerk@dover.de.us)* ***should you wish to be recognized.***

AGENDA ADDITIONS/DELETIONS

1. Yard Waste Collection Program

2. Generation Revenue Forecast

3. Power Plant FY 2012 Capital Investment Plan (CIP) Review

4. 2012-2016 Utility Capital Investment Plan (CIP)

5. PACE/NAES Monthly Report *(December)*

6. Adjournment by 5:55 P.M.

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THE AGENDA ITEMS AS LISTED MAY NOT BE CONSIDERED IN SEQUENCE. THIS AGENDA IS SUBJECT TO CHANGE TO INCLUDE THE ADDITION OR THE DELETION OF ITEMS, INCLUDING EXECUTIVE SESSIONS.

Department of Public Services

Yard Waste Separation Plan



February 18, 2011

BACKGROUND

Starting on January 1, 2011, the Delaware Solid Waste Authority (DSWA) implemented a ban on yard waste at the Sandtown landfill. Starting July 1, 2011 the DSWA will start enforcing the ban. This ban was a condition of approval from DNREC to operate the landfill. The ban requires all waste haulers to separate out yard waste from the municipal solid waste stream. Haulers have the ability to dump yard waste at the landfill; however, it must be segregated from the municipal solid waste and dumped in a different area. Currently, the tipping fee at the Sandtown landfill for yard waste is the same as municipal solid waste ($72.00 / ton). The City of Dover is not required to dispose of our yard waste at the Sandtown landfill and staff is reviewing options to dispose of this material at other local locations to reduce costs. The separation of yard waste from municipal solid waste will place additional burdens on City staff and our customers. Failure to separate out yard waste will ultimately lead to monetary fines from DNREC; therefore, we need to implement a plan that is customer friendly, cost effective, and produces the required results. We will need to change a number of operational procedures, and we know our customers will be open minded and patient with the changes.

This plan has three goals: 1) Comply with the DSWA yard waste ban; 2) Prevent increasing costs to the City of Dover; and 3) Educate our customers on ways to manage their yard waste so that they have a lesser impact on the overall environment and costs to the City.

STAFFING & VEHICLES

The City of Dover plans to pick up and dispose of yard waste materials using current staffing levels and existing city vehicles, without the need to increase any related costs. Yard waste collection will be provided on a year round basis.

CONTAINERS

Every property owner, homeowner and/or resident must provide their own private yard waste container to receive service. The maximum container size is 35-gallons. If a customer does not already own the proper size container, they can be purchased affordably at local stores. The following is a list of sample prices found in Dover:

- 34-gallon square plastic container with wheels - $18.87
- 35-gallon round (heavy duty) plastic container with wheels - $19.40
- 32-gallon round plastic container without wheels - $13.98

There is no limit to the number of private yard waste containers that can be set out on a weekly basis for no extra charge. No metal containers will be allowed since they are easily damaged and the city will not reimburse customers for damage to private containers.

NEW RULES

The City of Dover must adopt a series of new rules to accomplish the separation of yard waste from regular municipal waste in order to avoid fines at the landfill, and to keep our operating costs from increasing. These new rules include the following:

1) All household trash must be bagged and placed into the 95-gallon black container provided by the City. No trash bags will be picked up that are outside of the 95-gallon container.

2) All yard waste material must be placed in a privately owned, 35-gallon or less plastic container. No metal containers will be allowed. The 35-gallon limit is intended to prevent back injuries to our employees from handling containers that are too heavy.

3) Grass clippings, leaves, small shrubs, plants, weeds, small limbs and sticks can all be put in the yard waste container.

4) Only, loose yard waste material can be placed inside of the containers. No plastic or paper bags can be used. The use of bags inside of the yard waste container creates operational problems at the landfill, since the bags need to be opened to demonstrate that nothing is being disposed of that is not allowed in the yard waste section of the landfill.

5) Bulk yard waste (tree limbs, bushes, tree logs, etc) and bulk household trash (furniture, large appliances, rugs, etc) will be collected on alternating weeks. Bulk yard waste will be collected on the same day as recycling. Residents will be allowed to place bulk yard waste at the curbside in an amount not to exceed 4’x4’x8’. Amounts over a single pile of 4’x4’x8’ will be picked up for an extra charge. Small loose limbs must be bundled using biodegradable twine. Large limbs must be cut into lengths less than 8’.

YEAR ROUND SERVICE SCHEDULES

Weekly

An unlimited number of yard waste containers, 35-gallon or less in size, will be picked up on a weekly basis, the same day as normal trash collection.

Bi-Weekly:

- Recycling schedules will remain the same.
- Bulk Yard Waste includes large limbs, branches and shrubs that do not fit into the 35-gallon container. Bulk Yard Waste will be collected on the same day as the customer's recycling.
- Bulk Household Waste includes all furniture, carpet, appliances and light construction debris will be collected the week when recycling is **not** picked up.

Seasonal

- Leaf Collection will be expanded in an effort to reduce the amount of yard waste that is placed into containers. Leaf collection services will be expanded by adding a second collection season during the month of April, of each year, to allow residents to rake their leaves and dead grass to the curbside for collection. The leaf collection schedule in the fall will remain the same from October 15 to January 15.

YARD WASTE REDUCTION STRATEGIES:

Through our marketing and public education plan, we will encourage customers to implement waste reduction strategies on their properties. Significant waste reduction is possible through the use of backyard composting and mulching mowers. Landscape planning and other activities can also significantly reduce the amount of yard waste generated from individual properties. Reduction of waste equates to cost savings.

MARKETING AND PUBLIC EDUCATION PLAN

The proposed yard waste separation purpose, schedules, and rules will be communicated with our customers through the Dover City Newsletter, Dover TV, press releases, web and social networking sites, advertisings, billing inserts, brochures, and public events attend by the City's Public Relations team. In addition, these same venues will be used to education people about composting, mulching mowers blades, and landscaping strategies. We will explore providing some public education seminars on household composting.

February 17, 2011

Generation Revenue Forecast
City of Dover

PACE GLOBAL

March 14, 2011

Understanding the cash flow scenarios is critical to long term planning and key tactical decisions

PROBLEM DEFINITION

Several factors led analyze the cash flow scenarios for the McKee Run and Van Sant

- Changing market structure – PJM RPM auction
- PJM reserve margins
- Unit age
- Plant life assessment findings
- Opinion that Units 1 and 2 may have about 5 years of remaining life
- Proposed high profile transmission upgrades
- Relatively light maintenance prior to new RPM market structure
- Unit 1 forced outage
- Capacity increases
- New generation options

Further, understanding when economic retirement is likely supports answering five key questions:

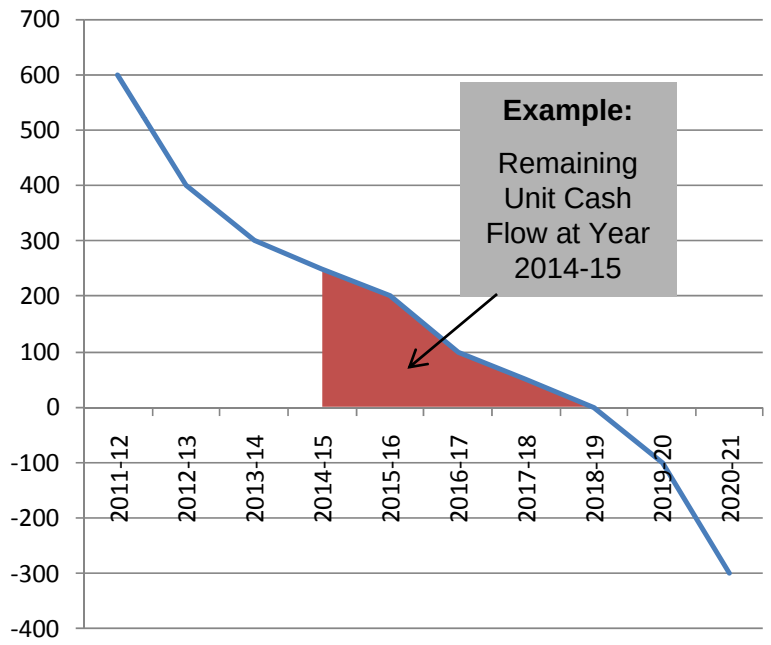
- What generation cash flows might Dover reasonably expect to earn?
- What should Dover be willing to spend on unit maintenance?
- What should Dover be willing to spend in the event of a forced outage?
- At what point should a catastrophic failure result in unit retirement?
- When might replacement capacity/ PPAs be required?

Our approach leveraged the generation economic model Pace developed last year

APPROACH

- Economic Assessment: Develop unit-by-unit projected cash flows based on updated strategic cash flow model developed last year
- Forecasted End of Life: Identify point in time where incremental cash is consistently negative
- Decision Rule: Estimate remaining unit cash earnings potential at each year to determine maximum willing to pay for an unplanned repair/ event
- Monitoring: Update model as major inputs change (i.e. market prices, generation forecast, OPEX/ CAPEX estimates, environmental regulatory changes, etc.) and consider ancillary economic impacts (i.e. water and electric sales)
- New questions:
  - How will insurance rates change post Unit 1 issue?
  - What equipment modifications will the insurance company require? What will they cost?
  - How to consider replacement capacity (i.e. W. Deptford, Beasley, etc.)?
  - Decommissioning cost?
  - Capacity buy back – low risk, high cost?

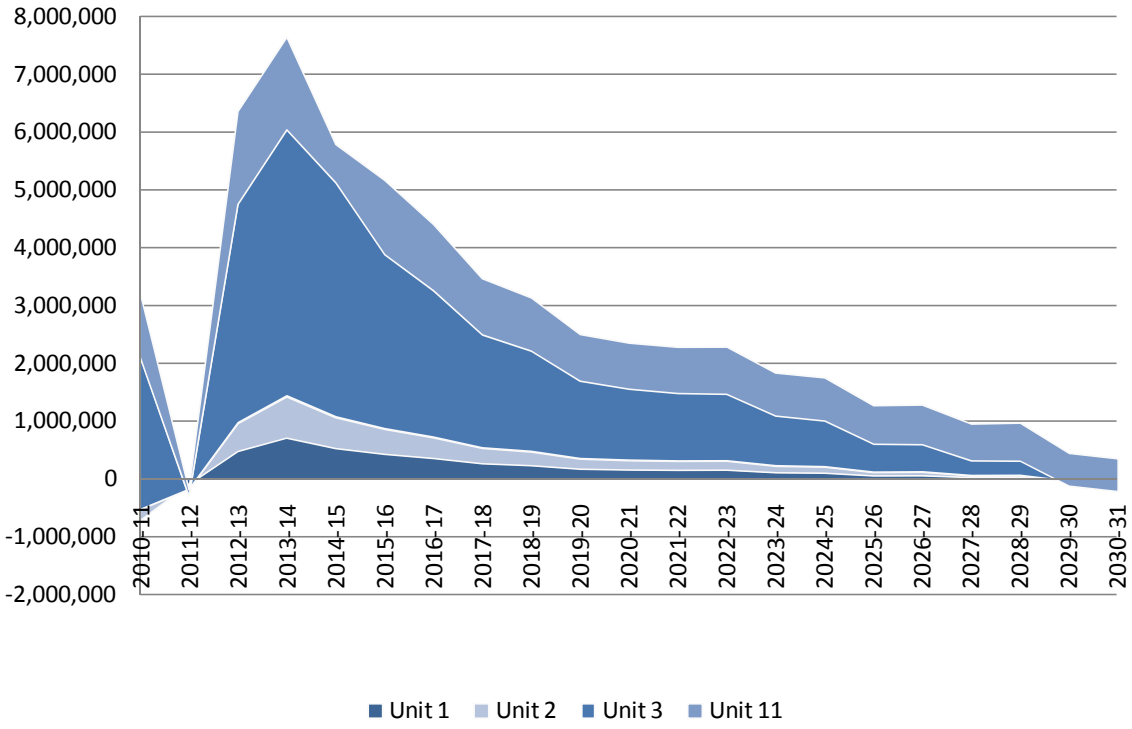
ILLUSTRATIVE **UNIT END OF LIFE CASH FLOW,** $000



All of Dover units should continue to generate positive cash flows for another 15-20 years barring catastrophic failure

BASELINE CASH FLOWS

FORECASTED ANNUAL GENERATION CASH FLOWS, $



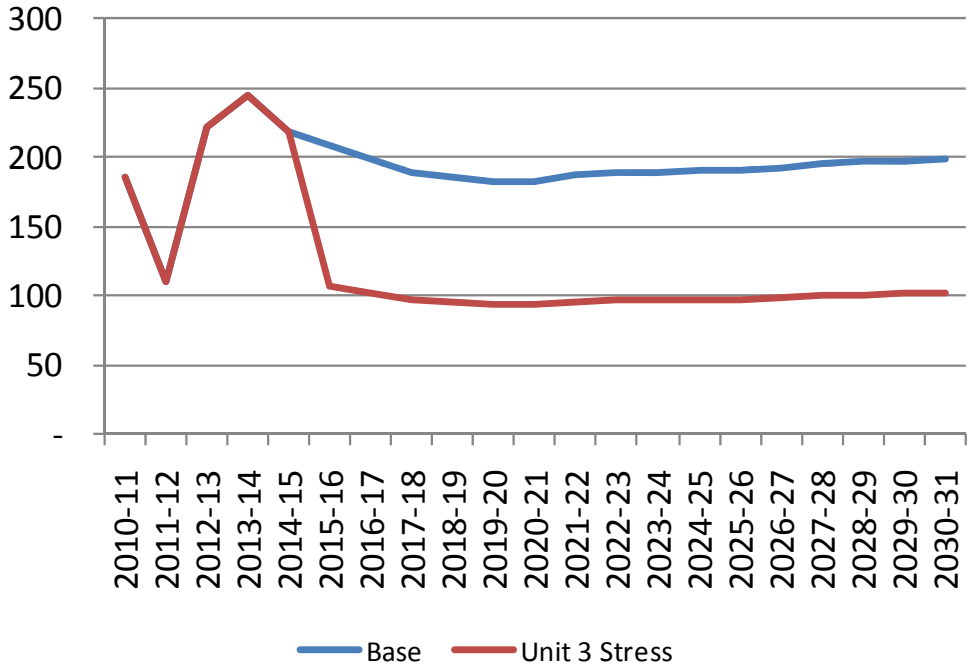
- By 2030 Dover could earn a cumulative $55-60 million from generation
  - Cash flows squeezed in later years as operating and capital expenses rise
- Annual cash flow only negative in 2011-12
  - 2011-12 cash flow position results from capacity prices declining to $110/ MW-day
  - Without $400k capital contingency (total across all units) cash flow is slightly positive
- Revenues remain highly contingent upon capacity prices and reliable operations (low EFORd)

Note: analysis assumes a $100k capital contingency charge for each unit; model also assumes all capital is paid for from current year cash

Generation cash flows should remain positive even if capacity prices fall significantly

CAPACITY PRICE SCENARIOS AND IMPACTS

FORECASTED CAPACITY PRICES, $/MW-day



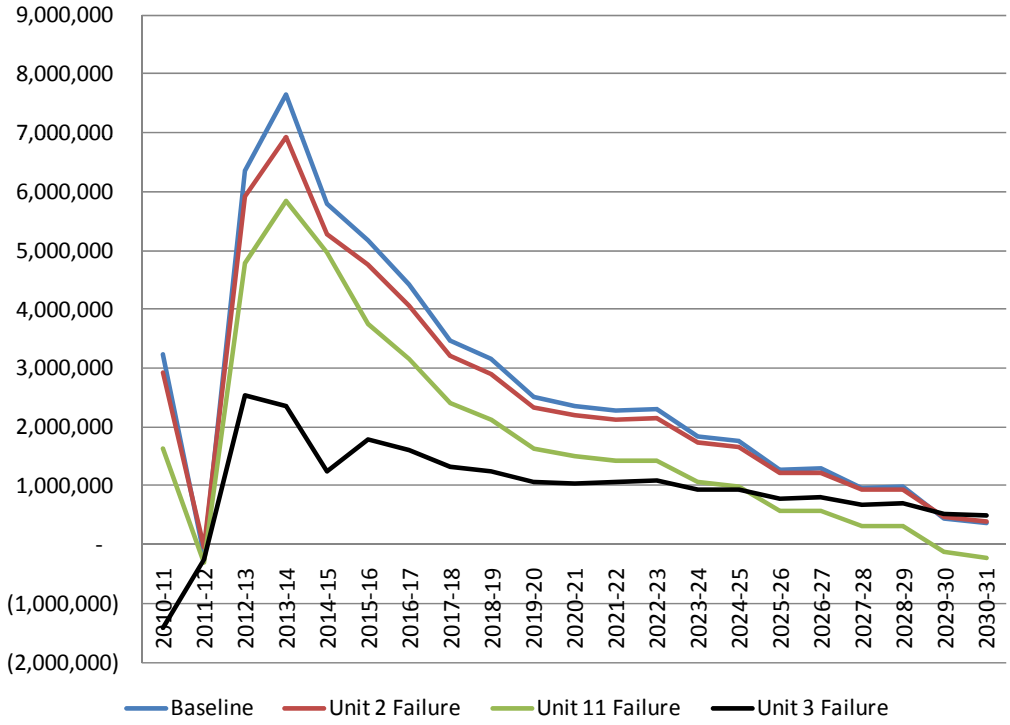
- The biggest risk to cash flow is declining capacity prices potentially driven by the MAPP project
  - Capacity prices expected to drop 5% in 2015 when the MAPP project online and level off a few years later
  - DEMEC projects capacity prices will not drop at all
- Capacity prices must fall well below expectations to turn cash flow negative
  - A 38% drop in 2015 takes Unit 1 and 2 cash flows negative in five years
  - A 50% drop would drive Unit 3 cash flows negative immediately

Note: analysis assumes a $100k capital contingency charge for each unit; model also assumes all capital is paid for from current year cash

Cash flows should remain robust even in the event of catastrophic failures

CATASTROPHIC FAILURE IMPACTS

FORECASTED ANNUAL CASH FLOWS AFTER CATASTROPHIC FAILURE, $



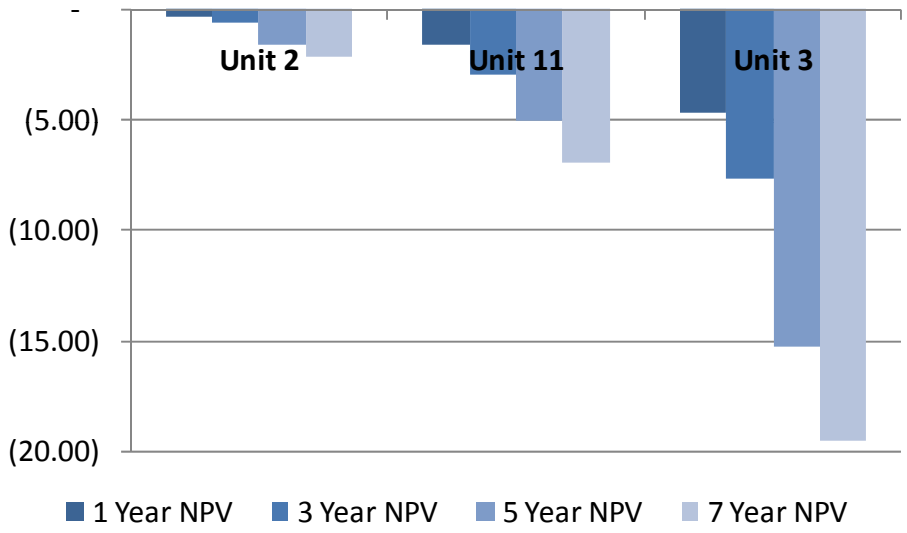
- A forced outage too expensive to repair is catastrophic and this represents a high risk impact but low probability risk
  - For Units 1,2, and 11 short term negative cash flows are quickly recovered in subsequent years; this is not true for Unit 3
- Quantifiable economics of failure include:
  - Foregone revenue
  - Requirement to buyback power to replace lost commitments
  - Reduced fuel, O&M, and Capital expenses for the lost unit
  - Decommissioning costs

Note: analysis assumes a $100k capital contingency charge for each unit; model also assumes all capital is paid for from current year cash; model assumes capacity buyback at base residual prices; decommissioning costs not included as they are unknown and likely immaterial for this analysis.

Potential cash flows are strong enough to withstand significant repair expense

HOW MUCH COULD YOU BE WILLING TO SPEND TO REPAIR A UNIT?

NET PRESENT VALUE OF LOST OPERATING CASH FLOW
Jan. 1, 2010 Forced Outage, $ million



Note: analysis assumes a $100k capital contingency charge for each unit; model also assumes all capital is paid for from current year cash; model assumes capacity buyback at base residual prices; decommissioning costs not included as they are unknown and likely immaterial for this analysis; applied 6% discount rate.

- Conversely – What would you be willing to pay for the future cash flow? With a three or five year return:

NET PRESENT VALUE OF LOST OPERATING CASH FLOW, $ million

Payback	Unit 1/2	Unit 3	Unit 11
3 year	0.6	7.7	3.0
5 year	1.6	15.3	5.0

  - As you approach the end of economic life future cash potential diminishes and the amount you will be willing to pay also declines.
- Key questions:
  - What would cash flow reductions from early unit retirement mean to Dover?
  - How is this risk mitigated today?
    - Quality maintenance
    - Capital replacement/ improvement
    - Insurance
    - Reserve funds
  - Is the current mitigation plan sufficient?

Understanding operational risk impacts and developing mitigation plans

NEXT STEPS

Monitoring operational risk position

- Update model as prices and expenses change
- Recall that capacity prices are fixed and known for three years forward, still permitting Dover insight into the levels of exposure
- Buyback will take place in the incremental not base residual auctions. Historically incremental auction prices have been less than those in the base residual auction, but the gap is closing. Our model assumes buyback at the base residual price to be conservative.
- Older plants such as these will require more frequent small maintenance/ repair
- Environmental requirements

Evaluate Dover's risk mitigation plan in event of catastrophic failure

- Unit condition monitoring and proactive risk reduction projects, especially for Unit 3
- City's insurance policies: capital costs, lost business revenue
- Reserve/ contingent funds
- Investment in training and skills
- Others

New projects are highlighted.

City of Dover, Delaware

DRAFT Capital Investments Plan

FY 12 thru FY 16

PROJECTS BY DEPARTMENT

Department	Project#	Priority	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Public Utilities-Power Plant								
McKee Run Unit 3 Boiler Air Heater	*#1-EG*	2	440,000					*440,000*
McKee Run Unit 3 Turbine Inspection	*#2-EG*	3	348,000	673,000				*1,021,000*
Units 1 & 2 Life Extension	*#3-EG*	n/a	184,000	52,000	182,000	149,000	22,000	*589,000*
McKee Run Unit 3 Boiler Systems	*#4-EG*	5	130,000	163,000		97,000		*390,000*
McKee Run Unit 3 Auxillary System Components	*#5-EG*	4	113,000	143,000	261,000	25,000		*542,000*
Unit 3 FD & ID Fan Control Damper Upgrade	*#6-EG*	2	92,000					*92,000*
Unit 3 DCS Computers & Software Upgrades	*#7-EG*	1	85,000					*85,000*
McKee Run Unit 3 Air Heater Expansion Joint	*#8-EG*	n/a	70,000					*70,000*
Miscellaneous Capital Equipment Relacements	*#9-EG*	1	70,000	70,000	70,000	70,000	55,000	*335,000*
McKee Run Demineralizer Control Replacement	*10-EG*	2	65,000					*65,000*
Van Sant Unit 11 Component Replacements	*11-EG*	9	50,000		97,000		143,000	*290,000*
McKee Run Switchyard Blast Walls	*12-EG*	n/a	50,000					*50,000*
McKee Run Preservation of Structures	*13-EG*	n/a	38,000		42,000		30,000	*110,000*
Units 1 & 2 Cooling Tower Life Extension	*14-EG*	2	25,410	37,260	91,000		75,000	*228,670*
Unit 3 Cooling Water Line Life Extension	*15-EG*	n/a	25,000		350,000			*375,000*
McKee Run Unit 3 Stack Repairs	*16-EG*	1	25,000			50,000		*75,000*
Unit 3 Cooling Tower Life Extension	*17-EG*	1		417,390	461,290			*878,680*
Van Sant Capacity Increase	*18-EG*	n/a		550,000				*550,000*
McKee Run Units 1 & 2 Stack Repairs	*19-EG*	n/a		75,000				*75,000*
Van Sant Unit 11 Major Overhaul/Inspection	*20-EG*	n/a			150,000	850,000	1,000,000	*2,000,000*
McKee Run Hot Water Boilers	*21-EG*	n/a			70,000			*70,000*
McKee Run Unit 3 High Energy Piping Inspection	*22-EG*	n/a			40,000	360,000		*400,000*
Metering System Upgrades	*23-EG*	n/a			25,000	125,000		*150,000*
Units 1 & 2 Boiler Repairs	*24-EG*	n/a				10,000	160,000	*170,000*
McKee Run Building Equipment Replacement	*25-EG*	n/a					110,000	*110,000*
Public Utilities-Power Plant Total			**1,810,410**	**2,180,650**	**1,839,290**	**1,736,000**	**1,595,000**	***9,161,350***
GRAND TOTAL			**1,810,410**	**2,180,650**	**1,839,290**	**1,736,000**	**1,595,000**	***9,161,350***

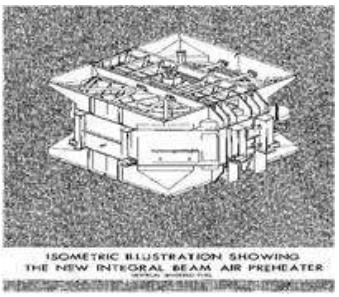
DRAFT Capital Investments Plan

FY 12 *thru* **FY 16**

City of Dover, Delaware

Project # #1-EG

Project Name McKee Run Unit 3 Boiler Air Heater



Type Maintenance
Useful Life Unknown
Category Electric
New Project: Yes
Time-Line:

Department Public Utilities-Power Plant
Contact Public Utilities Director
Priority 2
Account Number:

Description

Total Project Cost: **$440,000**

This project will perform the needed replacement of the boiler air heater casing, internal components, and structural members which were identified during a planned unit inspection in October 2010. These repairs are required to prevent further deterioration of the air heater structure, maintain the integrity of the air heater casing, and continued availability of the boiler to be dispatched for generation.

Justification

This project will be performed concurrently with other maintenance activities scheduled during the planned maintenance outage period. Delaying this project will result in further deterioration of boiler performance and could result in the failure of the air heater and subsequent unit forced out of service with loss of generation for an extended period of time. Would expect this project to be funded outside the normal operating budget.
This project will be scheduled to take place during the spring of 2012 to coincide with the planned outage of Unit 3.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Construction/Maintenance	350,000					350,000
Miscellaneous	90,000					90,000
Total	**440,000**					**440,000**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Electric I & E Fund	440,000					440,000
Total	**440,000**					**440,000**

Budget Impact/Other

DRAFT Capital Investments Plan

FY 12 *thru* **FY 16**

City of Dover, Delaware

Project # #2-EG

Project Name McKee Run Unit 3 Turbine Inspection



Type Maintenance
Useful Life Unknown
Category Electric
New Project: No
Time-Line:

Department Public Utilities-Power Plant
Contact Public Services Director
Priority 3
Account Number:

Description

Total Project Cost: **$1,209,000**

This project will inspect turbine, generator, and auxiliary equipment to determine repairs needed to keep the unit operational and to assess remaining life of the unit. Assess repair quotes, if repairs are needed, to determine best available options. This project will be completed in two phases, an initial limited inspection followed by an extensive detailed inspection and repair planned outage. The first phase will utilize borescope equipment to determine condition of components that can be observed through limited access locations along the turbine casing and through turbine inlet valve/s. This inspection will provide a general condition assessment of a portion of the highly stress components of the turbine and may provide insight into the extent of replacement parts needed to successfully execute phase 2. Phase 2 to be completed one year later will include a full disassembly and inspection of the turbine and auxiliary equipment and a limited disassembly of the Generator. Added scope items to 2016- minor turbine inspections-$160,000 and 2017 condenser vacuum pump refurbishments-$28,000.
Scheduled for spring of 2011 for phase 1 and spring of 2012 for phase 2. This project was previously in the 5 year plan as a 2014 project. The project price is an estimated cost based on budgetary vendor pricing and does not include the cost of any major turbine component parts.

