UTILITY COMMITTEE

A G E N D A

November 28, 2011 - 6:00 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. Dedication of Rights-of-Way and Public Infrastructure - Nottingham Meadows Subdivision Phase I

2. Electric Service Handbook Revisions

3. Net Energy Metering Tariff Revision

4. TEA/NAES Monthly Report

5. Adjournment by 6:55 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.

ACTION FORM

PROCEEDING: Utility Committee	**AGENDA ITEM**: 11/28/2011
DEPARTMENT OF ORIGIN: Public Services / Public Works	**DATE SUBMITTED**: 11/18/2011
PREPARED BY: Scott D. Koenig, P.E., City Manager	
SUBJECT: Dedication of Rights-of-Way and Public Infrastructure – Nottingham Meadows Subdivision Phase 1	
REFERENCE: N/A	
RELATED PROJECT: N/A	
APPROVALS: City Manager, Controller/Treasurer	
EXHIBITS: Attachment A – List of Public Improvements to be accepted by the City of Dover Attachment B – Map	
EXPENDITURE REQUIRED: $ N/A	**AMOUNT BUDGETED**: $ N/A
FUNDING SOURCE (Dept./Page in CIP & Budget): N/A	
TIMETABLE: All infrastructure improvements will become the responsibility of the City of Dover upon action by City Council.	
RECOMMENDED ACTION: Acceptance of dedication of rights-of-way and public infrastructure in Phase 1 of the Nottingham Meadows Subdivision. Dedication is to include all of the referenced public improvements.	

BACKGROUND AND ANALYSIS

The Wilmington Trust Company, responsible party for completing the public infrastructure within Phase 1 of Nottingham Meadows Subdivision, has requested that all public infrastructure improvements related to this phase be dedicated to the City of Dover for permanent ownership and maintenance. Attachment A outlines all of the public improvements associated with Phase 1. The total construction value of the public improvements is $1,914,071. Attachment B shows the general location and configuration of the subject rights-of-way. The Wilmington Trust Company completed construction of the improvements within Phase 1 in accordance with City standards and specifications. After construction was completed, City staff inspected the public improvements and developed a list of repairs to be made to meet the City of Dover Standards and Specifications for Public Works Construction. Due to the bankruptcy of Stover Homes, the original developer, the final requirements for dedication were established between the Public Services Manager and The Wilmington Trust Company, the originator of the performance letter of credit. As of this date, all work required by the Public Services Manager has been completed. Since this subdivision was the subject of a bankruptcy a one (1) year Maintenance Agreement and as-built drawings for the infrastructure will not be submitted as part of the dedication process.

DEDICATION OF RIGHTS-OF-WAY AND PUBLIC INFRASTURCTURE
NOTTINGHAM MEADOWS SUBDIVISION PHASE 1

ATTACHMENT A

The following is a list of all public improvements which are to be accepted by the City of Dover:

Sewer Utility Infrastructure (Construction Value = $ 546,780):

10” SDR-35 PVC Sanitary Sewer Main	-	550 l.f.
8” SDR-35 PVC Sanitary Sewer Main	-	4,344 l.f.
6” PVC Sanitary Sewer Laterals	-	2,681 l.f. (78 laterals)
4' Diameter Sanitary Sewer Manholes	-	25 ea. (224.11 v.f.)
Pump Station	-	1 ea.
6” PVC Sanitary Force Main	-	1,894 l.f.

Water Utility Infrastructure (Construction Value = $ 242,516):

8” Ductile Iron (Class 52 Cement Lined) Water Main	-	5,988 l.f.
6” Ductile Iron (Class 52 Cement Lined) Water Main	-	190 l.f.
1” Polyethylene Water Service Lines	-	2,222 l.f. (78 services)
8” Gate Valve	-	16 ea.
6” Hydrant Valve	-	9 ea.
Fire Hydrants	-	9 ea.
2” Blow Off Assembly	-	1 ea.

Storm Water Infrastructure (Construction Value = $ 339,737):

Catch Basins	-	37 ea.
4’ Diameter Storm Sewer Manholes	-	6 ea.
15” Type III Reinforced Concrete Pipe	-	1,673 l.f.
18” Type III Reinforced Concrete Pipe	-	191 l.f.
24” Type III Reinforced Concrete Pipe	-	815 l.f.
30” Type III Reinforced Concrete Pipe	-	162 l.f.
36” Type III Reinforced Concrete Pipe	-	520 l.f.
42” Type III Reinforced Concrete Pipe	-	69 l.f.
Flared End Sections (Concrete)	-	2 ea.

Street Infrastructure (1.0284 miles) (Construction Value = $ 785,038):

Brittingham Drive	Station 0+00 to Station 11+00	1,100 l.f.
Saxondale Lane	Station 0+00 to Station 9+50	950 l.f.
Gillibrook Lane	Station 0+00 to Station 10+00	1,000 l.f.
Beuvale Lane	Station 0+00 to Station 11+40	1,140 l.f.
Derbyshire Avenue / Court	Station 11+50 to Station 23+90	1,240 l.f.

ATTACHMENT B

Nottingham Meadows

Right of Ways to be Dedicated to the City of Dover



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\street_dedication_map_nottingham_meadows
Department: Public Services GIS
City of Dover, Delaware

Legend

Dover Parcels

Right of Way to be Dedicated

ACTION FORM

PROCEEDING: Utility Committee	**AGENDA ITEM NO.:**
DEPARTMENT OF ORIGIN: Public Utilities - Administration	**DATE SUBMITTED**: 11-11-11
PREPARED BY: Ronald H. Lunt, Public Utilities Director	
SUBJECT: Electric Service Handbook Revisions	
REFERENCE: N/A	
RELATED PROJECT: N/A	
APPROVALS: City Manager, Controller/Treasurer	
EXHIBITS: Redlined Electric Service Handbook and Electric Service Handbook Discussion	
EXPENDITURE REQUIRED: N/A	**AMOUNT BUDGETED**: N/A
FUNDING SOURCE (Dept./Page in CIP & Budget): NA	
TIMETABLE: To be effective upon Council Approval.	
RECOMMENDED ACTION: Staff recommends the approval of the revised "Electric Service Handbook", to be effective upon Council approval.	

BACKGROUND AND ANALYSIS

Council approved the attached Electric Service Handbook (Handbook) on May 10, 2010. Staff is recommending changes to this Handbook to clarify issues that have risen during the interim period and changes in the Delaware Code. The attachments to this Action Form show the proposed changes to the Handbook in redline format whereby the black text is original, the colored text is proposed and the colored strikethrough would be deleted.

Generally the intent of the proposed changes are apparent; however, to ensure understanding of the intent of text an attachment titled "Electric Service Handbook Discussion" is attached to provide more in-depth discussion.

These proposed changes will bring the City of Dover policies into compliance with the Delaware Code and have been approved by Mr. Kirk Betts, Attorney, Betts and Holt, LLC.

CITY OF DOVER
ELECTRIC SERVICE HANDBOOK



City Council Approved ~ May 10, 2010

CITY OF DOVER

PUBLIC UTILITIES DEPARTMENT

860 BUTTNER PLACE

DOVER, DE 19901

ELECTRIC SERVICE HANDBOOK

Please contact the following for typical services noted:

CUSTOMER SERVICE *5 East Reed Street* *Dover, DE 19901* *302-736-7035*	*Customer contact to obtain information regarding rates, billing questions, deposits, credit information, application for service, and applying for security lights.*
ELECTRICAL ENGINEERING *City of Dover Public Utilities* *860 Buttner Place* *Dover, DE 19904* *302-736-7070*	*Electricians, contractors, and builders should contact this division regarding initiation of electric services, applications, service requirements and procedures and tentative time schedules.*
EMERGENCY REPAIR *24/7 Service* *302-736-7086*	*Customer outage, voltage problems, street or security light outage, or other electrical related problem or concern.*

STATE APPROVED INSPECTION AGENCIES

This list was the agencies available at the time of publication and only listed for information, others may be available.

AMERICAN INSPECTION AGENCY
3106 Polly Drummond Office Park
Newark, DE 19711
877-242-1300

FIRST STATE INSPECTION
111 S. Race St.
Georgetown, DE 19947
800-468-7338

BUILDING INSPECTION
UNDERWRITERS, INC.
Suite 1-C Liberty Plaza
Newark, DE 19711
800-732-2551
302-266-9057

MIDDLE DEPARTMENT
2024 Ducan Rd.
Wilmington, DE 19802
800-222-6342

~~UNITED INSPECTION AGENCY~~
~~180 Main St.~~
~~Ambler PA 19002~~
~~215-542-9977~~

NATIONAL CODE INSPECTION
14514 Oak Rd.
Greenwood, DE 19950
302-349-9493

CALL MISS UTILITY AT 811 OR 800-282-8555 TO LOCATE THE UNDERGROUND FACILITIES (ALL UTILITIES MAY NOT BE MEMBERS OF THIS ORGANIZATION).

FOR THOSE WHO ARE ABOUT TO DIG ANYWHERE ON THE DELMARVA PENINSULA, THIS ONE CALL ENABLES YOU TO MAKE ONE TOLL FREE TELEPHONE CALL TO HAVE THE MEMBER COMPANIES' FACILITIES LOCATED. TO CHECK ON THE STATUS OF A LOCATE TICKET, GO TO **www.managetickets.com**

PRIVATELY OWNED UTILITIES WILL NOT BE LOCATED BY THE MEMBERS OF THIS ORGIZATION.

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CITY OF DOVER

PUBLIC UTILITIES DEPARTMENT

ELECTRIC SERVICE HANDBOOK

1. GENERAL

I. GENERAL INFORMATION

1. This Handbook is issued as a reference and contains the rules and regulations regarding the requirements, policies, and procedures between customers, contractors, architects, engineers, and the City of Dover Public Utilities Department. The City has the right to change, modify, or charge for services not normally performed to protect the interest of the City and the rate payers.

2. There shall be an Electric Division under the general supervision and authority of the City Manager who shall superintend and have authority over the Electric plant, Electric Distribution System and their appurtenances.

3. The City will endeavor to cooperate in every way in completing service connections as promptly as possible and will give special attention to unusual problems which may confront the customer, contractor, architect or engineer. The City reserves the right to change service requirements where non-standard circumstances exist.

4. Observance of the requirements contained herein will enable the City to render prompt and satisfactory service. Assistance in the interpretation or clarification of these requirements may be obtained by contacting the City at 302-736-7070.

5. These requirements do not replace, but are supplemental to, the ordinances adopted by the Dover City Council, your elected officials which set the policy for the City of Dover Public Utilities.

6. The City shall not be liable for damages resulting from the presence of electric current associated with the City's equipment on the customer's premises, or from the use of electric service of the City by the customer.

7. The City may from time to time supplement, alter or otherwise change the policies contained herein as may be necessitated by changing conditions, for the protection of the interest of the customer, the City or the general public. It will be the responsibility of the contractor, electrician, developer, etc., to obtain and keep current their copy of this handbook.

8. The standard electric service supplied by the City is alternating current with a nominal frequency of 60 hertz (cycles per second).

9. As the voltage, number of phases and type of metering which can be supplied depends upon the City's facilities available at or near the customer's location, the CUSTOMER SHALL CONSULT THE CITY ELECTRICAL ENGINEERING DIVISION before proceeding with the purchase or installation of wiring or equipment.

10. THE CITY DOES NOT GUARANTEE CONTINUOUS ELECTRIC SERVICE AND WILL NOT BE LIABLE FOR ANY LOSS, COST, DAMAGE OR EXPENSE TO ANY CUSTOMER OCCASIONED BY AN INTERRUPTION, LOSS OF PHASE OR PHASE REVERSAL IF DUE TO ANY CAUSE BEYOND THE REASONABLE CONTROL OF THE CITY.

11. When it becomes necessary to make repairs to or changes in the City's electric system the City may suspend the delivery of service for such periods as may be reasonably necessary without incurring any liability because of such service interruption. However, when possible the City will make every reasonable effort to schedule such repairs and changes with its customers.

12. The customer is responsible for trimming trees on private property to provide necessary clearance for electric service drops. This should only be done by qualified persons familiar with this type of work. The City will assist removing tree limbs which have broken and are lying on the service drop upon request.

13. In all cases where new installations or alterations or additions to existing installation are to be made, the City Electric Engineering Division must also be consulted with regard to the size and character of the anticipated electric load so that Engineering may advise the customer about the electric facilities available at their specific location. These consultations are distinctly advantageous to the customer or representatives so that errors in equipment ratings and any deficiency in electric service capacity available at a given location may be avoided. Advance consultation may also avoid unnecessary additional expense or delays on the part of the customer or their contractor.

14. Furnishing electric service to a prospective customer is necessarily dependent upon the ability to obtain adequate rights-of-way and/or easements for this purpose from the customer.

15. Service entrance, meter and wiring on temporary installations shall be installed in the same manner as for permanent installations.

DEFINITIONS

Terms used in this document shall have the following meanings:

1. **APPROVED**, when referring to an customers electrical installation, shall have met the requirements of an authorized inspection agency. "Approved" when referring to equipment or material, shall have met the standards of a recognized laboratory, or a standard/design recognized by the City of Dover.

2. **CITY**, as used throughout this handbook refers to the City of Dover Public Utilities Department – Electric Division.

3. **CONDUCTOR – SERVICE,** shall mean overhead or underground electric conductors and appurtenances located between the last pole or underground terminal of the City's electric power conveyance system and the point of connection with the customer's electric wiring.

4. **CUSTOMER,** is used to designate either the present or the prospective user of the City's electric service.

5. **ELECTRIC APPARATUS** shall mean any condenser, conductor, transformer, adapter, electrical generator, electrical appliance or any article through which or by means of which electricity is carried, consumed or created.

6. **ELECTRIC DEPARTMENT** shall mean that Department of the City of Dover authorized by Section 25 of the Dover Charter (1961) that supplies electric power to the City and its inhabitants and certain other customers.

7. **ELECTRIC WIRING** shall mean any wiring which, at any time, is used to conduct electric current or energy.

8. **GENERAL MASTER ELECTRICIAN**, shall mean a person engaged in the business of, or holding himself out to the public as engaged in the business of installing, erecting and repairing, or contracting to install, erect or repair, electric wire or conductors to be used for the transmission of electric current for electric light, heat or power purposes, or moldings, ducts, raceways or conduits for the reception or protection of those wires or conductors, or to electrical machinery, apparatus, devices or fixtures to be used for electric light, heat or power purposes, or planning, estimating or laying out and supervising that electrical work as licensed by the State of Delaware.

9. **GROUP METERING,** refers to those meter installations at multiple occupancy buildings where the individual meters for the several customers are arranged in a bank or grouping in the same area, and are energized from the same service point.

10. **INSPECTION AGENCY** means the person or agency duly authorized by the City of Dover and licensed by the State of Delaware to make such inspections. The City will render service only after receipt by the City of a notice of approval issued by a recognized inspection agency.

11. **MASTER ELECTRICIAN LIMITED,** typically shall mean any person engaged in house wiring, limited to no more than four (4) family dwelling as licensed by the State of Delaware; however, please refer to the State of Delaware for current definition.

12. **NATIONAL ELECTRICAL CODE (N.E.C.)** - Latest Edition shall mean the National Electrical Code suggested for adoption by the National Fire Protection Association.

13. **NATIONAL ELECTRICAL SAFETY CODE (N.E.S.C.)** - Latest Edition, shall mean the National Electrical Safety Code approved by the American National Standards Institute (ANSI).

14. **NON-RESIDENTIAL,** shall mean a place of business, public service, utility service, private service, lighting service, apartment home, apartment building, condominiums and any other service not installed to feed an individual residence. All services shall be individually metered.

15. **PRIMARY SERVICE,** defined as conductors and equipment rated for voltages greater than 750 volts.

16. **RESIDENTIAL,** shall mean a structure, dwelling or home in which one (1) electrical service is run to feed an individual customer.

17. **SEASONAL ELECTRICAL SERVICE** shall mean electric service required for a period of less than one (1) year at a permanent location or at the same location annually for a season of the year.

18. **SERVICE,** has several meanings, depending upon its contextual use.

a. It may be used as a general reference to the supply of energy by the City for the use by the customer.

b. It may refer to the conductors which physically connect the utility lines and the customer's electric facilities. These may be primary or secondary voltage, and overhead or underground. When underground, the service is generally called an "Underground Service". When overhead, the service is generally called an "Overhead Service".

c. It may mean the actual physical tie, or the act of making that physical tie between the City's distribution or service conductors and the customer's electric facilities. This is more generally known as a "Service Connection".

19. **SERVICE ENTRANCE,** refers to the customer owned cable/equipment (generally conductors, overhead and underground conduit, and meter socket) which is located between their service connection and the service receiving equipment (main switch, distribution panel, load center, etc.).

20. **STARTING CURRENT**, when this term is applied to a motor or other electrical device, means the maximum current per phase drawn by the motor or device.

21. **UNDERWRITERS OR MIDDLE DEPARTMENT** shall mean the Middle Department Association of Fire Underwriters.

22. **UNDERWRITERS LABORATORIES, INC.,** shall mean the Underwriters Laboratories, Inc., 207 East Ohio Street, Chicago, Illinois 60611.

SUPPLY VOLTAGES

1. In this Handbook, all references to voltages are standards or nominal voltages and actual voltages supplied may vary above or below these values within the limits prescribed by accepted good practice and the regulatory authorities having jurisdiction. Generally, voltage should stay within plus or minus ten percent of nominal voltage. The City may specify the voltage and the minimum and maximum load that it will supply at any particular voltage. The Customer is responsible for using appliances of the correct voltage rating (240V motors are not to be used with 208Y/120 volt).

2. Not all types of electric service listed below are available at all locations. Subject to limitations, the class of secondary electric service available, with the nominal voltages are:

CLASS OF SERVICE

Single-phase	3 wire	120/240 volts
Three-phase	3 wire	480 volts
Three-phase	4 wire	208Y/120 volts
Three-phase	4 wire	480Y/277 volts

3. Existing 120/240 volt Three Phase services will be maintained until such time the service is upgraded, changed or disconnected.

4. Primary electric service also may be available at 12470/7200 volt dependent upon location and size or type the load to be served. Such electric service may be made available under suitable contractual arrangements, as determined by the City under the applicable electric service ordinances, rules and regulations, and electric tariffs approved by City Council.

INSPECTIONS

1. All new wiring and equipment, or changes in wiring and equipment, must be installed in accordance with the latest edition of the National Electrical Code (N.E.C.) and the City's requirements in order to be approved for connection to the City's electric system.

2. The City will render electric service from its distribution system to the new facilities of a customer only after receipt by the City of a notice of approval issued by a State of Delaware recognized electrical inspection agency.

3. Any changes in or additions to, the original wiring and equipment of the customer shall be subject to the requirements stated above.

4. The City may refuse to render service to a customer where it has knowledge of, or reason to believe, that the customer's wiring or equipment does not comply with recognized requirements. The City shall be under no obligation to inspect the wiring and equipment of any customer.