Justification

An assessment of the unit needs to be performed to determine condition of the highly stressed turbine components to assure continued reliability. Documented condition of rotor blading during last inspection noted deterioration of 9th stage blades and temporary repairs performed. A significant probability that the blades should be replaced. Additionally, high pressure rotor bore has never been inspected and should be performed per industry standards. Consequences of delaying or eliminating this project include possible catastrophic equipment failure and indefinite loss of unit availability.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total	Future
Construction/Maintenance	256,000	467,000				723,000	188,000
Other	32,000	111,000				143,000	Total
Miscellaneous	60,000	95,000				155,000	
Total	**348,000**	**673,000**				**1,021,000**	

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total	Future
Electric I & E Fund	348,000	673,000				1,021,000	188,000
Total	**348,000**	**673,000**				**1,021,000**	Total

Budget Impact/Other

DRAFT Capital Investments Plan

FY 12 *thru* **FY 16**

City of Dover, Delaware

Project # #3-EG

Project Name Units 1 & 2 Life Extension



Type Maintenance
Useful Life Unknown
Category Electric
New Project: No
Time-Line:

Department Public Utilities-Power Plant
Contact Public Utilities Director
Priority n/a
Account Number:

Description

Total Project Cost: **$2,453,000**

Replace or procure capital equipment.
Equipment includes the following:
2011-Turbine valve and first stage inspection-$170k, Oil lubricating system components- $10k
2012 – ID/FD fans and motors-$114,000, Boiler feed pumps and motors- $22,000
2012 - Condensate pumps and motors-$20k, K Heater level controllers-$20k, Circulating water pump motor-$8k
2013 - Boiler Inspection -$150k, condensate pumps and motors-$20k, Circulating water pump and motor-$32k
2014 – Boiler major inspection- $150k, Circulating water pump and motor-$32k
2015 – Main steam piping inspection and pipe hanger repairs-$105k, Boiler feed pump and motors-$44k
2016 – Boiler feed pumps and motors-$22k
Beyond 2016- Major turbine/generator inspections-$1400k, Feed pump recirculation valves-$60k,
FD fan motor -$12k, Steam air heater coils- $50,000, condensate pump and motor-$80k, Circulating water pumps and motor-$82k

Justification

This project is required to fund the replace of capital items that are expected to reach their useful life in 2011 to 2014 and will need to be replaced to maintain plant system and unit reliability. Extended equipment and /or unit outage time will result from lack of funding this project. This will have a direct effect on the cost of energy during the extended outage time as well as increase future energy capacity charges.

Prior	Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total	Future
180,000	Construction/Maintenance	184,000	52,000	182,000	149,000	22,000	589,000	1,684,000
Total	**Total**	**184,000**	**52,000**	**182,000**	**149,000**	**22,000**	**589,000**	**Total**

Prior	Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total	Future
180,000	Electric I & E Fund	184,000	52,000	182,000	149,000	22,000	589,000	1,684,000
Total	**Total**	**184,000**	**52,000**	**182,000**	**149,000**	**22,000**	**589,000**	**Total**

Budget Impact/Other

DRAFT Capital Investments Plan

FY 12 *thru* **FY 16**

City of Dover, Delaware

Project # #4-EG

Project Name McKee Run Unit 3 Boiler Systems



Type Maintenance
Useful Life Unknown
Category Electric
New Project: No
Time-Line:

Department Public Utilities-Power Plant
Contact Public Utilities Director
Priority 5
Account Number:

Description

Total Project Cost: **$962,000**

This project will perform inspections of boiler systems to evaluate the remaining life of critical boiler and supporting system components. Subsequent to those inspections, repair/ replacement costs will be developed for the major boiler components. Additionally, major critical equipment of supporting systems which have already been identified as needing replacement or refurbishment will be addressed in this project. Major equipment includes the following: Boiler, ID and FD fans and motors, boosted overfire air fan and motor. Equipment repairs added to this project beyond 2016, include major boiler inspection, chemical cleaning and repairs to air heater. This is a multi-year project beginning in 2012 and continuing into 2017. In general, most work activities will require planned outages and therefore will be scheduled to coincide with planned outages.

Justification

Critical system equipment represent components that, if they fail, will result in lose of generation and or capacity. Identifying the condition of critical components will allow for proper prioritization of maintenance activities and resources. Delaying this project could result in the failure of critical unit equipment and subsequent loss of generation and or capacity. More importantly, component failure could also result in safety risk to personnel
This project will performed concurrently with several other projects intended to determine the condition of the all McKee Run Unit 3 critical equipment. Reference McKee Run Unit 3 Turbine Inspection Project and McKee Run Unit 3 Auxiliary System Component Project.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total	Future
Construction/Maintenance	90,000	113,000		87,000		290,000	572,000
Other	10,000	15,000				25,000	Total
Miscellaneous	30,000	35,000		10,000		75,000	
Total	**130,000**	**163,000**		**97,000**		**390,000**	

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total	Future
Electric I & E Fund	130,000	163,000		97,000		390,000	572,000
Total	**130,000**	**163,000**		**97,000**		**390,000**	Total

Budget Impact/Other

DRAFT Capital Investments Plan

FY 12 *thru* **FY 16**

City of Dover, Delaware

Project # #5-EG

Project Name McKee Run Unit 3 Auxillary System Components



Type Maintenance
Useful Life Unknown
Category Electric
New Project: No
Time-Line:

Department Public Utilities-Power Plant
Contact Public Utilities Director
Priority 4
Account Number:

Description

Total Project Cost: **$598,000**

This project will perform inspections and repairs of Unit auxiliary system components that have been identified as critical through the plant life assessment study. Critical auxiliary systems components are those components that could result in unit load reduction or outage with consequential loss of capacity and / or generating although they would not individually affect the long range financial viability of the unit. Components identified include Boiler feed pumps and motors, condensate pumps and motors, circulating water pumps and motors, feedwater heater #5. This project captures the costs of the replacement/ refurbishment multiple components.This is a multi-year project beginning in 2012 and continuing into 2015.

Justification

Critical system components that, if they fail, will result in loss of generation and or capacity. Addressing these assets in a systematic fashion will result in minimizing forced outages and eliminating major maintenance expenses associated with component failure. Performing work work as scheduled will also levelize maintenance expenditures. Delaying this project could result in the failure of critical unit equipment and subsequent lose of generation and or capacity.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total	Future
Construction/Maintenance	75,000	80,000	130,000	24,000		309,000	56,000
Other	3,000	6,000	6,000	1,000		16,000	Total
Miscellaneous	35,000	57,000	125,000			217,000	
Total	**113,000**	**143,000**	**261,000**	**25,000**		**542,000**	

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total	Future
Electric I & E Fund	113,000	143,000	261,000	25,000		542,000	56,000
Total	**113,000**	**143,000**	**261,000**	**25,000**		**542,000**	Total

Budget Impact/Other

DRAFT Capital Investments Plan

FY 12 *thru* **FY 16**

City of Dover, Delaware

Project # #6-EG

Project Name Unit 3 FD & ID Fan Control Damper Upgrade



Type Improvement
Useful Life Unknown
Category Electric
New Project: No
Time-Line:

Department Public Utilities-Power Plant
Contact Public Utilities Director
Priority 2
Account Number:

Description

Total Project Cost: **$92,000**

Replace the 8 existing pneumatic Forced Draft (FD) & Induced Draft (ID) Fan control & isolation operators with electric drive operators.

Justification

To have a more repeatable control of the fan control damper position and a more reliable controller. Extreme weather conditions have affected the operability and repeatability of these large pneumatic controllers. Additionally, parts for the existing controllers are becoming hard to find. The electric drive operators will not be affected by weather and they will provide repeatable control with far less hysteresis than the pneumatic drives. This will provide greater capability to tune the boiler combustion process resulting in improved unit efficiency and stack emissions. Completing this project will result in a more reliable system that will improve the efficiency of the fans and boiler and will help ensure compliance with our current air permits.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Miscellaneous	92,000					92,000
Total	**92,000**					**92,000**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Electric I & E Fund	92,000					92,000
Total	**92,000**					**92,000**

Budget Impact/Other

DRAFT Capital Investments Plan

FY 12 *thru* **FY 16**

City of Dover, Delaware

Project # #7-EG

Project Name Unit 3 DCS Computers & Software Upgrades



Type Improvement
Useful Life Unknown
Category Electric
New Project: No
Time-Line:

Department Public Utilities-Power Plant
Contact Public Utilities Director
Priority 1
Account Number:

Description

Total Project Cost: **$85,000**

This project will replace the 7 existing Digital Control System (DCS) computers (servers-4, clients-2 and logic developer-1) and upgrade the ABB software that is being used to control the Boiler Master/ Electro Hydraulic Control (EHC) System and the Burner Management System that are located in Unit 3 control room (clients) and in the Net 90 control room (server and logic developer). This will ensure that when Unit 3 is called upon to operate that the plants staff will be able to start on bring Unit 3 on line with no outages.
The project is estimated to be completed in 2012. The computer and ABB controls upgrade would allow the system to operate faster and be more reliable. Additionally, life cycle of these computer systems is typically 5 to 6 years.

Justification

The DCS computers were installed in March of 2003 as part of the Over-Fired Air Project. These computers are in service 24/7 and due to their run time and the life expectancy of the computers, the need to change out the computer and upgrade the ABB control system is consistent with COD IT protocol of changing out computers after five years. By upgrading the computers and the control software, the plant will have a more reliable system. Included in the software upgrade is an improvement in the redundancy of the EHC Computers. Due to the age of the computers, one of the computers could crash resulting in Unit 3 not be available to run when called upon.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Miscellaneous	85,000					85,000
Total	**85,000**					**85,000**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Electric I & E Fund	85,000					85,000
Total	**85,000**					**85,000**

Budget Impact/Other

DRAFT Capital Investments Plan

FY 12 *thru* **FY 16**

City of Dover, Delaware

Project # #8-EG

Project Name McKee Run Unit 3 Air Heater Expansion Joint

Type Maintenance
Useful Life Unknown
Category Electric
New Project: Yes
Time-Line:

Department Public Utilities-Power Plant
Contact Public Utilities Director
Priority n/a
Account Number:

Description

Total Project Cost: **$205,000**

This project will replace the Unit 3 boiler air heater, hot air outlet expansion joint which has reached the end of its' useful life. During Unit 3 operations in August of 2010, a thermographic survey detected multiple cracks in this expansion joint. The work is scheduled to be completed in the spring of 2011. The added expansion joint replacements will be scheduled for 2012 (air heater hot gas inlet) and 2016 (air heater hot gas outlet).

Justification

This expansion joint has failed in multiple locations, allowing hot air to escape from the ductwork going to the boiler. This has a direct impact on the performance of the Unit, limiting capacity and reducing efficiency. Replacement of this expansion joint is necessary in order to recover unit efficiency. This project will be implemented in 2011 and be completed in 2017.

Prior	Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total	Future
65,000	Construction/Maintenance	70,000					70,000	70,000
Total	Total	70,000					70,000	Total

Prior	Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total	Future
65,000	Electric I & E Fund	70,000					70,000	70,000
Total	Total	70,000					70,000	Total

Budget Impact/Other

DRAFT Capital Investments Plan

FY 12 *thru* **FY 16**

City of Dover, Delaware

Project # #9-EG

Project Name Miscellaneous Capital Equipment Relacements



Type Equipment
Useful Life Unknown
Category Electric
New Project: No
Time-Line:

Department Public Utilities-Power Plant
Contact Public Utilities Director
Priority 1
Account Number:

Description

Total Project Cost: **$486,000**

Replace or procure capital equipment valued between $5,000 and $25,000.
Equipment includes the following:
Fiscal 2011- cooling water booster pumps- $20k, Control valves- $15k, Unit 1 boiler feed pump-25k, boiler safety and control valves-$16k
Fiscal 2012- Station critical pumps and motors-$40k, cooling tower fan drives- $6k, HVAC and process Equipment motors and breakers-$10k, minor boiler tube repairs-$14k
Fiscal 2013- #1 and #3 elevator mechanical components-20k, Units 1,2 and 3 Pilot gas piping and instrumentation component inspections-$50,000,
Fiscal 2014 - Station critical pumps and motors- $20k, Boiler system safety and control valves -$30,000, minor boiler tube repairs-$20
Items listed above are not inclusive of all years but represent the first several years of the project.

Justification

This project is required to fund the replace of capital items that are expected to reach their useful life in 2011 and beyond that have not been identified in other Capital projects and will need to be replaced to maintain plant system and unit reliability.
Extended equipment and /or unit outage time will result from lack of funding this project. This will have a direct effect on the cost of energy during the extended outage time as well as increase future energy capacity charges.

Prior	Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total	Future
71,000	Miscellaneous	70,000	70,000	70,000	70,000	55,000	335,000	80,000
Total	**Total**	**70,000**	**70,000**	**70,000**	**70,000**	**55,000**	**335,000**	**Total**

Prior	Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total	Future
71,000	Electric I & E Fund	70,000	70,000	70,000	70,000	55,000	335,000	80,000
Total	**Total**	**70,000**	**70,000**	**70,000**	**70,000**	**55,000**	**335,000**	**Total**

Budget Impact/Other

DRAFT Capital Investments Plan

FY 12 *thru* **FY 16**

City of Dover, Delaware

Project # **10-EG**

Project Name **McKee Run Demineralizer Control Replacement**

Type Maintenance
Useful Life Unknown
Category Electric
New Project: No
Time-Line:

Department Public Utilities-Power Plant
Contact Public Utilities Director
Priority 2
Account Number:

Description

Total Project Cost: **$65,000**

This project will replace the existing demineralizer control system with a state of the art solid state programmable controller. Replacement to be completed in 2012.
The system has been reliable over its operating life, but parts are getting harder to find, and maintenance of the system controls is increasing.
The cost identified assumes the replacement of the controls only.

Justification

The existing demineralizer system is a 1960's vintage. Replacing of the existing controls on the system would improve reliability. Replacement parts for our current system are becoming obsolete and hard to locate.
If we were to have a major problem with the demineralizer system, it could impact the unit run time and could result in a forced outage. Repairs requiring an extended outage of the demineralizer system would require having a portable demineralizer brought in and temporarily hooked up until the repairs were made and the system put back in service.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Construction/Maintenance	65,000					65,000
Total	**65,000**					**65,000**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Electric I & E Fund	65,000					65,000
Total	**65,000**					**65,000**

Budget Impact/Other

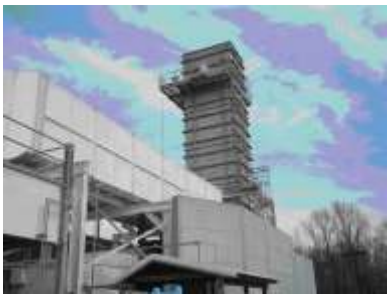
DRAFT Capital Investments Plan

FY 12 *thru* **FY 16**

City of Dover, Delaware

Project # **11-EG**

Project Name **Van Sant Unit 11 Component Replacements**



Type	Maintenance	**Department**	Public Utilities-Power Plant
Useful Life	Unknown	**Contact**	Plant Manager
Category	Electric	**Priority**	9 --
New Project:	No	**Account Number:**	
Time-Line:			

Description

Total Project Cost: **$1,340,000**

Replace or procure capital equipment valued between $5,000 and $25,000.
Equipment includes the following:
Process equipment motors (2012) - $22k (2014) - $7k
Station critical system pumps and blowers (2012) - $15k and (2014) - $30k
Cooling/Circulating Water pumps and motors (2012) - $13k and (2014) - $10k
Rebuild of Black Start- Starting Diesel Engine (2014) - $30k
Air Intake System Filtration System (2014) - $20k
2016- Generator , stack, and lube oil pump inspections-$140k
Beyond 2016- combustion and hot gas path inspections- $1,050k

Justification

This project is required to fund the replace of capital items that are expected to reach their useful life in 2012 and beyond and will need to be replaced or refurbished to maintain plant system and unit reliability. Extended equipment and /or unit outage time will result from lack of funding this project. This will have a direct effect on the cost of energy during the extended outage time as well as increase future energy capacity charges. This project will be implemented in 2012 and continue through 2016.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total	Future
Construction/Maintenance	50,000		97,000		143,000	290,000	1,050,000
Total	**50,000**		**97,000**		**143,000**	**290,000**	**Total**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total	Future
Electric I & E Fund	50,000		97,000		143,000	290,000	1,050,000
Total	**50,000**		**97,000**		**143,000**	**290,000**	**Total**

Budget Impact/Other

DRAFT Capital Investments Plan

FY 12 *thru* **FY 16**

City of Dover, Delaware

Project # 12-EG

Project Name McKee Run Switchyard Blast Walls



Type Improvement
Useful Life Unknown
Category Electric
New Project: Yes
Time-Line:

Department Public Utilities-Power Plant
Contact Plant Manager
Priority n/a
Account Number:

Description

Total Project Cost: **$50,000**

This project will install blast walls between the auxiliary transformers in the McKee Run Switchyard. There is a possibility, if the walls are built, there may be a reduction in insurance premium costs, but that cost is undetermined at this time. Recommendation from the insurance company to install blast walls between our transformers. In addition, safety of personnel working in the plant and that of the citizens living outside the plant perimeter could be affected by flying debris. There is a possibility, if the walls are built, there may be a reduction in insurance premium costs, but that cost is undetermined at this time.

Justification

Per NFPA, outdoor oil-insulated transformers should be separated from adjacent structures and from each other by firewalls, spatial separation, or other approved means for the purpose of limiting the damage and potential spread of fire from a transformer failure. There is a greater risk of damage to equipment the longer the project is delayed. If damage occurs there will be high replacement/repair costs of the affected transformers, high possibility of lost revenue from Units 1 and 2 generation, and an increase in City of Dover budget in terms of having to purchase additional capacity due to the loss of the generating capacity of Units 1 and 2.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Planning/Design	10,000					10,000
Construction/Maintenance	40,000					40,000
Total	**50,000**					**50,000**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Electric I & E Fund	50,000					50,000
Total	**50,000**					**50,000**

Budget Impact/Other

DRAFT Capital Investments Plan

FY 12 *thru* **FY 16**

City of Dover, Delaware

Project # 13-EG

Project Name McKee Run Preservation of Structures

Type Maintenance
Useful Life Unknown
Category Electric
New Project: No
Time-Line:

Department Public Utilities-Power Plant
Contact Plant Manager
Priority n/a
Account Number:

Description

Total Project Cost: **$110,000**

This project includes sandblasting and painting the plant structures along with the retirement of equipment placed out of service. This work will be completed over several fiscal year budgets starting in 2012 and completing in 2014

Justification

Structural steel painting is needed in various areas throughout the plant proper as well as various outbuildings on the plant property to maintain the physical building structures and equipment in an acceptable condition and prevent further deterioration. This project represents a minimum preservation and maintenance of structures consistent with the expected life of the station. Consequences of delaying or eliminating this project will result in the acceleration of deterioration of plant structures and larger future costs associated with strutual repairs.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Construction/Maintenance	38,000		42,000		30,000	110,000
Total	**38,000**		**42,000**		**30,000**	**110,000**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Electric I & E Fund	38,000		42,000		30,000	110,000
Total	**38,000**		**42,000**		**30,000**	**110,000**

Budget Impact/Other

DRAFT Capital Investments Plan

FY 12 *thru* **FY 16**

City of Dover, Delaware

Project # 14-EG

Project Name Units 1 & 2 Cooling Tower Life Extension



Type Maintenance
Useful Life Unknown
Category Electric
New Project: No
Time-Line:

Department Public Utilities-Power Plant
Contact Public Utilities Director
Priority 2
Account Number:

Description

Total Project Cost: **$477,400**

This project will repair the cooling tower decking, mechanical and internal structure on Unit 1 and 2 Cooling Tower. This is significantly important to the upcoming discharge limit that is being proposed by the Delaware River Basin Committee (DRBC). Note: The project scope added refurbishment of fans, motors and drives in FY 2016 and 2017. This repair/replacement work will extend the service life of the tower a minimum of ten years.

Justification

The cooling tower decking has reached its serviceable life and is in need of immediate replacement in order to maintain its current thermal efficiency as well as its structural integrity. Continued deterioration of the tower will effect unit performance and will limit the unit full load capability. In order to extend the life of the plant, these repairs/ replacements will be required. Additionally this will aid in meeting the discharge temperature limitations that is being actively sought by the DRBC (Delaware river Basin Commission). The integrity of the cooling tower decking and main structure frame work has become an issue. Continued deterioration of the cooling tower wood members and fan decking could result in an employee related accident or equipment failure. Also continued deterioration of the cooling tower performance will lead to load reductions on the unit during periods of high ambient temperatures. This will occur during the time period when generation costs are at their peak.

Prior	Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total	Future
173,730	Miscellaneous	25,410	37,260	91,000		75,000	228,670	75,000
Total	Total	**25,410**	**37,260**	**91,000**		**75,000**	**228,670**	Total

Prior	Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total	Future
173,730	Electric I & E Fund	25,410	37,260	91,000		75,000	228,670	75,000
Total	Total	**25,410**	**37,260**	**91,000**		**75,000**	**228,670**	Total

Budget Impact/Other

DRAFT Capital Investments Plan

FY 12 *thru* **FY 16**

City of Dover, Delaware

Project # 15-EG

Project Name Unit 3 Cooling Water Line Life Extension



Type Maintenance
Useful Life Unknown
Category Electric
New Project: No
Time-Line:

Department Public Utilities-Power Plant
Contact Plant Manager
Priority n/a
Account Number:

Description

Total Project Cost: **$375,000**

This project will inspect and repair the underground cooling water line from the Unit 3 condenser to the cooling tower. A condition assessment and life evaluation will be performed on this pipe in 2012 to develop a repair/replace action plan to address the suitability for continued operation as well as extending the life of the piping beyond 2015. The actual repairs will be completed in 2014. We would expect this project to be funded outside the normal operating budget. Completion of the project as scheduled will eliminate the need to add additional O&M funding for emergency repairs in future years. The condition assessment will be completed in 2012with the repair/construction work to be completed in 2014. The results of the condition assessment will determine what action plan will be developed. The budgeted costs assume repairs of the lines (2) from the cooling tower to the plant exterior wall.

Justification

The condition of the underground cooling water line has required numerous repairs over the life of the plant and is expected to reach its useful life in the 2012-2015 time period. It is expected that the repair frequency will accelerate over the next several years as the internal pipe coating continues to degrade. Delaying this project beyond 2014 will increase the risk of a failure causing an extended unit outage to repair or replace the failed pipe as well incur water spillage to the ground. Additional budget dollars will need to be allocated to repair/ replace sections of piping.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Planning/Design	25,000					25,000
Miscellaneous			350,000			350,000
Total	**25,000**		**350,000**			**375,000**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Electric I & E Fund	25,000		350,000			375,000
Total	**25,000**		**350,000**			**375,000**

Budget Impact/Other

DRAFT Capital Investments Plan

FY 12 *thru* **FY 16**

City of Dover, Delaware

Project # **16-EG**

Project Name **McKee Run Unit 3 Stack Repairs**



Type Maintenance
Useful Life Unknown
Category Electric
New Project: No
Time-Line:

Department Public Utilities-Power Plant
Contact Public Utilities Director
Priority 1
Account Number:

Description

Total Project Cost: **$75,000**

An inspection will be made and assessment will be made from the inspection to determine the remaining life of the stack and also provide cost of any repairs required to extend the life of the stack for 15 to 20 yrs. Repairs to the stack lining and exterior will be made in order to allow continued operation of Unit 3. A determination for the necessity of repairs to Unit 3 stack will be performed on an annual basis. An internal and external inspection will be performed by outside consultant in 2012.

Justification

Current plans are to contract for an external and internal inspection in 2012 to develop an action plan to extend the life of the stack as well as develop costs for the repairs of the stack by outside contractors. We will perform in-house inspections of the stack on an annual basis until 2015 at which time we will contract for needed repairs as determined by the 2012 and subsequent yearly inspections. Delaying necessary repairs could lead to more costly repairs in the future, unplanned forced outage on Unit 3, fall out of internal material upon the surrounding community and potential injury to employees. Earnings from the sale of capacity may also be affected.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Miscellaneous	25,000			50,000		75,000
Total	**25,000**			**50,000**		**75,000**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Electric I & E Fund	25,000			50,000		75,000
Total	**25,000**			**50,000**		**75,000**

Budget Impact/Other

Due to the reduced operation of Unit 3, the plan is to inspect the stack in fiscal year 2012. The repair portion of the project has been moved out to fiscal year 2014 /15. The plan is to perform regular assessments of the internal condition to the stack, then determine when repairs may be necessary. Severe damage may move the repairs to an earlier date however the reduced run time of Unit 3 may afford an ability to postpone repairs to a later date.

DRAFT Capital Investments Plan

FY 12 *thru* **FY 16**

City of Dover, Delaware

Project # 17-EG

Project Name Unit 3 Cooling Tower Life Extension



Type Maintenance
Useful Life Unknown
Category Electric
New Project: No
Time-Line:

Department Public Utilities-Power Plant
Contact Public Utilities Director
Priority 1
Account Number:

Description

Total Project Cost: **$1,277,018**

This project will repair the cooling tower decking, mechanical and internal structure on Unit 3 Cooling Tower. The repairs/replacements include a new design on Unit 3 Cooling Tower to improve heat transfer and assure that the discharge temperature of the cooling tower continues to meet regulatory requirements. This is significantly important to the upcoming discharge limit that is being proposed by the Delaware River Basin Committee (DRBC). Inspection of the tower was completed in 2009. Engineering and bid cycle to be completed in 2010 within the operations budget. The installation work to be completed in 2012 and 2013. This repair / replacement work will extend the service life of the towers five to ten years.

Justification

The cooling tower is nearing the end of life its serviceable life and is expected to impact the cooling tower performance to an extent that it will also affect unit performance and will limit the unit full load capability. In order to extend the life of the plant, these repairs/ replacements will be required as well as aid in meeting the discharge temperature limitations that is being actively sought by the DRBC. The integrity of the cooling tower decking and main structure frame work has become an issue. Continued deterioration of the cooling tower wood members and fan decking could result in an employee related accident or equipment failure. Also continued deterioration of the cooling tower performance will lead to load reductions on the unit during periods of high ambient temperatures. This will occur during the time period when generation costs are at their peak.

Prior	Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
398,338	Construction/Maintenance		417,390	461,290			878,680
Total	**Total**		**417,390**	**461,290**			**878,680**

Prior	Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
398,338	Electric I & E Fund		417,390	461,290			878,680
Total	**Total**		**417,390**	**461,290**			**878,680**

Budget Impact/Other

DRAFT Capital Investments Plan

FY 12 *thru* **FY 16**

City of Dover, Delaware

Project # 18-EG

Project Name Van Sant Capacity Increase

Type Maintenance
Useful Life Unknown
Category Electric
New Project: Yes
Time-Line:

Department Public Utilities-Power Plant
Contact Plant Manager
Priority n/a
Account Number:

Description

Total Project Cost: **$550,000**

This project will increase the electric generation output of the VanSant Unit 11 gas turbine generator by installing technology specifically designed to decrease the air inlet temperatures to the gas turbine during high ambient air temperature days. This project is dependent on obtaining favorable payback as determined by an evaluation of available technologies conducted as part of a strategically budgeted initiative that will determine the most cost effective technology to utilize. This initiative is contained in the 2012 Strategic level of the Power Plant O&M budget. The project is estimated to be completed in 2013. Multiple technologies to achieve the increased generator output will be evaluated in 2012

Justification

This project will provide a positive cash flow within 5 years of installation as the City of Dover will benefit through additional capacity and generation sales. Each year this project is delayed will result in lost revenue opportunity to the City of Dover.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Planning/Design		75,000				75,000
Construction/Maintenance		475,000				475,000
Total		**550,000**				**550,000**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Electric I & E Fund		550,000				550,000
Total		**550,000**				**550,000**

Budget Impact/Other

DRAFT Capital Investments Plan

FY 12 *thru* **FY 16**

City of Dover, Delaware

Project # 19-EG

Project Name McKee Run Units 1 & 2 Stack Repairs



Type Maintenance
Useful Life 15-20 years
Category Electric
New Project: No
Time-Line:

Department Public Utilities-Power Plant
Contact Public Utilities Director
Priority n/a
Account Number:

Description

Total Project Cost: **$75,000**

Repairs to the stack lining and exterior will be made in order allow continued operation of these units. In addition, an assessment will be made to determine the remaining life of the stack and also provide cost of any repairs required to extend the life of the stack for another 15 to 20 yrs. Due to the reduced operation of Units 1 & 2, the project has been moved out to fiscal year 2013. Plans to perform regular assessments of the internal damage to the common stack will determine when future repairs may be necessary. Severe damage may move the repairs to an earlier date however the reduced run time of Units 1 & 2 may continue to afford the plant the ability to postpone repairs to a later date past the proposed. The current expectation is to perform the repairs in fiscal year 2013.
A determination for the necessity of repairs to Units 1 & 2 common stack will be performed on an annual basis. An internal and external inspection will be performed by outside consultant in 2011.