5. Inspections, when made by the City, are to insure compliance with its own requirements and to cooperate with customers, contractors, architects and engineers. The City does not assume the responsibility for the customer's wiring or equipment or for any loss, injury, or damage that may result from any defects that may exist in the customer's wiring or equipment.

6. The City will issue an inspection wavier only for an existing service and will only be issued to the owner or approved licensed electrician. Waivers will only be issued when the City determines the connection is an emergency. Waivers must be cleared through a follow up inspection within 15 calendar days. If the wavier is not cleared within 15 calendar days, the service will be disconnected.

II. SERVICES AND EXTENSIONS

EXTENSIONS

The City of Dover will extend and maintain the service to a point of connection determined within the service classification. Extension materials will be provided only by the City of Dover.

1. Residential Overhead - The city will extend its system to the service mast or service drop attachment;

2. Residential Underground - The city will extend its system to the meter enclosure;

3. Commercial Overhead - The customer will be responsible for the service to the nearest point of connection, generally at or near the property line;

4. Commercial Underground - The customer will be responsible for the service to the nearest point of connection, generally at or near the property line.

EXTENSIONS – RESIDENTIAL AND NON-RESIDENTIAL

Extensions underground & overhead (overhead only allowed under special circumstances with final determination and approval, solely determined by the City) will be designed by the Engineering department to the point of ownership designated in the service classification. Service point locations will be determined by the City and the City will extend the service to the designated point of connection.

Non-residential – The owner/developer shall supply and install all conduits per City of Dover design and standards. The Owner/Developer will be responsible to pick up and install all below grade equipment, pads and pedestals per the City of Dover specifications. The owner/developer will be responsible for 100% of the material/equipment cost; however, the City will continue to own and maintain this equipment. The City will not accept or install any materials supplied by the contractor or customer.

Residential developments having more than one home will have a set fee determined annually based on 100% material costs for a City determined average development. The Developer will be responsible to supply and install all conduits per City of Dover design and standards. The developer will be responsible to pick up and install all below grade equipment, pads and pedestals per the City of Dover specifications. Current fee for developments having more than one (1) home is **$1100.00** per lot. Due to the size of some developments, the extension fees may be paid on a mutually agreeable lot phasing plan. These fees will be subject to the "per lot" fee at time of payment.

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Single residential homes not part of a group development shall supply and install all conduits per City of Dover design and standards. The Owner/Developer will be responsible to pick up and install all below grade equipment, pads and pedestals per the City of Dover specifications. The owner/developer will be responsible for 100% of the material/equipment cost.

SERVICES – RESIDENTIAL AND COMMERCIAL

All new services will be installed underground to the City's designated point of connection. Any upgrades, alterations, or changes being made to an existing overhead service may require the owner at their expense to bury the overhead lines to underground. NO service shall be tampered with in anyway.

Customers may request to have the service disconnected or request to have the meter seal removed by a qualified electrician to make repairs on the customer owned facility. Any changes or repairs that require the neutral of the service to be broken will require an electrical inspection. All services must be in accordance with latest version of NEC and NESC.

Should an existing service require a service mast, the following will apply. Service masts of galvanized steel conduit or other metal masts of equivalent strength may be used. Minimum size acceptable is 2 inch galvanized rigid conduit and shall normally be limited to a height of 3 feet above the roof without guying, for up to a 200 amp service. The attachment for the overhead service shall be supplied by the customer/contractor. Service drop wires should be installed over buildings and roofs as per N.E.C. No service drop will be installed over a swimming pool.

MOBILE HOME PARKS

All applicable provisions of this Article shall apply to electric service in mobile home parks. Mobile home park operators shall comply with this handbook. Since July 1, 1982, all mobile home parks shall not be installed under a "single meter" service classification which means they are prohibited from reselling electric power. All mobile homes must also conform to the N.E.C. regulations for mobile homes, and any changes necessary will be at the expense of the owner.

The mobile home park operator is responsible for contacting the City for the design of the electrical distribution system at the mobile home park so as to permit the delivery of energy through individual meters to each mobile home tenant.

The City will supply all facilities as required up to and including the meter socket pedestals. The location of the meter sockets will be determined by the City Electric Engineering Department.

For the purpose of calculating fees, mobile homes will be classified as primary extensions – non-residential and will be billed at 100% material costs.

III. LIGHTING

GENERAL

The City reserves the authority to trim vegetation and/or trees in the public right-of-way to ensure that lighting is not blocked or the area shadowed as a result of this growth.

SECURITY LIGHTS

Un-metered security lighting will be installed by the City and billed at the appropriate tariff rate. Such lighting will be installed on existing City poles or lighting service poles may be installed on public or private property by the City as per the City's lighting policy. Pole and light type will comply with the current City policy. Customers who apply to have a security light installed accept a two (2) year minimum contract with the City of Dover. If at any time the contract shall be terminated within the two (2) year contract, the complete installation and removal cost of the light will be billed to the customer.

Decorative and roadway poles are optional for security lighting in residential areas at the appropriate tariff rate. Decorative and roadway poles require a five (5) year minimum contract. If at any time the contract shall be terminated within the five (5) year contract period, the complete installation and removal cost of the light will be billed to the customer.

Lighting types and styles may be changed without notice. If the current type/style is no longer a City standard a suitable replacement of similar size and style will be installed by the City and the appropriate rate will apply.

STREET LIGHTS

1. Existing City maintained or Annexed Streets

   a. City residents must submit a request for street lighting to the Electrical Engineering Department.

   b. A determination is made of the amount of lights required, the cost of installation and operations, and a decision is made concerning the need for street lighting based on standards for roadway lighting.

2. New Developments (Streets)

   a. The Electrical Engineering Department designs and furnishes to the developer the layout plans and specifications for the lights. The City retains the sole authority to determine the lighting requirements and the installation sequence for the development. The plans will be submitted to the developer along with the electrical extension plans.

   b. The developer is responsible for the installation of the~~se lights and~~ conduits and below grade equipment according to the plans and specifications~~, and guarantees their operation or the City will install the lights for a set cost~~. The developer will be responsible for the rental costs of all street or alleyway lights, as per the applicable tariff rate, until such time as the streets are dedicated to the City of Dover.

   ~~b.~~c. The City will install the standard street light pole and head for $420.00~~???~~ per light; this fee ~~The cost~~ will be routinely re-evaluated and ~~changed to~~will recover 100% of the material cost. This fee will be collected at the same time as the "extension - lot fee" which is collected prior to the installation of any electric facilities. Any non-standard street light installation will be based on the actual cost of the materials, for example the lights at Eden Hill.

3. Developments Outside of City or Private Streets

   a. Residents must submit a request for street lighting to the Kent County Engineering Department or the State of Delaware Department of Transportation.

   b. A determination is made of the amount of lights required; and both parties shall agree to the design before construction begins. The same tariffs apply as security lighting with minimum two (2) year or five (5) year minimum contract based on the style of light.

IV. MOTOR PROTECTIVE DEVICES

All motor protection devices shall be installed and maintained by the customer.

All motors, single or three-phase, shall contain devices that will protect the motor and circuit against overload or short circuit. Refer to the N.E.C. for motor protection details.

Motors equipped with reduced voltage starters than cannot be safely subjected to full voltage at starting shall contain a device to insure that, on the failure of the supply voltage, the motor will be disconnected from the line and

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the starter returned to the "off" position. To prevent unnecessary shutdowns, it is recommended that this starter be equipped with time delay feature to prevent the starter from dropping out and to permit the motor to continue to operate during a momentary voltage change.

The direction phase rotation and the continuity of all three phases of the alternating current supply are carefully maintained; however, the City cannot guarantee against accidental or temporary change or failure thereof. Therefore, motors or other apparatus requiring unchanged phase rotation or continuity of three-phase supply shall be equipped, by the customer, with suitable three-phase protection against reversal or phase failure.

V. GENERATORS

The City must always be consulted concerning the installation of any emergency electric generating equipment. IN ALL CASES OF EMERGENCY STANDBY GENERATION (NON-COGENERATION) A DOUBLE THROW SWITCH SHALL BE INSTALLED BETWEEN THE GENERATOR AND THE CITY'S SUPPLY AS PER N.E.C.

Cogeneration equipment is subject to the rules and regulations contained in the Interconnection Agreement.

VI. POWER FACTOR CORRECTION

Attention is called to the desirability and importance of maintaining the power factor of any load as near unity as possible. The maintenance of a high power factor will increase the capacity of conductors and equipment, increase overall efficiency, and will decrease operating costs for those customers whose rates contain a Power Factor Clause (see applicable Electric Tariff). Where large motors are to be installed, consideration should be given to the use of capacitors to improve the power factor.

VII. CUSTOMER-OWNED TRANSFORMER

Where a customer is to receive primary metered service and the transformers and protective equipment are customer owned; such transformers and protective equipment shall comply in all respects with the N.E.C., City specifications and any other applicable standard/regulation. Maintenance and operation are the responsibility of the customer.

VIII. SUBSTATIONS

The City shall always be consulted and the City shall approve the facilities prior to the completion of the plans. For example this approval may include the design, location and construction of customer-owned substations. Any expense related to the interconnection of the substation shall be borne by the substation owner.

IX. SENSITIVE ELECTRONIC EQUIPMENT

Sensitive electronic equipment (computers, industrial process controller, etc.) should be protected from electrical noise, power surges, and related disturbances through the customer installed equipment.

X. PRIMARY CUSTOMER

A primary customer is one who owns and maintains all primary cables, wires, transformer(s), secondary cables, and all associated equipment on the load side of the metering point. The City will provide and install all metering equipment at the customer's expense. The exact location will be determined by the City.

1. Overhead: The metering installation will be located at or near the property line (metering point). The point of attachment (demarcation point) is defined as the load side of CT; the City will make this connection.

2. Underground: The metering installation will be located on a riser pole, or underground metering cabinet, at or near the customer's property line (metering point). The City shall determine the type of installation. On pole mounted metering installations, the point of attachment (demarcation point) is defined as the load side of CT and the City will make this connection. On underground, the point of attachment (demarcation point) will be the elbow inserts and the customer will install and terminate the customer owned cables.

XI. TEMPORARY ELECTRIC SERVICE

Temporary installations, temporary metering, or other service of short duration shall be made at the expense of the customer with charges based on the materials, labor, and equipment required to install and remove the City supplied electrical equipment. A deposit in advance, sufficient to cover estimated construction and removal expenses and energy used, may be required.

1. Temporary service is service ordinarily not recurrent in nature, required for temporary structures or locations for a period of normally less than one year.

2. Temporary service will be rendered only when and where the City has the necessary facilities available to render the service applied for, without detriment to the service of other customers.

3. If extensions are required by the City, a credit will be issued for material returned in first class, usable condition as determined by the City.

4. All temporary service locations will be designated by a City representative.

5. No temporary service installation shall be moved while the City's service is attached.

6. Service wire, meters and other City equipment shall not be connected or disconnected by persons other than employees of the City.

7. A State of Delaware electrical inspection shall be required prior to the City energizing the service.

8. All equipment, except the meter, shall be furnished and installed by the customer/contractor.

OVERHEAD

1. A pole or timber to which the City attaches a temporary overhead service for supplying a service shall be supplied and erected by the customer/contractor and shall meet the City's minimum requirements as outlined below.

2. If the City's service will cross a public street or highway, the support must be a treated pole of Class 6 or larger (Class 6 pole has a minimum circumference around the top of 17 inches) and meet minimum road clearances as required by the N.E.C. If the service will not cross a public street or highway, the support may be either a treated pole or timber. If a timber

is used it shall be structural grade fir or pine with a cross section not less than nominal 6 inches x 6 inches. Three (3) 2 x 6's are acceptable. The service shall meet the minimum height requirements as per N.E.C.

3. The pole or timber shall have inherent strength or be adequately guided to support the service conductor. Braces ~~(~~ at~~s~~ a minimum, are to be 2 inch x 4 inch lumber well spiked to the pole or timber at least ten (14~~0~~) feet above ground and to solidly driven 2 inch x 4 inch stakes.

4. Temporary services will normally be three-wire, 120/240 volts and limited to one span not more than 100 feet provided proper clearance can be maintained.

UNDERGROUND

When a customer requires a temporary service from an underground distribution system, the pole or timber with service equipment, shall be installed by the customer/contractor and shall meet the requirements in Sections 1 thru 6 below.

1. The support shall be a treated pole or structural timber with a cross section of not less than (nominal) 4" x 6" or 2" x 12".

2. The pole or timber must be of sufficient length to be installed in the ground far enough to make the support sturdy against accidental damage-approximately 30 inches.

3. The pole or timber must be at a location specified or approved by the City and will normally be located from five(5) to ten (10) feet from an existing pad mounted transformer, secondary pedestal, or splice box.

4. The contractor will provide conduit down the pole or timber from the meter socket to a distance approximately eight (8) inches below grade and enough underground cable to reach the City's transformer or splice box. The contractor must dig the trench from the support to within three (3) feet of the City's facility at a minimum depth of 24 inches.

5. Underground conductors shall have sufficient length to make connections to terminals in the secondary compartment of the transformer or pedestal. Minimum cable size will be #2 Aluminum.

6. Temporary services will normally be three-wire, 120/240 volts.

XII. RIGHTS-OF-WAY

Any applicant requesting electric service agrees to furnish, without expense to the City, a satisfactory right-of-way necessary for the erection, maintenance and operation of electric facilities, including the right to trim trees, bush or shrubs, or clear undergrowth as deemed necessary by the City. This right-of-way includes cables and equipment that may be installed for the service of contiguous or noncontiguous properties. The right-of-way shall remain in effect until the City agrees to abandon the right-of-way.

XIII. ACCESS

City employees have the right to enter the property at any time to inspect or repair the electric facilities; determine electric loads, and metering equipment.

XIV. CONTINUITY OF ELECTRIC SERVICE LIABILITY AND NOTICE

1. CITY LIABILITY. The City does not guarantee continuous and uninterrupted electric service and shall not be liable for any loss, cost, damage or expense to any customer occasioned by any interruption, phase reversal or phase loss if due to any cause beyond the reasonable control of the City.

2. NOTICE OF TROUBLE. The customer shall promptly notify the City of any defect in electric service or of any trouble or irregularity to the electric supply.

3. PRE-ARRANGED INTERRUPTION OF SERVICE. Whenever electric service is interrupted for work on lines or equipment, the work shall be done, as far as practicable, at a time that shall cause the least inconvenience to the customer. The customer to be affected by the interruption shall, if practicable, be notified in advance.

4. RESALE OF ELECTRICITY PROHIBITED. The customer shall not directly or indirectly sell, sublet, assigned or otherwise dispose of any electric energy without the written consent of the City Manager or designee. Purchase of electric energy in bulk for use by tenants located on the customer's property, when the energy cost ~~to the tenant of the energy~~ is included in the normal rental charge or occupancy of the premises, shall not be considered ~~a~~ resale.

5. ELECTRIC USE LIMITED TO CONTRACT PLACE AND PURPOSE. The City's electric service shall not be used for any purpose or in any place other than that stipulated in the customer's contract for electric service, except as written consent of the City Manager or designee.

6. CAUSING ELECTRIC FLUCTUATIONS PROHIBITED; REMEDIES. Electric service shall not be used by the customer in a manner which shall cause unusual fluctuations or disturbances in the City's electric supply system. Should fluctuation or disturbance be caused by the customer, the City may discontinue the electric service and require the customer to modify the installation or install approved controlling devices, or both.

7. DUTY TO REPAIR OR REMOVE COMMUNICATION INTERFERENCE DEVICE. It shall be unlawful and a nuisance for any person to operate any motor or other electrical device which shall cause interference with communication reception more than ten (10) days after receiving notice from the City Manger, or designee, of the interference.

8. CUSTOMER LIABLE FOR ELECTRIC WIRE AND APPLIANCE DAMAGE TO PERSONS AND PROPERTY. The City assumes no responsibility for any damage done by, or resulting from, any defect in the electric wiring, apparatus, fixtures or appliances of the customer. In the event that any loss or damage to City property or any accident or injury to persons or property is caused by or results from the negligence or wrongful act of the customer, their agents or employees, the cost of the necessary repairs to or replacement of City property shall be paid by the customer to the City any liability otherwise resulting shall be assumed by the customer.

9. CITY LIABILITY LIMITED. The City shall not be liable for damages resulting from the presence of electric energy on the customer's premises, or from the use of the City electric service by the customer.

XV. CITY'S RIGHT TO DISCONTINUE ELECTRIC SERVICE AND NOTICES

The City reserves the right to discontinue electric service without notice for the following reasons:

1. Without Notice. The City may discontinue electric service without notice for the following reasons:

a. Supply Emergency. For regional or local shortages or interruptions in the City's source of electric supply or in other cases of emergency.

b. Unsafe Conditions. Whenever an unsafe condition is found to exist on the customer's premise that is related to or would be affected by the presence of electric energy.

i. Fraud or Abuse. To protect the City from fraud or abuse.

ii. Canceled Electric Contracts. Upon the cancellation of electric service agreements.

iii. Overloading conditions of the City owned transmission/distribution network or other emergencies.

c. With Notice for Failure to Repair, Violation of Article, or Non-payment. The City may discontinue service to a customer upon a determination by the City Manager, or designee, that the Notice of Termination is correct or that the customer has waived his right to dispute the Notice of Termination for the following reasons.

i. Failure to Repair. Failure to repair conditions having a detrimental effect on the City electric service or safety of the customer or public.

ii. Violation of Article. For violation or noncompliance with this Electric service handbook, Federal, State, or Local rules and regulations, the appropriate service classification or an electric service contract.

iii. Non-payment. The City may discontinue service to a customer for nonpayment of electric bill upon a determination by the City Manager, or designee, following the regulation as adopted by the City which may follow the guidelines as adopted by the Public Service commission of the State of Delaware.

XVI. SUSPENSION OF ELECTRIC SERVICE CONTRACT

If, by reason of any act, neglect or default of a customer, the City's electric service is suspended or the City is prevented from supplying electric service in accordance with the terms of any electric service contract it shall have entered into, the minimum charge for the unexpired portion of the electric service contract term shall become due and payable immediately as liquidated damages in lieu of the anticipated returns from the electric contract.

XVII. RELOCATION OF ELECTRIC FACILITIES

Any alterations, changes or relocations of the City-owned electric facilities, when requested by the Customer, shall be made by the City and the cost paid by the Customer. Customer participation may be required.

In the event the City shall be required by any Public Authority, or at the City's discretion, to place underground or relocate any portion of the City's facilities, the City at their expense shall make the necessary changes in the location of the point of delivery.

XVIII. RIGHT TO REMOVE CITY'S EQUIPMENT

All meters, instrument transformers or other service equipment supplied by the City shall remain its exclusive property. The City shall have the right to remove all its property from the premises of the Customer at any time after the termination of service, regardless of the reason for such termination.

XIX. CITY'S RIGHT TO INSPECT

The City shall have the right, but shall not be obliged, to inspect any installation before electricity is provided or at any later time. The City reserves the right to reject any wiring or appliances not in accordance with the City's standard requirements; but such inspection, or failure to inspect, or to reject, shall not render the City liable or responsible for any loss or damage, resulting from defects in the installation, wiring, or appliances, or from violation of City Rules, or from accidents which may occur at the Customer premises.

XX. DEFECTIVE INSTALLATIONS

If at any time the wiring, fixtures or appliances of the Customer are found to be defective or dangerous by a City's Representative, service may be refused or discontinued until the Customer has the condition corrected. The City's undertaking extends only to the supply of service at the point of delivery.

XXI. SERVICE DISCONNECTED DUE TO FIRE, WATER, STRUCTURAL OR SIMILAR INCIDENT

When a meter has been removed from a service by the fire department, first responder, or other authorized parties, the owner must provide an electrical inspection from a State of Delaware electrical inspection agency stating that the service is acceptable for use before the City will reconnect the service.

2. ELECTRIC METERS

All electric meters are owned, installed and maintained by the City of Dover. Only City installed sealing/locking devices may be used to secure meter sockets, metering cabinets, transformers, or any City owned equipment. In no case, will a locking device be installed by the customer to prevent access to meter sockets or City owned equipment. The use of jumpers is forbidden.

I. CITY RESPONSIBILITY

The responsibility of the City of Dover will be the supply of a kilowatt hour/kvar/kw meter (as determined by the City), all associated instrument metering equipment, and determine the location of said equipment.

II. CUSTOMER RESPONSIBILITY

The customer will be responsible for all wire ways, weather heads, disconnects, entrance cable, conductors, meter sockets, enclosures, connectors, conduits and all associated equipment.

- On overhead installations the customer is responsible to and including the service wire attachment (City's service) weather head, service cable, meter socket, and all associated equipment.
- On underground installations the customer is responsive for the conduit, meter socket, and all associated equipment.

The customer must allow access to any City employee, or representative, at any and all times.

III. ELECTRIC SERVICE CONTRACT

A service contract is required in order to receive electric service from the City. An application form must be completed and approved to engage in a contract for service. This Handbook and any Rules and Regulations adopted by the City shall be part of every contract for electric service and shall govern all classes of service unless otherwise stated by a service classification.

IV. METER LOCATION

The preferred location (the City reserves the final determination) for new meter installations will be on the outside of the building and will be at a point that is accessible at all times. Meter must be located on the individual's property and comply with the NEC. Older metering installations that are inside a building or enclosure must be in a clean, well lit, safe, unobstructed location free from vibration, the locations shall be accessible from the outside for meter reading, meter testing, maintenance, and inspection purposes. If the access point is locked, codes, combinations or a minimum of two (2) keys to locks must be provided (one for the Metering Department and one for the Meter Reading Department). **ALL METER LOCATIONS MUST BE APPROVED BY THE CITY.**

V. METER SOCKET REQUIREMENTS

All meter sockets will accept blade type meters; bolted type meter sockets are not acceptable. In all cases the meter socket and required metering equipment will be supplied by the applicant.

Sockets must be installed so that the top of the meter will not be more than six (6) feet nor less than four (4) feet above the finished grade. It will be the responsibility of the contractor/owner to determine finished grade. A minimum horizontal clearance of three (3) feet, a vertical clearance of eight (8) feet and a minimum depth of three (3) feet will be provided in front of the meter socket/enclosure, and in no case will the clearances be less than required to fully open doors/covers of meter sockets and/or instrument cabinets.

In cases of group metering, the contractor will supply multiple meter socket devices in any combination. However, they must be installed so that the height of the lowest meter centerline cannot be less than 40" and the highest meter centerline cannot be higher than 72" above final grade. The multi- meter devices will be at a location and type approved by the City. The contractor will install the meter mounting devices and underground conduits, or overhead mast if applicable. If access to the base of the metering unit is restricted because of concrete or other covering material, the conduit will be extended to a point outside the covering material at no expense to the City. Group metering having services greater than 400 amp self contained sockets must have a means of disconnect for each individual service.

The meter socket for **Residential** services will be placed on the side of the house that is nearest to the City supply point. The meter socket will be placed on the front or on the side of the house within ten (10) feet of the front corner of the house. Multi-dwelling homes with individual property ownership shall have the meter installed on the customer's property. When home structure design does not allow for electrical facilities to comply with NEC requirements, individual meter sockets on pedestals' may be acceptable; prior approval from the Electric Engineering Department is required. These meter sockets will be provided, installed, and maintained by the customer. The customer will, in all cases, furnish and completely install suitable wiring within the meter socket to permit the City to install the meter without any additional materials other than the meter. Replacement of the meter socket is required if the locking mechanism or if the meter socket is no longer functional or safe. **

The meter socket for **Small and Medium Commercial** services, service size up to 400 amp Wye - 400 amp Delta, single phase or three phase, will be located on an outside wall agreeable to the City and the customer. These meter sockets must have a lever type bypass and will be provided, installed, and maintained by the customer. The customer will, in all cases, furnish and completely install suitable wiring within the meter socket to permit the City to install the meter without any additional materials other than the meter. Replacement of the meter socket is required if the locking mechanism or if the meter socket is no longer functional or safe. **

For **Large Commercial** services, greater than 400 amp Wye - 400 amp Delta, single phase or three phase, a CT metering installation is required. The City will supply all metering equipment (CT's, meter socket, CT cabinet, metering conductor conduit) and the customers will be responsible for this expense. If the metering installation is mounted on the building, the customer will be responsible for the mounting of the meter socket(s), CT cabinet, and installation of any necessary meter conductor conduit. An overhead installation may be mounted on a pole located at or near the property line and the City will install all the metering equipment at this point. Metering equipment for underground services will be installed either on the building, on the transformer, or other City approved locations. **

On **Primary** services, single phase or three phase, the City will provide and install the meter socket and the customer will be responsible for this expense.

** On any existing service where any type of changes are being made to the building, such as but not limited to, renovations, building additions, or a service upgrade or downgrade and if the metering is currently located inside the building, it must be moved to a point outside the building if physically possible. If any type of construction will be erected, concreted, or paved that would enclose or somehow block access to the meter, the meter must be relocated to an accessible location.

VI. 480 VOLT SPECIFICATIONS

Due to safety concerns, all new or existing services reassigned to the City for maintenance, will have a disconnect installed at a point before the meter socket. If the service is customer owned and there is no disconnecting means to ensure the safety of personnel, an outage must be scheduled to perform work on the meter. It is the owner/customer/ electricians responsibility to schedule/coordinate the outage with the customers and with the City. The City requests 24 hours notice when possible to assist with the outage. A disconnect must then be installed before the service is re-energized.

VII. METER SOCKET MOUNTING

It is necessary that the meter socket is carefully and rigidly attached to the customer's structure or building also ensuring that it is plumb and level. For safety reasons, this attachment must be maintained by the customer. It is the customer's responsibility to keep the meter socket firmly attached to the mounting surface.

VIII. METER AND METER SOCKET ACCESSIBILITY

This location will not be inhibited by any type of foliage, trash, wood, or other materials. See "METER SOCKET REQUIREMENTS" for clearances.

IX. METER SOCKET IDENTIFICATION

Any building that has more than one meter the customer/contractor must identify the individual meter sockets. A permanent marking must be made both on the inside and outside of the meter socket. A magic marker, piece of tape, sticky notes, pencil marking, etc. are not acceptable for identification. Examples of identifications are as follows: Apt. A, Apt. B, Apt. C; Unit 1, Unit 2, Unit 3; 101, 102, 103; upstairs, downstairs. Meters will not be set unless the permanent marking has been done. It is not the City's obligation or responsibility to confirm this marking.

X. METER TAMPERING

TAMPERING WITH CITY ELECTRIC EQUIPMENT PROHIBITED; LIABILITY.

Tampering Prohibited. It is unlawful for any person except a duly authorized representative of the City to make any temporary or permanent connection or disconnection between the electric service load and the City's distribution system. Additionally, it is unlawful to set, change, remove, tamper, or interfere with or make any modifications to the City's meter. The City is not liable for any injury or damage as a result of this unlawful activity.

Customer's Liability for Tampering. In the event that the City's meters or other property are tampered or interfered with, the customer receiving service through that equipment shall pay the amount which the City estimates is due for electric service, but not registered on the City's meter, for any repairs or replacements required, and for changes in the customer's installation that the City may require.

The City may file Criminal or Civil charges against the responsible party and the customer is subject to arrest for tampering and/or theft of service. Before the service can be re-energized, all repairs must be made with inspections obtained and full payment for all monies owed the City must be made, including any additional security deposits that may be required. In cases where it cannot be determined who was being supplied, the owner of the property may be held responsible for the tampering/theft.

In some instances, the meter seal and customer service entrance equipment may be disconnected only by licensed electrical contractors and only with PRIOR APPROVAL FROM THE CITY. If approval is not previously obtained, the established service charge will be charged to the contractor for cutting the meter seal and entering the service equipment without permission. Any additional instances may result in loss of City licensing and/or arrest for tampering.

XI. INACTIVE METERS/METERS REMOVED FOR CAUSE

Meters will be removed after being inactive for six (6) months. All services that have been de-energized for more than six months will be inspected by a State of Delaware recognized electrical inspection agency prior to re-energizing.

XII. TERMINATION WITH NOTICE

When a condition is discovered by the City that is in violation of the articles contained in this Handbook, the customer will be notified in writing allowing him/her a reasonable amount of time to correct the condition. Some, but not all, of these conditions can include a loose meter socket, a rusted meter socket, an unattached entrance cable, nonfunctional locking mechanism, or any condition that exists whereby the customer can safely receive electric service.

XIII. TERMINATION WITHOUT NOTICE

When a condition is discovered by the City that in its opinion is unsafe/hazardous to people or property, electric service will be terminated without prior notice until the hazard is corrected. Examples of these hazards can include: a broken or cracked lug in the meter socket, evidence of arcing, frayed wiring or damage to electrical apparatus owned by the customer.

XIV. METER TESTING

~~All electric meters should be routinely tested by the City every 10 years.~~ Should a customer desire to have their meter tested ~~before its next scheduled test date~~ and the meter is found to be correct within established tolerance as identified in this Handbook, the customer will be charged the established service fee.

XV. METER ADJUSTMENTS

A billing adjustment will be made when any of the following condition(s) exists:

- A meter is tested and found to be in excess of four (4) percent fast/slow
    - A meter that tests fast – the City will either credit or refund the customer any amount equal to the excess kWh usage for a period not to exceed the three (3) previous monthly billing periods unless the time at which the error first developed or occurred can be definitively identified. In this case, the estimated kWh

overcharged will be based on that date but will in no case be retroactive beyond a twelve (12) month period. In cases of a demand meter, kW will be adjusted in the same manner.

- For a meter that tests slow – the customer may be charged any amount equal to the under-registered kWh usage for a period not to exceed the three (3) previous monthly billing periods unless the time at which the error first developed or occurred can be definitively identified. In this case, the estimated kWh under-charged will be based on that date but will in no case be retroactive beyond a twelve (12) month period. In cases of a demand meter, kW will be adjusted in the same manner.

- Stopped/jammed meter – for stopped meters, jammed registers or non-functioning electronic meters, the customer's consumption will be estimated based on the customer's usage during similar periods. The estimate will cover only the period subsequent to the last recorded meter consumption.

- Meter tampering and/or theft of service – the usage will be based on the recorded registration of the meter if it is determined that all illegal usage went through the meter. If the usage was not recorded through the meter, the usage will be estimated based on the consumption during similar periods. In cases that only part of the kWh usage passed through the meter, both metered and estimated usages will be used to calculate the total kWh.

- Unauthorized overload – usages for unauthorized overloads will be for kWh/kW calculated on the equipment connected to the service. The cost of any City equipment damaged and personnel expenses to repair the installation will be billed to the customer. An additional charge may be assessed to upgrade the installation.

- Inactive phase(s) polyphase meter – when a polyphase meter has been operating with an inactive element(s), failures that could be caused from lightning, failure, tampering, unauthorized overload, or other type damage, and has not registered the full consumption for any or all kWh/kVarh/kW, the City will estimate the usage for the unregistered energy. Back billing will be for a period not to exceed the three (3) previous monthly billing cycles unless the time at which the error first developed or occurred can be definitely identified. In this case, the estimated kWh/kVarh/kW undercharge will be based on that date but will in no case be retroactive beyond a twelve (12) month period.

XVI. CHANGE OF INSTALLATION

The customer will give immediate written notice to the City of any proposed substantial increase or decrease in, or change of purpose or location of the customer's installation. The service connection, transformers, meters, and equipment supplied by the City for each customer have a maximum capacity and no additions to the equipment or load connected will be permitted except by the written consent of the City. Failure to give notice to additions or changes in load or location will render the customer liable for any damage to the City's equipment.

XVII. FEES/CHARGES

Bills are due upon receipt.

XVIII. INSPECTIONS AND ENTERING PRIVATE PROPERTY

The City Manager, Building Inspectors, City employees, or their authorized representatives, shall have access at all times to the customer electric facilities for the purpose of inspecting, removing, repairing or changing any City property situated therein.

XIX. RIGHT TO REMOVE CITY'S EQUIPMENT

All electrical equipment maintained by the City will remain its exclusive property. The City shall have the right to remove all its property from the premises of the customer at any time after the termination of service regardless of the reason for the termination.

3. TECHNICAL CONSIDERATIONS COVERING PARALLEL OPERATIONS

Technical Considerations Covering Parallel

Operations of Customer Owned Generation

Of

500 Kilowatts or Less

And

Interconnected with the City of Dover System

Effective November 15, ~~January 1~~, 2011~~08~~

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Technical Considerations Covering Parallel Operations

Of Customer Owned Generation of 500 Kilowatts or less

and Interconnected with the City of Dover Delivery System

Prerequisite – The customer must be in compliance with the tariff rules and regulations and the applicable tariff classification and rates. The terms and conditions contained herein are in addition to, but do not modify nor negate, the terms of the tariff.

I. Purpose – This section was developed to clearly state the terms and conditions that govern the interconnection and parallel operation of on-site distributed generation, in order to:

A. Establish technical requirements which will promote the safe and reliable parallel operation of distributed generation resources;

B. Enhance the reliability of electric service;

C. facilitate the implementation and use of distributed resources technologies;

D. Enhance economic efficiency in the production and consumption of electricity and other energy; and

E. Promote the use of distributed resources in order to provide electric system benefits during periods of capacity constraint.

II. Applicability - Unless otherwise provided, these guidelines apply to all customer generation operating below 501 kilowatts which is interconnected at 12.47~~34.5kV~~ or below and operated in parallel with the City's power delivery system. ~~The technical requirements of Section XIV and subsequent sections of this document do not apply to NEM Rider Tariff generators using inverter technology, as requirements for these installations are already covered in the applicable codes, IEEE Standard 519, Recommended Practices and Requirements for Harmonic Control in Electrical Power Systems, IEEE Standard 929, Recommended Practice for Utility Interface of Photovoltaic (PV) Systems, NEC 690, Solar Photovoltaic Systems, UL 1703, Standard for Safety Flat-Plate Photovoltaic Modules and Panels, and UL 1741, Underwriters Laboratories Subject 1741-1999, Standards for Static Inverters and Charge Controllers for use in Photovoltaic Power Systems.~~

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III. Definitions

A. Account – An account is one metered or un-metered rate or service classification which normally has one electric delivery point of service. Each account shall have only one electric service supplier providing full electric supply requirements for that account. A premises may have more than one account.

B. Company – City of Dover

C. Customer – Any adult person, partnership, association, corporation, or other entity: (i) in whose name a service account is listed, (ii) who occupies or is the ratepayer for a premises, building, structure, etc., and (iii) who is primarily responsible for payment of bills. A customer includes anyone taking Delivery Service or combined Electric Supply & Delivery Service from the Company under one service classification for one account, premises or site. Multiple premises or sites under the same name are considered multiple Customers.

D. Distributed Generation or On-Site Distributed Generation – An electrical generating unit of less than or equal to 500 kW which may be connected in parallel operation to the Company's system.

E. Generator Owner – The owner of the generating system that is interconnected to the Company.

F. **Grid –** The interconnected arrangement of lines and transformers that make up the Company's electric power system.

G. **IEEE Standard 929 –** IEEE Standard entitled Recommended Practice for Utility Interface of Photovoltaic (PV) Systems, P929 Draft 11, dated July, 1999, or subsequent approved revision thereof.

H. **Interconnection –** the physical connection of distributed generation to the Company's system in accordance with these guidelines so that parallel operation can occur.

I. **Interconnection Application –** The standard form of application which must be submitted by the Generation Owner to the Company for permission to interconnect with the Company system. The approved Interconnection Application sets forth the contractual conditions under which the Company and Generator Owner agree that one or more generating units whose aggregate generation at the Point of Common Coupling is less than or equal to 500 kW may be interconnected at 34.5 kV or less with the Company's system.

J. **Inverter –** A static power converter with control, protection and filtering functions that converts Direct Current input to Alternating Current output. Inverters must be of the non-islanding type.

K. **Island –** A portion of the utility system which contains both load and distributed generation and is isolated from the remainder of the utility system.

L. **Parallel Operation –** Any electrical connection between the Company's system and the Generator Owner's generating source.

M. **Point of Common Coupling –** The point where the electrical conductors of the Company system are connected to the Customer's conductors and where any transfer of electric power between the Generator Owner and the Company System takes place (such as switchgear near the meter).

N. **Pre-Approved Equipment –** Specific generating and protective equipment system or systems that have been approved by the Company as meeting the applicable parts of this document.

O. **Pre-Interconnection Study –** A study or studies which may be undertaken by the Company in response to its receipt of a completed application for parallel operation with the Company's system submitted on the Interconnected Application form prescribed by these guidelines. Pre-Interconnection Studies may include, but are not limited to service studies, coordination studies and facilities impact studies.

P. **Qualifying Facility (QF) –** An electric generation facility which is a qualifying facility under Subpart B, Section 201 of the Federal Energy Regulatory Commission's regulations per the Public Utility Regulatory Policies Act of 1978.

Q. **Stabilized –** The Company's system following a disturbance which returns to the normal range of voltage and frequency for at least 5 minutes or longer as coordinated with the Company. The Company may require a longer period upon a reasonable showing that the reconnection after 5 minutes will adversely affect the safety and reliability of the electric system.

R. **Unit –** A distributed generation facility.

S. **Utility System or Electric Distribution Facility –** Company's distribution system operating at 34.5 kilovolts or below to which the generation equipment is interconnected.

IV. **Interconnection Application –** A proposed Generator Owner will make a formal application to the Company for the interconnection of a generator to the Company system. The application will be made on an Application Form provided by the Company.

V. **Designation of Company Contact Persons for Matters Relating to Distributed Generation Interconnection –** The Company's Electric Engineering Department will be the designated point of contact for all matters related to interconnected generation. The Company will maintain records concerning applications received for interconnection and parallel operation of distributed generation. Such records will include the date of receipt of each such application, documents generated in the course of processing such applications, correspondence regarding such applications and the final disposition of such application.