Justification

Current plans are to perform in-house inspections of the stack on an annual basis and to contract the repairs of the stack by outside contractors. Delaying necessary repairs could lead to more costly repairs in the future, simultaneous unplanned forced outages on both Units 1 & 2, fall out of internal material upon the surrounding community and potential injury to employees. Earnings from the sale of capacity may also be affected.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Miscellaneous		75,000				75,000
Total		**75,000**				**75,000**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Electric I & E Fund		75,000				75,000
Total		**75,000**				**75,000**

Budget Impact/Other

DRAFT Capital Investments Plan

FY 12 *thru* **FY 16**

City of Dover, Delaware

Project # **20-EG**

Project Name **Van Sant Unit 11 Major Overhaul/Inspection**



Type Improvement
Useful Life Unknown
Category Electric
New Project: No
Time-Line:

Department Public Utilities-Power Plant
Contact Public Utilities Director
Priority n/a
Account Number:

Description

Total Project Cost: **$2,000,000**

This project will perform major overhaul on unit due to OEM recommended repair frequency based on factored starts of the unit from first commissioning and from last inspection/repair interval. This project will be implemented in 2014 with long lead material purchases and installation in 2016.

Justification

This project is required to fund the purchase of all parts needed to perform a major overhaul on the unit based on estimated factored starts since unit was first commissioned and since last the Hot Gas Path. This project will span the course of two years. In Year 1, the majority of the parts will be purchased and services will be lined up for the actual installation on the unit in Year 2. Extended equipment and /or unit outage time will result from lack of funding this project. This will have a direct effect on the cost of energy during the extended outage time as well as increase future energy capacity charges. In addition, gradual degradation of the unit's output could occur which would have a negative effect on the capacity rating of the unit and could result in catastrophic failure of the unit.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Planning/Design				100,000	50,000	150,000
Construction/Maintenance					600,000	600,000
Other					100,000	100,000
Miscellaneous			150,000	750,000	250,000	1,150,000
Total			**150,000**	**850,000**	**1,000,000**	**2,000,000**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Electric I & E Fund			150,000	850,000	1,000,000	2,000,000
Total			**150,000**	**850,000**	**1,000,000**	**2,000,000**

Budget Impact/Other

DRAFT Capital Investments Plan

FY 12 *thru* **FY 16**

City of Dover, Delaware

Project # 21-EG

Project Name McKee Run Hot Water Boilers



Type Equipment
Useful Life Unknown
Category Electric
New Project: No
Time-Line:

Department Public Utilities-Power Plant
Contact Public Utilities Director
Priority n/a
Account Number:

Description

Total Project Cost: **$70,000**

This project will replace the 2 existing hot water boilers with smaller more efficient (90 percent or better) boilers. This project will tie in the Units 1 and 2 plant heating system to the hot water system. This project was originally set up for 2011. The plant Hot water boilers would only be supplying heat to the plant. The existing hot water boilers are 36 yrs old and have an efficiency of less than 85%.

Justification

A result of the conversion from residual to distillate oil as part of the pollution remediation project, the existing hot water boilers will no longer be needed to heat oil. Therefore the only load on the hot water system will be for plant heating. The existing hot water boilers are grossly oversized for this application and not suited for this seasonal operating mode. Additionally, the boilers are 36 years old and approaching end of life. Replacing the existing boilers with properly sized boilers will reduce costs on monthly gas usage and reduced maintenance on existing boilers. Installing more efficient boilers will also result in reducing the carbon footprint of the plant. The boilers are approaching end of life and are requiring more frequent maintenance. Repalcing these in 2014 will reduce the potential for experiencing system outages and more expensive repairs. Additionally, the sooner we replace the current boilers with the more efficient units the sooner we will realize payback on investment.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Miscellaneous			70,000			70,000
Total			**70,000**			**70,000**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Electric I & E Fund			70,000			70,000
Total			**70,000**			**70,000**

Budget Impact/Other

DRAFT Capital Investments Plan

FY 12 *thru* **FY 16**

City of Dover, Delaware

Project # 22-EG

Project Name McKee Run Unit 3 High Energy Piping Inspection



Type Maintenance
Useful Life Unknown
Category Electric
New Project: No
Time-Line:

Department Public Utilities-Power Plant
Contact Public Utilities Director
Priority n/a
Account Number:

Description

Total Project Cost: **$400,000**

This project will develop and implement a high energy piping inspection program for the Unit 3 piping systems. Included will be the main steam, hot and cold reheat lines as well as feed water and condensate piping. This program is intended to prevent any long term stress or flow induced pipe failures from occurring. Program development will be completed in the fall of 2014. The inspections will be completed during the spring 2015 planned outage.

Justification

High energy piping systems are subject to service related structural failure due to the high temperature service under which they operate. Additionally, lower temperature piping systems are subject to accelerated corrosion rates due to flow characteristics. Identifying any such piping before failures occur will prevent extended forced outage to make emergency repairs/replacement. Delaying this project could result in the failure of critical piping systems and subsequent lose of generation and or capacity. More importantly, component failure could also result in safety risk to personnel.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Planning/Design			40,000	40,000		80,000
Construction/Maintenance				280,000		280,000
Other				40,000		40,000
Total			**40,000**	**360,000**		**400,000**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Electric I & E Fund			40,000	360,000		400,000
Total			**40,000**	**360,000**		**400,000**

Budget Impact/Other

DRAFT Capital Investments Plan

FY 12 *thru* **FY 16**

City of Dover, Delaware

Project # 23-EG

Project Name Metering System Upgrades

Type Maintenance
Useful Life Unknown
Category Electric
New Project: Yes
Time-Line:

Department Public Utilities-Power Plant
Contact Public Utilities Director
Priority n/a
Account Number:



Description

Total Project Cost: **$150,000**

: This project involves the replacement of all the meters (15) in the COD system that are currently tied to the metering computer at McKee Run Generating Station. In addition, costs associated with the replacement of the Metering computer (PC) at McKee Run and an alternate demark for the telephone line that the NRG meter uses to communicate data to the McKee Run computer is included in this project. A metering computer would also be installed at the City of Dover dispatch center for use. At the present time, there are annual maintenance costs associated with keeping the reliability of the meters and the metering software current. In addition, a software maintenance fee is included in the annual budget.

Justification

The meters are 14 years old and the metering computer is 4 years old and nearing the end of their recommended service life. The metering system provides the City of Dover, PaceGlobal, NAES, PJM, NRG and Delmarva Power with accurate data for revenue metering, cost metering, load scheduling and forecasting and for generator capacity rating verification purposes. Submission of this data/information is also an important part of compliance with various NERC standards. Non-compliance with NERC Standards could result in fines and other penalties. Delaying or eliminating this project could have a substantial effect on the City of Dover Electrical bill. Failures to the meters or computers would force the City of Dover to rely on DPL metering, NRG metering and/or other methods of determining load usage costs and generation revenues. In addition, costs associated with the manual documentation and submission of the information would be labor intensive and could become extremely costly.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Planning/Design			25,000			25,000
Construction/Maintenance				125,000		125,000
Total			**25,000**	**125,000**		**150,000**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Electric I & E Fund			25,000	125,000		150,000
Total			**25,000**	**125,000**		**150,000**

Budget Impact/Other

DRAFT Capital Investments Plan

FY 12 *thru* **FY 16**

City of Dover, Delaware

Project # 24-EG

Project Name Units 1 & 2 Boiler Repairs



Type Maintenance
Useful Life Unknown
Category Electric
New Project: Yes
Time-Line:

Department Public Utilities-Power Plant
Contact Public Utilities Director
Priority n/a
Account Number:

Description

Total Project Cost: **$365,000**

This project will replace certain boiler components on units 1 and 2 boilers. Equipment to be addressed include the following:
FD and ID fan damper drives – 2016-$90,000
Air Heater Inlet and outlet expansion joints – 2016- $60,000
FD fan expansion joint – 2019- $60,000
Boiler exit expansion joint -2019- $60,000
Replace air heater Baskets -2020-$75,000
Air heater cleaning -2015 - $10,000, 2016 - $10,00
This project will be implemented in 2015 and continue into 2020.
This project would be funded outside of the normal O&M budget. Should result in reduced risk of increasing maintenance budget in the future.

Justification

This project is required to fund the replacement of capital items that are expected to reach their useful life in 2016 and beyond. This equipment is associated with the boiler gas flow system and the condition of these items is critical to the efficient operation of the boilers.
A continuous deterioration of unit performance, both generation output and capacity, will occur from lack of funding this project.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total	Future
Construction/Maintenance				10,000	160,000	170,000	195,000
Total				**10,000**	**160,000**	**170,000**	**Total**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total	Future
Electric I & E Fund				10,000	160,000	170,000	195,000
Total				**10,000**	**160,000**	**170,000**	**Total**

Budget Impact/Other

DRAFT Capital Investments Plan

FY 12 *thru* **FY 16**

City of Dover, Delaware

Project # 25-EG

Project Name McKee Run Building Equipment Replacement

Type Maintenance
Useful Life Unknown
Category Electric
New Project: Yes
Time-Line:

Department Public Utilities-Power Plant
Contact Public Utilities Director
Priority n/a
Account Number:

Description

Total Project Cost: **$215,000**

This project includes the replacement of certain building support systems along with the paving of roadways around the cooling towers at the McKee Run Generating station. The specific building systems to be addressed include:
Supervisors Office Roof top Air Conditioners – 2016-$30,000
Control Room rooftop air Conditioning Unit – 2017 - $50,000
Administrative Building roof top Air Conditioner -2020 -$30,000
Rebuild #1 elevator – 2019-$25,000
Pave roadway around cooling towers and tank berm -2016- $80,000
This project will be implemented in 2016 and complete in 2020
This project is expected to be funding outside the normal O&M budget. It should result in reducing the risk of increased maintenance budget in the future.

Justification

This project is required to fund the replacement of roof top air conditioners that are expected to reach their useful life starting in 2016. In addition, the #1 elevator is expected to require significant rebuilding to maintain it's reliability. Major maintenance was performed last in 1999. The roadway around the cooling towers is expected to need major repair due to damage resulting from heavy vehicle and construction equipment traffic associated with the cooling tower repairs scheduled for 2011 through 2015. Continuing increase in the costs to maintain this equipment will result from the lack of funding this project. In addition, critical temperature control is necessary to keep plant instrumentation located in the control room at acceptable operating conditions. Allowing the temperature to exceed design conditions could contribute to reduced control equipment life and possible reduced unit reliability. Maintaining the roadway access to the cooling towers and oil tank area is critical to being able to respond to emergencies at those locations.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total	Future
Construction/Maintenance					110,000	110,000	105,000
Total					**110,000**	**110,000**	**Total**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total	Future
Electric I & E Fund					110,000	110,000	105,000
Total					**110,000**	**110,000**	**Total**

Budget Impact/Other

New Projects are highlighted.

City of Dover, Delaware

DRAFT Capital Investments Plan

FY 12 thru FY 16

PROJECTS BY DEPARTMENT

Department	Project#	Priority	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Public Utilities- Electric Eng								
Substation PT & CT Replacement	*12-EE1101*	5	267,715					*267,715*
Lighting Project and Rehabilitation	*12-EE1103*	4	50,000	50,000	50,000	50,000	50,000	*250,000*
Equipment Replacement	*12-EE1192*	3	40,000	40,000	40,000	40,000	40,000	*200,000*
Generataor Replacement	*12-EE1290*	2	50,000					*50,000*
Frazier Substation Reliability Upgrade	*12-EE1291*	9	155,000	610,247				*765,247*
Distribution Feeder Replacement Program	*12-EE1292*	8	277,510	277,510	277,510	277,510	277,510	*1,387,550*
Distribution Capacitors and Controls	*12-EE1293*	10	100,000	100,000	100,000	100,000	100,000	*500,000*
Transmission Line Maintenance Program	*12-EE1294*	7	75,000	75,000	75,000	75,000	75,000	*375,000*
SCADA Master Hardware Replacement	*12-EE1596*	6	75,000					*75,000*
Distribution Upgrades	*12-EV1101*	1	500,000	500,000	500,000	500,000	500,000	*2,500,000*
Outage Management & Automatic Voice Reponse	*13-EE1390*	n/a		250,000				*250,000*
69 kV Substation Switch Replacement	*13-EE1391*	n/a		80,000	80,000	80,000		*240,000*
Horsepond Substation Reliability Upgrade	*13-EE1392*	n/a		170,000	591,812			*761,812*
Division Street Substation Fence	*13-EE1595*	n/a		70,000				*70,000*
General Scott Switchgear	*14-EE1490*	n/a			800,000	300,000		*1,100,000*
Horsepond to Cartanza 69 kV Rebuild	*15-EE1590*	n/a				330,467		*330,467*
System Automation	*15-EE1591*	n/a				300,000	150,000	*450,000*
69 kV Cable Replacement North Street	*15-EE1593*	n/a				85,000	480,710	*565,710*
System Operations Monitoring	*15-EE1594*	n/a				30,000		*30,000*
McKee Run Yard Rebuild	*16-EE1592*	n/a					450,000	*450,000*
Public Utilities- Electric Eng Total			**1,590,225**	**2,222,757**	**2,514,322**	**2,167,977**	**2,123,220**	***10,618,501***
Public Utilities-Electric T&D								
New Developments	*12-EE1111*	1	600,000	600,000	600,000	600,000	600,000	*3,000,000*
Public Utilities-Electric T&D Total			**600,000**	**600,000**	**600,000**	**600,000**	**600,000**	***3,000,000***
GRAND TOTAL			**2,190,225**	**2,822,757**	**3,114,322**	**2,767,977**	**2,723,220**	***13,618,501***

DRAFT Capital Investments Plan

FY 12 *thru* **FY 16**

City of Dover, Delaware

Project # 12-EE1101

Project Name Substation PT & CT Replacement



Type Maintenance
Useful Life 20-25 years
Category Electric
New Project: No
Time-Line:

Department Public Utilities- Electric Eng
Contact Public Utilities Director
Priority 5
Account Number: 487-8300-563.70-27

Description

Total Project Cost: **$784,813**

This project replaces aging metering/system protection equipment in the older substations. The equipment to be replaced measures the line voltage and current which is then interpreted by the relays for system protection. Additionally, the lightning arrestors will be replaced which protects the equipment during lightning strikes. This is the final year of a three year project.

Justification

This equipment has a normal 30-year life and has exceeded that in all of our substations except the newest substations. By replacing the equipment during normal scheduled maintenance shut downs, it will prevent larger outages due to equipment failure.
Such equipment has caused large outages by faulting due to its age. Additionally, many of the current components have not been tested for PCB's which could result in expensive cleanup charges should they fail.
Materials to be ordered in September 2011. Equipment will start arriving in the spring 2012 and be installed during the regular scheduled substation maintenance schedules until the project is completed.

Prior	Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
517,098	Construction/Maintenance	267,715					267,715
Total	**Total**	**267,715**					**267,715**

Prior	Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
517,098	Electric I & E Fund	267,715					267,715
Total	**Total**	**267,715**					**267,715**

Budget Impact/Other

DRAFT Capital Investments Plan

FY 12 *thru* **FY 16**

City of Dover, Delaware

Project # **12-EE1103**

Project Name **Lighting Project and Rehabilitation**



Type Maintenance
Useful Life 10-12 years
Category Electric
New Project: No
Time-Line:

Department Public Utilities- Electric Eng
Contact Public Utilities Director
Priority 4
Account Number: 487-8300-563.50-76

Description

Total Project Cost: **$650,000**

This fund was developed to replace and repair existing street lights or install new lights upon customer request.
This fund will remain active as long as there are improvements to be made. Private area lighting requests are a source of revenue for the City. Areas completed are Greens of Dover, Farmview, Twelve Oaks, Old Mill Acres I, White Oak Apartments, Westfield, Fairview, Cranberry Run, Millcreek, Independence Village and Governors Avenue (South 100 Block), Deerfield, Central Middle School, Fox Hall, Hidden Oaks, and a portion of North Governors Ave. Areas to be completed this budget year include The Meadows, Turnberry, Baltray, Acorn Farms, Bicentennial and some improvements to The Green.

Justification

The Electric Division receives numerous requests for lighting improvements. These requests are due to the lights aging, and as they age they put out less light and become unreliable. There are many developments that are in need of street light improvements. This fund would also provide funding for new large security light requests. Consequences of delaying or eliminating this project include constant complaints of poor street lighting and multiple failures due to antiquated lights.

Prior	Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
400,000	Construction/Maintenance	50,000	50,000	50,000	50,000	50,000	250,000
Total	**Total**	**50,000**	**50,000**	**50,000**	**50,000**	**50,000**	**250,000**

Prior	Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
400,000	Electric I & E Fund	50,000	50,000	50,000	50,000	50,000	250,000
Total	**Total**	**50,000**	**50,000**	**50,000**	**50,000**	**50,000**	**250,000**

Budget Impact/Other

DRAFT Capital Investments Plan

FY 12 *thru* **FY 16**

City of Dover, Delaware

Project # 12-EE1192
Project Name Equipment Replacement



Type Maintenance
Useful Life Unknown
Category Electric
New Project: No
Time-Line:

Department Public Utilities- Electric Eng
Contact Public Utilities Director
Priority 3
Account Number: 487-8300-563.70-27

Description

Total Project Cost: **$280,000**

Replacement of capital equipment valued between $5,000 and $25,000.

Justification

Extended equipment and/or unit outage time will result from lack of funding this project. This will have a direct effect on the cost of energy during the extended outage time as well as increase future energy capacity charges.
This project is required to fund the replacement of capital items that are expected to reach their useful life and will need to be replaced to maintain system reliability

Prior	Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
80,000	Equip/Vehicle/Furnishings	40,000	40,000	40,000	40,000	40,000	200,000
Total	**Total**	**40,000**	**40,000**	**40,000**	**40,000**	**40,000**	**200,000**

Prior	Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
80,000	Electric I & E Fund	40,000	40,000	40,000	40,000	40,000	200,000
Total	**Total**	**40,000**	**40,000**	**40,000**	**40,000**	**40,000**	**200,000**

Budget Impact/Other

DRAFT Capital Investments Plan

FY 12 *thru* **FY 16**

City of Dover, Delaware

Project # **12-EE1290**

Project Name **Generataor Replacement**



Type Equipment
Useful Life 15-20 years
Category Electric
New Project: No
Time-Line:

Department Public Utilities- Electric Eng
Contact Public Utilities Director
Priority 2
Account Number: 487-8300-563.40-25

Description

Total Project Cost: **$50,000**

Replace the existing Public Utilities Administration Building's back-up generator.

Justification

The Public Utilities building houses the 24 hour system operations facility, for the city's electric and water/wastewater infrastructure. The existing 1975 back-up generator has reached its mechanical limits and is now requiring numerous unplanned cost, to ensure that it is operational. the Public Utilities building were to experience an electrical outage and this back-up generator were to fail, the electric and water/wastewater departments would not be able to monitor or remotely control their respective systems or communicate with customers and staff.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Equip/Vehicle/Furnishings	50,000					50,000
Total	**50,000**					**50,000**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Electric I & E Fund	50,000					50,000
Total	**50,000**					**50,000**

Budget Impact/Other

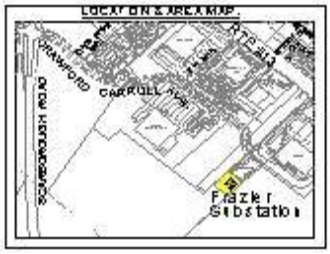
DRAFT Capital Investments Plan

FY 12 *thru* **FY 16**

City of Dover, Delaware

Project # **12-EE1291**

Project Name **Frazier Substation Reliability Upgrade**



Type Improvement
Useful Life 20-25 years
Category Electric
New Project: No
Time-Line:

Department Public Utilities- Electric Eng
Contact Public Utilities Director
Priority 9 --
Account Number: 487-8300-563.70-27

Description

Total Project Cost: **$765,247**

The high side of the substation will be upgraded to include transmission line protection breakers as well as the transformer breaker.

Justification

When the transmission line experiences a fault this substation loses power until the short circuit is found and the appropriate switching is accomplished. With the installation of the two new line breakers the faulted transmission line will be isolated from the substation and the customers will not experience an interruption of service. Consequences of delaying or eliminating thie project will be accepting the outages in the northwest section of the system during transmission line faults. The design will begin in July 2011; materials will be ordered in July 2012 and construction to be completed by June 2013.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Planning/Design	155,000					155,000
Construction/Maintenance		610,247				610,247
Total	**155,000**	**610,247**				**765,247**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Electric I & E Fund	155,000	610,247				765,247
Total	**155,000**	**610,247**				**765,247**

Budget Impact/Other

DRAFT Capital Investments Plan

FY 12 *thru* **FY 16**

City of Dover, Delaware

Project # **12-EE1292**

Project Name **Distribution Feeder Replacement Program**



Type Improvement
Useful Life 20-25 years
Category Electric
New Project: No
Time-Line:

Department Public Utilities- Electric Eng
Contact Public Utilities Director
Priority 8 --
Account Number: 487-8300-563.90-25

Description

Total Project Cost: **$1,387,550**

Substation feeders are defined as the three-phase lines that carry the load from the substations to the customers' neighborhood. They interconnect to other substations to provide load redundancy should there be a failure of an adjacent substation. Many of the older substation feeders have smaller conductors that cannot carry the load that is required during system peaks and emergency situations. This project would systematically upgrade these conductors to increase the capacity of the feeders as well as ultimately reducing system losses. Lastly, many of the feeder components have reached the end of their useful life and require substantial maintenance.

Justification

Due to the age and condition of the current feeders, delaying this systematic maintenance/upgrade program will result in reduced system utilization as well as detrimentally impacting future reliability.
These lines are typically older, smaller, and are reaching the end of their life. This program will provide the needed systematic maintenance to the conductors, cross arms, switches, and insulators, as well as increasing system capacity hence resulting in more efficient operations by reducing line losses.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Construction/Maintenance	277,510	277,510	277,510	277,510	277,510	1,387,550
Total	**277,510**	**277,510**	**277,510**	**277,510**	**277,510**	**1,387,550**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Electric I & E Fund	277,510	277,510	277,510	277,510	277,510	1,387,550
Total	**277,510**	**277,510**	**277,510**	**277,510**	**277,510**	**1,387,550**

Budget Impact/Other

DRAFT Capital Investments Plan

FY 12 *thru* **FY 16**

City of Dover, Delaware

Project # 12-EE1293

Project Name Distribution Capacitors and Controls



Type Improvement
Useful Life 15-20 years
Category Electric
New Project: No
Time-Line:

Department Public Utilities- Electric Eng
Contact Public Utilities Director
Priority 10 --
Account Number: 48-8300-563.60-82

Description

Total Project Cost: **$964,995**

Install distribution capacitors throughout the system to correct poor power factor on distribution circuits. Install capacitor controllers capable of two-way communication to provide real-time monitoring and remote control operation. These controllers will be capable of switching the capacitors on and off to comply with system requirements. This project will also replace outdated substation meters with units capable of advanced metering such as power factor and harmonics to further analyze system performance. Lastly, distribution line recorders will be purchased and installed to provide power factor recordings to fine tune this operation.

Justification

Additional capacitance is required in order to meet system power factor requirements at the Delmarva Power and Light interchange point. This was substantiated through a load-flow study conducted by Shaw in early 2004 and distribution study by Wilson & Wilson in 2006. The current capacitor controls are not providing the granularity required to turn them off and on as required to meet both the power quality requirements of our customers and DP&L requirements. Additional controls are required to fine tune the systems operation. Without the additional capacitor banks and more importantly controls, the City may experience a low/high voltage problem at the customer level and/or the possibility of having to pay power factor penalties to Delmarva Power and Light.

Prior	Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
464,995	Construction/Maintenance	100,000	100,000	100,000	100,000	100,000	500,000
Total	**Total**	**100,000**	**100,000**	**100,000**	**100,000**	**100,000**	**500,000**

Prior	Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
464,995	Electric I & E Fund	100,000	100,000	100,000	100,000	100,000	500,000
Total	**Total**	**100,000**	**100,000**	**100,000**	**100,000**	**100,000**	**500,000**

Budget Impact/Other

DRAFT Capital Investments Plan

FY 12 *thru* **FY 16**

City of Dover, Delaware

Project # **12-EE1294**

Project Name **Transmission Line Maintenance Program**



Type Maintenance
Useful Life 20-25 years
Category Electric
New Project: No
Time-Line:

Department Public Utilities- Electric Eng
Contact Public Utilities Director
Priority 7 --
Account Number: 487-8300-563.70-35

Description

Total Project Cost: **$375,000**

Replace aging porcelain insulators on the transmission pole lines with new polymer insulators.

Justification

Insulators have a defined equipment life due to sun and weather conditions breaking down the porcelain and base bonding cement. Insulators installed in 1960's and 1970's are due for replacement because of this deterioration. We have experienced several transmission outages due to insulator failure. Replacing the insulators should extend the life an additional 30 years. Outages may occur if insulators are not replaced and fail due to deterioration.
Beginning in FY 2012 through FY 2017, we will replace the insulators on the older transmission lines.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Miscellaneous	75,000	75,000	75,000	75,000	75,000	375,000
Total	**75,000**	**75,000**	**75,000**	**75,000**	**75,000**	**375,000**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Electric I & E Fund	75,000	75,000	75,000	75,000	75,000	375,000
Total	**75,000**	**75,000**	**75,000**	**75,000**	**75,000**	**375,000**

Budget Impact/Other

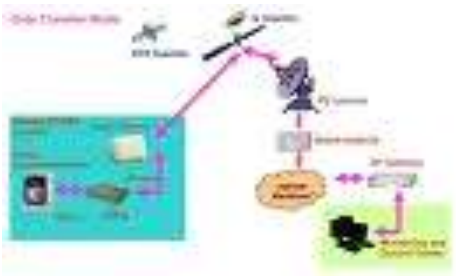
DRAFT Capital Investments Plan

FY 12 *thru* **FY 16**

City of Dover, Delaware

Project # 12-EE1596

Project Name SCADA Master Hardware Replacement



Type Unassigned
Useful Life 5 years
Category Electric
New Project: Yes
Time-Line:

Department Public Utilities- Electric Eng
Contact Public Utilities Director
Priority 6 --
Account Number: TBD

Description

Total Project Cost: **$75,000**

This project would replace the aging Master station hardware. The Master station receives all the analog data, alarms and control for all electrical substations and wastewater lift stations. The master station in comprised of Dual Host Servers, Dual Operator consoles, paging system, web server, 2-Firewalls for DMZ and One remote access/support firewall.

Justification

The equipment has reached the end of its expected life and has already experienced a failure of one of the servers which required substantial expense to repair. It should be noted that this computer system operates 24/7; the additional firewalls are required to meet required system cyber security.
If the system fails we will not be able to monitor or control electrical substations and we will not be able to view alarms for wastewater lift stations. This failure could result in electrical outages or wastewater overflows.
The equipment will be ordered and replaced during the FY 12 budget year.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Construction/Maintenance	75,000					75,000
Total	**75,000**					**75,000**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Electric I & E Fund	75,000					75,000
Total	**75,000**					**75,000**

Budget Impact/Other

DRAFT Capital Investments Plan

FY 12 *thru* **FY 16**

City of Dover, Delaware

Project # **12-EV1101**

Project Name **Distribution Upgrades**



Type Improvement
Useful Life 20-25 years
Category Electric
New Project: No
Time-Line:

Department Public Utilities- Electric Eng
Contact Public Utilities Director
Priority 1
Account Number: 487-8300-563.90-25

Description

Total Project Cost: **$4,554,000**

This project involves the systemic replacement of overhead lines with underground lines whenever services are being moved, wire is damaged, trees cause a high number of outages, or development is in progress, and when it is beneficial to the Utility to convert to underground. This can involve a single line section or an entire residential neighborhood. Annual outage records are reviewed and selected areas are scheduled for upgrade to underground service. Additionally, this program funds the replacement of existing underground conductors and equipment that have reached their useful life and have started failing and require replacement. This project will be ongoing over the 12 months of the budget year. This account is used to upgrade any trouble areas during the year. The following developments are to be upgraded: Huntley Circle and Autumn woods Apts.

Justification

The number of storm and tree-related outages has been greatly reduced under this program and further improvements can be made to insure the most reliable electric service possible. Reliability has become one of most important factors to electric customers, second only to safety. The utility has responded by attempting to provide the most reliable system possible. Underground cable replacement is necessary as the useful, reliable, life of the original underground cable was 20-30 years. By proactively replacing this cable we will minimize outages and improve system reliability. In addition to cable replacement, overhead lines are replaced with underground to minimize outages caused by tree growth or animal contact. Lastly, overhead lines that have reached the end of their useful life are replaced with underground instead of rebuilding the overhead. : Continued outages lead to increased complaints from our customers and will lead to customer dissatisfaction. There will be increased costs for repairs made under outage conditions as well as loss of electric revenue.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Construction/Maintenance	500,000	500,000	500,000	500,000	500,000	2,500,000
Total	**500,000**	**500,000**	**500,000**	**500,000**	**500,000**	**2,500,000**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Electric I & E Fund	500,000	500,000	500,000	500,000	500,000	2,500,000
Total	**500,000**	**500,000**	**500,000**	**500,000**	**500,000**	**2,500,000**

Budget Impact/Other

DRAFT Capital Investments Plan

FY 12 *thru* **FY 16**

City of Dover, Delaware

Project # **13-EE1390**

Project Name **Outage Management & Automatic Voice Reponse**



Type Improvement
Useful Life 5 years
Category Electric
New Project: No
Time-Line:

Department Public Utilities- Electric Eng
Contact Public Utilities Director
Priority n/a
Account Number: 487-8300-563.40-25

Description

Total Project Cost: **$250,000**

To implement an outage management system that overlays the public utilities newly installed GIS mapping system. This project will be completed in FY 2013.

Justification

This outage management system will increase the electric department's efficiency in managing outages. The system will provide the operators a precise troubleshooting algorithm, to allow for nearly immediate identification of the outage causes and quick dispatch of restoration personnel. The system will also provide an automatic voice response to manage the inrush of telephone calls, when an outage is being experienced. Therefore, additional public utilities' staff will no longer be required to postpone their work obligations, to relocate to the system operation center or assist in receiving telephone calls.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Miscellaneous		250,000				250,000
Total		**250,000**				**250,000**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Electric I & E Fund		250,000				250,000
Total		**250,000**				**250,000**

Budget Impact/Other

DRAFT Capital Investments Plan

FY 12 *thru* **FY 16**

City of Dover, Delaware

Project # **13-EE1391**

Project Name **69 kV Substation Switch Replacement**



Type Improvement
Useful Life 20-25 years
Category Electric
New Project: No
Time-Line:

Department Public Utilities- Electric Eng
Contact Public Utilities Director
Priority n/a
Account Number: 487-8300-563.70-35

Description

Total Project Cost: **$240,000**

This project will be replacing obsolete 69kV switches in the substation/transmission system.

Justification

The majority of the switches are very old, making for difficult operation and frequent maintenance to ensure operation as needed. Delaying this program will result in switch failure possibly resulting in wide spread power outages. The system has experienced more frequent switch failures in recent years.
The new switches will be gang operated switches which are electrically better to operate and most importantly increase safety to the operator. The switches that are to be replaced have reached the life expectancy and have a potential of failure if not replaced.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Miscellaneous		80,000	80,000	80,000		240,000
Total		**80,000**	**80,000**	**80,000**		**240,000**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Electric I & E Fund		80,000	80,000	80,000		240,000
Total		**80,000**	**80,000**	**80,000**		**240,000**

Budget Impact/Other

DRAFT Capital Investments Plan

FY 12 *thru* **FY 16**

City of Dover, Delaware

Project # **13-EE1392**

Project Name **Horsepond Substation Reliability Upgrade**



Type Improvement
Useful Life 20-25 years
Category Electric
New Project: No
Time-Line:

Department Public Utilities- Electric Eng
Contact Public Utilities Director
Priority n/a
Account Number: 487-8300-563.70-27

Description

Total Project Cost: **$761,812**

The high-side of the substation will be upgraded to include two transmission line protection breakers.

Justification

When the transmission line experiences a fault this substation loses power until the short circuit is found and the appropriate switching is accomplished. With the installation of the line breakers the faulted transmission line will be isolated from the substation and the customers will not experience an interruption of service. Consequences of delaying or eliminating this project will result in accepting the outages in the southeast section of the system during transmission line faults. The design and long lead time materials will be completed in FY 2013 and the majority of the materials will be purchased and construction completed in FY 2014.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Planning/Design		70,000	60,000			130,000
Construction/Maintenance		100,000	531,812			631,812
Total		**170,000**	**591,812**			**761,812**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Electric I & E Fund		170,000	591,812			761,812
Total		**170,000**	**591,812**			**761,812**

Budget Impact/Other

DRAFT Capital Investments Plan

FY 12 *thru* **FY 16**

City of Dover, Delaware

Project # **13-EE1595**

Project Name **Division Street Substation Fence**



Type Improvement
Useful Life 20-25 years
Category Electric
New Project: No
Time-Line:

Department Public Utilities- Electric Eng
Contact Public Utilities Director
Priority n/a
Account Number:

Description

Total Project Cost: **$70,000**

This project will replace the existing fence at the Division Street Substation.

Justification

This project will replace the existing fence at Division Street Substation with a decorative fence, similar to the fence that was erected at St. Jones Substation. The existing fence no longer meets the National Electric Safety Code height requirements and is generally in poor condition. Existing structure does not meet the National Electric Safety Code (NESC).

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Other		70,000				70,000
Total		**70,000**				**70,000**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Electric I & E Fund		70,000				70,000
Total		**70,000**				**70,000**

Budget Impact/Other

DRAFT Capital Investments Plan

FY 12 *thru* **FY 16**

City of Dover, Delaware

Project # **14-EE1490**

Project Name **General Scott Switchgear**



Type Improvement
Useful Life 20-25 years
Category Electric
New Project: No
Time-Line:

Department Public Utilities- Electric Eng
Contact Public Utilities Director
Priority n/a
Account Number:

Description

Total Project Cost: **$1,100,000**

This project will replace the metal clad switchgear and replace the distribution breakers as they have reached the end of their useful life.

Justification

This station carries the industrial and residential load on the west side of Dover. The station distribution switch gear was installed in 1985 and the replacement of the switch gear should extend the life of the equipment to 2033. Additionally, the breakers have numerous moving parts, including plastic components that tend to fail with age resulting in mis-operation of the breaker.
By replacing the General Scott's aging switchgear, it will extend the life of the switchgear, and replacing the breakers will facilitate correct fault operation.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Construction/Maintenance			800,000			800,000
Miscellaneous				300,000		300,000
Total			**800,000**	**300,000**		**1,100,000**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Electric I & E Fund			800,000	300,000		1,100,000
Total			**800,000**	**300,000**		**1,100,000**

Budget Impact/Other

DRAFT Capital Investments Plan

FY 12 *thru* **FY 16**

City of Dover, Delaware

Project # **15-EE1590**

Project Name **Horsepond to Cartanza 69 kV Rebuild**



Type Improvement
Useful Life 20-25 years
Category Electric
New Project: No
Time-Line:

Department Public Utilities- Electric Eng
Contact Public Utilities Director
Priority n/a
Account Number: TBD

Description

Total Project Cost: **$330,467**

This project will replace the poles, conductor, and insulators from Horsepond Substation to Long Point Road.This project will begin and reach completion in FY 2015.

Justification

Currently, the conductor size from Horsepond substation to Long Point rd limits the capacity that can be carried on feeder 4. An upgrade from the existing 636 ACSR to 795 ACSR would lift this limit and match the conductor from Cartanza Substation to Horsepond Substation. The poles have nearly reached the life expectancy. The batch of poles from Horsepond to Long Point Road have been known to have numerous problems with woodpecker destruction. The annual pole testing program has noted deficiencies in the above ground condition of these poles. Aging poles and hardware may fail causing outage in east Dover.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Planning/Design				75,000		75,000
Construction/Maintenance				225,425		225,425
Other				30,042		30,042
Total				**330,467**		**330,467**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Electric I & E Fund				330,467		330,467
Total				**330,467**		**330,467**

Budget Impact/Other

DRAFT Capital Investments Plan

FY 12 *thru* **FY 16**

City of Dover, Delaware

Project # 15-EE1591
Project Name System Automation



Type Improvement
Useful Life 5-10 years
Category Electric
New Project: No
Time-Line:

Department Public Utilities- Electric Eng
Contact Public Utilities Director
Priority n/a
Account Number: TBD

Description

Total Project Cost: **$450,000**

This project will engineer and install a self healing or "smart" distribution system. This project will begin in FY 2015 and reach completion in FY 2020.

Justification

This project will include an engineering study to be performed using a system model to develop a scheme that will allow the distribution system to be self healing in the event of a fault. Following the study, automation equipment will be purchased to detect problems on the system, isolate the affected area, and reenergize lines not affected. This will improve the reliability of the city's local electric grid, minimize customer outages, and increase customer satisfaction.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Planning/Design				300,000	150,000	450,000
Total				**300,000**	**150,000**	**450,000**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Electric I & E Fund				300,000	150,000	450,000
Total				**300,000**	**150,000**	**450,000**

Budget Impact/Other

DRAFT Capital Investments Plan

FY 12 *thru* **FY 16**

City of Dover, Delaware

Project # **15-EE1593**

Project Name **69 kV Cable Replacement North Street**



Type Improvement
Useful Life 30+ years
Category Electric
New Project: No
Time-Line:

Department Public Utilities- Electric Eng
Contact Public Utilities Director
Priority n/a
Account Number: TBD

Description

Total Project Cost: **$565,710**

This project will replace the aging 69 KV underground cables from North Street switching yard to Kraft's and Proctor & Gamble's (customer owned) substations.

Justification

Proctor & Gamble and Kraft are two (2) of the City of Dover's 69 KV customers and it is our obligation to provide them with adequate and reliable service. The cables were installed in 1973 and have had two repairs. The first repair was in 1986 and the second repair was in 1992.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Planning/Design				85,000		85,000
Construction/Maintenance					480,710	480,710
Total				**85,000**	**480,710**	**565,710**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Electric I & E Fund				85,000	480,710	565,710
Total				**85,000**	**480,710**	**565,710**

Budget Impact/Other

DRAFT Capital Investments Plan

FY 12 *thru* **FY 16**

City of Dover, Delaware

Project # **15-EE1594**

Project Name **System Operations Monitoring**



Type Equipment
Useful Life 5 years
Category Electric
New Project: No
Time-Line:

Department Public Utilities- Electric Eng
Contact Public Utilities Director
Priority n/a
Account Number:

Description

Total Project Cost: **$30,000**

This project will replace the system operations monitoring screens.Completion is schedule for FY2015.

Justification

This project replaces the existing monitoring screens in system operations, with projection screens. City staff uses an array of these devices to view and operate the electric system and the lift stations. Additionally, the Public Utilities recently added 6 security cameras surrounding its facility and 2 security cameras at the interconnecting substation, which is our connection to the bulk electric system. These monitoring screens are also utilize in these security hardening measures.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Equip/Vehicle/Furnishings				30,000		30,000
Total				**30,000**		**30,000**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Electric I & E Fund				30,000		30,000
Total				**30,000**		**30,000**

Budget Impact/Other

DRAFT Capital Investments Plan

FY 12 *thru* **FY 16**

City of Dover, Delaware

Project # **16-EE1592**

Project Name **McKee Run Yard Rebuild**

Type Improvement
Useful Life 25+ years
Category Electric
New Project: No
Time-Line:

Department Public Utilities- Electric Eng
Contact Public Utilities Director
Priority n/a
Account Number: TBD

Description

Total Project Cost: **$450,000**

The purpose of this project is to refurbish McKee Run switching yard. The engineering will be completed in FY 2015. Construction will be the following year, FY 2016.

Justification

The City of Dover's electrical system has undergone a complete conversion to a 69KV transmission network. Hence, eliminating the old 22KV transmission network. Therefore, the 22KV system located at McKee Run Generating Plant should also be eliminated and a second 12470/69 KV step-up transformer should be installed, provided that Units 1 & 2 are still in operation. The estimate is based on using the old Mid City Step up transformer.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Planning/Design					250,000	250,000
Miscellaneous					200,000	200,000
Total					**450,000**	**450,000**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Electric I & E Fund					450,000	450,000
Total					**450,000**	**450,000**

Budget Impact/Other

DRAFT Capital Investments Plan

FY 12 *thru* **FY 16**

City of Dover, Delaware

Project # **12-EE1111**

Project Name **New Developments**



Type Improvement
Useful Life 30+ years
Category Electric
New Project: No
Time-Line:

Department Public Utilities-Electric T&D
Contact Public Utilities Director
Priority 1
Account Number: 4878200-562.Several

Description

Total Project Cost: **$4,634,800**

This project purchases materials and equipment that are used to provide electric service to new housing developments, businesses, and industrial developments. Additionally, a portion of this expense is offset by the extension payments whereby new developers pay a $1,100 per residential lot connection fee, or business and industrial developers pay the total material expense for line extensions. This is an ongoing project and effects three separate accounts: 487-8200-562.60-31, 60-34, and 60-46.

Justification

During the course of each budget year, new developers request line extensions for new electric projects. Some are new projects, while other projects may have received plan approval previously but were not completed for any number of reasons. Consequences of delaying or eliminating this project include developers would not be able to receive electric service to new facilities.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Construction/Maintenance	600,000	600,000	600,000	600,000	600,000	3,000,000
Total	**600,000**	**600,000**	**600,000**	**600,000**	**600,000**	**3,000,000**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Electric I & E Fund	600,000	600,000	600,000	600,000	600,000	3,000,000
Total	**600,000**	**600,000**	**600,000**	**600,000**	**600,000**	**3,000,000**

Budget Impact/Other

City of Dover, Delaware

DRAFT Capital Investments Plan

FY 12 thru FY 16

PROJECTS BY DEPARTMENT

Department	Project#	Priority	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Public Utilities-Wastewater Mg								
Inflow/Infiltration Removal	*12-WW1101*	4	1,000,000	1,000,000	1,250,000	1,175,000	1,250,000	*5,675,000*
SCADA Equipment Technology Upgrade	*12-WW1102*	2	84,900	87,900				*172,800*
Lepore Road Pump Station Replacement	*12-WW1104*	3	350,000					*350,000*
Miscellaneous Sewer System Improvements	*12-WW1105*	1	37,000	39,000	41,000	43,000	45,000	*205,000*
Baltray Pump State Replacement	*12-WW1290*	6	25,000	100,000				*125,000*
Dover Brook Gardens Pump Station Upgrade	*12-WW1291*	7	15,000	50,000				*65,000*
Brandywine Pump Station Replacement	*12-WW1292*	8	52,000	350,000				*402,000*
McKee Road Pump Station Communator Replacement	*12-WW1293*	5	10,000	45,000				*55,000*
Hazlettville Road Interceptor	*13-WW1390*	n/a		30,000	740,000			*770,000*
Westover Pump Station and Force Main Upgrade	*13-WW1392*	n/a		65,000	703,800			*768,800*
Dover East Pump Station Abandonment & Sewer Line	*13-WW1393*	n/a		40,000	213,800			*253,800*
Lakeview Drive Pump Station Replacement	*14-WW1580*	n/a			52,000	450,000		*502,000*
Retreat Pump Station Replacement	*15-WW1595*	n/a				52,000	360,500	*412,500*
Rolling Acres Pump Station Replacement	*16-WW1590*	n/a					52,000	*52,000*
Public Utilities-Wastewater Mg Total			**1,573,900**	**1,806,900**	**3,000,600**	**1,720,000**	**1,707,500**	***9,808,900***
Public Utilities-Water Mgmnt								
Miscellaneous Distribution System Improvements	*12-WD1101*	1	60,000	70,000	75,000	75,000	75,000	*355,000*
Wellhead Redevelopment Program	*12-WD1102*	2	65,000	70,000	75,000	80,000	82,500	*372,500*
Emergency Generators (Wells)	*12-WD1292*	4	80,000	80,000	80,000			*240,000*
Water Quality Improvements	*12-WQ1101*	3	500,000	750,000	945,000	1,000,000	1,500,000	*4,695,000*
1.0 MG Elevated Water Storage Tower	*13-WD1290*	n/a		2,000,000	390,000			*2,390,000*
Piney Point Well	*13-WD1390*	n/a		450,000				*450,000*
Future Columbia Well Installation	*14-WD1490*	n/a			55,000			*55,000*
Water Treatment Plant Process Improvements	*14-WQ1390*	n/a			150,000	350,000	550,000	*1,050,000*
SCADA Equipment Technology Upgrade	*15-WD1590*	n/a				80,000	80,000	*160,000*
Public Utilities-Water Mgmnt Total			**705,000**	**3,420,000**	**1,770,000**	**1,585,000**	**2,287,500**	***9,767,500***
GRAND TOTAL			**2,278,900**	**5,226,900**	**4,770,600**	**3,305,000**	**3,995,000**	***19,576,400***

DRAFT Capital Investments Plan

FY 12 *thru* **FY 16**

City of Dover, Delaware

Project # **12-WW1101**
Project Name **Inflow/Infiltration Removal**

Type Improvement
Useful Life 50 years
Category Water/Wastewater
New Project: No
Time-Line:

Department Public Utilities-Wastewater Mg
Contact Public Utilities Director
Priority 4
Account Number: 417-6900-569.40-31


SANITARY SEWER INFLOW AND INFILTRATION (I & I) PROBLEMS

Description

Total Project Cost: **$5,675,000**

This project will identify and correct areas in the sanitary sewer collection system that are deteriorating and allowing groundwater to enter the sanitary sewer system through cracked pipes and/or joints. Video investigations of the lines will be performed in-house to determine the condition of subject pipes which may help with the identification of sump pumps and other illicit connections to the system which will have to be removed by individual property owners. In conjunction with the Water Quality Improvement Projects, sanitary sewer lines within the project areas will be video inspected to determine main condition. A work plan will be developed based on the results of the investigation.

Justification

The wet weather experienced in both 2003 and 2009/2010, highlighted the fact that we have an aging wastewater system that requires more attention to the condition of the old pipe network and more monitoring of illicit connections to the system. Inflow and infiltration are problems that all customers pay for since they are costs that are not assigned to an individual customer. Therefore, all customers are affected by expenses related to inflow and infiltration.
Delaying or eliminating this project will result in continued higher treatment charges for wastewater flow to Kent County than is necessary. In addition, the reduction in available capacity in the City and county systems due to inflow and infiltration will reduce the capacity available for future growth.
The wet weather which was experienced in both 2003 and 2009/2010, exemplified the fact that the aging and deteriorating sanitary sewer system allows groundwater and rain water to enter the system. This in turn results in higher treatment charges from Kent County. In FY 2011 a new groundwater inflow adjustment charge was established as a result. It is critical to continue making improvements on a regular and planned basis to improve the integrity of the wastewater system. Weather occurs in a cyclical fashion and discrepancies between fees collected and charges received will likely happen again when groundwater and precipitation levels rise.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Construction/Maintenance	1,000,000	1,000,000	1,250,000	1,175,000	1,250,000	5,675,000
Total	**1,000,000**	**1,000,000**	**1,250,000**	**1,175,000**	**1,250,000**	**5,675,000**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
W/WW Debt Financing	1,000,000	1,000,000	1,250,000	1,175,000	1,250,000	5,675,000
Total	**1,000,000**	**1,000,000**	**1,250,000**	**1,175,000**	**1,250,000**	**5,675,000**

Budget Impact/Other

The project will reduce the operating budget over time due to the reduction in costs for sewage treatment paid to Kent County. All savings are cumulative.

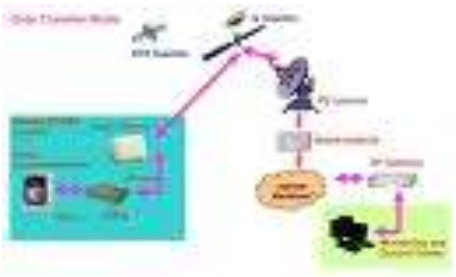
DRAFT Capital Investments Plan

FY 12 *thru* **FY 16**

City of Dover, Delaware

Project # 12-WW1102

Project Name SCADA Equipment Technology Upgrade



Type Improvement
Useful Life 10-12 years
Category Water/Wastewater
New Project: No
Time-Line:

Department Public Utilities-Wastewater Mg
Contact Public Utilities Director
Priority 2
Account Number: 417-6900-569.40-31

Description

Total Project Cost: **$484,800**

This project involves the replacement of antiquated and/or obsolete remote terminal units (RTUs) at sewage pumping stations with new up-to-date serviceable SCADA equipment. Microwave radios, antennas, and enclosures would be upgraded as needed. The RTU and radio are the reporting equipment for the SCADA system (Supervisory Control and Data Acquisition) which reports, on a constant basis, the status of alarms at the City's pumping stations. The RTUs that are being replaced are outdated and unable to be repaired. Most of the equipment is installed in two steel cabinets mounted outside and are corroding. The new equipment is installed within a single fiberglass NEMA 4 enclosure.

Justification

Replace failing antiquated equipment with completely new alarm reporting equipment to provide reliable SCADA system reporting and to prevent the need for costly non budgeted emergency repairs.
Equipment is becoming old, not supported by the manufacturer, and obsolete.
Each Year; order equipment and construct cabinets and back-plates by December; complete installation by June. Stations being completed in FY 2012: DelTech Pump Station, Turnberry Pump Station, Baltray Pump Station, Westminster Pump Station, Emerald Point Pump Station and Kurt Drive Pump Station.
This is an ongoing project that started in FY 2008, and will be completed in FY 2013.

Prior	Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
312,000	Construction/Maintenance	16,000	16,600				32,600
Total	Miscellaneous	68,900	71,300				140,200
	Total	**84,900**	**87,900**				**172,800**

Prior	Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
312,000	W/WW Debt Financing	84,900	87,900				172,800
Total	**Total**	**84,900**	**87,900**				**172,800**

Budget Impact/Other

DRAFT Capital Investments Plan

FY 12 *thru* **FY 16**

City of Dover, Delaware

Project # 12-WW1104

Project Name Lepore Road Pump Station Replacement



Type Improvement
Useful Life 20-25 years
Category Water/Wastewater
New Project: No
Time-Line:

Department Public Utilities-Wastewater Mg
Contact Public Utilities Director
Priority 3
Account Number: 417-6900-569.40-31

Description

Total Project Cost: **$402,000**

A replacement of this station was identified in the 2009 Wastewater Master Plan, and the current proposal is to completely replace the aging station with a new Smith & Loveless Station, as well as address problems in the immediate upstream gravity sanitary sewer lines.

Justification

The existing pumps are oversized and inefficient. Therefore, new pumps will be sized for the correct capacity of the wet well. The brick wet well is subject to the groundwater infiltration. The upstream gravity line has a depression that collects grease.
Delaying or eliminating this project would result in the continued deterioration of the infrastructure necessitating the need for more extensive repairs in the future.
This project will have a slight impact on our Inflow and Infiltration problem.

Prior	Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
52,000	Construction/Maintenance	350,000					350,000
Total	**Total**	**350,000**					**350,000**

Prior	Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
52,000	W/WW Debt Financing	350,000					350,000
Total	**Total**	**350,000**					**350,000**

Budget Impact/Other

DRAFT Capital Investments Plan

FY 12 *thru* **FY 16**

City of Dover, Delaware

Project # 12-WW1105

Project Name Miscellaneous Sewer System Improvements



Type	Improvement	**Department**	Public Utilities-Wastewater Mg
Useful Life	Unknown	**Contact**	Public Utilities Director
Category	Water/Wastewater	**Priority**	1
New Project:	WW1105	**Account Number:**	417-6900-569.40-35
Time-Line:			

Description

Total Project Cost: **$414,500**

This project will primarily address emergency sanitary sewer infrastructure repairs including sanitary sewer mains and laterals within major roadways, major pump station and force main failures and associated appurtenances. These funds can also be used to partner with private developers to oversize future mains or to install associated improvements to meet the long term goals of the utility.

Justification

Emergency repairs are performed by private contractors or in-house crews as dictated by the scope of work. All costs for over sizing will be paid through negotiated cost and public utilities agreements.
Due to the age of the sanitary sewer system, it can be expected that system failures will occur resulting in capital expenses to repair or replace the failed component(s). In addition, missing opportunities to oversize or reroute mains will result in higher construction costs in the future.
Delaying or eliminating this project would result in reduced ability to properly address system failures and missed opportunities to expand the system.
This is an ongoing annual program. Emergency repairs are addressed as they occur.
This project will primarily address emergency sanitary sewer infrastructure repairs including sanitary sewer mains and laterals within major roadways, major pump station and force main failures and associated appurtenances. These funds can also be used to partner with private developers to oversize future mains or to install associated improvements to meet the long term goals of the utility.

Prior	Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
209,500	Construction/Maintenance	37,000	39,000	41,000	43,000	45,000	205,000
Total	**Total**	**37,000**	**39,000**	**41,000**	**43,000**	**45,000**	**205,000**

Prior	Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
209,500	W/WW Debt Financing	37,000	39,000	41,000	43,000	45,000	205,000
Total	**Total**	**37,000**	**39,000**	**41,000**	**43,000**	**45,000**	**205,000**

Budget Impact/Other

DRAFT Capital Investments Plan

FY 12 *thru* **FY 16**

City of Dover, Delaware

Project # **12-WW1290**

Project Name **Baltray Pump State Replacement**



Type Improvement
Useful Life 20-25 years
Category Water/Wastewater
New Project: No
Time-Line:

Department Public Utilities-Wastewater Mg
Contact Public Utilities Director
Priority 6 --
Account Number: 417-6900-569.40-31

Description

Total Project Cost: **$125,000**

The proposed project includes the in kind replacement of the grinder pumping station installed with the construction of the Baltray Subdivision in 1988. The station is approaching its anticipated life expectancy of 20-25 years. The grinder pumps, rail system, and electric controls and communator will be replaced.