VI. **Pre-Interconnection Studies –** In many instances the Company will wish to conduct a service study, coordination study, or facilities impact study prior to interconnection of a distributed generation unit. In instances where such studies are deemed necessary the scope of such studies shall be based on the characteristics of the particular distributed generation unit to be interconnected and the proposed point of interconnection.

A. **Completion of Pre-interconnection Study –** Upon completion of the interconnection study, the Company will notify the Generator Owner that his application has been approved or denied, if denied sufficient details will be provided on why the application cannot be approved. In no event shall the interconnection study take longer than 4 weeks to complete (after receipt of signed customer application and customer submittal of all required data).

B. **Pre-interconnection Study Fee –** The Company will do a pre-interconnection study without charge for the typical and customary installation. If the cost to the Company is expected to exceed this typical and customary amount, or if multiple submittals by the Generator Owner are necessary, the Company will advise the Generator Owner of the expected cost of such study work by the Company before such work begins. The Generator Owner will be responsible for payment of all costs above the typical and customary amount.

VII. **Network Interconnection of Distributed Generation –** Where generation is to be connected to a network system and capable of exporting power to the Grid, the interconnection study may result in more stringent interconnection requirements.

VIII. **Pre-approval of Generation units, Devices and Systems –** Upon approval by the Company that certain generating unit's protective devices and/or system(s) meet the standards set out in these guidelines, such approval shall be made available to the appropriate manufacturer upon written request. For subsequent applications using some or all of the identical generating unit's protective devices and/or systems, the manufacturer may submit a copy of the approval with the application as proof that its equipment has already been approved for use on the Company's system. Use of pre-approved equipment will not eliminate any applicable requirement for a pre-interconnection study to determine the suitability of the equipment for each application, given the unique arrangements and characteristics of both the Generator Owner and Company systems at the point of the interconnection.

IX. **Connection Approval** – The Generator Owner can connect their generation to the Company system only after the Interconnection Application has been approved and the Generation Owner has received approval notification. The

Company will provide notification within four weeks after the receipt of the Interconnection Application and all required data.

X. Interconnected Generation Site Warning Label – The Generator Owner will install a warning label in a conspicuous place on their electric meter or meter box to notify the Company personnel that there is a generator source installed on the load side of the meter. The warning label shall not be placed in a location that would not interfere with the ability of Company personnel to read the electric meter. The Company will provide the warning label to the Generator Owner. The warning label must be placed before the generation can be interconnected.

XI. Disconnection and Reconnection

The Company may disconnect a distributed generation unit under the following conditions:

A. Application Termination – Upon termination of the approved Interconnection Application.

B. Non Compliance – For non-compliance with the technical guidelines specified in this document or other requirements contained in the applicable Customer Tariff, provided that the Company has given notice to the Generator Owner and provided the Generator Owner reasonable time (consistent with the condition) to correct such non-compliance. The Company will reconnect the unit only upon receipt of certification from the Generator Owner and verification by the Company that the unit is in compliance. The Company will provide verification within a reasonable time period.

C. In Case of a system emergency outage of the Company's Primary Electrical Sources – The Generator Owner's generation equipment must be installed and configured so that parallel operation must automatically cease immediately and automatically during outages or loss of the Company's electric source in accordance with these guidelines. The Generation Owner must also cease parallel operation upon notification by the Company of a system emergency, abnormal condition or in cases where such operation is determined to be unsafe, interferes with the supply of service to other customers or interferes with the Company's system maintenance or operation. In addition, the Company may disconnect the generator from the system for system emergencies without notice. However, the Company will use reasonable efforts to notify the Generation Owner prior to disconnecting.

D. For Routine Maintenance and Repairs – The Company may disconnect a Customer/Generation Owner for routine maintenance and repairs on the Company's system consistent with applicable tariffs and agreements. The Company will make reasonable efforts to provide advance notice to the Customer/Generation Owner of service interruptions resulting from routine maintenance. The Company will reconnect the Customer/Generation Owner as quickly as possible under reasonable operations constraints following any such service interruption.

XII. Termination – The Generation Owner may terminate the approved Interconnection Application at any time upon thirty (30) days of providing written notice to the Company. The Company may terminate the Interconnection Application for cause after 60 days written notice to the Generator Owner of a material violation of the terms of the approved Interconnection Application and after the Generator Owner has had a reasonable opportunity to remedy the violation. The Generator Owner must give the Company notice that it intends to permanently shut down his generation.

XIII. Privileged Communications Concerning Proposed Distributed Generation Projects – In the course of processing applications for parallel operation and in the conduct of pre-interconnection studies, the Generation Owner shall

provide the Company with detailed information concerning the proposed distributed generation project. The Company shall not use such knowledge of proposed distributed generator projects submitted to it for review to prepare competing proposals to the Generator Owner whereby the Company, or its affiliate, offers either discounted rates in return for not installing the distributed generation, or offers competing distributed generation projects.

XIV. Technical Guidelines for Parallel Operation of On-site Distributed Generation Units – This subsection describes minimum requirements and procedures for safe and effective connection and operation of distributed generation. A Generator Owner may operate 60 Hertz, three phase or single phase generating equipment, whether a QF or non-QF, in parallel with the Company's system pursuant to an approved Interconnection Application provided that the equipment and Generator Owner meet or exceed the requirements of these guidelines ~~or the NEM Rider Tariff requirements~~ and that the Company has approved the Generator Owner's application to interconnect. This subsection describes typical interconnection requirements. Certain specific interconnection locations and conditions may require the installation of additional protective hardware or special protection settings, especially when exporting power to the system. If the Company excludes that an application for parallel operation requires additional protective hardware or special protection settings, the Company shall make those requirements known to the Generator Owner within 14 days after all pertinent studies are completed.

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Approval to connect to the Company system indicates only that the minimum requirements for a safe proper interconnection have been satisfied. Such approval does not imply that the Generator Owner's facility meets all federal, state and local standards or regulations.

A. General Interconnection and Protection Requirements.

1. The Generator Owner's generation and interconnection installation must meet all applicable national, state, and local construction and safety codes.

2. The Generator Owner's generator shall be equipped with protective hardware and software designed to prevent the generator from energizing one of the Company's de-energized circuits. The Generator Owner's generator must automatically disconnect from the Company's system if the Grid source is lost, irrespectively of connect loads or other generators.

3. The generator shall be equipped with the necessary protective hardware and software designed to prevent sustained parallel operation of the generating equipment with the Company's system unless the system service voltage and frequency are within acceptable magnitudes as defined in Section XIV.B.

4. Pre-approved equipment shall be accepted as part of an interconnection proposal without the need to re-review the equipment itself. However, the application, design and setting of pre-approved units and/or equipment must be reviewed and coordinated according to the unique needs of the specific location of the proposed installation. Where a complete unit or system has been pre-approved, only location-specific issues will typically need to be reviewed.

5. The Generator Owner will be responsible for protecting its own generating and interconnection equipment in such a manner so that Company system outages, short circuits, single phasing conditions or other disturbances including zero sequence currents and ferroresonant over-voltages do not damage the Generator Owner's generating equipment. The protective equipment shall also

prevent excessive or unnecessary tripping that would adversely affect the Company's service reliability to other Generator Owners and Customers.

6. The generator and interface protection schemes shall be continuously monitored and functioning and the generator shall immediately disconnect from the Company's system for any condition that would make the protection scheme inoperable.

7. The operating power required for the protection and control schemes for the generator and the control power used to disconnect the generator from the Company must not be dependent on local Company grid power.

8. Where multiple generators are connected to the system through a single point of common coupling, the sum of the ratings of the generators will be used to determine the applicability of these guidelines. Protection scheme performance with one or more units off line will have to be considered.

9. Applicable circuit breakers or other interrupting devices at the Generator Owner's facility must be capable of interrupting the maximum available local utility Company fault current at the site, including any contribution from the Owner's generator(s).

10. The Generator Owner will furnish and install a manual disconnect device which, when opened, will have the effect of isolating the generator from the Company's system. The disconnect device shall have a visible break (a disconnect switch, a draw-out circuit breaker, fuse block, etc. as appropriate to the voltage level), will at all times be accessible to the Company's personnel, and shall be capable of being locked in the open position via a Company padlock. The Company shall use reasonable efforts to utilize padlocks of a size consistent with typical manufacture's specifications. The Generator Owner shall follow the Company's switching, clearance and tagging procedures which the Company shall provide and attach the Warning Label noted in Section X.

11. The design, procurement, installation, and maintenance of the equipment at the Generator Owner's site are the responsibility of the Generator Owner and at the Generator Owner's expense.

12. Any necessary enhancements or improvements needed within the Company's system and/or at the Customer site(s) to accommodate the parallel interconnection of the Generator Owner's generation will be at the Generator Owner's expense.

13. The Generator Owner has full responsibility and liability for the safe and proper operation of their equipment and the power originating from their generator. The Generator Owner is also responsible for synchronizing their generator(s) with the Company's system and maintaining synchronous operation.

14. The Generator Owner must immediately cease parallel operation upon notification by the Company if such operation is determined to be unsafe, interferes with the supply of service to other customers, or interferes with the Company's system maintenance or operation.

15. The Company reserves the right to specify the type of transformer connection (e.g. delta-delta, wye-delta, wye-wye) that will be employed for all multiphase interface transformers consistent, where reasonable, with the Generator Owner's power system.

B. Prevention of Generator Owner Generation Interference with Company System.

To eliminate undesirable interference caused by operation of the Generator Owner's generating equipment, the Generator Owner's generator shall meet the following criteria:

1. **Voltage –** The generating equipment will be operated in such a manner that the voltage levels on the Company's system are in the same range as if the generating equipment were not connected to the Company's system. The Generator Owner shall provide an automatic method of initiating a disconnect sequence of his generating equipment from the Company system with set points noted in the table below.

Generating Systems with Inverters Up to 50kW	**Generating Systems with Inverters Greater than 50kW**	**Non-Inverter or Rotating Machine Generating Systems**
• Trip in 0.1 second for V<50% • Trip in 2 second for 50%≤V<88% • Trip in 2 seconds for 106%<V<137% • Trip in 0.03 second for 137%≤V (Above times and voltages taken directly from IEEE 929)	• Trip in 0.1 Second for V <50% • Trip within 0.1 to 30 seconds for 50%≤V<88% • Trip within 0.1 to 30 seconds for 106%<V<137% • Trip in 0.03 second for 137%≤V (Specific voltage and time delay set points will be determined for each installation.)	• Trip in 0.1 second for V < 50% or V ≥115% • Trip within 0.1 to 30 seconds for V>110% or V<90% (Specific voltage and time delay set points will be determined for each installation.)

Note: Trip time refers to the time between when the abnormal voltage condition occurs and the generator being completely disconnected from the utility Company.

On three phase generator installations, full three phase voltage sensing should be employed. Voltages must be sensed on the high side of any interface transformer if the transformer high voltage winding is ungrounded.

The Generator Owner may reconnect to the grid when the system voltage returns to normal range and is stabilized as defined in Section III, Definitions.

2. **Flicker** – The Generator Owner shall not cause excessive voltage flicker on the Company's system. This flicker shall not exceed the "Borderline of Irritation" curve, Fig. 10.3, as define in IEEE Std 519-

1992, Recommended Practices and Requirements for Harmonic Control in Electric Power Systems. Lower levels of flicker may be required in areas where equipment such as computers and instrumentation are impacted.

3. **Frequency** – The operating frequency of the generating equipment shall not deviate more than the values noted in the table below.

Generating Systems with Inverters Up to 50kW	**Generating Systems with Inverters Greater than 50kW**	**Non-Inverter or Rotating Machine Generating Systems**
• Trip in 0.1 second for F<59.3 Hz • Trip in 0.1 second for F>60.5 Hz. (Set points taken from IEEE 929)	• Trip in 0.1 second for F<59.3 Hz • Trip in 0.1 second for F>60.5 Hz. (Other frequency and time delay set points may be necessary for a specific installation.)	• Trip in 0.1 second for F<59.3 Hz • Trip in 0.1 second for F>60.5 Hz. (Other frequency and time delay set points may be necessary for a specific installation.)

Note: Trip time refers to the time between when the abnormal frequency condition occurs and the generator being completely disconnected from the utility Company.

The Generator Owner may reconnect when the system frequency returns to normal range and is stabilized as defined in Section III, Definitions.

Harmonics – Non-linear circuit elements such as inverter can produce harmonics. Per IEEE Std 519, Recommended Practices and Requirements for Harmonic Control in Electric Power Systems, Table 11.1, the total harmonic distortion (THD) voltage shall not exceed 5% of the fundamental 60 Hz frequency nor 3% of the fundamental for any individual harmonic as measured at the location where the customer interfaces with the Company's system (Point of Common Coupling). In addition, the level of harmonic current that the customer is allowed to inject into the Company's system shall not exceed that specified in Table 10.3 in IEEE Std 519. Furthermore, any communication notch should be limited as defined by Table 10.2 in IEEE Std 519. The preceding requirements apply to all types of generation systems.

The Generator Owner is responsible for the installation of any necessary controls or hardware to limit the voltage and current harmonics generated by his equipment to defined levels.

4. **Power Factor –** The generator must not adversely impact the power factor of the Generator Owner site. Most inverters are designed to operate close to unity power factor. The operating power factor of the generator shall be contained within the limits defined in the table below.

Generating Systems with Inverters Up to 50kW	Generating Systems with Inverters Greater than 50kW	Non-Inverter or Rotating Machine Generating Systems
0.95 Lagging or Leading when output exceeds 10% of inverter rating. (From IEEE 929-1999)	0.95 Lagging or Leading When output exceeds 10% of inverter rating.	0.95 Lagging or Leading

However, to the extent that a Generator Owner's power factor at the Point of Common Coupling falls below 0.95 lagging as a direct result of the installation of the generating unit(s), the Generator Owner must obtain, install and maintain, at his expense, corrective apparatus that compensates for the drop in power factor caused by the installation of the generator. Penalties will be assessed for power factors that fall below 0.95 lagging or leading.

5. **Current** – In some cases, directional over-current protection may be required to limit fault current flowing onto the Grid in the event of a line fault. DC inverters that are incapable of producing fault current do not require directional over-current protection.

   Inverter systems should not inject DC current greater than 0.5% of rated inverter output into the AC interface point under either normal or abnormal conditions.

6. **Fault and Line Clearing** – The Generator Owner shall automatically disconnect from the Company's system during electrical faults on the Company's electrical system and upon loss of the Company's electric source. The Generator Owner may reconnect when the system voltage and frequency return to normal range and is stabilized as defined in Section III, Definitions. Detection of the loss of the Company's primary electric system, where the Generator Owner is operating in an island with other customer load, becomes increasingly difficult as the level of distributed generation on a feeder approaches the connected load. For generating units 50kW and below, the over/under voltage and over/under frequency settings described previously along with the anti-islanding provisions of IEEE 929/UL 1746 inverters, should be sufficient to satisfy this provision.

7. **Automatic Reclosing** – The Generator Owner is responsible for protecting his equipment from the effects of switching or automatic reclosing of the Company's feeder circuit. The Generator Owner may request the Company to delay high speed reclosing on the Company's feeder to allow the interconnected generator sufficient time to remove itself from an islanding or de-energized feeder prior to automatic reclose. Since delaying the automatic reclose time degrades the level of service provided to other customers on the circuit, the Company will limit the automatic reclose time delays to a few seconds or less. The Generator Owner may also request that a direct transfer trip scheme be added to remove the interconnected Generator from service prior to automatic reclosing by

using communications equipment between the generator site and the Company. Similarly the Generation Owner may request that a synchronizing check, or reclose blocking scheme be installed on the Company's feeder to prevent out of phase reclosing. The Generation Owner is responsible for all costs associated with the installation and maintenance of these requested modifications.

C. Control, Protection and Safety Equipment Requirements Specific to Generators of 500 kW or less.

All Generator Owners 500 kW or less can be single phase. Customer owned generators greater than 10 kW must be evaluated by the Company to determine if it can be single phase. The following table describes necessary control, protection and safety equipment specific to generator of 500 kW or less connected to Secondary or Primary Voltage Systems:

Generator Size 500 kW or less	
Over-Current Trip	**X**
Over-Voltage Trip	**X**
Under Voltage Trip	**X**
Over/Under Frequency Trip	**X**
Synchronizing Check[2]	**Manual or Automatic**

Notes:

1. Exporting to the Company system many require additional operational/protection devices.
2. For synchronous and other type of generators with stand-alone capability.

D. Control, Protection and Safety Requirement Specific to Three Phase Synchronous Generators, Induction Generators, and Inverter Systems.

Generators greater than 50 kW must be three phase generators connected to three phase circuits.

1. **Three Phase Synchronous Generators.** Generator circuit breakers shall be three phase devices with electronic or electromechanical control. The Generation Owner is solely responsible for properly synchronizing his generator with the Company's system. For a synchronous generator, the excitation system response ratio shall not be less than 0.5 (five-tenths). The generator's excitation system(s) shall conform, as closely as reasonably achievable, to the field voltage vs. time criteria specified in American National Standards Institute Standard C50.13-1989 in order to permit adequate field forcing during transient conditions.
2. **Three Phase Induction Generators and Inverter Systems.** Induction generation may be connected and brought up to synchronous speed (as an induction motor) if it can be demonstrated that the initial voltage drop measured on the Company's side at the point of common coupling is within the visible flicker limits stated in

   Section XIV.B.2. Otherwise, the Generator Owner may be required to install hardware use other techniques to bring voltage fluctuations to acceptable levels. Line-commutated inverters do not require synchronizing

equipment. Self-commutated inverters whether of the utility-interactive type or stand-alone type shall be used in parallel with the Company system only with synchronizing equipment.

Requirement for the Control, Protection and Safety Equipment[1] Greater than 25kW and Less than 500kW, Three Phase Connected to Primary System	
Generator Disconnect Device	**X**
Over-Voltage Trip	**X**
Under Voltage Trip	**X**
Over-Current Trip	**X**
Over/Under Frequency Trip	**X**
Ground Over-Voltage Trip[2] **OR** **Ground Over-Current Trip[2]**	**X**
Synchronizing Check[3]	**Manual or Automatic**
Power Direction[4]	**X**
Transfer Trip/Reclose Blocking[5]	**X**

Notes:

1. Exporting to the Company's system may require additional operating/protection devices and will require coordination of operations with the Company.
2. Selection depends on grounding system, if required by the Company.
3. For synchronous and other types of generators with stand-alone capability.
4. Required only if generator size is greater than Generator Owner's minimum load and thus capable of exporting. The relay will operate if the power flow from the generator into the Grid exceeds a predetermined level. A time delay will have to be incorporated into this relaying scheme to prevent it from operating during synchronous swings.
5. May be required as part of any necessary transfer tripping/reclose blocking protection scheme.

E. Requirements Specific to Generators paralleling for 0.1 second or less (Closed Transition Switching)

Control, Protection and Safety Equipment requirement for generators less than 500 kW which parallel with the Company's system for 0.1 second or less such as during source or load transfers.