Justification

Replace the aging station with new components to prevent the need for costly non budgeted repairs to maintain operation.
Because of the age of the pump station, certain parts are no longer obtainable, and replacement of equipment is costly.
Grinder pumps require periodic repairs and replacement to maintain efficient operation. During previous pump removal, staff has noticed leaking seals and instability in the rail system for the pumps due to corrosion. Although grinder pumps are less costly than standard pumps used elsewhere, they are only appropriate under certain conditions. As a grinder pump is still effective at this location, it will be replaced in kind.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Planning/Design	25,000					25,000
Construction/Maintenance		100,000				100,000
Total	**25,000**	**100,000**				**125,000**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Water/Wastewater Fund	25,000	100,000				125,000
Total	**25,000**	**100,000**				**125,000**

Budget Impact/Other

DRAFT Capital Investments Plan

FY 12 *thru* **FY 16**

City of Dover, Delaware

Project # **12-WW1291**

Project Name **Dover Brook Gardens Pump Station Upgrade**



Type Improvement
Useful Life 20-25 years
Category Water/Wastewater
New Project: No
Time-Line:

Department Public Utilities-Wastewater Mg
Contact Public Utilities Director
Priority 7 --
Account Number: 417-6900-569.40-31

Description

Total Project Cost: **$65,000**

This project would construct a force main priming loop to insure that adequate back pressure is provided to the check valves to maintain prime on the vacuum primed Smith & Loveless pumps and upgrade to maintain or increase capacity. The loop is to create a high point in the force main above the pumps to provide a column of water against the check valves. The existing force main was originally installed with a constant slope away from the station to the receiving gravity sewer manhole. The force main drains by gravity away from the check valves providing very little static water pressure to hold check valves closed.

Justification

Reduce maintenance time of cleaning check valves weekly and on-call or overtime pay when the pumps lose prime.
Staff has observed numerous high wet well alarms due to pump loss of prime. Construction to be provided by in-house crew.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Planning/Design	15,000					15,000
Construction/Maintenance		50,000				50,000
Total	**15,000**	**50,000**				**65,000**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Water/Wastewater Fund	15,000	50,000				65,000
Total	**15,000**	**50,000**				**65,000**

Budget Impact/Other

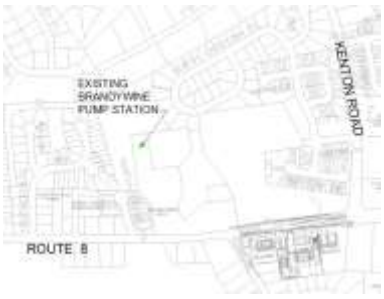
DRAFT Capital Investments Plan

FY 12 *thru* **FY 16**

City of Dover, Delaware

Project # **12-WW1292**

Project Name **Brandywine Pump Station Replacement**



Type Improvement
Useful Life 20-25 years
Category Water/Wastewater
New Project:
Time-Line:

Department Public Utilities-Wastewater Mg
Contact Public Utilities Director
Priority 8 --
Account Number: 417-6900-569.40-31

Description

Total Project Cost: **$402,000**

The proposed project includes the replacement of the Smith & Loveless package pumping station installed in 1977. The station has exceeded its life anticipated expectancy of 20-25 years and is in need of a capacity upgrade due to the increased growth in the basin.

Justification

Replace the aged station with a completely new station to prevent the need for costly non budgeted repairs to maintain operation.
Due to the age of the pump station, certain parts are no longer obtainable, and replacement of equipment is costly.
This station was installed for the Dover Country Club Apartments when City sewer was made available to this area. The site was previously outside the City's service area and had its own onsite sewer treatment system. Over the life span of this station, it has seen increased flows with the construction of Mallard Pond, Marsh Creek, and Westwind Meadows, and the extension of service to Fox Hall Drive and possible infiltration. Based on the monthly runtime hours, the station is currently operating at 130 percent of desired capacity. Staff has observed numerous pump clogs and failures in the past years. The Dover Country Club and Brandywine Condo sewer lines are old and possibly influenced by infiltration.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Planning/Design	52,000					52,000
Construction/Maintenance		350,000				350,000
Total	**52,000**	**350,000**				**402,000**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Water/Wastewater Fund	52,000	350,000				402,000
Total	**52,000**	**350,000**				**402,000**

Budget Impact/Other

DRAFT Capital Investments Plan

FY 12 *thru* **FY 16**

City of Dover, Delaware

Project # **12-WW1293**

Project Name **McKee Road Pump Station Communator Replacement**



Type Improvement
Useful Life 20-25 years
Category Water/Wastewater
New Project: No
Time-Line:

Department Public Utilities-Wastewater Mg
Contact Public Utilities Director
Priority 5
Account Number: 417-6900-569.40-31

Description

Total Project Cost: **$55,000**

The proposed project includes the replacement of the communator at the influent line to the pumping station installed in 1995. This acts as a screen/grinder at the influent side of the station, cutting or stopping large debris from entering the wet well and clogging the pumps. The communator motor has run 24/7 since the initial startup of the pumping station.

Justification

Replace the aging equipment to prevent the need for costly unbudgeted repairs to maintain operation. Unbudgeted costly repairs to communator and damage to a pump when failure occurs. Due to the age of the station, certain parts are no longer obtainable, and replacement of equipment is costly.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Planning/Design	10,000					10,000
Construction/Maintenance		45,000				45,000
Total	**10,000**	**45,000**				**55,000**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Water/Wastewater Fund	10,000	45,000				55,000
Total	**10,000**	**45,000**				**55,000**

Budget Impact/Other

DRAFT Capital Investments Plan

FY 12 *thru* **FY 16**

City of Dover, Delaware

Project # **13-WW1390**

Project Name **Hazlettville Road Interceptor**



Type Improvement
Useful Life 90+ years
Category Water/Wastewater
New Project: Yes
Time-Line:

Department Public Utilities-Wastewater Mg
Contact Public Utilities Director
Priority n/a
Account Number: 417-6900-569.40-35

Description

Total Project Cost: **$770,000**

This project, identified in the 2009 Wastewater Master Plan, identified sections of 15" gravity wastewater main as being overloaded in peak conditions, due to a negative slope in the pipe. This project calls for the upgrade of roughly 1,320 linear feet of wastewater main. The proposed upgrade will install 21" main at proper slope to provide adequate capacity and allow for future growth in the basin.

Justification

This project has been identified by the 2009 Wastewater Master Plan that the section of pipes is flowing nearly full, due to negative slope. This project will allow for proper capacity to handle current flow as well to allow for growth.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Planning/Design		30,000				30,000
Construction/Maintenance			740,000			740,000
Total		**30,000**	**740,000**			**770,000**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Water/Wastewater Fund		30,000	740,000			770,000
Total		**30,000**	**740,000**			**770,000**

Budget Impact/Other

DRAFT Capital Investments Plan

FY 12 *thru* **FY 16**

City of Dover, Delaware

Project # **13-WW1392**

Project Name **Westover Pump Station and Force Main Upgrade**



Type Improvement
Useful Life 20-25 years
Category Water/Wastewater
New Project: No
Time-Line:

Department Public Utilities-Wastewater Mg
Contact Public Utilities Director
Priority n/a
Account Number: 417-6900-569.40-31

Description

Total Project Cost: **$768,800**

The proposed project includes the upgrade of the Smith & Loveless pumping station and force main installed in 1994. The pump station's available capacity will be consumed with the build out of the Village of Cannon Mills and will be in need of additional capacity in order to be able receive additional flow from the west. The project will include replacement of interior six-inch suction and discharge piping with eight-inch pipe, upgrade 1,400 feet of six-inch force main to 12-inch diameter pipe from the station to Electric Avenue.

Justification

Provide adequate capacity to receive additional sewage flow from the immediate vicinity due to development and annexation.
Possible pipe rupture due to high head pressures and water hammer. A rupture could cause the station to flood causing damage to motors and controls or spilling raw sewage into the Puncheon Run stream.
This project is related to the Comprehensive Plan Update.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Planning/Design		65,000				65,000
Construction/Maintenance			703,800			703,800
Total		**65,000**	**703,800**			**768,800**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Water/Wastewater Fund		65,000	703,800			768,800
Total		**65,000**	**703,800**			**768,800**

Budget Impact/Other

DRAFT Capital Investments Plan

FY 12 *thru* **FY 16**

City of Dover, Delaware

Project # **13-WW1393**

Project Name **Dover East Pump Station Abandonment & Sewer Line**



Type Improvement
Useful Life 90+ years
Category Water/Wastewater
New Project: No
Time-Line:

Department Public Utilities-Wastewater Mg
Contact Public Utilities Director
Priority n/a
Account Number: 417-6900-569.40-35

Description

Total Project Cost: **$253,800**

The proposed project includes the abandonment and removal of the existing Smith & Loveless package capsular pumping station. This scope of work will also include the removal of the existing wet well. The station will be eliminated due to the construction to occur on the Rojan Meadows Subdivision site. East Dover MHP will connect to the new Rojan Meadows pump station by installing approximately 400 lf of 12" gravity sanitary sewer. The existing Dover East station has exceeded its anticipated life expectancy of 20-25 years and the removal of this station can be justified because of the pump station being constructed at the Rojan Meadows Subdivision site. The pump station at Rojan Meadows will be sized to handle the Dover East wastewater and will discharge directly into the Central Transmission Bypass.

Justification

The removal of the existing pump station will prevent the need for maintenance, and costly repairs to the system. The gravity sanitary sewer line will be beneficial to the City of Dover because of the low maintenance costs compared to the costs of maintaining and operating the existing pump station.
Maintenance and expense for operating a station is no longer required.
This station was installed with the development of the East Dover Mobile Home Park in 1973.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Planning/Design		40,000				40,000
Construction/Maintenance			213,800			213,800
Total		**40,000**	**213,800**			**253,800**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Water/Wastewater Fund		40,000	213,800			253,800
Total		**40,000**	**213,800**			**253,800**

Budget Impact/Other

DRAFT Capital Investments Plan

FY 12 *thru* **FY 16**

City of Dover, Delaware

Project # **14-WW1580**

Project Name **Lakeview Drive Pump Station Replacement**



Type Improvement
Useful Life 20-25 years
Category Water/Wastewater
New Project: No
Time-Line:

Department Public Utilities-Wastewater Mg
Contact Public Utilities Director
Priority n/a
Account Number: TBD

Description

Total Project Cost: **$502,000**

This project calls for replacement of the Smith & Loveless package pumping station installed in 1971. The station has exceeded its life anticipated expectancy of 20-25 years and is need of a capacity upgrade due to high peak inflow rates.

Justification

Replace the aged station with a completely new station to prevent the need for costly unbudgeted repairs to maintain operation. Due to the age of the station, certain parts are no longer obtainable and replacement of equipment is costly. Design and bid in FY 2014; construction in FY 2015. This station is located within the roadway of Lakeview Drive. The design portion of this project is to address the relocation of this station.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Planning/Design			52,000			52,000
Construction/Maintenance				450,000		450,000
Total			**52,000**	**450,000**		**502,000**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Water/Wastewater Fund			52,000	450,000		502,000
Total			**52,000**	**450,000**		**502,000**

Budget Impact/Other

DRAFT Capital Investments Plan

FY 12 *thru* **FY 16**

City of Dover, Delaware

Project # **15-WW1595**

Project Name **Retreat Pump Station Replacement**



Type Improvement
Useful Life 20-25 years
Category Water/Wastewater
New Project: No
Time-Line:

Department Public Utilities-Wastewater Mg
Contact Public Utilities Director
Priority n/a
Account Number: TBD

Description

Total Project Cost: **$412,500**

The proposed project includes the replacement of the Smith & Loveless package pumping station installed in 1978. The station has exceeded its life expectancy of 20-25 years and is in need of a capacity upgrade due to the increased growth in the basin.

Justification

Replace the aged station with a completely new station to prevent the need for costly non budgeted repairs to maintain operation.
Due to the age of the pump station, certain parts are no longer obtainable and replacement of equipment is costly.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Planning/Design				52,000		52,000
Construction/Maintenance					360,500	360,500
Total				**52,000**	**360,500**	**412,500**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
W/WW Debt Financing					360,500	360,500
Water/Wastewater Fund				52,000		52,000
Total				**52,000**	**360,500**	**412,500**

Budget Impact/Other

DRAFT Capital Investments Plan

FY 12 *thru* **FY 16**

City of Dover, Delaware

Project # **16-WW1590**

Project Name **Rolling Acres Pump Station Replacement**



Type Improvement
Useful Life 20-25 years
Category Water/Wastewater
New Project: No
Time-Line:

Department Public Utilities-Wastewater Mg
Contact Public Utilities Director
Priority n/a
Account Number: 417-6900-569.40-31

Description

Total Project Cost: **$412,500**

This project calls for replacement of the Smith & Loveless package pumping station installed in 1973 in order to handle the commercial areas from Harrington Realty Shopping Center to the Howard Johnson Hotel. The station has exceeded its life anticipated expectancy of 20-25 years and is in need of a capacity upgrade due to the high peak inflow rates.

Justification

Replace the aged station with a completely new station to prevent the need for costly unbudgeted repairs to maintain operation.
Due to the age of the station, certain parts are no longer obtainable, and replacement of equipment is costly.
This station experiences periods of high inflow rates due to the hotel occupancy and is susceptible to possible inflow/infiltration. Staff has observed numerous pump high wet well alarms due to high inflows and increased runtimes during wet months.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total	Future
Planning/Design					52,000	52,000	360,500
Total					**52,000**	**52,000**	**Total**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total	Future
Water/Wastewater Fund					52,000	52,000	360,500
Total					**52,000**	**52,000**	**Total**

Budget Impact/Other

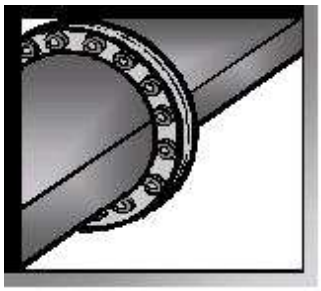
DRAFT Capital Investments Plan

FY 12 *thru* **FY 16**

City of Dover, Delaware

Project # 12-WD1101

Project Name Miscellaneous Distribution System Improvements



Type Improvement
Useful Life Unknown
Category Water/Wastewater
New Project: No
Time-Line:

Department Public Utilities-Water Mgmnt
Contact Public Utilities Director
Priority 1
Account Number: 417-6800-568.40-34

Description

Total Project Cost: **$883,948**

This project will primarily address emergency distribution system infrastructure repairs including water mains and services within major roadways and associated appurtenances. This project will also install improvements identified by the flushing program such as valve insertions and hydrant installations. These funds can also be used to partner with private developers to oversize future mains or to install associated improvements to meet the long term goals of the utility.

Justification

Due to the age of the water system, it can be expected that system failures will occur resulting in capital expenses to repair or replace the failed component(s). Implementing improvements identified by the flushing program will aide in improved operational control of the system. In addition, missing opportunities to oversize or reroute mains will result in higher construction costs in the future.
Delaying or eliminating this project would result in reduced ability to properly address system failures and missed opportunities to expand the distribution system.
This is an ongoing annual program. Emergency repairs are addressed as they occur.
Emergency repairs are performed by private contractors or in-house crews as dictated by the scope of work. All costs for over sizing will be paid through negotiated cost and public utilities agreements.

Prior	Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
528,948	Construction/Maintenance	60,000	70,000	75,000	75,000	75,000	355,000
Total	**Total**	**60,000**	**70,000**	**75,000**	**75,000**	**75,000**	**355,000**

Prior	Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
528,948	W/WW Debt Financing	60,000	70,000	75,000	75,000	75,000	355,000
Total	**Total**	**60,000**	**70,000**	**75,000**	**75,000**	**75,000**	**355,000**

Budget Impact/Other

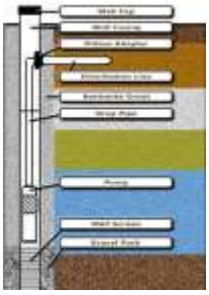
DRAFT Capital Investments Plan

FY 12 *thru* **FY 16**

City of Dover, Delaware

Project # **12-WD1102**

Project Name **Wellhead Redevelopment Program**



Type	Improvement	**Department**	Public Utilities-Water Mgmnt
Useful Life	20-25 years	**Contact**	Public Utilities Director
Category	Water/Wastewater	**Priority**	2
New Project:	No	**Account Number:**	417-6800-568.40-34
Time-Line:			

Description

Total Project Cost: **$768,462**

This project will provide for rehabilitation and repair of each deep wellhead in an effort to maintain operations and/or increase the yield of each well as it relates to the permitted allocation.

Justification

The well screening and gravel pack requires cleaning over time due to a buildup of mineral deposits and foreign materials such as clay and silt. This maintenance effort is critical to ensure that production can continue to meet demand. It is also necessary to maintain the operational aspects of each well and provide repairs as needed to minimize downtime to maintain system capacity.

Delaying or eliminating this project would result in the continued deterioration of the well screen, gravel pack, and well yield over time. It would also result in increased well downtime, emergency repairs, and decreased capacity. These issues can lead to increased flow pattern changes and water quality concerns.

Improved operating efficiencies at the wellhead will slightly reduce power costs, but this savings has not been quantified. FY 2008; total well inspection and testing performed. FY 2009: Motors at Wells #6A and #9 were rebuilt, and wells #13R and #15 were redeveloped. FY 2010: Well #10. FY 2011: Well #4 redevelopment and well piping improvements at various well locations.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Construction/Maintenance	65,000	70,000	75,000	80,000	82,500	372,500
Total	**65,000**	**70,000**	**75,000**	**80,000**	**82,500**	**372,500**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
W/WW Debt Financing	65,000	70,000	75,000	80,000	82,500	372,500
Total	**65,000**	**70,000**	**75,000**	**80,000**	**82,500**	**372,500**

Budget Impact/Other

DRAFT Capital Investments Plan

FY 12 *thru* **FY 16**

City of Dover, Delaware

Project # 12-WD1292

Project Name Emergency Generators (Wells)



Type Equipment
Useful Life 10-12 years
Category Water/Wastewater
New Project: No
Time-Line:

Department Public Utilities-Water Mgmnt
Contact Public Utilities Director
Priority 4
Account Number: 417-6800-568.40-31

Description

Total Project Cost: **$240,000**

This project, identified in the 2006 Water Master Plan Update, would provide emergency generators for large production wells.

Justification

This project will provide emergency power to wells for continued water production and reliability in the event of power disruptions or other emergencies.
Portable or fixed generators are currently not available to most of the deep wells.
All generators purchased will be permanent fixtures at each site. Generator purchased in FY 2012 will support Well #2, FY 2013 will support Well #6 and FY 2014 will support Well #10. Currently, a portable generator is stationed at Well #10, after installation of permanent generator at Well #10; the portable generator will be used at medium sized production wells as needed.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Miscellaneous	80,000	80,000	80,000			240,000
Total	**80,000**	**80,000**	**80,000**			**240,000**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Water/Wastewater Fund	80,000	80,000	80,000			240,000
Total	**80,000**	**80,000**	**80,000**			**240,000**

Budget Impact/Other

DRAFT Capital Investments Plan

FY 12 *thru* **FY 16**

City of Dover, Delaware

Project # **12-WQ1101**

Project Name **Water Quality Improvements**

Type	Improvement	**Department**	Public Utilities-Water Mgmnt
Useful Life	90+ years	**Contact**	Public Utilities Director
Category	Water/Wastewater	**Priority**	3
New Project:	No	**Account Number:**	
Time-Line:			

Description

Total Project Cost: **$4,695,000**

This project was first identified by staff and the 2006 Water Master Plan Update, and has since become further refined with the FY 2006 Water Quality Evaluation. Projects to be included under this category primarily consist of replacement or relining of old unlined cast iron water main within the City's water distribution system; system upgrades to improve system control; and utilization of a consultant to provide additional design and evaluation services, as needed. Recent research and data collections have produced a Water Main Rehabilitation Priority List, based on several criterions to identify water mains that are in need of replacement or relining. Pipes will be upgraded according to the severity of the pipe condition, as well as coordination with the City of Dover's Public Services Street Rehabilitation Program.
Between FY 2008 and FY 2011, the deep well contact chamber designs were completed and installed completed. Water mains have been replaced over this time frame in Washington Street, Pennsylvania Avenue, South Street, Pear Street, West Street, Hazel Road, Maryland Avenue and American Avenue. Operational efforts, such as flushing, will continue to occur on a routine basis.

Justification

Water quality complaints have eroded consumer confidence in the City's water supply as the water is perceived to be aesthetically unpleasant. In order to reduce complaints and potentially alleviate this problem, it is necessary to implement the improvements identified by staff, the 2006 Water Master Plan Update, and the FY 2006 Water Quality Evaluation.
Delaying or eliminating this project will prolong customer dissatisfaction and further erode confidence in the City's water supply. In addition, main rehabilitation and replacement, ensuring pipes do not significantly exceed the expected life cycle, is critical to provide a reliable supply of water for our customers and for fire suppression. Water leaks and breaks on older lines can have a significant impact on our ability to serve over time.
As part of the Water Main Rehabilitation Priority List, water lines were identified throughout the City that requires replacement/relining. Using this as a guide the following water line rehabilitation projects are scheduled for FY 2012: William Street Construction, West Street East Alley Construction, Fairview East & West Alley Design, Lakewood Place Design and Governors Ave. W Alley Design.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Planning/Design	86,000	65,000	50,000	125,000	150,000	476,000
Construction/Maintenance	414,000	685,000	895,000	875,000	1,350,000	4,219,000
Total	**500,000**	**750,000**	**945,000**	**1,000,000**	**1,500,000**	**4,695,000**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
W/WW Debt Financing	500,000	750,000	945,000	1,000,000	1,500,000	4,695,000
Total	**500,000**	**750,000**	**945,000**	**1,000,000**	**1,500,000**	**4,695,000**

Budget Impact/Other

Addressing the brown water and associated water quality concerns of the City's water system will not only require capital improvements to the system but also operational changes. Some operation changes will result in no net effect on the operating budget, while others will need to be addressed in the development of future operating budgets. Such items include tools and supplies necessary to improve system sampling and monitoring as well as tools and supplies necessary to improve system-wide flushing operations.

DRAFT Capital Investments Plan

FY 12 *thru* **FY 16**

City of Dover, Delaware

Project # 13-WD1290

Project Name 1.0 MG Elevated Water Storage Tower



Type	Improvement	**Department**	Public Utilities-Water Mgmnt
Useful Life	90+ years	**Contact**	Public Utilities Director
Category	Water/Wastewater	**Priority**	n/a
New Project:	No	**Account Number:**	417-6800-568.40-31
Time-Line:			

Description

Total Project Cost: **$3,085,000**

The proposed project, identified by staff and confirmed by the 2006 Water Master Plan Update, will construct a new 1.0 million gallon elevated storage tank within the distribution system.

Justification

This project was determined necessary by the 2006 Water Mater Plan Update in order to meet future storage volume requirements based upon demands and to aid in reducing low pressure areas and enhance fire suppression capability. Delaying or eliminating this project will result in preventing growth within the system, particularly, fire suppression measures will be compromised.
This project is related to the Piney Point Well.
Construction is planned for FY 2013 and FY 2014
The planning, site selection and land acquisition was conducted between FY 2009 and FY 2011. For bonding purposes, the construction of the tank has been divided between two fiscal years.

Prior	Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
695,000	Construction/Maintenance		2,000,000	390,000			2,390,000
Total	**Total**		**2,000,000**	**390,000**			**2,390,000**

Prior	Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
695,000	W/WW Debt Financing		2,000,000	390,000			2,390,000
Total	**Total**		**2,000,000**	**390,000**			**2,390,000**

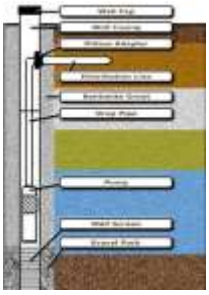
Budget Impact/Other

DRAFT Capital Investments Plan

FY 12 *thru* **FY 16**

City of Dover, Delaware

Project # 13-WD1390
Project Name Piney Point Well



Type	Improvement	**Department**	Public Utilities-Water Mgmnt
Useful Life	50 years	**Contact**	Public Utilities Director
Category	Water/Wastewater	**Priority**	n/a
New Project:		**Account Number:**	
Time-Line:			

Description

Total Project Cost: **$645,000**

This project, identified by staff and confirmed by the 2006 Water Master Plan Update, proposes the drilling of a new Piney Point Aquifer Production Well to increase production capacity up to our current permitted allocation as well as increase system pressure and stabilize the chlorine residuals of the City.

Justification

A reduction in long-term yield from our Piney Point Well is causing a greater reliance on our more costly aquifers.
Delaying or eliminating this project would result in the continued reduction in our production capabilities under our permitted allocation, as well as our ability to meet projected demand increases.
This project is related to the 1.0 MG Elevated Water Storage Tank.
Planning started in FY 2009. Design continued in FY 2010 and FY 2011. Construction to be completed in FY 2013.
The proposed wellhead is planned to be located in Schutte Park. It is intended that the yield from a new production well will allow us to abandon one of our poorly performing wells.

Prior	Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
195,000	Construction/Maintenance		450,000				450,000
Total	**Total**		**450,000**				**450,000**

Prior	Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
195,000	Water/Wastewater Fund		450,000				450,000
Total	**Total**		**450,000**				**450,000**

Budget Impact/Other

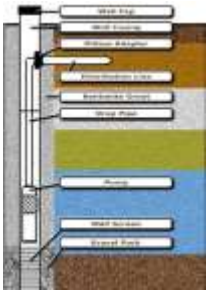
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FY 12 *thru* **FY 16**

City of Dover, Delaware

Project # **14-WD1490**

Project Name **Future Columbia Well Installation**



Type Improvement
Useful Life 20-25 years
Category Water/Wastewater
New Project: No
Time-Line:

Department Public Utilities-Water Mgmnt
Contact Public Utilities Director
Priority n/a
Account Number: 417-6800-568.40-31

Description

Total Project Cost: **$55,000**

This project, identified by staff and confirmed by the 2006 Water Master Plan Update, proposes the drilling of new shallow well to increase production capacity at the Water Treatment Plant to design levels of 5.0 Million Gallons per Day. This project is to be completed in conjunction with the Water Treatment Plant Process Improvements.

Justification

To meet increased water demand and fire suppression requirements.
Delaying or eliminating this project would result in the continued reduction in our production capabilities under our permitted allocation, as well as limiting the City's growth.
This project is related to the Water Treament Plant Process Improvements.
Planning is proposed for FY 2014. Design and site procurement are planned for FY 2017. Construction to be completed in FY 2018.
The specific location of a proposed wellhead has not been determined at this time. The location will be selected in the planning and design phase. In addition, the yield from a new production well may allow us to abandon some of our poorly performing wells. Land costs are based upon the need of 1/4 acre of land for the project. This project will be designed in FY 2014 to coincide with the Water Treatment Plant Process Improvements Design, Construction is planned for FY 18.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Planning/Design			25,000			25,000
Land Acquisition			30,000			30,000
Total			**55,000**			**55,000**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Water/Wastewater Fund			55,000			55,000
Total			**55,000**			**55,000**

Budget Impact/Other

DRAFT Capital Investments Plan

FY 12 *thru* **FY 16**

City of Dover, Delaware

Project # **14-WQ1390**

Project Name **Water Treatment Plant Process Improvements**



Type Improvement
Useful Life 20-25 years
Category Water/Wastewater
New Project: No
Time-Line:

Department Public Utilities-Water Mgmnt
Contact Public Utilities Director
Priority n/a
Account Number: TBD

Description

Total Project Cost: **$1,050,000**

This project, identified in the 2006 Water Master Plan Update, proposes process improvements to the existing Water Treatment Plant. Due to limitations with the Ozone Contactors, the capacity at the Water Treatment Plant is limited to 4.0 Million Gallons per day, as opposed to 5.0 Million Gallons per day, as originally designed. A consultant will be utilized to determine the best means and improvements necessary to increase the capacity. This project is to be performed in conjunction with the future Columbia Well installation.

Justification

Process improvements will allow for capacity enhancements as well as improved ability to meet regulatory requirements. Delaying or eliminating this project can result in production capacity decreases, which could limit growth, and/or regulatory compliance.
Planning is proposed for FY 2014. Construction to begin in FY 2015.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Planning/Design			150,000			150,000
Construction/Maintenance				350,000	550,000	900,000
Total			**150,000**	**350,000**	**550,000**	**1,050,000**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Water/Wastewater Fund			150,000	350,000	550,000	1,050,000
Total			**150,000**	**350,000**	**550,000**	**1,050,000**

Budget Impact/Other

DRAFT Capital Investments Plan

FY 12 *thru* **FY 16**

City of Dover, Delaware

Project # **15-WD1590**

Project Name **SCADA Equipment Technology Upgrade**



Type Equipment
Useful Life 10-12 years
Category Water/Wastewater
New Project: Yes
Time-Line:

Department Public Utilities-Water Mgmnt
Contact Public Utilities Director
Priority n/a
Account Number: 417-6800-568.40-31

Description

Total Project Cost: **$160,000**

This project involves the replacement of antiquated and/or obsolete equipment related to the SCADA (Supervisory Control and Data Acquisition) system, which controls water production. This equipment includes, but not limited to, Remote Telemetry Units (RTUs), Master Telemetry Unit (MTU) and Radios. SCADA is used for reporting, on a constant basis, the status of the City of Dover's water production wells as well as the Water Treatment Plant. The equipment being replaced would be outdated, or unable to be repaired.

Justification

Replace failing and antiquated equipment to improve monitoring ability and system control to comply with regulatory and reporting requirements and to prevent the need for costly non budgeted emergency repairs. Due to the age of some of the equipment, only used parts are available.
Lack of alarms regarding problems at water production wells and the water treatment plant. Failures would provide no advance warnings of failures in the field at water production sites.
Previous Remote Control and Monitoring Projects, Routine operational replacement of old exhausted equipment. Water Treatment Plant Process Improvements.
Each Year: order equipment for delivery by December; complete installation by June.
It is estimated that upgrades will be made at deep well sites and the Water Treatment Plant, as part of this program.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Miscellaneous				80,000	80,000	160,000
Total				**80,000**	**80,000**	**160,000**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Water/Wastewater Fund				80,000	80,000	160,000
Total				**80,000**	**80,000**	**160,000**

Budget Impact/Other

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City of Dover

December Monthly Report

Energy and Operations Management

January 27, 2011

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This Report does contain some forward-looking opinions. Certain unanticipated factors could cause actual results to differ from the opinions contained herein. Forward-looking opinions are based on historical and/or current information that relate to future operations, strategies, financial results or other developments. Some of the unanticipated factors, among others, that could cause the actual results to differ include regulatory developments, technological changes, competitive conditions, new products, general economic conditions, changes in tax laws, adequacy of reserves, credit and other risks associated with City of Dover and/or other third parties, significant changes in interest rates and fluctuations in foreign currency exchange rates.

Further, certain statements, findings and conclusions in this Report are based on Pace Global's interpretations of various contracts. Interpretations of these contracts by legal counsel or a jurisdictional body could differ.

PACE GLOBAL

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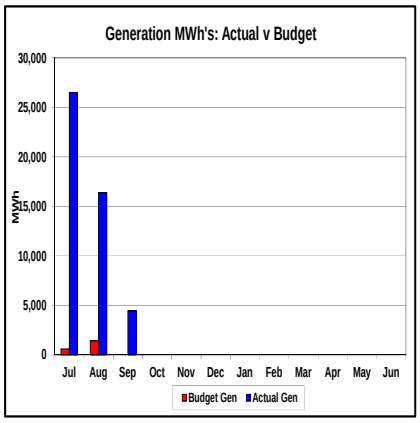
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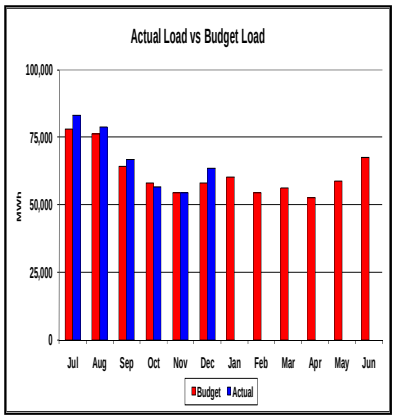
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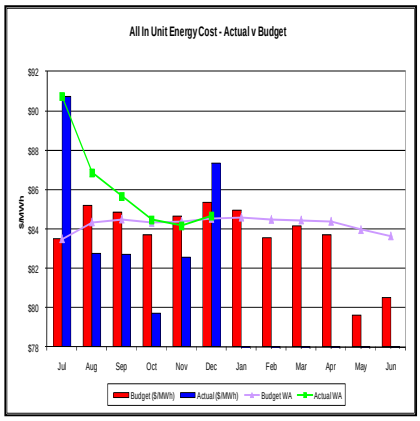
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1.0 – EXECUTIVE SUMMARY







Purchased Power Management

Wholesale load for the month of December was 63,566 MWhs, versus a weather normalized projected load of 58,125 MWhs. Hedged transactions accounted for 48,200 MWhs or 76% of this volume (83% of forecasted load) at a cost of $3.73 million. Spot Market purchases resulted in a PJM charge of $1.33 million (a $1.3 million charge in the Day Ahead market and a $300 thousand charge in the Real Time market). Other PJM related charges accounted for an additional cost of $1.4 million, inclusive of all load related fees. December's Energy Only Unit Cost, excluding capacity obligations and credits, was $1.98/MWh unfavorable compared to the budgeted value of $85.35/MWh. Dover's projected all in Cost of Service for FY2010-2011 is $88.46/MWh, or $2.77/MWh favorable as compared to the Budget[1].

Generation and Asset Management

For the month of December the McKee Run and Van Sant units were not dispatched into the PJM market. A relatively low average for on-peak LMPs during the month demonstrated that the PJM system did not generally require support from peaking units. The budget did not project generation for this month.

Emissions Allowance Management

Given the regulatory uncertainty surrounding the allowance markets, Dover has elected not to include revenues from emission allowance sales in its 2010-2011 fiscal year budget. Dover purchased and retired 53 NO_X seasonal allowances on November 23rd in order to meet its 2010 NO_X seasonal compliance position. Dover has the appropriate number of allowances were set aside for retirement (see Exhibit 1).

[1] The projected all in Cost of Service is based on YTD actual results for 6 months and 6 months of projected costs.

Exhibit 1: Emissions and Allowance Summary through December 31, 2010

2010-2011 EMISSIONS & ALLOWANCE SUMMARY								
		SO_2			NO_x			
Date	Action	Allowance Allocation	Sale Price	Revenue[1]	Allowance Allocation[2]		Sale Price	Revenue[1]
					Seas.	Ann.		
1/1/08	2007 Carryover	549			0	--	--	--
1/1/09	2008 Carryover	2,691			0			
1/1/09	Initial 2009 Allocation	2,723	--	--	51	78	--	--
2/1/10	Initial 2010 Allocation	1,988			49	76		
N/A	2003-2006 Carryover	139						
9/29/09	SO_2 Sales	(1,500)						
11/12/09	NO_X Ann. Sales					(45)		
11/13/09	SO_2 Sales	(1,410)						
11/20/09	NOx Seas. Sales				(25)			
12/31/09	2009 YTD Emissions[3]	(1)	--	--	(6)	(13)	--	--
12/31/10	2010 YTD Emissions	(2)	--	--	(54)	(54)	--	--
6/1/10	State Re-allocation	--	--	--	3	2	--	--
10/31/10	EPA Linearity Testing Req.				(68)	TBD		
11/23/10	Market Purchase				53			
Totals - Allowances		**5,177**	**--**	**$0**	**2**	**44**	**--**	**$0**
								$0
								$0
							Total Revenue	**$0**

Notes:

(1) Revenue calculations account for a $0.50/ton broker fee for SO_2, $10/ton broker fee for NO_x annual and $5/ton broker fee for NO_X seasonal.

(2) Per the Clean Air Interstate Rule, in 2009 NOx emissions will be governed by a seasonal and annual program. The NO_x seasonal emissions pertain only to emissions (May 1 – Sep 30), similar to the previous trading regimen. Annual emissions cover the entire year.

Given current dispatch expectations, the market value of the remaining 2007-2010 Dover allowance inventory is approximately $34,766.25 at the time of this report. This represents 3,191 pre-CAIR SO_2 allowances trading at $9/ton, 1,986 post-CAIR SO_2 allowances[2] trading at

[2] Pace Global is assuming and recommending that Dover retire vintage 2010 SO_2 allowances for their 2010 emissions. Per CAIR, 2010 or later vintage allowances are worth half of a ton for compliance purposes. Given the regulatory and legislative uncertainty surrounding the SO_2 markets, and the greater value 2009 allowances have for compliance purposes, Pace Global recommends retaining 2009 vintage allowances over 2010 vintage allowances when possible.

$5/ton, and 2 NO_x seasonal allowances trading at $25/ton. NO_x annual allowances are currently trading at $345/ton, however after an expected true-up with the 2010 annual season NOx program, Dover does not have any NOx annual allowances in its allowance bank.

EMISSIONS & ALLOWANCE SUMMARY Through December 31, 2010						
Allowance Vintage	Allowance Allocation	Emissions Month	Emissions	Allowances Sold Month	Allowances Sold	Allowance Balance
SO_2 – 2003-06	139[3]	N/A	N/A	0	139	0
SO_2 – 2007	2723	0	98	0	2,455	170[4]
SO_2 – 2008	2723	0	32	0	2,392	299
SO_2 – 2009	2723	0	1	0	0	2722
SO_2 – 2010	1988	0	2	0	0	1986
NO_x – 2007	198	0	32	0	166	0
NO_x – 2008	198	0	20	0	178	0
NO_x Annu – 2009	80	0	13[5]	0	45	22
NO_x Seas – 2009	53	0	6	0	25	0
NO_x Annu – 2010	76	0	54	0	0	22
NO_x Seas – 2010	50	0	54	0	0	0

Operations Management Summary

During the month of December there were no reportable or lost time accidents or injuries. The facility has now gone 78 days without an OSHA recordable accident and 78 consecutive days without a lost time reportable accident. There were zero Environmental Notices of Violations issued and no near miss events. There were no unit dispatches by PJM for the generating Units at McKee Run or the Unit at Van Sant.

Monthly Budget Variance - The actual expenses attributable to O&M of the two sites for the month of December were $650,730. The expenses were $160,215 or 32.66% over the approved budget of $490,515. The principal reasons for the negative variance were due to higher electricity demand charges, increases in Contractual Services and Right of Ways costs, and the costs associated with the repairs of the Unit 3 boiler.

[3] To facilitate tracking of emission allowances, the EPA assigns an identification number and serial number to every allowance. During the allowance transfer transaction, 139 unaccounted SO_2 allowances from vintage years 2003-06 were utilized.

[4] Corrected 2007 SO_2 tons emitted to reflect actual emission for Units 3 & 11. The December 2007 report included emissions for all four units.

[5] Approximately 10 tons of NOx emissions resulted from the February 2010 McKee Run testing associated with the Pollution Remediation project and the June 2010 emission testing project.

Risk Management Summary

Forward PJM power prices were mixed since the last reporting period. Further out fiscal years fell during the period while the more near-term years rose slightly. The mixed prices were driven by cold temperatures across much of the country pushing nearer term prices up. Further out prices fall in large part due to the continued bearish storage picture. Note that the 2010-2011 year also had a higher priced month, January, roll off causing a drop in the average price for the remainder of the year, even though the remaining months increased since the last reporting period. Forward Dover Zone power prices for FY 2010-11 decreased by $4.49 (a decrease of 10.13%) since the last reporting period while FY 2011-2012, FY 2012-2013, FY 2013-2014, and FY 2014-2015 all changed by approximately +$1.02/MWh to -$1.42/MWh (representing a range of 1.97% increase and a 2.54% decrease, respectively) compared with the last reporting period.

The individual years' hedge ratios and Cost-of-Service projections are shown in the table below:

Wholesale Cost-of-Service Summary (Projected)

Date 1/20/2011	**Budget**		**January**			**Dec**	**Nov**
Power Year	Cost-of-Service Budget	Cost-of Service w/Solar Costs Only $/MWh*	Hedge Ratio	Year-to Year Increase	Forecasted over 2009-10 Budget	Cost-of Service $/MWh	Cost-of Service $/MWh
2010-2011	N/A	$85.15	89%	-4.8%	-8.97%	$84.93	$84.98
2011-2012	N/A	$79.52	85%	-7.4%	-15.73%	$79.49	$79.45
2012-2013	N/A	$72.69	76%	-8.7%	-23.09%	$73.04	$73.02
2013-2014	N/A	$70.61	48%	-3.0%	-25.41%	$71.46	$71.49
2014-2015	N/A	$68.94	9%	-2.5%	-27.26%	$70.24	$70.79

**Note that the "Cost-of-Service w/Solar Costs Only" column does not reflect the SREC benefit the City will receive since the SREC prices are currently unknown*

***Assumes solar generation will start in June 2011*

2.0 – BUDGET REPORT

2.1 – VARIANCE REPORT

	Budget Dec-10	Actual Dec-10	Variance Dec-10
Load Forecast	**58,125**	**63,566**	**(5,441)**
Power Supply			
Power Supply	$3,785,224	$3,737,702	$47,522
Power Supply Management	$186,783	$190,422	($3,639)
Capacity Charges - Load	$1,025,694	$1,078,287	($52,593)
PJM Charges - Load	$989,182	$1,623,087	($633,905)
Total - Power Supply	**$5,986,883**	**$6,629,499**	**($642,616)**
Generation			
Plant Operations	$490,515	$650,730	($160,215)
Generation Fuel	$0	$0	$0
Capacity Credits	($1,002,527)	($1,002,528)	$0
PJM Credits	($34,875)	($34,012)	($863)
Total - Generation	**($546,888)**	**($385,810)**	**($161,078)**
Emission Allowance Sales			
Total - Emission Allowance Sales	**$0**	**$0**	**$0**
Total Power Supply & Generation	**$5,439,996**	**$6,243,689**	**($803,694)**
Total Power Supply, Generation & Emission Sales	**$5,439,996**	**$6,243,689**	**($803,694)**
Unit Costs			
Total – Power Supply	$103.00	$104.29	($1.29)
Total - Generation + Emission Sales	($9.41)	($6.07)	($3.34)
Final Cost of Service to City of Dover Ratepayers	**$93.59**	**$98.22**	**($4.63)**

	Budget YTD	Actual YTD	Variance YTD
Load Forecast	**388,917**	**403,114**	**(14,196)**
Power Supply			
Power Supply	$25,641,214	$25,202,312	$438,902
Power Supply Management	$1,158,784	$1,192,945	($34,161)
Capacity Charges - Load	$6,087,992	$6,398,107	($310,115)
PJM Charges - Load	$6,071,508	$7,734,611	($1,663,103)
Total - Power Supply	**$38,959,497**	**$40,527,974**	**($1,568,477)**
Generation			
Plant Operations	$2,670,528	$3,110,417	($439,889)
Generation Fuel	$191,020	$3,138,177	($2,947,157)
Capacity Credits	($5,950,486)	($5,961,780)	$11,294
PJM Credits	($440,748)	($5,278,531)	$4,837,783
Total - Generation	**($3,529,686)**	**($4,991,717)**	**$1,462,031**
Emission Allowance Sales			
Total - Emission Allowance Sales	**$0**	**$3,445**	**($3,445)**
Total Power Supply & Generation	**$35,429,811**	**$35,536,257**	**($106,446)**
Total Power Supply, Generation & Emission Sales	**$35,429,811**	**$35,539,702**	**($109,891)**
Unit Costs			
Total – Power Supply	$100.17	$100.54	($0.36)
Total - Generation + Emission Sales	($9.08)	($12.37)	$3.30
Final Cost of Service to City of Dover Ratepayers	**$91.10**	**$88.16**	**$2.94**

2.2 – VARIANCE ANALYSIS

Power Supply

- Power Supply realized a favorable $47 thousand variance compared to the budget. This favorable variance was primarily due to the timing of Dover's options purchase and payment of the associated premium. During FY2009-10 the City of Dover purchased Options as insurance to protect Dover from incremental energy cost exposure. The current City of Dover power supply and generation budget indicates that 100% of this purchase was expensed as a Power Supply Cost in the FY2009-10 period, however the FY2010-11 budget accrues this expense monthly.

- PJM Charges for Load experienced a negative $634 thousand variance relative to the monthly budget. This variance was driven by Dover's open position, which was 55% higher than budget. A larger volume of open positions, coupled with higher than projected PJM energy open prices, resulted in a total Open Position cost that was $572 thousand greater than budget. Secondary factors associated with this unfavorable variance include: a $96 thousand unfavorable variance in Basis costs, a $55 thousand Transmission Cost increase (in June PJM raised the transmission costs going forward due to the transmission owner's update of its annual network service requirements and rates), a $13 thousand unfavorable variance in Transmission Rights Credits, and a $26 thousand unfavorable variance in PJM ancillary charges. Offsetting these unfavorable variances were a $115 thousand favorable variance in Load Following and a $13.5 thousand favorable variance in the Transmission Loss Refund.

- Capacity Charges for Load realized a negative $53 thousand variance relative to the monthly budget. This variance is the result of PJM finalizing its new prices for the FY 2010-11 PJM Base Residual Auction. These revised prices, which became effective in June 2010, resulted in a 5% increase in the per MW-day UCAP charge applicable to Dover (increasing the rate to $187.34/MW-day). PJM also adjusted the Interruptible Load for Reliability (ILR) resources cost for the Delivery Year relative to the Forecasted RTO IRL Obligation in a manner that negatively impacts Dover. These charges will result in unfavorable variances each month during the current fiscal year.

- For the month an unfavorable $586 thousand net variance between Power Supply (fixed positions) and PJM Charges for Load (open positions, transmission, etc.) was realized due to an unfavorable $459 thousand variance, caused by a change in volume, and an unfavorable $127 thousand variance, caused by a change in price. Hence, 78% of the unfavorable variance can be attributed to volume changes with 22% of the unfavorable variance being attributed to price changes.

- The Power Supply Management variance is merely an estimate at this point.

Generation

- Plant O&M reported an unfavorable variance of $160 thousand compared to the monthly O&M Budget of $491 thousand. The principal reasons for this unfavorable variance were (i) higher than expected electric demand charges, (ii) increases in contractual services and right of ways costs and (iii) unbudgeted repair costs associated with Unit 3 boiler.

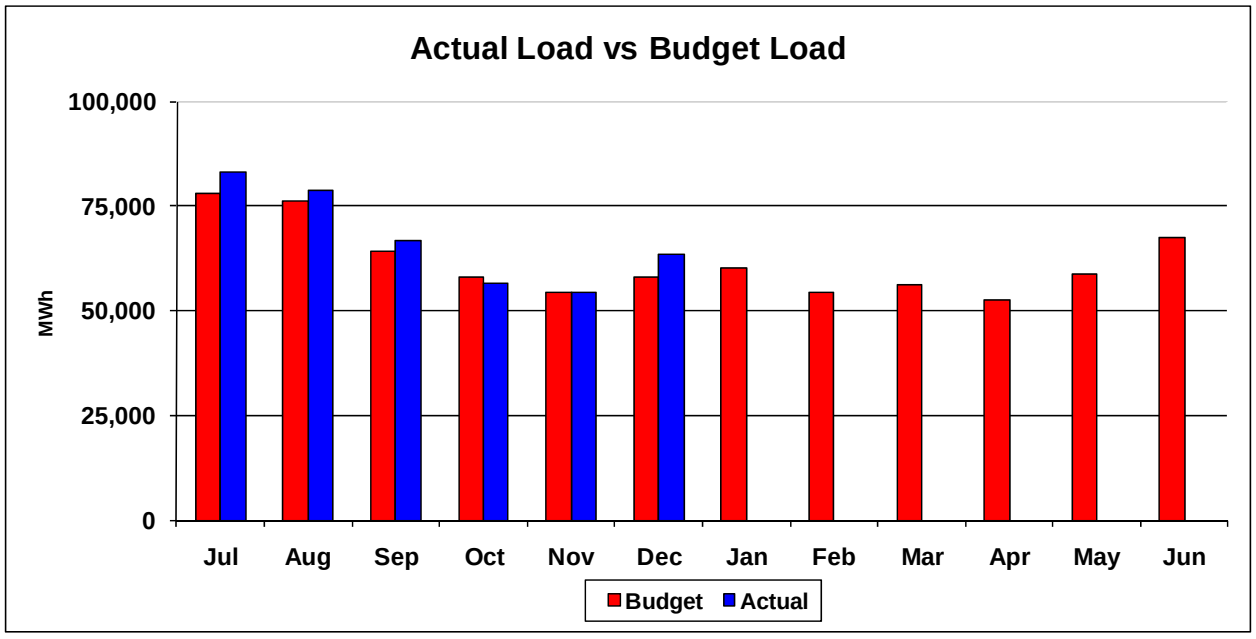
3.0 – ENERGY MANAGEMENT

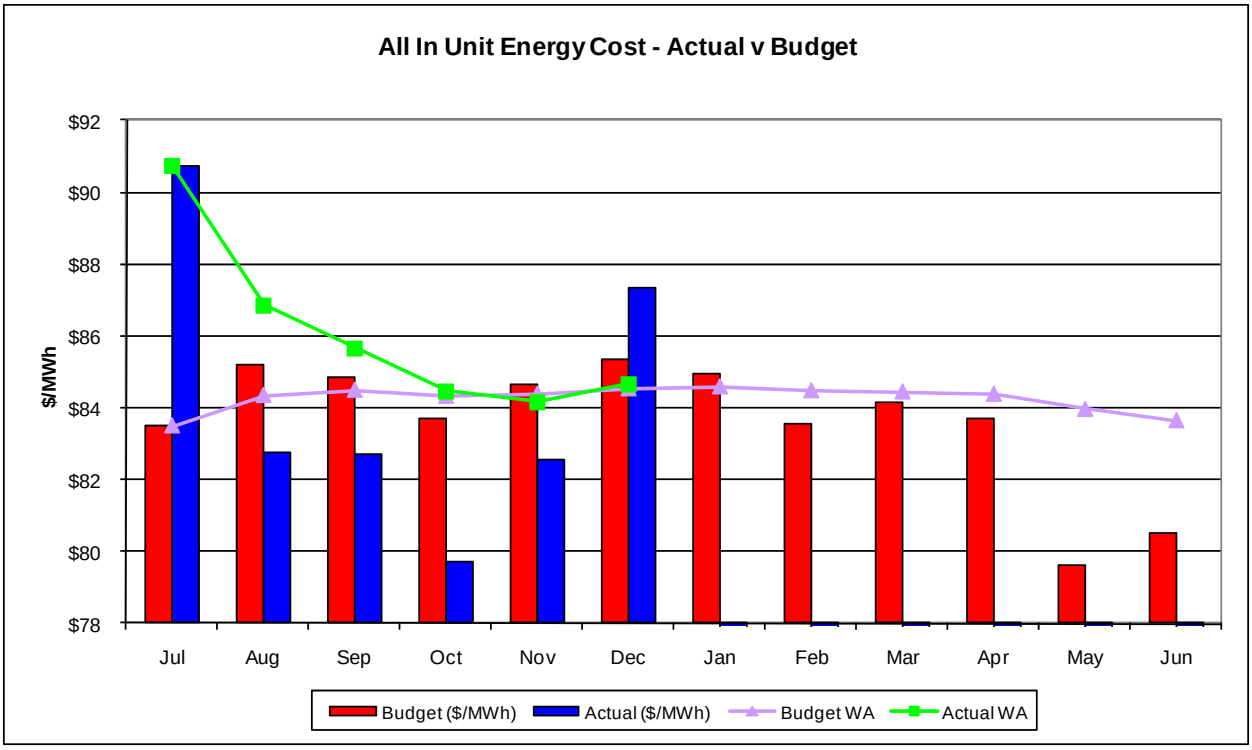
3.1 – PURCHASED POWER

Management Highlights

- Dover's December load was 63,566 MWh, which was 9.3% above the weather normalized load of 58,125 MWh. Hedge volumes accounted for 75.8% of actual load for the month.

- The December All In Unit Energy cost (excluding capacity) of $87.33 per MWh is $1.98 per MWh higher than the monthly budget.




All In Unit Energy Cost - Actual v Budget
$92
$90
$88
$86
$84
$82
$80
$78
$/MWh
Jul
Aug
Sep
Oct
Nov
Dec
Jan
Feb
Mar
Apr
May
Jun
Budget ($/MWh)
Actual ($/MWh)
Budget WA
Actual WA

Purchased Power Variance Report

	Budget Dec-10	Actual Dec-10	Variance Dec-10
City of Dover Load			
Load Obligation (MWh)	58,125	63,566	(5,441)
Unit Energy Costs ($ per MWh)			
Energy Cost (inc. Load Following & Pace Fees)	$79.32	$80.27	($0.95)
Pass Through	$5.09	$6.14	($1.05)
Incentive Fees	$0.95	$0.92	$0.02
Total - All In Unit Energy Cost	**$85.35**	**$87.33**	**($1.98)**

Purchased Power Variance Analysis

- The actual Dover load of 63,566 MWh was 9.3% above the projected December load of 58,125 MWh.

- The All In Unit Energy Cost was $1.98 per MWh higher than budget due to increased open volume purchases, increased energy costs, an unfavorable basis variance and an increased transmission cost. Offsetting these negative variances were increased load following charges and higher than expected transmission related refunds.

- The Management Incentive fee variance on a $/MWh basis is merely an estimate at this point.

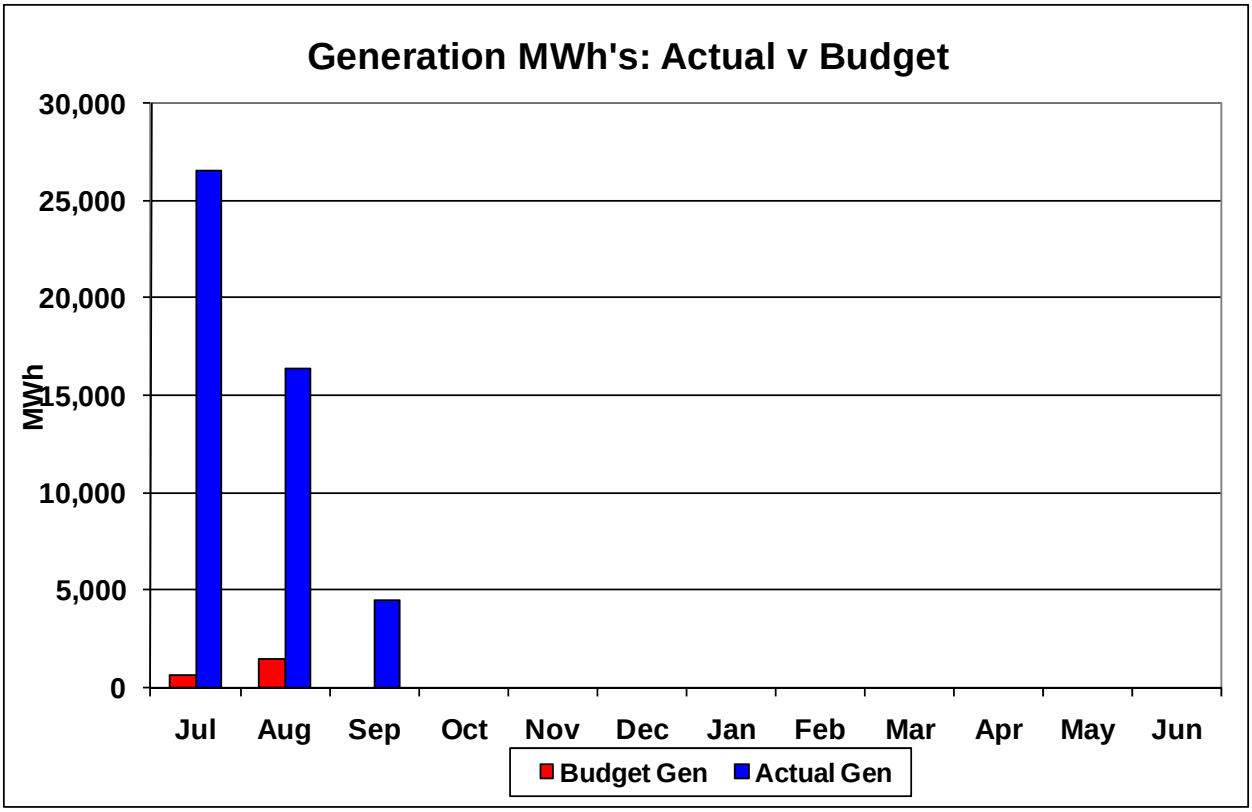
PJM Power Balancing and Load Related Fees

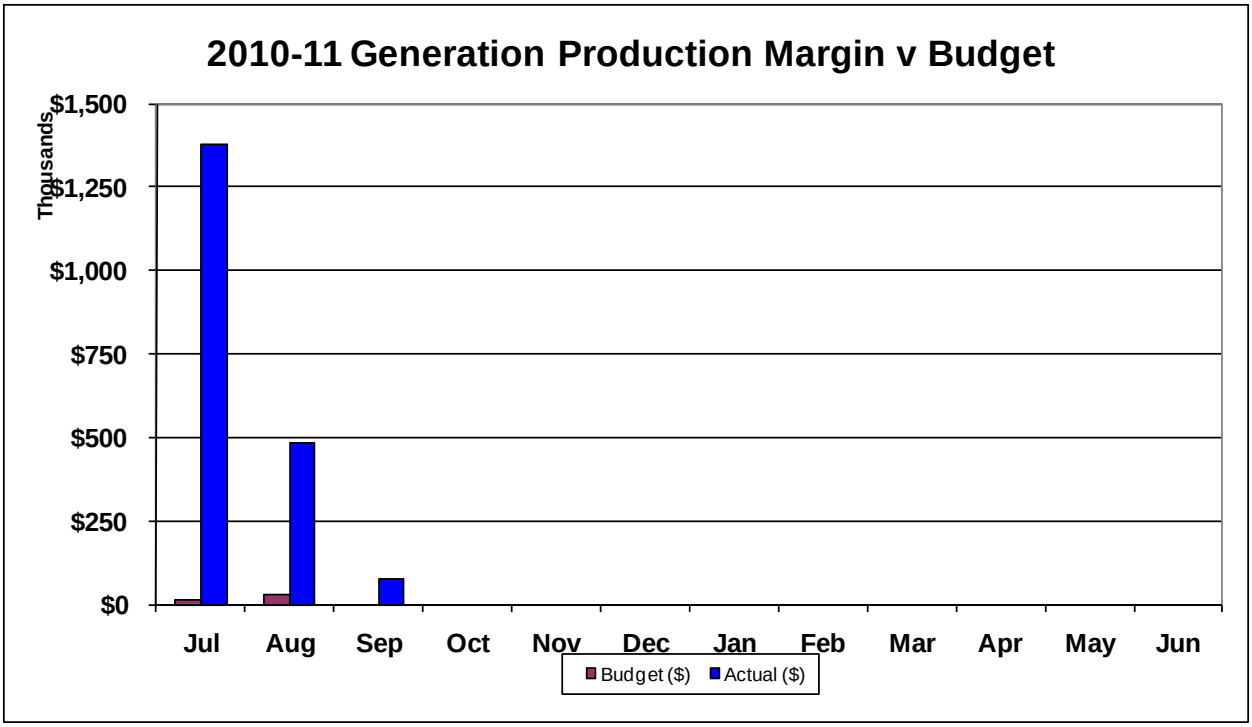
Purchased Power (Hedges): 48,200 MWhs @ $77.54/MWh:	$3,737,702
Power Balancing; Additional PJM, and Energy Manager Fee[6]:	$2,891,797
Total Cost to Serve Load (63,566 MWhs)	$6,629,499
All In $/MWh load cost inclusive of Energy Management Fees:	**$104.29/MWh**

[6] Includes estimated Incentive Fees.