Over-Voltage Trip	**X**
Under Voltage Trip	**X**
Synchronizing Check[1]	**Manual or Automatic**

Excessive Closed Time Trip[2] **X**

Notes:

1. For synchronous and other types of generators with stand-alone capability.

2. Scheme will trip generator if closed transition parallel mode remains in effect longer than 0.1 second.

F. **Inverter Type –** DC Generation installations using inverters for interconnection with the Company must use non-islanding type inverters as defined in IEEE 519, Recommended Practices and Requirements for Harmonic Control in Electrical Power Systems, IEEE 929, IEEE Recommended Practices for Utility Interface of Photovoltaic (PV) Systems (including Annex B, D, E & G) and UL Subject 1741, May 1999, Standard for Static Inverters and Charge Controllers for use in Photovoltaic Power Systems.

G. **Inspection and Start-Up Testing –** the Generator Owner shall provide the Company with reasonable prior notice at least 2 weeks before the initial energizing and start-up testing of the Generator Owner's generating equipment and the Company, at its discretion, shall witness the testing of any equipment and protective systems associated with the interconnection. The Generator Owner shall revise and re-submit the application information for any proposed modification that may affect the safe and reliable operation of the Company's system. The generator may be reconnected to the Company system only after the modified application has been reviewed, testing has been confirmed and the Company has given approval to reconnect.

H. **Site Testing and Commissioning -** Testing of protection systems shall include procedures to functionally test all protective elements of the installation up to and including tripping of the generator and interconnection point. Testing and testing intervals should be in accordance with manufacturers' and industry recommendations. Testing will verify all protective set points and relay/breaker trip timing. The Company may witness the testing of installed switchgear, protection systems, and generator. The Generator Owner is responsible for all maintenance of the generator, control and protective equipment. The Generator Owner will maintain records of such maintenance activities which the Company may review at reasonable times.

I. **Metering -** Metering requirements will be reviewed on each specific installation.

J. **Dedicated Transformer –** A dedicated transformer will be required where the generating Generator Owner is served from the same transformer secondary as another Company customer and inverter-based technology not meeting IEEE 929-1999 and IEEE 519-1992 specifications is used. In addition, a dedicated transformer or other current-limiting device is needed for any type of generator installation where the increase in available short circuit current could adversely impact other Company customers on the same secondary circuit.

K. **Suggested References**

The following references can supply technical support and insight into the safe, reliable interconnection of distributed generation with the Company's systems. These references should be reviewed by those individuals or firms contemplating parallel operation of generation with the Company.

IEEE C37.95-1989 - IEEE Guide for Protective Relaying of Utility-Consumer Interconnections

IEEE Std 1001 (1988) - IEEE Guide for Interfacing Dispersed Storage and Generation Facilities with Electric Utility Systems

IEEE Std 929 - IEEE Recommended Practices for Utility Interface of Photovoltaic (PV) Systems

IEEE Std 1021 (1988) - IEEE Recommended Practices for Utility Interconnection of Small Wind Energy Conversion Systems

IEEE Std 519 -1992 - IEEE Recommended Practices and Requirements for Harmonic Control In Electrical Power System

NEC 690 - Solar Photovoltaic Systems

UL 1703 - Standard for Safety Flat-Plate Photovoltaic Modules and Panels

UL 1741 - Standards for Static Inverters and Charge Controllers for use in Photovoltaic Power Systems

4. NET METERING

4.1 General Provisions – Net Metering can occur in three circumstances as follows:

Condition 1 – Individual Customer/Single Account/Single Premise where all Net Metering activity occurs at a single customer premise for a single customer account;

Condition 2 – Individual Customer/Multiple Accounts/Single or Multiple Premises where a single customer can aggregate Net Metering for crediting to multiple accounts and/or premises; and

Condition 3 – Host Customer/Multiple Subscribers/Multiple Premises where a Community Energy Facility, either behind the meter of a Subscriber or as a stand-alone facility, provides Net Metering for multiple Subscribers and multiple premises. A Community Energy Facility may include technologies defined under §352(6)(a-h) of Title 26 of the Delaware Code.

The City of Dover ("City") shall offer Customers the option of Net Metering if a Customer generates electricity at the Customer's premises, subject to all of the following requirements:

4.1.1 The Customer: owns and operates; leases and operates; or contracts with a third party that owns and operates the electric generation facility with a capacity that:

4.1.1.1 Will not exceed 25 kW per City meter for residential Customers;

4.1.1.2 Will not exceed 500 kW per City meter for non-residential Customers;

4.1.1.3 Will not exceed 100 kW per City meter for farm Customers (subject to rules of Delaware Code - Title 26, §1014(d)(1)b);

4.1.1.4 Is located on the Customer's premises;

4.1.1.5 Application by a non-residential Customer for the installation of any generation system in excess of 500 kilowatts shall be given due consideration and require a special contract. The installation will only be accepted by the City if it complies with Section 4.1.1.8 and there is no detrimental impact to the electric system; the City decision will be final;

4.1.1.6 Uses as its primary source of fuel: solar, wind, hydro, a fuel cell, or gas from the anaerobic digestion of organic material;

4.1.1.7 Is interconnected and operated in parallel with an City's transmission and distribution facilities;

4.1.1.8 Does not exceed, individually or in the aggregate as a result of other net-metering Customers on the same distribution feeder or substation, a maximum renewable generating capacity greater than 1.5 megawatts on a distribution feeder and shall not exceed 15% of the substation transformer capacity rating; and

4.1.1.9 Under all conditions, the installation shall be designed to produce no more than 110% of the Host Customer's expected aggregate electrical consumption, calculated on the average of the two previous 12 month periods of actual electrical usage at the time of installation of energy generating equipment and subject to the capacity limits specified in Section 4.1.1.1 through Section 4.1.1.3 of this Rule. For new building construction or in instances where less than two

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previous 12 month periods of actual usage is available, electrical consumption will be estimated at 110% of the consumption of units of similar size and characteristics at the time of installation of energy generating equipment and subject to the capacity limits specified in Sections 4.1.1.1 through Section 4.1.1.3 of this Rule.

4.2 Metering and Tariff Requirements - Net Metering shall be accomplished through a single meter installed at City's expense that runs forward and backward in order to measure net energy flow during a billing period.

4.2.1 An additional meter or meters to monitor the flow of electricity in each direction may be installed with the consent of the Customer, at the expense of the City, and the additional metering shall be used only to provide the information necessary to accurately bill or credit the Customer pursuant to Sections 4.3 and/or 4.4 of this Rule, or to collect system performance information on the eligible technology for research purposes.

4.2.2 Where a larger capacity meter is required to serve the Customer, or a larger capacity meter is requested by the Customer, the Customer shall pay the City the difference between the larger capacity meter investment and the meter investment normally provided under the Customer's service classification. If an additional meter or meters are installed, the net energy metering calculation shall yield a result identical to that of a single meter.

4.2.3 If the existing electrical meter of a Customer is incapable of measuring the flow of electricity in two directions through no fault of the Customer, the City shall be responsible for all expenses involved in purchasing and installing such a meter.

4.2.4 For Condition 3 where a stand-alone Community Energy Facility is installed, the City shall install the meter necessary to provide the data to accomplish the necessary billing and shall be responsible for all expenses involved in purchasing and installing such a meter. The City shall assess the stand-alone Community Energy Facility a customer charge equivalent to the load and energy output characteristics of the generating facility which would be equivalent to the load and energy characteristics of a similarly situated Customer in its tariff.

4.2.5 If the total generating capacity of all Customer-generation using net metering systems served by the City exceeds 5% of the capacity necessary to meet the City's aggregated Customer monthly peak demand for a particular year, the City may elect not to provide Net Metering services to additional Customers. The City's aggregated Customer monthly peak demand shall be the average of the unadjusted five (5) system peaks for the City as determined by Delmarva Power and reported to PJM and shall be in effect from June 1 through May 31 of each year.

4.2.6 City shall provide net-metered Customers electric service at non-discriminatory rates that are identical, with respect to rate structure and monthly charges, to the rates that a Customer who is not Net Metering would be charged. City shall not charge a Net Metering Customer any stand-by fees or similar charges.

4.2.7 If a Net Metering Customer terminates its service with the City, the City shall treat the end of service period as if it were the end of the Annualized Billing Period for any excess kWh credits.

4.3 Net Metering Condition 1 and Condition 2 - If, during any billing period, a Customer-Generator Facility produces more energy than that consumed by the Condition 1 Customer, or aggregate total kWh of the Condition 2 Customer, the City will credit the Customer in kWh's equal to the sum of delivery service charges and supply service charges for residential Customers and the sum of the delivery service charges and supply service charges for non-residential Customers for any excess energy production of their Customer-Generator Facility that exceeds the Customer's on-site, or aggregate total consumption of kWh in the applicable billing period.

4.3.1 Excess kWh credits shall be credited to subsequent billing periods to offset a Customer's consumption in those billing periods until all credits are used. During any subsequent billing period prior to the end of the Annualized Billing period, the crediting of excess energy kWh will result in the reduction of cost paid by the Customer for the kWh of delivery service charges, if applicable, and supply service charges.

4.3.2 At the end of the Annualized Billing Period, a Customer may request a payment from the City for any excess kWh credits, subject to 4.1.1.8. The payment for residential customer accounts shall be equal to kWh Customer's Supply Service Charges. excluding charges, such as the transmission capacity charge and/or demand charges. The payment for non-residential customer accounts shall be equal to excess kWh Customer's Supply Service Charges that would otherwise be applicable at the end of the Customer's Annualized Billing Period. If such payment would be less than $25.00, the City may credit the Customer's account through monthly billing.

4.3.3 Any excess kWh credits shall not reduce any fixed monthly Customer charges imposed by the City.

4.3.4 The Customer shall retain ownership of all RECs associated with electric energy produced from all eligible energy resources of the Customer-Generator Facility and consumed by the Customer unless the customer has relinquished such ownership of the RECs by contractual agreement with a third party.

4.3.8 Where applicable, the requirements established in Section 4.6 of these Rules shall apply to this Section 4.3.

4.4 Net Metering Condition 3, Host System – Where the Community Energy Facility is located behind the meter of a Subscriber that is also the Host Customer, the following will also be subject to the requirements established in Section 4.7 of this Rule:

4.4.1 During a monthly billing period where the energy from the Community Energy Facility exceeds the consumption of the Host Customer, the Subscribers participating in a Community Energy Facility shall be credited kWh equal to Supply Service Charges – as per the Net Energy Metering Tariff –for any of the energy production in excess of the consumption of the Host Customer of the Community Energy Facility. This credit will only be given to the Host Customer on a monthly basis; it will be the responsibility of the Host Customer to distribute the value of this credit to other Subscribers participating in the Community Energy Facility. Only for the purposes under this section 4.4 will this not be considered "resale" of electricity but will be considered distribution of dividends for a Community Energy Facility.

4.4.2 The Subscribers participating in a Community Energy Facility shall retain ownership of all RECs associated with electric energy produced from all eligible energy resources of the Community Energy Facility unless the Subscribers participating in the Community Energy Facility have relinquished such ownership of RECs by contractual agreement with a third party.

4.4.3 A Community Energy Facility shall not exceed the sum total of the capacity limits as defined under Section 4.1.1.1 through Section 4.1.1.3 and 4.1.1.8 of this Rule among the Subscribers of a Community Energy Facility.

4.4.4 Where applicable, the requirements established in Section 4.7 of these Rules shall apply to this Section 4.4.

4.4.5 The City invoked its authority under Title 26, Chapter 10, Subchapter 1014 (e) (3) to credit the energy produced under Sections 4.4 and 4.5 at the value of the Supply Service Charges as defined in the Net Energy Metering Tariff. This Tariff will be updated on an annual basis to reflect the annual budgeted value and will not be trued up at the end of the

annual period to reflect actual costs.

4.5 Net Metering Condition 3, Stand Alone System – Where the Community Energy Facility is a stand-alone facility, the facility will be subject to the requirements established in Sections 4.4 and 4.7. For clarification, the payment will be made to the participant that has the electric meter of the Community Energy Facility in their name.

4.6 Net Metering Condition 2 – Subject to the applicable Net Metering provisions of Section 4.0 of this Rule, under Condition 2, one customer may have multiple meters under the same account or different accounts, regardless of the physical location and rate class. The customer may aggregate meters for the purpose of net metering regardless of which individual meter receives energy from a Customer-Generator Facility, provided that:

4.6.1 City of Dover shall only allow meter aggregation for customer accounts for which it provides electric supply service; and

4.6.2 The Customer-Generator Facility is designed to produce no more than 110% of the aggregate electrical consumption of the Customer's individual meters or accounts that the Customer is entitled to aggregate under this Section 4.6 calculated on the average of the two previous 12 month periods of actual electrical usage. For new building construction or in instances where less than two previous 12 month periods of actual usage are available, electrical consumption will be estimated at 110% of the consumption of units of similar size and characteristics at the time of installation of energy generating equipment; and

4.6.3 A Customer-Generator Facility shall not exceed the sum total of the capacity limits among the participants of a Customer-Generator Facility as defined under Section 4.1.1.1 through Section 4.1.1.3 and 4.1.1.8 of this Rule; and

4.6.4 At least ninety days before a Customer commences construction of a Customer-Generator Facility or a Customer is entitled to aggregate multiple meters, the customer shall file with the City the following information:

4.6.4.1 a list of individual meters the Customer is entitled to aggregate, identified by address, rate schedule, and account number; and

4.6.4.2 a description of the Customer-Generator Facility, including the facility's location, capacity, and fuel type or generating technology.

4.6.5 The Customer may change its list of aggregated meters specified in Section 4.6.4.1 no more than once annually by providing ninety days' written notice; and

4.6.6 Credit shall be applied to the meter through which the Customer-Generator Facility supplies electricity; and

4.6.7 Credit in kilowatt-hours (kWh) shall be valued according to Section 4.3 of this Rule and each account's rate schedule as specified in Section 4.6.4.1 above; and

4.6.8 The City may require that Customer's aggregated meters specified in Section 4.6.4.1 above be read on the same billing cycle.

4.7 Net Metering Condition 3 Subscribers – Subscribers are eligible to participate in a Community Energy Facility, provided:

4.7.1 A community includes customers sharing a unique set of interests; and

4.7.2 The City shall only allow meter aggregation for customer accounts of which it provides electric service; and

4.7.3 The Community Energy Facility is designed to produce no more than 110% of the community's aggregate electrical consumption of its individual customers, calculated on the average of the two previous 12 month periods of actual electrical usage. For new building construction or in instances where less than two previous 12 month periods of actual usage is available, electrical consumption will be estimated at 110% of the consumption of units of similar size and characteristics at the time of installation of energy generating equipment; and

4.7.4 The Community Energy Facility shall not exceed the sum total of the capacity limits among the participants of a Community Energy Facility as defined under Section 4.1.1.1 through Section 4.1.1.3 and 4.1.1.8 of this Rule; and

4.7.6 Before Net Metering for a Community Energy Facility may be formed and served by the City, the community proposing a Community Energy Facility shall file with the City the following information:

4.7.6.1 a list of individual meters the community is entitled to aggregate identified by name, address, rate schedule, and account number; and

4.7.6.2 a description of the Community Energy Facility, including the facility's physical location, the Host Customer's physical location, capacity, and fuel type or generating technology.

4.7.7 A community proposing a Community Energy Facility may change its list of aggregated meters as specified in Section 4.7.6.1 above no more than quarterly by providing ninety days' written notice to the City; and

4.7.8 If the community proposing a Community Energy Facility removes individual customers from the list of aggregated meters as specified in Section 4.7.6.1 above, then that community shall either replace the removed customers, reduce the generating capacity of the Community Energy Facility to remain compliant with the provisions provided under Sections 4.7.3 and 4.7.4 above, or negotiate with the City to establish a mutually acceptable agreement for any excess kWh credit; and

4.7.9 The City may require that customers participating in a Community Energy Facility have their meters read on the same billing cycle; and

4.7.10 Neither customers nor owners of community-owned energy generating facilities shall be subject to regulation as either public utilities or an Electric Supplier.

4.7.11 The Subscribers participating in a Community Energy Facility shall retain ownership of all RECs associated with electric energy produced from all eligible energy resources of the Community Energy Facility unless the Subscribers participating in the Community Energy Facility have relinquished such ownership by contractual agreement with a third party.

4.7.12 The Community Energy Facility will also be subject to the requirements of Sections 4.4 and 4.5 of this Rule.

4.8 Disputes – Any net metering disputes limited to the correct application of the Electric Service Handbook and

Net Metering Tariffs shall be resolved by the City Manager or his/her designee.

4.9 Interconnection Requirements – Any requirements necessary to permit interconnected operations between the Customer-Generator Facility or Community Energy Facilities and the City, and the costs associated with such requirements, shall be consistent with the requirements contained in the City of Dover Electric Service Handbook (ES Handbook) The City shall not require eligible net metering customers who meet all applicable safety and performance standards to install excessive controls, perform or pay for unnecessary tests, or purchase excessive liability insurance.

4.9.1 A complete interconnection application is required to facilitate a City- directed transmission and distribution analysis, including an evaluation of potential reliability, safety and stability impacts and determination of whether infrastructure upgrades are necessary and appropriate allocation of applicable interconnection costs as outlined in the ES Handbook.

4.10 Failure to Comply with These Rules. The failure by any interconnection customer to comply with these requirements and the requirements in other Sections of the ES Handbook may result in penalties, including monetary assessments, suspension or revocation of the facilities interconnection or other sanction as determined by the City Manager.

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4.5. CUSTOMER SERVICE

I. APPLICATION AND CONTRACT FOR SERVICE

A service contract is required in order to receive electric service from the City. In order to receive electric service, each customer is required to apply at the Customer Service Department and if approved the customer shall implicitly enter into a contract with the City for electric services. This Handbook, terms of applicable service classifications, and any Rules and Regulations adopted by the City shall be part of every contract for electric service and shall govern all classes of service. Any prior outstanding debts to the City of Dover will result in service not being granted until the debt is paid in full.

When requesting a service connection, individuals need to complete an application for utility service at least twenty four hours (24) or one business day before the requested service date. The City requires a signed lease agreement or proof of ownership, a Social Security card, and one form of photo identification. The City will obtain credit reports to determine the amount of a deposit, if required. Charges for electric service shall begin at the time electric service is made available to the Customer.

II. ELECTRIC SERVICE CONTRACT

The City Manager is empowered to create and enforce all rules and regulations in order to maintain and operate the City electric plant, and electrical distribution system. The City Manager, or designee, is authorized to review every contract for electric service that governs all classes of service, unless otherwise stated by a service classification. Additional information regarding policies and regulations may be obtained by contacting the City of Dover's Customer Service Department.

III. ELECTRIC SERVICE RATES

Copies of the Electric Service Tariffs and all rules and regulations adopted by City Council are available for the public review at the Customer Service Center, Public Utilities and on the City of Dover website. The rules and regulations apply to every customer or applicant for utility service. Revisions and amendments may occur from time to time, and customers are encouraged to contact the City for updates.