3.2 – GENERATION MANAGEMENT

- During the month, PJM did not dispatch Dover's units into the market. The budget did not expect any generation for the month.




2010-11 Generation Production Margin v Budget
Thousands
$1,500
$1,250
$1,000
$750
$500
$250
$0
Jul
Aug
Sep
Oct
Nov
Dec
Jan
Feb
Mar
Apr
May
Jun
Budget ($)
Actual ($)

Generation Management Variance Report

	Budget Dec-10	Actual Dec-10	Variance Dec-10
Self-Supplied Capacity from Gen (MW)			
McKee Run 1	17	17	0
McKee Run 2	17	17	0
McKee Run 3	100.3	100.3	0
Van Sant	39	39	0
Self Supplied Capacity from Gen (MW)	**173.3**	**173.3**	**0**
Additional Capacity from PJM Incremental Auction	**1.7**	**1.7**	**0**
Total Capacity from Gen (MW)	**175**	**175**	**0**
Gen Capacity Sales to PJM ($/MW.d)	$186.12	$186.12	$0.00
Incremental Auction Sales to PJM ($/MW.d)	$50.00	$50.00	$0.00
Power Sales			
Power Sales (MWh)	0	0	0
Sales Revenue ($ per MWh)	$0.00	$0.00	$0.00
Power Sales Revenue ($)	**$0.00**	**$0.00**	**$0.00**
Variable Fuel & Transport			
Fuel Oil No.2 Volume - McKee (gal)	0	0	0
Fuel Oil No.2 - McKee ($/gal)	$0.00	$0.00	$0.00
Fuel Oil No.2 Cost of Goods Sold - McKee ($)	$0.00	$0.00	$0.00
Fuel Oil No.2 Volume - Van Sant (gal)	0	0	0
Fuel Oil No.2 - Van Sant ($/gal)	$0.00	$0.00	$0.00
Fuel Oil No.2 Cost of Goods Sold - Van Sant ($)	$0.00	$0.00	$0.00
Gas Volume (Dth)	0	0	0
Unit Gas Price ($/Dth)	$0.00	$0.00	$0.00
Variable Gas Cost ($)	$0.00	$0.00	$0.00
Transport ($)	$0.00	$0.00	$0.00
Variable Gas and Transport Costs ($)	$0.00	$0.00	$0.00
Variable Fuel & Transport Costs ($)	**$0.00**	**$0.00**	**$0.00**
Testing	$0.00	$0.00	$0.00
Generation Production Margin	**$0.00**	**$0.00**	**$0.00**
Generation Capacity Payment			
Total - Generation Capacity Payment	**($1,002,527)**	**($1,002,528)**	**$0**

Generation Management Variance Analysis

Fuel Expense

- PJM did not dispatch Dover's units into the market, nor did the units consume natural gas or fuel oil related to power generation.

Generation Production Margin		
Transaction	Volumes	Revenue/(Cost)
PJM Invoice for Power Sold	0 MWhs	$0
Fuel and Transport	0 Dth gas/0 gal #6 oil 0 gal #2 oil	$0
Generation Production Margin	0 MWhs	$0

The following non-production energy revenues and costs are generally fixed and are not directly related to generation dispatch and power production. Effective September 2009 FERC approved the City of Dover's reactive supply service compensation resulting in approximately $29 thousand of revenue per month.

PJM Invoice (Black Start)	$4,545
Reactive Supply Credit	$29,468
Fuel Oil Tank Heating & Black Start Gas Supply	$0
Eastern Shore Demand Charge	$0
Eastern Shore Transport and Imbalance Charge	$0
Transco Demand Charge	$0
Non-Production Energy Revenue/(Costs)	$34,013

Fuel and Transportation

- During the month there were no unit dispatches by PJM.

Date	Volume (Dth)	Price ($/Dth)	Total Commodity Cost ($)
Hess Corp			
Sub-Total	0	$0.00	$0.00
PESCO			
Sub-Total	0	$0.00	$0.00
NJNG			
Sub-Total	0	$0.00	$0.00
Total	**0**	**$0.00**	**$0.00**

Due to the conversion from #6 residual oil to low sulfur #2 oil, the need for a constant supply of natural gas to heat the #6 oil is no longer required. Some gas will still be required for winter space heating of the building(s). Pace will coordinate with NAES on the procurement of such supply. This expense will now fall under the plant's utility costs and be paid and budgeted for by the station.

Gas Transportation Purchased

City of Dover decided not to renew agreements with the Eastern Shore Natural Gas Pipeline ("ESNG") and TransCo to provide firm natural gas deliveries to the McKee Run and Van Sant stations. The City of Dover previously notified ESNG and TransCo of its intent to terminate these existing firm capacity agreements and, as a result, the City no longer pays firm demand charges or adjustments.

ESNG FT Demand Charge	$ 0
TransCo FT Demand Charge	$ 0
Total Purchases	$ 0

Other Gas Purchases

Commodity and transportation imbalances on Eastern Shore Pipeline for the month resulted in no charge. The components of this charge are summarized as follows:

Eastern Shore Transport and Imbalance Charges			
Imbalance/Dth	Estimated Cost/Dth	Estimated Total Cost	
0	$0.00	$0.00	
Transport	Volume/Dth	$/Dth	Total Cost
Firm/IT	0	$0.00	$0.00
Net Charge	$0.00		

Purchased Commodity Fuel Oil Summary

Neither McKee Run nor Van Sant was dispatched into PJM and no #2 fuel oil was consumed for the month. The McKee Run tank must maintain 3 days of load equivalent dispatches for its units.

The McKee Run tank must maintain 3 days of load equivalent dispatches for its units.

Tank Inventory Estimates as of December 31			
Tank	Tank Capacity (gallon)	Inventory In (gallon)	Days of Burn (Typical Dispatch[7])
McKee Run (#2 Fuel Oil)	2,554,105	452,525	3
Van Sant (#2 Fuel Oil)	258,000	140,065	3

[7] As measured by tank level instruments. Tank levels may change due to oil temperature.

3.3 – EMISSIONS AND ALLOWANCE MANAGEMENT

Given the regulatory uncertainty surrounding the allowance markets, Dover has elected not to include revenues from emission allowance sales in its 2010-2011 fiscal year budget. Dover purchased and retired 53 NO_X seasonal allowances on November 23rd in order to meet their 2010 NO_X seasonal compliance position. Dover has the appropriate number of allowances were set aside for retirement (see Exhibit 1).

Exhibit 1: Emissions and Allowance Summary through November 30, 2010

2010-2011 EMISSIONS & ALLOWANCE SUMMARY								
		SO_2			NO_x			
Date	Action	Allowance Allocation	Sale Price	Revenue[1]	Allowance Allocation[2]		Sale Price	Revenue[1]
					Seas.	Ann.		
1/1/08	2007 Carryover	549			0	--	--	--
1/1/09	2008 Carryover	2,691			0			
1/1/09	Initial 2009 Allocation	2,723	--	--	51	78	--	--
2/1/10	Initial 2010 Allocation	1,988			49	76		
N/A	2003-2006 Carryover	139						
9/29/09	SO_2 Sales	(1,500)						
11/12/09	NO_X Ann. Sales					(45)		
11/13/09	SO_2 Sales	(1,410)						
11/20/09	NOx Seas. Sales				(25)			
12/31/09	2009 YTD Emissions[3]	(1)	--	--	(6)	(13)	--	--
12/31/10	2010 YTD Emissions	(2)	--	--	(54)	(54)	--	--
6/1/10	State Re-allocation	--	--	--	3	2	--	--
10/31/10	EPA Linearity Testing Req.				(68)	TBD		
11/23/10	Market Purchase				53			
Totals - Allowances		**5,177**	**--**	**$0**	**2**	**44**	**--**	**$0**



	$0
	$0
Total Revenue	**$0**

Notes:

(1) Revenue calculations account for a $0.50/ton broker fee for SO_2, $10/ton broker fee for NO_x annual and $5/ton broker fee for NO_X seasonal.

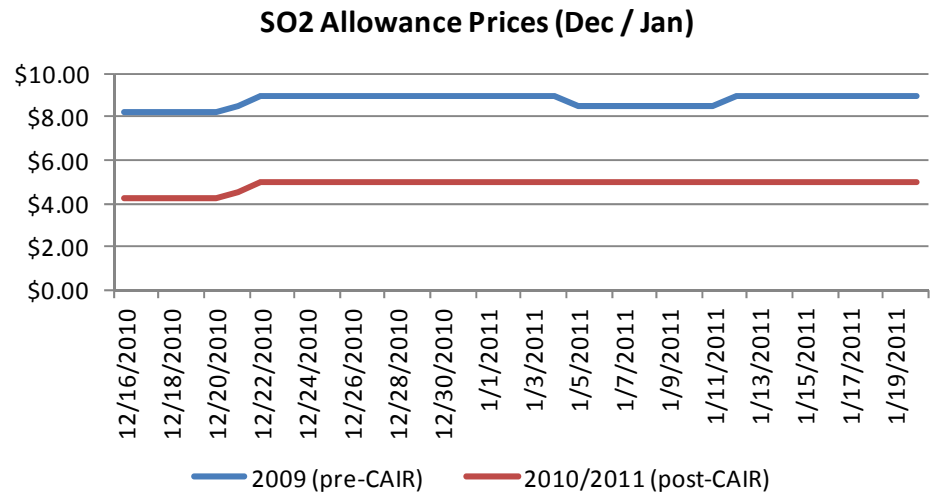
(2) Per the Clean Air Interstate Rule, in 2009 NOx emissions will be governed by a seasonal and annual program. The NO_x seasonal emissions pertain only to emissions (May 1 – Sep 30), similar to the previous trading regimen. Annual emissions cover the entire year.

Given current dispatch expectations, the market value of the remaining 2007-2010 Dover allowance inventory is approximately $38,699 at the time of this report. This represents 3,191 pre-CAIR SO_2 allowances trading at $9/ton, 1,986 post-CAIR SO_2 allowances[8] trading at $5/ton, and 2 NO_x seasonal allowances trading at $25/ton.

SO_2

SO_2 prices continue to hover around $10/ton for vintage 2009 or earlier, and $5/ton for vintage 2010 or later (see Figure 1 – SO2 Prices since Last Monthly Report). No substantial change is expected in the price of SO_2 allowances until either EPA releases a final version of the Clean Air Transport Rule (Transport Rule) or Congress intervenes with legislation. If the Transport Rule is finalized in a form similar to that of the proposed rule, Pace Global's expectation is that the existing bank of SO_2 allowances will not be permitted for compliance.

Figure 1 – SO_2 Prices since Last Monthly Report



NO_x

The NO_X annual allowance market continued to gain momentum and allowances are currently trading at their highest levels since late October 2010 (See Figure 2 – NOX annual prices since last monthly report.) Pace Global is currently working with Dover and NAES in evaluating the potential need to purchase additional NO_X annual allowances to cover Dover's 2010 emissions.

[8] Pace Global is assuming and recommending that Dover retire vintage 2010 SO_2 allowances for their 2010 emissions. Per CAIR, 2010 or later vintage allowances are worth half of a ton for compliance purposes. Given the regulatory and legislative uncertainty surrounding the SO_2 markets and the greater value 2009 allowances have for compliance purposes, Pace Global recommends retaining 2009 vintage allowances over 2010 vintage allowances when possible.

The deadline for purchase and retirement of allowances, should such a transaction be necessary, is March 1, 2011.

NO_X seasonal prices continue to fluctuate between $25/ton and $30/ton and little movement is expected as units generate in the non-ozone-season months (See Figure 3 – NOX seasonal prices since last monthly report.)

Under the proposed Transport Rule, it is unclear how existing NO_X allowances (both annual and seasonal) will be treated for compliance purposes. The rule contemplates a number of methods for dealing with the existing NO_X banks, including permitting use for compliance at a discounted rate. Current expectation is that the existing bank will not be permitted to carry over into the new program.

Figure 2 – NO_X annual prices since last monthly report

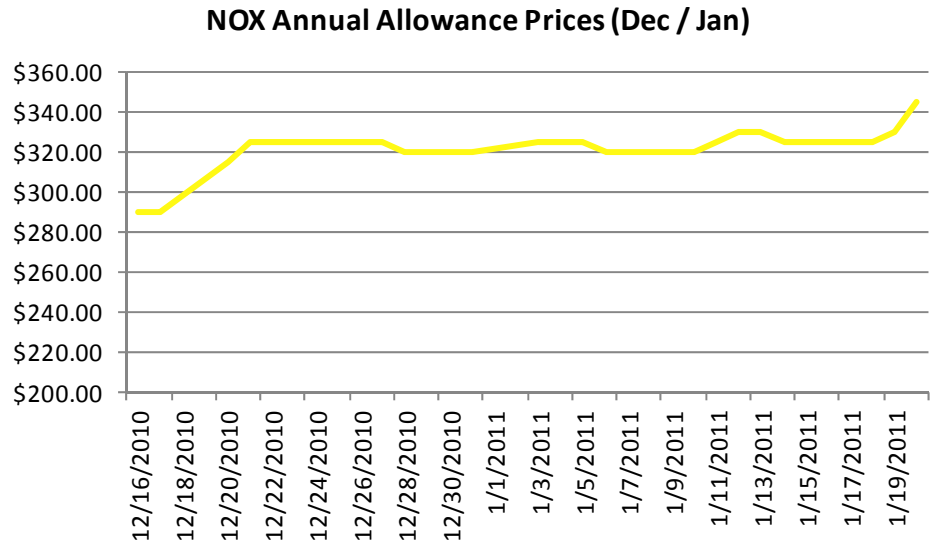
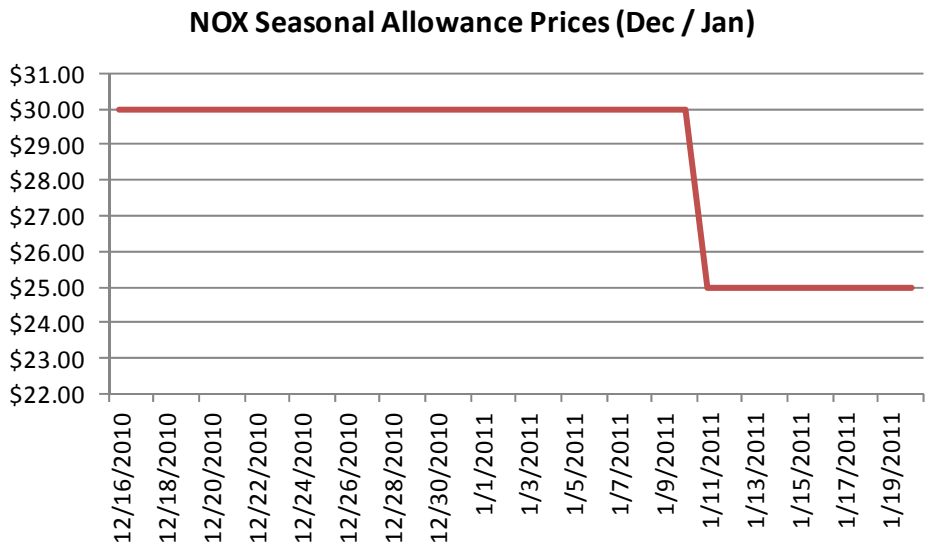


Figure 3 – NO_X seasonal prices since last monthly report



SO_2 and NOx Outlook

The SO_2 and NO_X markets continue to operate in a state of regulatory uncertainty. While the proposed Transport Rule provides some guidance, the final version is not expected to be released until June 2011. EPA recently released some changes and alternative methodologies to those originally included in the proposed rule. On January 7, 2011, EPA issued 2 alternative methodologies for calculating allowance allocations to units covered by the program. The original methodology contemplated in the proposed rule would have calculated allowance allocations based on historical emissions and expected future emissions – determined by an EPA model. Under the original methodology, Dover's two covered units would have received minimal allowances via allocation (See Figure 4 - Dover Allowance Allocation under Original Proposed Transport Rule).

Figure 4 - Dover Allowance Allocation under Original Proposed Transport Rule

Original Transport Rule Allocations				
Plant	**2012 SO2 Allocation**	**2014 SO2 Allocation**	**Annual NOx Allocation**	**Ozone Season NOx Allocation**
McKee Run	2	2	0	14
Van Sant Station	0	0	5	1
Total	2	2	5	15

Under the two alternative methodologies, allowance allocations would be based on a unit's three highest annual heat input values within the previous five years. The second alternative allocation methodology places a limiter on some units if their "reasonably foreseeable maximum emissions" are higher than what they would receive simply using historical heat input. The limiter would not impact Dover directly, but would increase to overall pool from which Dover would be eligible to pull from, thus slightly increasing their total allowances. In either case, Dover receives substantially more allowances under the new proposed allocation methods (see Figure 5 – Allowance Allocations under EPA's Alternative Methodologies.)

Figure 5 – Allowance Allocations under EPA's Alternative Methodologies

New Alternative Transport Rule Allocations: Option 1				
Plant	**2012 SO2 Allocation**	**2014 SO2 Allocation**	**Annual NOx Allocation**	**Ozone Season NOx Allocation**
McKee Run	45	45	36	17
Van Sant Station	3	3	3	1
Total	48	48	38	18

New Alternative Transport Rule Allocations: Option 2				
Plant	**2012 SO2 Allocation**	**2014 SO2 Allocation**	**Annual NOx Allocation**	**Ozone Season NOx Allocation**
McKee Run	50	50	37	17
Van Sant Station	4	4	3	1
Total	53	53	40	19

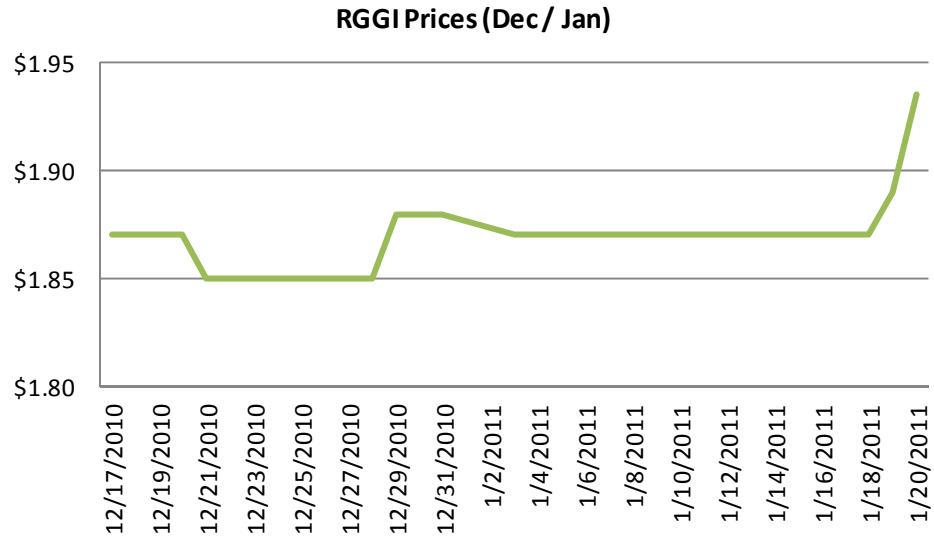
As the 112th Congress settles in, the talk of limiting EPA's existing regulatory authority is increasing. Expectation is that at some point this year Senator Carper (D-DE) will make a push for a "3-pollutant" bill, which would regulate the SO_2 and NO_X emissions markets. It is likely that Carper's bill would provide a smoother transition from the current rules under CAIR than that of the Transport Rule by allowing current allowances to retain some value for future compliance.

Additionally, there have been rumblings amongst the new members of Congress that they will push to siphon EPA's regulatory budget, however those efforts are more likely to be directed at CO_2 regulation than SO_2 and NO_X.

RGGI and Federal Carbon Outlook

RGGI allowance prices continue to flounder around the statutory floor price of $1.86/ton. RGGI is substantially over supplied and as a result allowances prices have remained extremely low (see **Error! Reference source not found.**).

Figure 6 – RGGI Allowance Prices



The conversion potential of RGGI allowances into federal allowance volume in a national carbon market remains the main support for RGGI pricing. However, with major uncertainty surrounding the ultimate ability to pass legislation in the near-term, RGGI allowance prices continue to remain very low. Based on projected generation and emissions, Dover is projected to have an excess of 150,000 allowances through 2013 with a market value at current prices of $291,000. The first true-up period for RGGI will take place on December 31st, 2011.

Despite the high level of uncertainty surrounding carbon legislation, Pace Global continues to anticipate an eventual price on carbon at a national level, although the timing, method, and scope of coverage are all substantially unknown at this time. Pace Global expects carbon regulation to evolve through three main drivers: 1. Legislation; 2. EPA regulation under their existing authority; and 3. Linkage of regional and state initiatives. The third peg of these drivers, regional and state initiatives, got a major boost on December 16, 2010, as the California Air Resource Board approved rules for a cap-and-trade program that will begin in 2012.

The carbon pricing three drivers will likely develop in parallel and, at times, in concert with one another. Through the three drivers, Pace Global anticipates a national price on carbon emissions via a market based system, or combination of systems, beginning sometime between 2014 and 2017.

4.0 – OPERATIONS MANAGEMENT

Management Highlights

- During the month of December, there were no restricted work days or lost time accidents. The facility has now gone 78 days without an OSHA recordable accident and 78 consecutive days without a lost time reportable accident.

- The plant received no Notice of Violations (NOVs). There were no environmental deviations or other permit deviations during the month.

- No units were dispatched by PJM for the month of December.

- Mechanical staff completed the installation of the new atomizing air dryer and installed piping to the existing system to better utilize the new air compressor during times when the unit is off line for economics.

- IC&E staff installed two new batteries for the Van Sant fire protection system control cabinet.

- IC&E staff completed sixteen hours of DCS training from Warren Professionals.

- The draft O&M budget was supplied to Pace Global for review in early December and was approved. The draft FY11-12 budget must be entered into HTE no later than 1/3/2011.

- The following is the NAES Monthly Report as submitted to PGAM.

NAES Corporation
Dover, Delaware

December 2010
Monthly Report



Happy Holidays from McKee Run Generating Station

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1.0 Environmental, Health and Safety

2.0 Financial

3.0 Operations

4.0 Maintenance

5.0 CIP

6.0 General Plant Information

7.0 Summary of NAES Performance

1.0 Environmental, Health and Safety:

During the month of December, there were no restricted work days or lost time accidents. The facility has now gone 78 days without an OSHA recordable accident and 78 consecutive days without a lost time reportable accident.

The plant received no Notice of Violations (NOVs). There were no environmental deviations or other permit deviations during the month.

Environmental, Health and Safety Statistics		
	Month (December 10)	Fiscal Year to Date (7/1/10-6/30/11)
NOVs	0	0
Opacity Deviations	0	9
Environmental Deviations	0	0
OSHA Recordable	0	1
OSHA LTA's	0	0
First Aid cases	0	0
Restricted Workday Accident	0	0
Near Miss	0	3
Man Hours Worked	3,596.00	78,448.75
Date last OSHA Recordable		10/14/10
Date last Lost Time Accident		10/14/10
Days since last OSHA recordable		78
Days since last Lost Time Accident		78

Emissions (NOx & SO2) All data thru 12/31/10

NOx Summary - Year (May-Sept.)Tons					
Year	*Unit #1*	*Unit #2*	*Unit #3*	*Unit #11*	*TOTAL*
2009	0.9	0.7	4.2	0.6	6.4
2010	0.7	2.2	119.2	3.3	125.4
2011	0.0	0.0	0.0	0.0	0.0

NOx Summary - Year (Jan. – Dec.)Tons					
Year	*Unit #1*	*Unit #2*	*Unit #3*	*Unit #11*	*TOTAL*
2009	0.9	0.7	10.1	0.6	12.3
2010	0.7	2.2	119.2	3.3	125.4
2011	0.0	0.0	0.0	0.0	0.0

CAIR NOx Allowances Summary*						
CAIR NOx Allowance Vintage	CAIR NOx Allowances Sold YTD	NOx Allowances Available (Per Facility, Prior to Sale)		Total NOx Tons Emitted (Yr/ Season)	NOx Allowance Balance	
		McKee Run (Yr/Season)	*Van Sant (Yr/Season)*		*McKee Run (Yr/Season)*	*Van Sant (Yr/Season)*
2009	45/25	75*/50*	5/3	12/5 - 1/1	18/19	4/2
2010	0	73/47*	5/3	119**/119** - 3/3	-46/-72	2/0

Note *- State Reallocation for McKee Run 2 tons Year 2009, 2 tons Ozone Season 2009 and 1 ton Ozone Season 2010.

Note ** - The higher NOx emissions are attributed to data substitution rules that use significantly higher emission rates than actually were emitted. The implementation of the data substitution rules were caused by performing a linearity test outside the grace period. NAES ESS was able to provide assistance in reducing the NOx emissions from 137 tons to 119 tons since the October report. They are also investigating another option with the EPA that could reduce the emissions further. As of December 31, 2010, the EPA has informed NAES that they will review the petition once they reconvene in January 2011.