IV. NO PREJUDICE OF RIGHTS

The failure by the City of Dover to enforce any of the provisions of the Tariffs shall not be deemed a waiver of its right to do so.

V. CITY'S RIGHT TO REJECT APPLICATION

The City may reject any application for service if the applicant does not meet all the requirements of the City.

VI. SERVICE CHARGE FOR APPLICATION OF SERVICE

The City does not charge a service fee to establish or discontinue service. However, the City reserves the right to charge a service fee to process changes or cancelations to any type of work order requests. An individual requesting to establish service without providing the required notice shall be subject to a service fee according to the published connect and disconnect service fees.

VII. MOBILE HOME PARKS

Each mobile home electric customer shall make a suitable deposit when connected; however, the mobile home park operator may make a suitable deposit and guarantee the accounts for individual tenants. If this arrangement is elected, connections and disconnections of service may be handled by mobile home park operator via telephone to the City.

All applicable Rules and Regulations, in addition to those listed above, shall apply to service to Mobile Home Parks.

VIII. SERVICE DEPOSIT

The City may require a service deposit for all utility (electric, water and/or wastewater) accounts. This amount varies depending on the customer's credit rating. The requested deposit can be as much as three times the average monthly bill at the residence in question or as little as zero. Service deposits are held in an interest bearing account. Interest is paid on the deposit at a rate set by the City Council. When the customer account is terminated the deposit will be applied to the final bill. Any credit remaining on the account after the final bill is satisfied will be refunded to the customer once it has been determined that the customer has no other outstanding balances with the City of Dover.

As long as residential customer (owner or renter) maintains a good credit standing, they will never be asked for an additional deposit. A customer who fails to pay their bill and has services disconnected or who has a returned check, and either occurs twice in a twelve month period, will be charged an additional deposit. Additional deposits may be required for any reason the City may deem appropriate.

IX. TRANSFERRING SERVICE

When requesting a service transfer, we require individuals to apply at Customer Service and complete an application for utility service. We require a signed lease document or proof of ownership, a Social Security card, and one form of photo identification.

Electric service to a customer at a new location or to transfer electric service to a new location shall be rendered only when all City of Dover outstanding debts are paid in full. Any delinquent balance must be paid in full and the account must be brought current in order to have service established at another location. At this time, the deposit for both locations will be reviewed. Any deposits will be transferred an additional deposit may be required. The final bill is due and payable when rendered.

In the event of an issue of domestic violence, an order from the court will be satisfactory to establish utility service. Utility services will be provided at the address indicated on the order. Valid photo identification and a Social Security card will be required in order to complete the application process. The City may require a service deposit. A credit report will be generated in order to determine the level of deposit required. The deposit can be as great as three times the average bill or as little as zero.

X. DISCONTINUE ELECTRIC SERVICE BY CUSTOMER NOTICE

The customer shall give the city at least (1) business day, or twenty-four (24) hours, written notice to discontinue electric service unless otherwise agreed upon and shall be liable for electric service used until the meter is disconnected or final reading is recorded. Notice prior to the expiration of any electric service contract term shall not relieve any minimum guaranteed payment under any electric service classification. The customer shall be responsible for all cost to disconnect the electric service.

XI. SUSPENSION OF ELECTRIC SERVICE CONTRACT

If, by reason of any act, neglect or default of a customer, the City's electric service is suspended or the City is prevented from supplying electric service in accordance with the terms of any electric service contract it shall have entered into, the minimum charge for the unexpired portion of the electric service contract term shall become due and payable immediately as liquidated damages in lieu of the anticipated returns from the electric contract.

XII. BILLING PERIOD

Meter readings are obtained by the City's meter reading staff on a monthly basis on a pre-determined route. The area of the service address determines the date the meter is read, billed and due and requests for specific billing date cannot be accommodated. The electric bill shall be due and payable within twenty-one (21) days after the electric bill is dated.

XIII. ESTIMATED BILLING

When the City's meter reader is, at any regular meter reading date unable to gain access to the customer's premises the City may render an estimated utility bill based on prior usage.

XIV. EQUALIZED PAYMENT PLAN

An equalized payment plan will be permitted for residential customers meeting these requirements. Monthly payments for the service address will be based on estimated cost of total consumption for the eleven month period October through August, with additional billing being made in the remaining one (1) month. Adjustments in monthly payments may be made after each quarterly review, and may indicate that the original estimate consumption was too high or too low. Additional information can be obtained by contacting Customer Service.

XV. FINAL BILLING

When terminating services, the customer must make a request to the City (1) one business day, or twenty-four (24) hours, prior to the termination date. The final bill will be due and payable when rendered. Any service deposit on file will be applied to the final bill. If unpaid, the City may refer the account to a collection agency. The customer will be responsible for any fees, penalties, legal expenses and attorney fees incurred during the collection process.

XVI. OPTIONS IN BILL PAYMENTS

To better serve our customers the City of Dover offers a variety of payment options. Cash, checks, money orders, cashier's check, certified checks, credit cards, and bank drafting are some accepted forms of payment. Payments can be mailed, brought to the office during normal business hours (8:30 AM to 5:00 PM, Monday through Friday), or placed in the drop box located at Customer Service. Cash payments cannot be accepted in the drop box. For complete details on payment options, please contact Customer Service.

XVII. CREDIT POLICY

It is important to maintain a good payment record. Payment is due (21) twenty-one days from the billing date indicated on the bill. ~~Before disconnecting electric service for nonpayment a disconnection notice shall be mailed to the customer giving additional (14) days to make the payment, or arrangements with Customer Service, if the customer meets eligibility requirements.~~ *Payment arrangements can be made with Customer Service, if the customer*

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meets eligibility requirements. Delinquent balances are subject to penalties at the percentage approved by City Council. More details on the City's credit policy are available by contacting Customer Service.

XVIII. RETURNED CHECKS AND RETURNED ELECTRIC FUNDS TRANSFERS

The City will charge an established service fee for any check or electric funds transfer returned unpaid for any reason from the bank. In the event the item returned was used for the payment of reconnection of electric service the City may terminate the electric service, without written notice, until the matter is resolved. All returned check payments must be made in cash or money order at Customer Service, during normal business hours. If the returned check resulted in electric service interruption, an additional service fee will apply. To be reconnected, after hours contact the City of Dover Dispatch Center. Only money orders or cashier's checks will be accepted.

XIX. MEDICAL HARDSHIP POLICY

The State of Delaware has made provisions for occupants of any dwelling that may require the use of a medical device that requires electric current. The customer must register this medical hardship with Customer Service. A letter from the patient's physician indicating the medical condition, medical device and amount of amps required to operate the device is required. The letter will remain on file for 120 days, after which if the medical condition still exists another letter will be required from the attending physician. While this provision prevents the termination of electric service, customers that maintain a delinquent balance and would be subject to disconnection for non-payment, will be issued a notice affixed to the door of the service address notifying the customer that they have 24 hours to make payment of the delinquent amount or face further action.

The City of Dover reserves the right to place a load restrictive devise on any account which has a medical seal and maintains a delinquent account balance. This load restrictive device is normally placed 48 hours after the 24 hours notice. The load restrictive device allows only enough electricity to a dwelling to operate needed medical equipment. The customer will be notified prior to the installation of the device.

Delaware State Statue: 26 Del.C. §117(d) provides:

"In no event shall such termination occur if any occupant of any dwelling unit shall be so ill that the termination of such sale or physician of this State or any accredited Christian Science practitioner and received by any employee or officer of such persons engaging in the distribution of sale of gas, water or electricity. Signed statements from a licensed physician or accredited Christian Science practitioner obtained pursuant to this section are effective for 120 days. Signed statements may be renewed by means of a new signed statement to prevent termination."

XX. ELECTRIC SERVICE RE-CONNECTION; FEE; ARREARAGE

Electric service may be disconnected by the City pursuant to this handbook and shall be reconnected only upon advance payment of published service fees in addition to all arrearage due under the customer's utility service contract, except when it has been necessary to remove service wires to discontinue the electric service. In the latter case electric service shall be restored only upon payment to the City of the cost of discontinuance and restoration.

XXI. COMPLIANCE

Electric service may be refused by the City of Dover until the customer is in compliance with all established standards of safe and efficient wiring.

XXII. METER READINGS

All meters must be read at least once every three (3) months, by City personnel, during normal working hours. Failure to have meter accessible for this purpose could result in termination of service in accordance with Rules and Regulations Section.

XXIII. BILLING CHANGES

When demands are reassessed or power factors re-computed or re-measured, or the customer is found to be on an improper Service Classification, as the result of an investigation made at the customer's request or by routine inspection when it is found that the customer has been miss-billed for any reason, the City has the option to render corrected bills to the customer. The corrections will begin with the month when it is established the error occurred, but will not exceed twelve (12) billings.

XXIV. CHOICE OF SERVICE CLASSIFICATIONS

When two or more Service Classifications are available for the same class or service, the customer shall select the Service Classification to be applied.

XXV. CHANGING SERVICE CLASSIFICATIONS

When a customer has selected a service classification, this classification shall remain in effect for the contract term. Changes may be allowed if the customer makes a change in the installation, in the character of service, or quantity of energy use.

If a customer on the primary service classification wishes to switch to another classification, and they are eligible for the new classification, the customer may do so at the customer's choice. If such a change occurs, the City will make a determination on a case-by-case basis which portion, if any, of the customer-owned electrical equipment will be maintained or accepted by the City; however, any equipment transferred to City ownership will be so transferred at no cost to the City. If the equipment is not accepted by the City the “New Extension” policy will be applied to the upgrade prior to the transfer.

XXVI. CITY ASSISTANCE

The City, upon request, may assist the customer in the selection of the most advantageous Service Classification, but the duty and responsibility of making the selection shall at all times rest with the customer.

Electric Service Handbook Discussion

Section 1, II. SERVICES AND EXTENSIONS, EXTENSIONS – RESIDENTIAL AND NON-RESIDENTIAL

Due to the slowdown in the economy many of the developments have not progressed as quickly as in the past. This has resulted in issues related to electric facilities not being available to provide power for needed street lights. The additional text will allow the City to develop a mutually agreeable phasing plan that will satisfy both parties' needs.

Section 1, III. LIGHTING – GENERAL

This provides additional clarification that the City has the right to trim trees in the right-of-way that interfere with desired illumination of City maintained lighting fixtures.

Section 1, III. LIGHTING – STREET LIGHTS, 2. New Developments (Streets)

a. This clarifies that the City will be the designer of lighting patterns for the future City maintained streets and determine what lights will be installed during each phase.
b. At the request of the Planning Department the cost of operating street lights on non-dedicated streets will be borne by the developer until such time as the street is dedicated.
c. Currently the developer has the option of installing the street lights themselves or paying the City to install these lights (material cost only). For many years the developers have paid the City due to this favorable pricing. During the economic slowdown some developers have not been as responsive as necessary to pay for some of the required (City's opinion) street lights, resulting in under lit occupied areas. This has resulted in security and safety concerns from the residents living in partially completed areas. This sub-section will define the costs and responsibility of installing the street lights and prevent unlit occupied areas by collecting this fixed fee prior to structural development.

Section 2, XIV, METER TESTING

With the installation of the electronic meters the manufactures have stated that routine testing is no longer required since there are no moving parts. Essentially the meter is working correctly or it completely fails to register usages, in which case the City is aware of the problem.

3. TECHNICAL CONSIDERATIONS COVERING PARALLEL OPERATIONS

This section was updated to the latest standards since the last publication.

4. Net Metering – New Section

Under Senate Bill No. 267, and Senate Amendment No. 2 to Senate Bill No. 267, the 145th General Assembly approved to amend Title 26 of the Delaware Code related to the net energy metering standards. The purpose of this code is to encourage private investment in customer-owned renewable energy generation facility. This amendment required staff to modify the City of Dover Net Metering policies/tariff to comply with the Code. Essentially this

legislation created three distinct groups of renewable generators. This policy was developed by staff in an effort to comply with the legislation and has been approved by the City's attorney, Mr. Kirk Betts. Generally the policy is self-explanatory so no further discussion is offered with one exception. Under Condition 3, Section 4.4.5, the legislation gave the City the option to price the value of the Supply Service Charges (energy). Staff is recommending that this value be determined on an annual basis and will be the budgeted cost of energy, which is determined by the average cost of the hedges and the market price of the open positions. The reason for using this value is that if the Community Generation Facility is using the City's distribution system to transmit energy to other locations the Generation Facility should support the costs of the distribution network. By not giving the Generation Facility full tariff credit they will financially support these distribution costs.

5. CUSTOMER SERVICE (Old section 4)

ACTION FORM

PROCEEDING: Utility Committee	**AGENDA ITEM NO.:**
DEPARTMENT OF ORIGIN: Public Utilities - Administration	**DATE SUBMITTED**: 11-11-11
PREPARED BY: Ronald H. Lunt, Public Utilities Director	
SUBJECT: Net Energy Metering Tariff Revisions	
REFERENCE: N/A	
RELATED PROJECT: N/A	
APPROVALS: City Manager, Controller/Treasurer	
EXHIBITS: Red-lined Net Energy Metering tariff	
EXPENDITURE REQUIRED: N/A **AMOUNT BUDGETED**: N/A **FUNDING SOURCE (Dept./Page in CIP & Budget)**: NA	
TIMETABLE: To be effective upon Council Approval.	
RECOMMENDED ACTION: Staff recommends the approval of the revised "Net Energy Metering" tariff, to be effective upon Council approval.	

BACKGROUND AND ANALYSIS

The 145th General Assembly approved an amendment to the net energy metering standards, Delaware Code – Title 26, Chapter 10, Subsection 1014. The purpose of this code is to encourage private investment in customer-owned renewable energy generation facility. This amendment required staff to modify the City of Dover Energy Metering Tariff to include 100 kW system maximums for Farm installation and direct customer payment for excess kWh delivered to Dover. The attachments to this Action Form show the proposed changes in redline format whereby the black text is original, the red text is proposed and the red strikethrough would be deleted.

These proposed changes will bring the City of Dover tariff into compliance with the Delaware Code.

The Energy Authority, Inc.

Monthly Management Committee Update – September 2011

October 28, 2011

Prepared by:

Jamie Mahne
Member Services Manager
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The Strategic Partner for Public Power

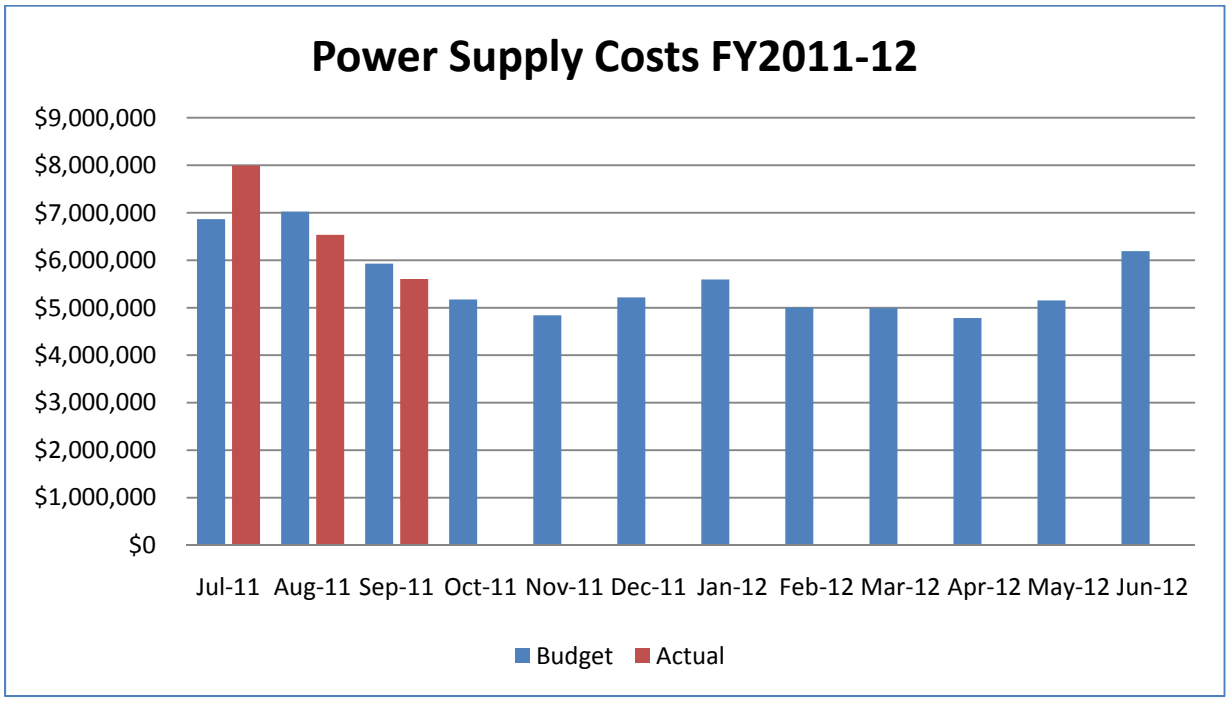
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I. Executive Summary

Power Supply:



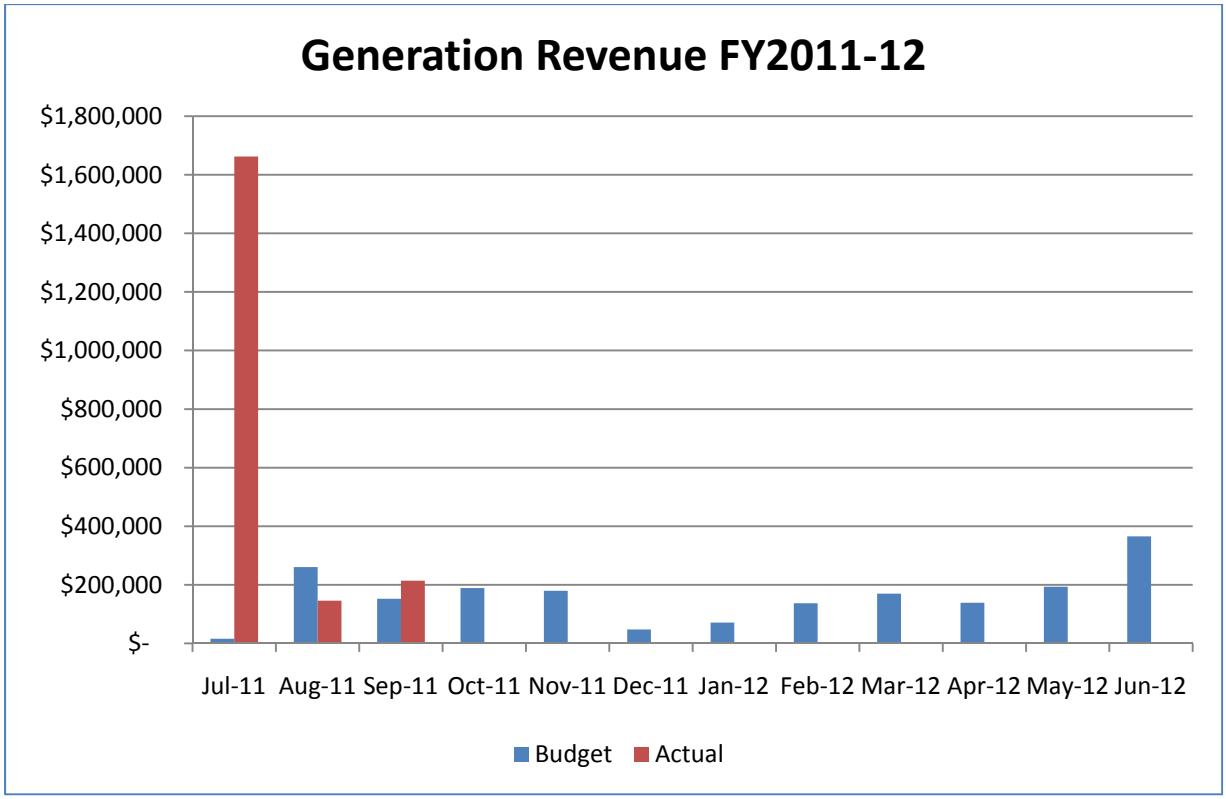
Powers Supply costs were $326.230 under budget due to decreased solar output (315 MWh less than forecast) and lower PJM prices.

Average cost/MWh on the supply side was $86.13 compared to a budgeted cost of $91.87.

Dover's hedge purchases totaled 51,600 MWh, which was 80% of the projected load. Versus actual load, this hedged percentage totaled 81% of Dover's needs for the month.

Dover's power purchases from hedge transactions totaled $3,715,584. Purchases from PJM totaled $944,213 (all in), with DA Energy purchases totaling $478,495 and Balancing Spot Market Energy totaling $31,567.

Generation Summary



Net generation for the month credited by PJM was 74 MWh. The budget did not expect any generation. Net generation revenue totaled $213,794 vs. a budget of $152,174. Dover's Unit 11 was dispatched for 1 start and ran for slightly more than 2 hours in the month.

Operations Management Summary

During the month of September, there were no restricted work days or lost time accidents. The facility has now gone 351 days without an OSHA recordable accident or a Lost Time reportable accident. There was one Near Miss incident which involved workers and possible exposure to hazards during the demolition of the coal crusher house.

The actual expenses for September are $398,315 against a budgeted amount of $410,206 for a positive variance of $11,891 or ≈ 2.90%. The variance was due to the following:

PERSONNEL EXPENSES – Lower labor, overtime, and burdens accounted for a favorable monthly variance of $65,009.

Note: Included in this variance is a positive variance of $31,912 for the Employee Incentive Accumulator and Employee Incentive Burden Accumulator that will occur every month. These expenses were broken down into every month over the entire year, instead of having them budgeted for June of 2012 when they would actually be expensed.

MATERIALS AND SUPPLIES EXPENSES - The account with any appreciable variance was the Water/Sewer account and the Computer Software account which was higher than budgeted due to timing of the billings for an unfavorable variance of $24,601.

ADMINISTRATIVE EXPENSES – Higher than budgeted expenses in the areas of Electric, Environmental Expenses, Other Equipment / Maintenance, Boiler Systems, Combustion Turbine Maintenance and Turbine Generator Systems contributed to an unfavorable variance of $28,517. The majority of the variance was due to reconciliation of the warehouse inventory.

The current budget forecast for the current fiscal year is $5,928,371 expensed versus an approved budget of $5,964,818 thereby realizing a 99.39%.expense rate.

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II. Budget Report

Variance Report:

	Budget Sep-11	Actual Sep-11	Variance
Load Forecast (Net of Solar Output)	**64,547**	**65,059**	**(512)**
Power Supply			
Power Supply (inc. Mgt Fees)	$5,256,446	$4,910,167	$346,280
Capacity UCAP Obligated Purchased	$673,416	$693,466	($20,050)
Total - Power Supply	**$5,929,863**	**$5,603,633**	**$326,230**
Power Generation O&M & Fixed Fuel			
Plant O&M	$437,224	$398,315	$38,909
Fixed Fuel and Transport Charges	$0	$0	$0
Subtotal Generation O&M & Fixed Fuel	**$437,224**	**$398,315**	**$38,909**
Power Generation Production Margin			
Economic and reliability dispatch	$0	($3,094)	$3,094
Testing	$0	$0	$0
Subtotal Generation Production Margin	**$0**	**($3,094)**	**$3,094**
Power Generation Non-Production Revenue			
Generation Capacity Credit	($555,465)	($573,435)	$17,970
Emissions Allowance Sales	$0	$0	$0
Black Start & Reactive Power Revenue	($33,933)	($35,580)	$1,647
Subtotal - Non-Production Revenue	**($589,398)**	**($609,015)**	**$19,617**
Total - Power Generation	**($152,174)**	**($213,794)**	**$61,620**
Total - Utilities Cost	**$5,777,689**	**$5,389,839**	**$387,850**
Unit Costs			
Total - Power Supply	$91.87	$86.13	$5.74
Total - Power Generation	($2.36)	($3.29)	$0.93
Final Cost of Service to City of Dover Ratepayers	$89.51	$82.85	$6.67

Variance Analysis:

Power Supply

- Dover consumed 512 MWh above what was forecasted.
- The decrease in load, decrease in solar output and lower than expected prices in PJM resulted in a cost of $86.13/MWh for power supply, $5.74/MWh less than budget.
- For the month, the city realized a favorable variance of $326,230 for power supply vs. the monthly budget.

Generation

- Power generation realized a favorable budget variance of $61,620.
- Plant O&M expenses realized a favorable budget variance of $38,909.
- Power Generation Production Margin realized a favorable budget variance of $3,094.
- Dover's Generation output was sold to PJM at an average of $115/MWh.

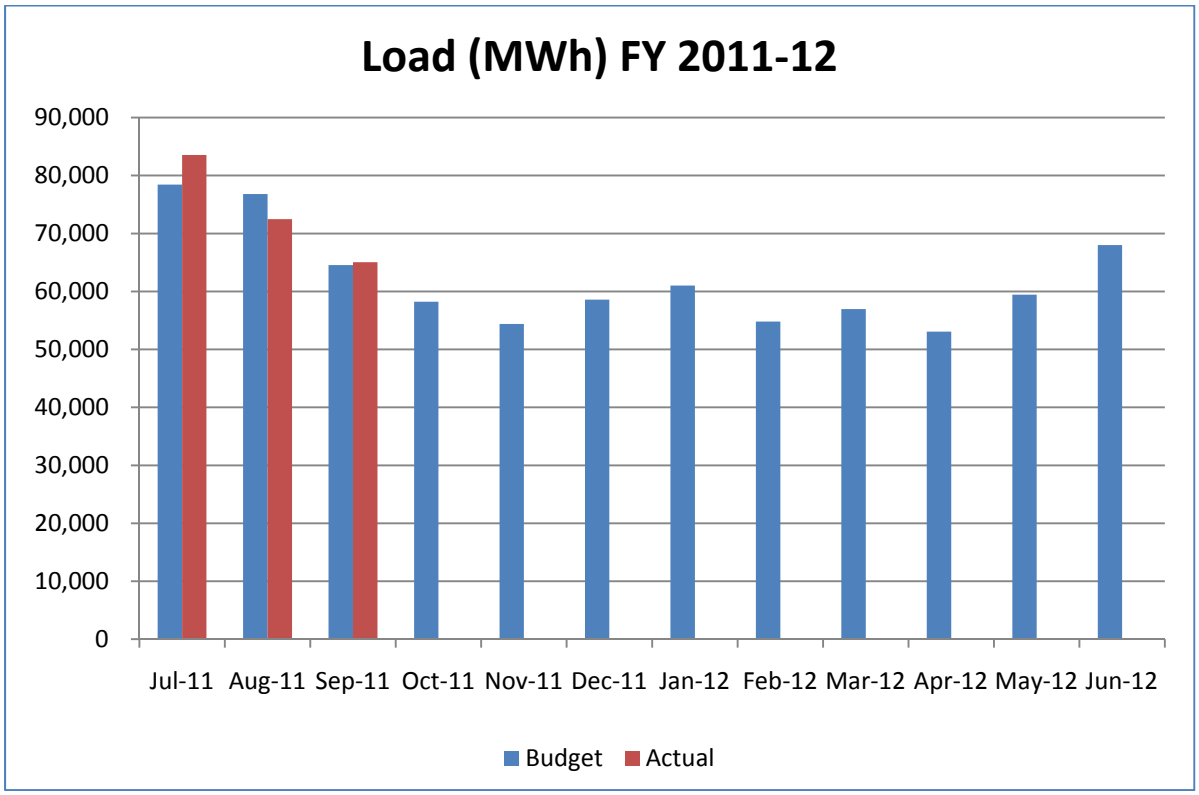
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Variance Year-To-Date:

	Budget YTD	Actual YTD	Variance
Load Forecast (Net of Solar Output)	**219,785**	**221,073**	**(1,288)**
Power Supply			
Power Supply (inc. Mgt Fees)	$17,751,930	$18,004,157	($252,228)
Capacity UCAP Obligated Purchased	$2,065,143	$2,126,653	($61,509)
Total - Power Supply	**$19,817,073**	**$20,130,810**	**($313,737)**
Power Generation O&M & Fixed Fuel			
Plant O&M	$1,614,497	$1,394,055	$220,442
Fixed Fuel and Transport Charges	$0	$0	$0
Subtotal Generation O&M & Fixed Fuel	**$1,614,497**	**$1,394,055**	**$220,442**
Power Generation Production Margin			
Economic and reliability dispatch	($237,844)	($1,722,583)	$1,484,739
Testing	$0	$0	$0
Subtotal Generation Production Margin	**($237,844)**	**($1,722,583)**	**$1,484,739**
Power Generation Non-Production Revenue			
Generation Capacity Credit	($1,703,426)	($1,542,688)	($160,739)
Emissions Allowance Sales	$0	$0	$0
Black Start & Reactive Power Revenue	($101,798)	($150,750)	$48,952
Subtotal - Non-Production Revenue	**($1,805,224)**	**($1,693,437)**	**($111,786)**
Total - Power Generation	**($428,570)**	**($2,021,965)**	**$1,593,395**
Total - Utilities Cost	**$19,388,503**	**$18,108,845**	**$1,279,658**
Unit Costs			
Total - Power Supply	$90.28	$90.66	($0.38)
Total - Power Generation	($1.98)	($8.40)	$6.41
Final Cost of Service to City of Dover Ratepayers	$88.29	$82.26	$6.03

III. Energy Management

Power Supply



- Dover's total load was 65,059 MWh versus a forecasted load of 64,547 MWh.
- Dover's planned hedged volume was 80% of forecast. The decrease in solar output from expectations resulted in a realized hedged volume of 79% of actual load.
- Dover's planned energy cost/MWh of unhedged load was $107. The actual energy cost for unhedged load was $77/MWh – this decrease is due to lower solar output, resulting in Dover buying their increased load at a lower relative price from the PJM market.
- Dover's planned energy purchase from the SunPark solar installation was 1,523 MWh at an all-in cost of $100/MWh. Dover's actual purchase from the SunPark installation was 1,208 MWh at an all-in cost of $139. The price discrepancy is due to environmental credits (SRECs) that were produced in July and August but incurred on the invoice in September.

The following is a summary of Dover's power purchases for the month:

City of Dover's Wholesale Load		
	Volume	$'s
Hedges	51,600	($3,715,584.00)
PJM Charges	63,851	($1,637,679.70)
TEA Fees		($83,000.00)
Dover Sun Park		($167,369.80)
Total		**($5,603,633.50)**
Cost to Serve	**$/Mwh**	**($87.76)**

Purchased power variance report:

	Budget	Actual	Variance
Gross Load	64,547	65,059	-512
Wholesale Load	63,023	63,851	-828
Hedged Volume (MWh)	51600	51600	0
Unhedged Volume (MWh)	12,947	12,251	696
Hedged Volume (%)	80%	79%	1%
SunPark Volume (MWh)	1,523	1,208	315
SunPark Energy Cost ($/MWh)	$ 100	$ 139	$ (38)
Unhedged Energy Cost ($/MWh)	$ 107	$ 77	$ 30
Unit Energy Costs ($/MWh)	**$81.44**	**$75.47**	**$5.96**
All-in Unit Energy Costs ($/MWh)	**$91.87**	**$86.13**	**$5.74**

Generation

Dover produced 74MWh of generation in 1 day in September. The total revenue from energy generation was $8,535. Dover's production margin equaled $3,093.

Dover sold generation into PJM at an average price of $115.18.

City of Dover's Wholesale Generation		
Net Generation Mwh		**74.11**
All In Generation Margin		
PJM Bill Energy	$	8,535.76
PJM Capacity	$	573,435.00
Black Start, Reactive Credit, DASR & EFORp	$	35,579.51
Gas Purchases	$	(8,720.00)
Oil Purchases	$	-
Transport / Cash Out	$	3,277.88
Gross Margin	**$**	**612,108.15**
Production Margin		
Generation Production Revenues (PJM)	$	8,535.76
Gas Purchases	$	(8,720.00)
Oil Purchases	$	-
Transport / Cash Out	$	3,277.88
Gross Production Margin	**$**	**3,093.64**
$/Mwh All In Generation Margin	**$**	**8,259.68**
$/Mwh Generation Production Margin	**$**	**41.75**

Fuel Purchases

Dover's generation was not dispatched on #2 Fuel Oil this month. Given the limited amount of run time, there were limited gas purchases for the units. These are listed below:

Spot Gas Purchases				
New Jersey Natural Gas	**Date**	**Volume**	**Price**	**Total**
-	9/12/2011	2,000.	4.36	**$8,720.00**
-				
-				
Total		**2,000**	**($4.36)**	**($8,720.00)**

Transportation and Imbalance

Below is a table of the transportation and imbalance charges incurred:

Eastern Shore Transport and Imbalance Charges			
Imbalance/Dth	Imbalance/Dth	Cost/Dth	Total Cost
	-994	$4.08	($4,055.52)
			($4,055.52)
Transport	Volume/Dth	$/Dth	Total Cost
Firm/IT (Days 1-30)	1,006	$0.773000	$777.64
			$777.64
Net			**$3,277.88**

Emissions

Emissions and Allowance Management

Dover has elected not to include revenues from emission allowance sales in its 2011-2012 fiscal year budget. Dover has more than sufficient allowances set aside for retirement. Due to the expiration of EPA's Clean Air Interstate Rule (CAIR) at the end of CY2011, any unused or unsold CAIR allowances will expire without residual value.

Emissions Allowance Summary through September 30, 2011

2011-2012 EMISSIONS ALLOWANCE SUMMARY								
SO_2					NO_x			
Date	Action	Allowance Allocation	Sale Price	Rev.[1]	Allowance Allocation[2]		Sale Price	Rev.
					Seas.	Ann.		
N/A	2003-2006 Carryover	139			0	0		
1/1/08	2007 Carryover	549			0	0		
1/1/09	2008 Carryover	2,691			0	0		
1/1/09	2009 Allocation	2,723			53	80		
2/1/10	2010 Allocation	1,988			50	78		
1/1/11	2011 Allocation	1,988			49	76		
4/1/11	2011 Reallocation				2	4		
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	NO_x Seas. Sales				(25)			
12/31/09	2009 Emissions[3]	(1)			(6)	(13)		
12/31/10	2010 Emissions	0			(54)	(54)		
10/31/10	EPA Linearity Testing Req.				(68)	(68)		
2011	2010 Deficit NO_x Purchases				53	22		
Aug 2011	Revised 2010 ECMPS data				30	30		
9/30/11	2011 Emissions	(2)			(32)	(36)		
TOTAL ALLOWANCES		**Pre-CAIR: 3,189 CAIR: 3,976**	**-**	**$0**	**51**	**74**	**-**	**$0**

[1] Revenue calculations account for a $0.50/ton broker fee for SO2, a $2/ton broker fee for annual NOx and $1/ton broker fee for seasonal NOx

[2] Per Clean Air Interstate Rule (CAIR), starting in 2009, NOx emissions are governed by a seasonal and annual program.

[3] Under CAIR, pre-CAIR SO2 allowances are retired at a rate of 2 allowances for each ton emitted. It is assumed that pre-CAIR allowances will be retired before CAIR allowances.

TEA's estimate, given current dispatch expectations, for the market value of the remaining CAIR allowance inventory is approximately $11,169 as of October 21, 2011. This represents $3,189 for 3,189 pre-CAIR SO_2 allowances trading at $1.00/ton, $5,964 for 3,976 CAIR SO_2 allowances trading at $1.50/ton, $4,810 for 74 annual NO_x allowances trading at $65.00/ton and $395 for 51 seasonal NO_x allowances trading at $7.75/ton.

EMISSIONS & ALLOWANCE SUMMARY THROUGH SEPTEMBER 30, 2011						
Allowance Vintage	**Allowance Allocation**	**Emissions for Sept. 2011**	**Cumulative Annual Emissions**	**Allowances sold in September 2011**	**Cumulative Annual Allowances Sold (Purchased)**	**Allowance Balance**
SO_2: 2007-10	10,157	N/A	131	N/A	4,847	5,179
SO_2: 2011	1,988	0	2	0	0	1,986
NO_x: Ann. 2009	80	N/A	13	0	45	22
NO_x: Seas 2009	53	N/A	6	N/A	25	22
NO_x Ann. 2010	78	N/A	94.7**	N/A	(22)	8
NO_x Seas 2010	50	N/A	94.7**	N/A	(53)	10
NO_x Ann. 2011	80	0	38.8	0	0	44
NO_x Seas 2011	51	0	36.1	0	0	19

Note **: EPA approved petition to use lower emissions rate for NO_x on McKee Run Unit 3 by 30 tons.

EPA Cross-State Air Pollution Rule or CSAPR

The final CSPAR was published in the August 8, 2011 Federal Register (76 FR 48208), with an effective date of October 7, 2011. The first compliance period begins for annual SO_2 and NO_x allowances on January 1, 2012. CSAPR does not include compliance requirements or allowance allocations for generating units located in Delaware and Dover will not be required to submit emission allowances for annual SO_2, annual NO_x or Seasonal NO_x for compliance years 2012 and beyond.

A number of administrative and legal challenges to this new rule have been filed, however TEA cannot foresee the potential outcome of such challenges. TEA has assumed that CSAPR will become enforced as promulgated, thus releasing the City of Dover from having to comply with CSAPR in its current form.