SO_2 Summary - Year (Jan.-Dec.)Tons					
Year	*Unit #1*	*Unit #2*	*Unit #3*	*Unit #11*	*TOTAL*
2009	0.05	0.05	0.1	0.2	0.4
2010	0.0	0.0	0.3	0.0	0.3
2011	0.0	0.0	0.0	0.0	0.0

Note: Denoted data is as of 10/31/2010 from EDR submittal to EPA

SO_2 Allowances Summary					
SO_2 Allowance Vintage	SO_2 Allowances Sold - YTD	SO_2 Allowances Available (Per Unit, Prior to Sale & Reconciliation)		Total SO_2 Tons Emitted – U3 and U11 YTD	SO_2 Allowances Balance
		Unit #3	*Unit #11*		
2003-2006	139	138	1	0	0
2007	2455	2585	138	98	170
2008	2392	2585	138	32	299
2009	0	2585	138	0	2723
2010	0	1850	138	0	1987
2011	0	1850	138	0	1988

Note: Denoted data is as of 12/31/2010

CO2 Allowances Summary*					
CO2 Allowance Vintage	**CO2 Allowances Sold YTD**	**CO2 Allowances Available (Per Facility, Prior to Sale)**		**Total CO2 Tons Emitted**	**CO2 Allowance Balance**
		McKee Run	***Van Sant***		
2009	0	59,805	1,699	5,796	55,708
2010	0	47,844	1,636	32,971	16,509
2011	0	35,883	1,227	0	37,110
2012	0	23,922	818	0	24,740
2013	0	11,961	409	0	12,370

Note: All CO2 allowance values are provided by the RGGI CO2 Allowance Tracking System

2.0 Financial

Financial – Current Month

Month –December 2010			
	Actual	Budget	Variance
Personnel	364,064	359,899	(4,165)
Materials & Supplies	6,044	7,650	1,606
Administrative Expenses	280,622	122,966	(157,656)
Total	**$650,730**	**$490,515**	**($160,215)**

Financial – Fiscal Year to Date

Number of Months - 6			
	Actual	Budget	Variance
Personnel	1,536,436	1,545,489	9,053
Materials & Supplies	174,043	93,570	(80,473)
Administrative Expenses	1,399,939	1,031,469	(368,470)
Total	**$3,110,418**	**$2,670,528**	**($439,890)**

2.1 Variance analysis:

The original budget for December was $490,515. The actual expenses for December were $650,730 for an unfavorable variance of $160,215 or approximately 32.66%. The variance was due to the following:

PERSONNEL EXPENSES – The extension of the current Collective Bargaining Agreement by the company and by the union provided for a wage increase retroactive to July 1, 2010. This increase was expensed in December 2010, although it was offset somewhat by lower labor, overtime, and burdens during the month which contributed to a total unfavorable variance of $4,165.

MATERIALS AND SUPPLIES EXPENSES – A favorable variance of $1,606 was realized due to lower spending in Printing/Duplicating, Medical Supplies and Building Maintenance.

ADMINISTRATIVE EXPENSES - Higher than budgeted expenses in Electric, Contractual Services, Right of Ways/Permits, Boiler Systems and Turbine Generator Systems contributed to an unfavorable variance of $157,656. The variance in the Electric account is due to the increased run time in July, which due to plant equipment configuration change (running auxiliaries off the Unit 3 Start-up Transformer) caused a significant increase in the monthly ratcheting demand charge. Boiler Systems incurred an unfavorable variance due to unexpected costs associated with Unit 3 Boiler tube leak repairs.

The budget is currently forecast to finish this fiscal year at $6,176,631 expensed versus $5,689,315 budgeted thereby realizing a 108.6% expenditure rate. The high expenditure rate is due primarily to increased unit operation time which to a large scale directly led to an increase in electric and water costs over the original budget. In addition, operational limits created a need for alternate auxiliary power sources that resulted in a higher demand charge for electricity which will continue throughout the rest of the fiscal year and into the next fiscal year.

3.0 Operations

Unit Operations / Outages / Trips

No units were dispatched by PJM for the month of December.

Month – December 2010							
		McKee Unit 1	McKee Unit 2	McKee Unit 3	MRS Facility	Van Sant Unit 11	Total All Units
Capacity	MW	17	17	102	136	39	175
On Line Hours	Hrs	0.0	0.0	0.0	0.0	0.0	0.0
Starts	#	0	0	0	0	0	0
Gross Generation	MWh	0.0	0.0	0.0	0.0	0.0	0.0
Net Generation	MWh	0.0	0.0	0.0	0.0	0.0	0.0
Total Auxiliaries	MWh	34.824	34.824	155.209	224.857	8.345	233.202
Auxiliaries purchased	MWh	34.824	34.824	155.209	224.857	8.345	233.202
Fuel Gas Used	MMBTU	0.0	0.0	0.0	0.0	0.0	0.0
Fuel Oil Used	MMBTU	0.0	0.0	0.0	0.0	0.0	0.0
Fuel Oil Used	Gallons	0.0	0.0	0.0	0.0	0.0	0.0
Total Fuel	MMBTU	0.0	0.0	0.0	0.0	0.0	0.0
Net Heat Rate	BTU/KWh	0.0	0.0	0.0	0.0	0.0	0.0
Unit Trips	#	0	0	0	0	0	0
Capacity Factor	%	0.0	0.0	0.0	0.0	0.0	0.0
Availability Factor	%	100.00	100.00	100.00	100.00	100.00	100.00
Commercial Unavailability (CU)	%	0	0	0	0	0	0
Planned Outage Hours	Hours	493.50	493.50	493.50	1,480.50	0.0	1,480.50
Maintenance Outage Hours	Hours	0.0	0.0	0.0	0.0	0.0	0.0
Forced Outage Hours	Hours	0.0	0.0	0.0	0.0	0.0	0.0
Reserve Shutdown Hours	Hours	744.00	744.00	744.00	2,232.00	744.00	2,976.00
HW Boiler Gas Usage	MMBTU				1,250.106		1,250.106
Pilot Gas Usage	MMBTU	0	0		0		0

 # Note: Does not include HWB or Pilot Gas. Fuel usage numbers are taken from fuel flow instruments.

2010-2011 Fiscal Year-to-Date (6 Months)							
		McKee Unit 1	McKee Unit 2	McKee Unit 3	MRS Facility	Van Sant Unit 11	Total All Units
Capacity	MW	17	17	102	136	39	175
On Line Hours	Hrs	13.033	128.966	625.956	767.955	129.627	897.582
Starts	#	1	3	43	47	24	71
Gross Generation	MWh	154.626	1,216.601	44,513.459	45,884.686	4,334.660	50,219.346
Net Generation	MWh	147.111	1,141.623	41,999.488	43,588.222	4,331.722	49,919.944
Total Auxiliaries	MWh	191.947	259.409	4,728.140	5,179.496	19.150	5,198.646
Auxiliaries purchased	MWh	184.432	184.432	2,218.413	2,587.277	16.722	2,603.999
Fuel Gas Used	MMBTU	2,183.250	15,245.850	445,263.451	462,692.551	53,766.951	516,459.501
Fuel Oil Used	MMBTU	0.0	0.0	12,488.410	12,488.410	135.922	12,624.332
Fuel Oil Used	Gallons	0.0	0.0	87,457	87,457	982	88,439
Total Fuel	MMBTU	2,183.250	15,245.850	457,751.861	475,180.961	57,492.169	532,673.130
Net Heat Rate	BTU/KWh	14,841	13,355	11,047	13,081	13,234	13,158
Unit Trips	#	1	0	3	4	2	6
Capacity Factor	%	0.20	1.52	9.14	5.81	2.51	7.07
Availability Factor	%	56.84	69.97	69.83	65.54	100.00	74.16
Commercial Unavailability (CU)	%	6.6	0	0.03*	0.85	0	0.66
Planned Outage Hours	Hours	1,326.500	1,326.500	1,326.500	3,979.500	0.0	3,979.500
Maintenance Outage Hours	Hours	0.0	0.0	0.0	0.0	0.0	0.0
Forced Outage Hours	Hours	579.830	0	6.317	586.15	0	586.15
Reserve Shutdown Hours	Hours	2,510.670	2,961.534	2,529.443	8,001.647	4,287.373	12,288.647
HW Boiler Gas Usage	MMBTU				1,586.1060		1,586.1060
Pilot Gas Usage	MMBTU	0	0		0		0

Note: * Calculation does not include 3.317 hours that were Outside Management Control (OMC)

Capacity Testing – FY 2010-2011					
Summer 2010 (June 1- Aug 31)			**Winter 2010-2011 (Dec 1- Mar 1)**		
Unit	Rated Net Capability (MW)	Reported Net Capability (MW)	Unit	Rated Net Capability (MW)	Reported Net Capability (MW)
1	17	17.20	1	17	*
2	17	18.09	2	17	*
3	102	102.68	3	102	*
VanSant	39	39.30	11	39	*
Total	175	178.67	Total	175	*

Winter Capacity Test Exemption Program
Note: * depicts a unit that has not completed capacity test for the PJM Winter Capacity Demonstration Period in FY 2010-2011. All City of Dover Units were in the revised PJM

Fuel Oil Inventory							
	Monthly Inventory (Start)	Monthly Inventory (End)	Fuel Purchases (Month)	Monthly Inventory (Change)	FY 10-11 Inventory (Start)	Fuel Purchases (YTD)	FY 10-11 Inventory (Change)
McKee Run (#2 Fuel Oil)	454,725	452,525	0	(2,200)	448,556	82,623*	3,969
Van Sant (#2 Fuel Oil)	140,065	140,065	0	0	143,099	0	(3,034)

Note: As measured by tank level instruments. Tank levels may change due to oil temperature.
Note: * An oil purchase was made in October, 2010 for #2 oil to replenish oil stocks used during testing of Unit 3 during the summer period. Approximately 53,000 gallons were received in October 2010 and 30,007 gallons were delivered in the first week of November to complete the purchase.

Van Sant Lifetime through 12/31/10			
	Actual Starts	Factored Starts	Fired Hours
Van Sant	1240	2147.65	4100.86
Since HGP - Dec 2004	189	479.95	717.28

Team Report:

Plant employees continue working on their General Physics topics during the month. The inclusion of these courses has provided opportunities for increased knowledge of plant operations, to satisfy OSHA and PJM requirements, and to build a solid foundation for cross training employees at the City of Dover generation facilities. Many of these courses are included in the Employee Qualification program that will help prepare operators for advancement within the line of progression jobs.

Operation teams have been re-organizing and removing obsolete MSDS sheets to be placed in the inactive files. The notebooks which contain the active MSDS sheets were replaced and new storage area has been provided that will allow for easier access.

Operations teams have been assisting the Maintenance Team in remodeling an office area that was formerly used as a storage area. The area will now be used as an office area for the Materials Coordinator within the main plant. File cabinets, a desk and other support equipment and material have been moved into the office and is almost fully operational.

4.0 Maintenance

During the month of December, plant maintenance staff continued addressing the backlog of work orders. There were sixty-five work orders issued with fifty-three work orders being completed during the month.

The table below summarizes the monthly work order activities.

Work Order Report				
December - 0				
Priority #	Outstanding From Previous Months	Issued This Month	Completed This Month	Outstanding at the end of the month
1	11	1	9	3
2	17	11	9	19
3	37	11	17	31
4	9	10	1	18
5	7	0	0	7
SW1	0	0	0	0
SW2	0	0	0	0
SW3	1	0	0	1
SW4	0	1	0	1
SW5	0	0	0	0
PM	29	31	17	43
Totals	111	65	53	123
Note: PM's are included in the priority totals				

Notable activities during the month include:

1) Mechanical staff completed the installation of the new atomizing air dryer and installed piping to the existing system to better utilize the new air compressor during times when the unit is off line for economics.

2) IC&E staff installed two new batteries for the Van Sant fire protection system control cabinet. Fire protection alarm panel was activated when the batteries reached their serviceable life.

3) IC&E staff completed sixteen hours of DCS training from Warren Professionals. Training was held on the Unit 3 Net 90 system controls. Training consisted of navigation of systems, composer logic to actual hardware, graphic changes, finding components in drawings and navigating around drawings.

4) IC&E staff ran new cable from the Net 90 room to the CEMS room and field landed the new wires for the CEMS ON-Line - fuel being combusted detection.

5) Mechanical staff prefabricated one hundred and twenty linear feet of stainless steel piping for replacement of the hydrogen line feeding units one and two generators. The replacement will be completed during the spring outage when both units are safely degassed for outage work. At that time, the new line will be installed and pressure tested for leaks.

5.0 Capital Improvement Projects (CIP)

Project Number	Description	Update
EG0801	MR Fire Protection System Upgrades	Progress: The project has been completed except for some final training for personnel. Final drawings and documentation would then be supplied to the plant to work towards closing out the project. Schedule: This work was completed in December.
EG0904	MR & VS Arc Flash Analysis	Progress: Additional molded case breakers that will lower the Arc Flash Exposure level have been received for replacement at McKee Run. Once the new breakers have been installed, all breaker cubicles will be relabeled as necessary based on the updated Arc Flash Analysis which would incorporate the new breaker ratings. It is expected that, as a result of all the modifications to the electrical system, a revised plant uniform policy could be implemented based on the final analysis. Schedule: Project is expected to be completed in January.
EG1001	Van Sant Mark IV Controls Upgrade	Progress: This project has been completed. Final review of "as-built" documents from the controls system vendor has been completed. Schedule: The project was closed out in December.
EG1101	Unit 3 Cooling Tower Life Extension	Progress: All electrical equipment and mechanical equipment was tested and checked out for vibration. This work was completed on November 21. Schedule: No other work is planned for this project during the remainder of the fiscal year.
EG1102	Units 1 & 2 Cooling Tower Life Extension	Progress: Work scope to replace the lower decking has been completed and is in the process of going out for bids to be completed in the Spring 2011 Outage. Schedule: Pre-bid meeting and bids are due by the middle of February 2011.
EG1103	Unit 3 Turbine Inspection	Progress: Started on the development of the project work scope documents. Schedule: This project has been deferred until 2011-2012 fiscal year.
EG1104	Unit 3 Aux System Components	Progress: Started on the development of the project work scope documents. Schedule: This project has been deferred until 2011-2012 fiscal year.

EG1105	Miscellaneous Capital Equipment Replacements	Progress: This project is for the unexpected needs that may occur during a budget year that were unexpected due to equipment failure for example. Schedule: The funding is in place. Some funds have been used to cover the cost of the Unit 3 600-lb steam station valve repairs, Unit 3 Cooling Water Booster Pump Repairs, and circuit breakers for the power distribution system.
EG1106	Unit 3 Stack Repairs	Progress: Started on the development of the project work scope document. Schedule: This project has been deferred until 2011-2012 fiscal year.
EG1107	Units 1 & 2 Life Extension	Progress: Started on the development of the project work scope documents. Schedule: This is tentatively scheduled for the Spring Outage 2011. Some of the work has been deferred until the 2011-2012 fiscal year.
EG1108	Unit 1 Forced Outage Repairs	Progress: The repair work has been completed. Schedule: This work is complete and final disposition of the insurance reimbursement submittal is outstanding.
EG1109	Unit 3 FD & ID Fan Damper Upgrade	Progress: Started on the development of the project work scope documents. Schedule: This project has been deferred until 2011-2012 fiscal year.
EG1110	Unit 3 DCS Computers & Software Upgrades	Progress: Started on the development of the project work scope documents. Schedule: This project has been deferred until 2011-2012 fiscal year.
EG1112	Unit 3 Air Heater Expansion Joint	Progress: Started on the development of the project work scope documents. Schedule: This is scheduled for the Spring Outage 2011.
EG1113	Units 1 & 2 Controls Modifications	Progress: Started on the development of the project work scope documents and a parts list is almost ready to send to plant purchasing. Schedule: This is scheduled for the Spring Outage 2011.
EG1114	Unit 3 Gas Line Modifications	Progress: Started on the development of the project work scope documents. Gas valves have been ordered but not received. Schedule: This is scheduled for the Spring Outage 2011.

5.1 CIP Budget

Project Number	Description	Approved Budget ($ X 1000)	Latest Estimate ($ X 1000)
EG0801	MR Fire Protection System Upgrades	50	45
EG0904	MR & VS Arc Flash Analysis Phase II	125	75*
EG1101	Unit 3 Cooling Tower Life Extension	398	380
EG1102	Units 1 & 2 Cooling Tower Life Extension	173	150
EG1103	Unit 3 Turbine Inspection	348	348
EG1104	Unit 3 Aux System Components	113	113
EG1106	Unit 3 Stack Repairs	25	25
EG1107	Units 1 & 2 Life Extension	276	276
EG1108	Unit 1 Forced Outage Repairs	412**	412
EG1109	Unit 3 FD & ID Fan Damper Upgrade	45	45
EG1110	Unit 3 DCS Computers & Software Upgrades	30	30
EG1112	Unit 3 Air Heater Expansion Joint	65##	65
EG1113	Units 1 & 2 Controls Modifications	150##	150
EG1114	Unit 3 Gas Line Modifications	60##	60

* $50K removed and put into O&M budget - $41K was actual Phase I cost. The remaining $75K was put into the 2010 O&M budget.
** This project was not budgeted for 2011.
Project was not in original FY11 CIP but was approved by COD Council in late 2010.

6.0 General Plant Information

Training:

Plant employees continue working on their General Physics topics during the month. The inclusion of these courses has provided opportunities for increased knowledge of plant operations, to satisfy OSHA and PJM requirements, and to build a solid foundation for cross training employees at the City of Dover generation facilities. Many of these courses are included in the Employee Qualification program that will help prepare operators for advancement within the line of progression jobs.

The PJM Generation Systems Operator exam study groups continue to meet during the month with different study topics. The study group focuses on subjects that are covered on the exam. This month's topics were Reserves, Capacity Shortage, Supplementary Status Report, Transmission and Voltage Emergencies.

During the month, new Safety committee members were selected to serve for the year 2011. The Plant Safety Committee consists of representatives from each of the Operations and from the Maintenance Team to aid in ensuring the plant and personnel remain safe by conducting area inspections, performing assessments, and bringing safety ideas and projects to the table that could aid in improving overall plant safety.

Other Events:

The draft budget was supplied to Pace Global for review in early December and was approved. The draft FY11-12 budget must be entered into HTE no later than 1/3/2011. Due to the amount of information needed to be inputted into the COD financial software, a time schedule was developed to ensure enough time is allocated for the data entry process.

Calendar of Events	Date
Winter Capacity Period	December 1, 2010 to February 28, 2011
McKee Run and Van Sant Title V Annual Certification Due	February 1, 2011
NOx Emissions Reconciliation Due	March 1, 2011
SO2 Emissions Reconciliation Due	March 1, 2011
SARA III Report	March 1, 2011
Annual Van Sant Black Start Test	March 2011 (Exact Date TBD)
Units 1, 2, and 3 Spring Outage	March 28, 2011 – May 23, 3011
Unit 11 Spring Outage	March 14, 2011 – March 28, 2011

EIA-923 Report	April 15, 2011
EIA-860 Report	May 15, 2011
Fiscal Year 2010-20011 Ends	June 30, 2011
PJM Summer Capacity Test Period	June 1, 2011- August 31, 2011
McKee Run and Van Sant Title V Semi-Annual Certification Due	August 1, 2011
NOx Ozone Season Starts	May 1, 2011
NOx Ozone Season Ends	September 30, 2011
One Year Accident Free	October 14, 2011
#1 Unit Annual Inspection	October , 2011
#2 Unit Annual Inspection	October , 2011

7.0 Summary of NAES Performance to Date

Plant Performance FY 2010-2011						
Measure	**Month**		**Year to Date**		**YTD Incentive**	**FY Maximum Incentive**
Commercial Unavailability (CU)	0%		0.66%		$63,262	$89,586
Safety	1		1		$8,398	$16,797
Environmental	0		0		$16,797	$16,797
Capacity Tests Completed	Summer	Winter	Summer	Winter		
Unit 1	No	No	Yes	Yes*	$3,360	$3,360
Unit 2	No	No	Yes	Yes*	$3,360	$3,360
Unit 3	No	No	Yes	Yes*	$20,157	$20,157
Unit 11	No	No	Yes	Yes*	$6,719	$6,719
Total YTD Incentive %	77.85%		***Total YTD Incentive***		$122,052	$156,775

Note - * Unit is expected to be in the PJM Winter Capacity Test Exemption Program

APPENDICES

I. PJM INVOICE BREAKDOWN

The PJM bill is a record of all Electricity Transactions, Transmission Services, Ancillary Services and Miscellaneous fees that allow the PJM to operate. Below is a list of the line items on the PJM bill including all generator activity.

PJM Bill Line Items	Gen	Load	Net
Day Ahead Energy	$0.00	($1,296,295.64)	($1,296,295.64)
Real-time Energy	$0.00	($29,910.19)	($29,910.19)
Transmission Losses Credits	$0.00	$93,229.70	$93,229.70
Network Integration Transmission Service Charges	$0.00	($270,028.60)	($270,028.60)
Inadvertent Interchange Charges	$0.00	($944.40)	($944.40)
Regulation Charges	$0.00	($25,272.85)	($25,272.85)
Synchronized Reserve Charges	$0.00	($11,756.37)	($11,756.37)
Balancing Operating Reserves Charges	$0.00	($26,314.26)	($26,314.26)
Day Ahead Operating Reserves Charges	$0.00	($11,085.31)	($11,085.31)
Day-ahead Scheduling Reserve	$0.00	($127.46)	($127.46)
Synchronous Condensing Charges	$0.00	($56.16)	($56.16)
Reactive Services Charges	$0.00	($1,554.76)	($1,554.76)
Meter Correction Charges	$0.00	$125.64	$125.64
Day-ahead Operating Reserve for Load Response	$0.00	$0.00	$0.00
Balancing Operating Reserve for Load Response	$0.00	$0.00	$0.00
Balancing Operating Reserves Credits	$0.00	$0.00	$0.00
Day Ahead Operating Reserves Credits	$0.00	$0.00	$0.00
Locational Reliability Charges	$0.00	($1,080,033.18)	($1,080,033.18)
Capacity Transfer Rights Credits	$0.00	$1,745.61	$1,745.61
Capacity Resource Deficiency Credits	$0.00	$0.31	$0.31
Demand Response and ILR Compliance Penalty Credits	$0.00	$0.00	$0.00
RPM Auction Credits	$1,002,527.60	$0.00	$1,002,527.60
Auction Revenue Rights Credits	$0.00	$31,448.26	$31,448.26
Synchronized Reserve Credits	$0.00	$0.00	$0.00
PJM Scheduling System Control and Dispatch Service Charges	$0.00	($9,882.62)	($9,882.62)
Transmission Owner Scheduling System Control and Dispatch Service Charges	$0.00	($4,856.61)	($4,856.61)
Reactive Supply and Voltage Control from Generation Sources Service Charges	$0.00	($33,905.93)	($33,905.93)
Reactive Supply Credit	$29,467.58	$0.00	$29,467.58
Black Start Service Charges	$0.00	($1,289.64)	($1,289.64)
North American Electric Reliability Corporation (NERC) Charge	$0.00	($529.46)	($529.46)
Reliability First Corporation (RFC) Charges	$0.00	($967.39)	($967.39)
Expansion Cost Recovery Charges	$0.00	($438.03)	($438.03)
Transmission Enhancement Charges	$0.00	($9,673.22)	($9,673.22)
Black Start Service Credits	$4,544.50	$0.00	$4,544.50
Non-Firm Point-to-Point Transmission Service Credits	$0.00	$451.83	$451.83

Generation Deactivation	$0.00	$794.40	$794.40
Market Monitoring Unit (MMU) Funding	$0.00	($330.80)	($330.80)
Organization of PJM States, Inc. (OPSI) Funding	$0.00	($35.97)	($35.97)
FERC Annual Recovery	$0.00	($4,078.73)	($4,078.73)
PJM Annual Membership	$0.00	$0.00	$0.00
EFOR-P	$0.00	$0.00	$0.00
DPL Settlement B	$0.00	$0.32	$0.32
PPA	$0.00	($9,802.88)	($9,802.88)
	$1,036,539.68	**($2,701,374.39)**	**($1,664,834.71)**

II. LOAD, ALL IN ENERGY AND ALL IN COST OF SERVICE TABLE

	Budget Load (MWh)	Actual Load (MWh)	Budget AIE ($/MWh)	Actual AIE ($/MWh)	Actual YTD AIE ($/MWh)	Budget AICS ($/MWh)	Actual AICS ($/MWh)	Actual YTD AICS ($/MWh)
Jul	**77,912**	**83,163**	**$83.50**	**$90.72**	**$90.72**	**$92.25**	**$81.36**	**$81.36**
Aug	**76,267**	**78,755**	**$85.20**	**$82.76**	**$86.85**	**$89.62**	**$83.03**	**$82.17**
Sep	**64,317**	**66,782**	**$84.83**	**$82.73**	**$85.65**	**$90.04**	**$91.13**	**$84.79**
Oct	**58,076**	**56,452**	**$83.68**	**$79.72**	**$84.47**	**$89.77**	**$87.24**	**$85.27**
Nov	**54,220**	**54,396**	**$84.68**	**$82.56**	**$84.17**	**$91.53**	**$91.56**	**$86.28**
Dec	**58,125**	**63,566**	**$85.35**	**$87.33**	**$84.67**	**$93.59**	**$98.22**	**$88.16**
Jan	60,136		$84.94			$92.76		
Feb	54,199		$83.56			$91.20		
Mar	56,334		$84.16			$90.46		
Apr	52,554		$83.69			$91.16		
May	58,744		$79.63			$85.58		
Jun	67,331		$80.51			$96.23		

III. GLOSSARY

Energy Only Unit Cost ("EOU") accounts for the wholesale energy costs **excluding** capacity obligations, capacity credits for Dover-owned generation, generation revenues, generating plant costs, the black start ancillary services credit for the Van Sant plant, and revenues associated with the sale of emission allowances. The AIE includes the costs from settling the hedged or forward transactions; the energy bought on the ISO (Independent System Operator or PJM) day-ahead to cover the open position (un-hedged); load following costs associated with balancing the actual load in the ISO real-time market; energy management service related fees; the ISO transmission charges and credits to load serving entities; the ISO ancillary services charges such as generation regulation, spinning reserve, and reactive power; and the ISO administrative charges and cost of service recovery fees.

All In Cost of Service ("AICS") accounts for the net cost of wholesale power to the City of Dover Electric Utility. The AICS starts with the AIE and adds the costs or credits from capacity obligations, capacity credits for Dover-owned generation, generation revenues, generating plant costs, the black start ancillary services credit for the Van Sant plant, and revenues associated with the sale of emission allowances.

Black Start is a generating ancillary service that is the process of restoring a generating plant to service without the support of an external power supply to power auxiliary equipment needed for start up operations.

Capacity UCAP Obligated Purchased is the obligation and payment by all load serving entities in PJM including Dover for the Unforced Capacity (UCAP) requirement from PJM that satisfies the PJM reserve requirements.

Generation Capacity Credit: is the credit provided to generators for supply capacity to the system. The price is determined by the PJM Reliability Pricing Market auction process that includes three auctions for each capacity year.

Generation Production Margin accounts for the variable margin excluding variable O&M and emissions. The Generation Production Margin is calculated by taking the PJM revenues credited to the plant including any balancing charges or credits less the fuel costs. Generation Production Margin includes both “Economic and reliability dispatch” and “Testing.” Economic and reliability dispatch equals the margin achieved when Dover’s generating plants are dispatched by PJM for either economic dispatch (the system energy price is greater than the Dover bid price) or reliability dispatch whereby PJM pays the generating cost of the plants for the hours the plant is run to support the system. Generation Testing equals the Generation Production Margin associated with testing. This is usually expected to be a negative margin because the plant is potentially being dispatched / run when energy prices do not cover its costs.

Non-Production Revenue equals the credits from PJM to Dover for Generation Capacity Credit, the Black Start Revenue and the sales by Dover of Emission Allowances.