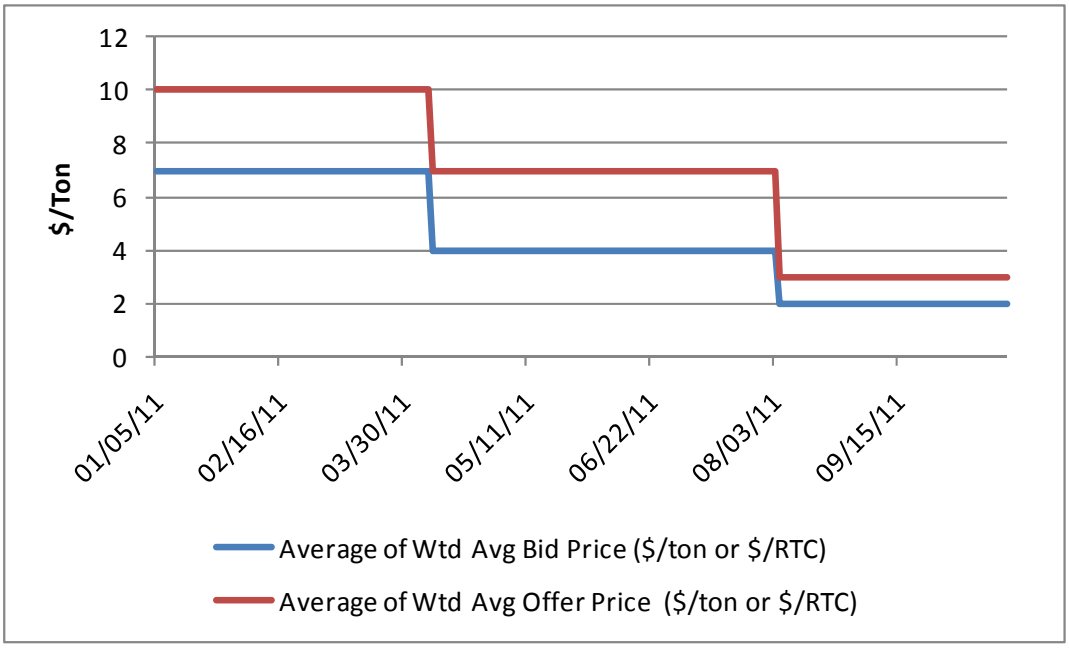
As expected, on October 12, 2011, EPA notified Dover that it will remove CAIR allowances of vintage years 2012 and greater from all AMS accounts on Friday, October 14, 2011. The only remaining allowances in Dover's AMS account should be SO_2 allowances allocated under the Acid Rain allowance program in Title IV of the Clean Air Act.

The Clean Air Act Title IV provisions for SO_2 will remain in effect and Dover, which does not have significant SO_2 emissions, will need to continue compliance with this program.

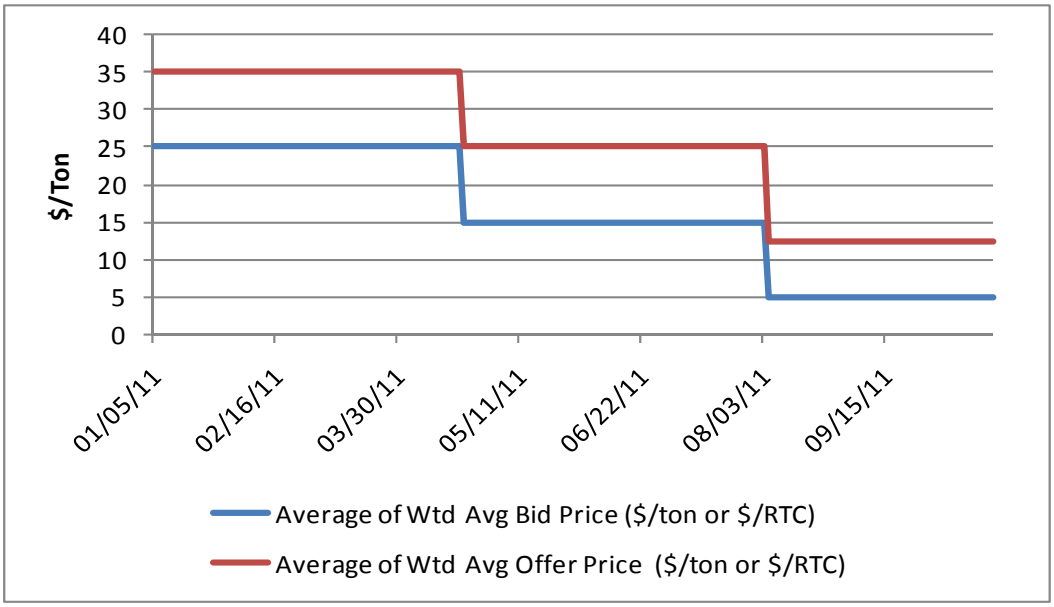
SO_2 and NO_x Prices

CAIR prices continue to be deflated because of over-supply, as shown on the following three charts. Markets are just beginning to form for CSAPR allowance prices and the magnitude of CSAPR prices are significantly higher than recent CAIR allowance prices.

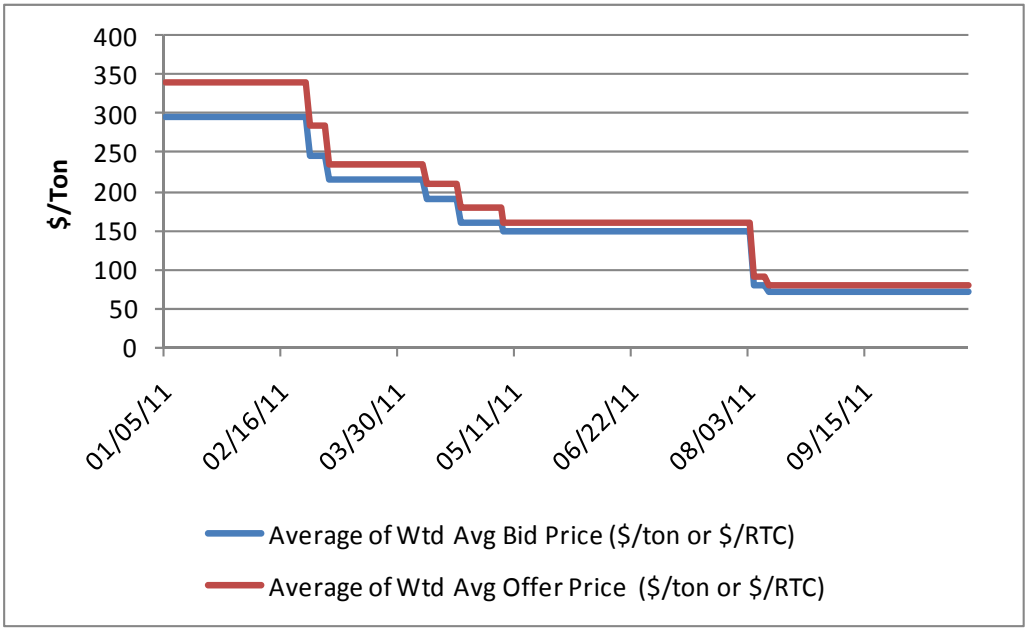
SO2 Allowance Prices



Seasonal NOx Allowance Prices



Annual NOx Allowance Prices



RGGI and Federal Carbon Outlook

RGGI spot allowance prices have increased slightly since last month's report with a price mid-point of $1.91 as of October 11,2011. The 13th RGGI auction occurred on September 7th and cleared at the reserve price of $1.89, with only 18% of the 2009-2011

control period allowances offered for sale actually being sold in the auctions. The 14th RGGI auction is scheduled for December 7, 2011.

In Congress, there continues to be little movement on climate legislation. EPA continues to pursue the "Tailoring Rule" which will impact new sources and Clean Air Act Title V permitting existing source; however on September 15, 2011 EPA confirmed that it would not meet a September 30 deadline for issuing rules governing greenhouse gas emissions from power plants and other major sources.

EPA issued the Mandatory Reporting of Greenhouse Gases Rule (74 FR 56260) which requires reporting of greenhouse gas (GHG) data and other relevant information from large sources and suppliers in the United States. The purpose of the rule is to collect accurate and timely GHG data to inform future policy decisions. The implementation program for this rule is referred to as the Greenhouse Gas Reporting Program (GHGRP). The deadline to submit 2010 reports is September 30, 2011. NAES has indicated it submitted the first GHG inventory to EPA in the month of September.

IV. Operations Management

NAES Corporation
Dover, Delaware

September 2011
Monthly Report



Fred Knight (left), Operator II-2, accepts the NAES Service Recognition Award presented by Vincent Scire, Plant Manager, in recognition of completing 20 years of service working at the City of Dover Generating Facilities.

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6.0 General Plant Information

7.0 Summary of NAES Performance

1.0 Environmental, Health and Safety:

During the month of September, there were no restricted work days or lost time accidents. The facility has now gone 351 days without an OSHA recordable accident or a Lost Time reportable accident. There was one Near Miss incident which involved workers and possible exposure to hazards during the demolition of the coal crusher house.

The plant received no Notice of Violations (NOVs) during the month. Plant staff members also met with Kent County and the City of Dover to continue work on development of possible solutions to the Total Dissolved Solids (TDS) issues at Outfalls 004 and 005 to comply with the Delaware River Basin Commission (DRBC) docket. The Kent County Engineer and the Pretreatment Coordinator were very receptive to the idea of discharging this water to the County Waste Water Treatment Plant (WWTP) and offered guidance on the proper permitting path. The facility will continue to work with both Kent County and the City of Dover to apply for the desired Industrial Pretreatment Permit.

The facility submitted the required annual (and initial) Greenhouse Gas Inventory via the EPA e-GGRT web interface. No issues were encountered although there are still several bugs in the software that will be addressed by EPA prior to next year's submission. These issues do not fundamentally affect the submissions for either McKee Run or VanSant, and it is not anticipated that a re-submittal will be required once the software problems are resolved.

Environmental, Health and Safety Statistics		
	Month (September)	Fiscal Year to Date (7/1/11-6/30/12)
NOVs	0	0
Opacity Deviations	0	0
Environmental Deviations	0	3
OSHA Recordable	0	0
OSHA LTA's	0	0
First Aid cases	0	0
Restricted Workday Accident	0	0
Near Miss	1	2
Man Hours Worked	3,941.50	12,039.25
Date last OSHA Recordable		10/14/10
Date last Lost Time Accident		10/14/10
Days since last OSHA recordable		351
Days since last Lost Time Accident		351

Emissions (NOx & SO2) All data thru 9/30/11

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	88.7	3.3	94.7
2011	1.8	1.5	31.4	1.4	36.1

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	88.7	3.3	94.7
2011	1.8	1.5	32.6	2.9	38.8

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)**	**CAIR NOx Allowances Purchased YTD**	**NOx Allowance Balance**	
		McKee Run (Yr/Season)	***VanSant (Yr/Season)***	**McKee Run - VanSant**		***McKee Run (Yr/Season)***	***VanSant (Yr/Season)***
2010 and earlier	0					30/30	0/2
2011	0	75#/48#	5/3	33/31– 3/1	0/0 - 0/0	42#/17#	2/2

Note – Emissions allowances are deducted according to oldest vintage first or unless otherwise directed.
Note #- 2 tons (Seasonal and 4 tons (Annual) were reallocated by the EPA to the McKee Run 2011 account.

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	0.1	0.5	0.6

Note: Data is as of 9/30/2011

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***		
2010 and earlier	0	4815	276	0	5090*
2011	0	1850	138	1	1988*
2012	0	1850	138	0	1988

Note – * Emissions allowances are deducted according to oldest vintage first or unless otherwise directed.

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	***VanSant***		
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	17,763	19,348
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 –September 2011			
	Actual	Budget	Variance
Personnel	213,970	278,979	65,009
Materials & Supplies	37,038	12,437	(24,601)
Administrative Expenses	147,307	118,790	(28,517)
Total	**$398,315**	**$410,206**	**$11,891**

Financial – Fiscal Year to Date (Estimated)

Number of Months – 3			
	Actual	Budget	Variance
Personnel	646,815	835,229	188,414
Materials & Supplies	82,380	45,986	(36,394)
Administrative Expenses	664,859	677,946	13,087
Total	**$1,394,054**	**$1,559,161**	**$165,107**

2.1 Variance analysis:

The actual expenses for September are $398,315 against a budgeted amount of $410,206 for a positive variance of $11,891 or ≈ 2.90%. The variance was due to the following:

PERSONNEL EXPENSES – Lower Labor, Overtime, and Burdens accounted for a favorable monthly variance of $65,009.
Note: Included in this variance is a positive variance of $31,912 for the Employee Incentive Accumulator and Employee Incentive Burden Accumulator that will occur every month. These expenses were broken down into every month over the entire year, instead of having them budgeted for June of 2012 when they would actually be expensed.

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The current budget forecast for the current fiscal year is $5,928,371 expensed versus an approved budget of $5,964,818 thereby realizing a 99.39%.expense rate.

3.0 Operations

Unit Operations / Outages / Trips

In the month of September, Unit 11 was dispatched once time by PJM. The McKee Run Generation Units were not dispatched for the month.

Month – September 2011							
		McKee Unit 1	McKee Unit 2	McKee Unit 3	MRS Facility	VanSant 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	2.333	2.333
Starts	#	0	0	0	0	1	1
Gross Generation	MWh	0.0	0.0	0.0	0.0	74.160	74.160
Net Generation	MWh	0.0	0.0	0.0	0.0	74.111	74.111
Total Auxiliaries	MWh	18.732	18.732	113.505	150.968	1.794	152.762
Auxiliaries purchased	MWh	18.732	18.732	113.505	150.968	1.745	152.713
Fuel Gas Used	MMBTU	0.0	0.0	0.0	0.0	1,005.660	1,005.660
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	1,005.660	1,005.660
Net Heat Rate	BTU/KWh	0.0	0.0	0.0	0.0	13,570	13,570
Unit Trips	#	0	0	0	0	0	0
Capacity Factor	%	0.0	0.0	0.0	0.0	0.26	0.06
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	0.0	0.0	0.0	0.0	0.0	0.0
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	720.000	720.000	720.000	2,160.000	717..667	2,877.667
HW Boiler Gas Usage	MMBTU				0		0
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.
*** Indicates fuel used for testing high gas pressure trips on Units 1 & 2.**

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2011-2012 Fiscal Year-to-Date (3 Month)							
		McKee Unit 1	McKee Unit 2	McKee Unit 3	MRS Facility	VanSant Unit 11	Total All Units
Capacity	MW	17	17	102	136	39	175
On Line Hours	Hrs	59.234	57.267	236.585	353.086	55.933	409.019
Starts	#	1	1	16	18	12	30
Gross Generation	MWh	561.129	564.344	18,927.359	20,052.832	1,400.897	21,453.729
Net Generation	MWh	532.006	521.173	17,544.644	18,597.823	1,399.866	19,997.689
Total Auxiliaries	MWh	84.573	98.621	2,020.522	2,203.716	5.430	2,209.146
Auxiliaries purchased	MWh	75.565	75.565	637,807	788.937	4.399	793.336
Fuel Gas Used	MMBTU	8,554.933	7,620.677	194,854.408	211,030.018	20,352.923	231,382.941
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	8,554.933	7,620.677	194,854.408	211,030.018	20,352.923	231,382.941
Net Heat Rate	BTU/KWh	15,947	15,503	11,130	14,193	15,609	14,901
Unit Trips	#	0	0	0	0	1	1
Capacity Factor	%	0.85	0.83	4.35	3.47	0.98	2.92
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	0.0	0.0	0.0	0.0	0.0	0.0
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	2,148.766	2,150.733	1,971.402	6,270.901	2,152.067	8,422.968
HW Boiler Gas Usage	MMBTU				0		0
Pilot Gas Usage	MMBTU	139,333	139,333		277,667		277,667

Fuel Oil Inventory							
	Monthly Inventory (Start)	Monthly Inventory (End)	Fuel Purchases (Month)	Monthly Inventory (Change)	FY 11-12 Inventory (Start)	Fuel Purchases (YTD)	FY 11-12 Inventory (Change)
McKee Run (#2 Fuel Oil)	455,606	454,725	0	881	454,725	0	0
VanSant (#2 Fuel Oil)	152,453	152,369	0	84	153,212	0	(843)

Note: As measured by tank level instruments. Tank levels may change due to oil temperature.

VanSant Lifetime through 9/30/11			
	Actual Starts	Factored Starts	Fired Hours
VanSant	1276	2205.45	4187.26
Since HGP - Dec 2004	217	537.75	803.68

Team Report:

Plant employees continue General Physics safety training and environmental courses to enhance their overall knowledge of permit and safety requirements. As the GPI courses are being completed the employee reviews the standard operating procedure (SMP) for the same topic they are training on to review NAES policy and score a minimum 80% on a quiz before they can complete the SMP.

Operations personnel continue to support maintenance by working on Preventative Maintenance (PM) work orders and other work orders that they have the necessary skills to successfully complete the task. The Operations Department continues to utilize the Flex Team in both Operations and Maintenance areas to help in maintaining the plant.

Capacity Testing – FY 2010-2011					
Summer 2011 (June 1- Aug 31)			**Winter 2011-2012 (Dec 1- Mar 1)**		
Unit	Rated Net Capability (MW)	Reported Net Capability (MW)	Unit	Rated Net Capability (MW)	Reported Net Capability (MW)
1	17	17.06	1	17	*
2	17	17.67	2	17	*
3	102	102.31	3	102	*
VanSant	39	39.07	11	39	*
Total	175	176.11	Total	175	175

Note: * Denotes Unit is qualified for the PJM Winter Demonstration Period Exemption Program

4.0 Maintenance

During the month of September, plant maintenance staff continued addressing the backlog of work orders. There were thirty-nine work orders issued with thirty-nine work orders being completed during the month. The table below summarizes the monthly work order activities.

Work Order Report				
September - 2011				
Priority #	Outstanding From Previous Month	Issued This Month	Completed This Month	Outstanding at the end of the month
1	15	3	2	16
2	28	4	4	28
3	48	9	5	52
4	6	0	0	6
5	22	0	0	22
SW1	0	0	0	0
SW2	0	0	0	0
SW3	0	0	0	0
SW4	0	0	0	0
SW5	0	0	0	0
PM	45	23	28	40
Totals	164	39	39	164
Note: PMs are included in the priority totals				

Notable activities during the month include:

1) Maintenance Staff, with assistance from the Operations Staff, completed the change out of the air filters on the generator and the air inlet sides of the gas turbine. There were a total of 448 filters replaced including 384 filters on the compressor air inlet side 64 filters on the generator air inlet.

2) Maintenance and IC&E staff completed orientation training on the new Fluke 810 Vibration Analyzer presented by the manufacturer's representative. The staff was instructed on the set up of the analyzer, how to use the analyzer, how to interpret the findings and what possible corrective actions may be necessary to address the problem.

3) An outside vendor was brought in to assist the IC& E Staff to complete the rough-in phase of the Unit 3 Control Room expansion. There are multiple stations that will be moved into the expanded Unit 3 side of the Control Room to aid in the logistical improvement of the control equipment. The equipment that will be

moved into the expanded area includes the CEMS computer, PJM computer, the metering computer, telephone system and employee computer work stations.

4) The Maintenance Staff replaced eye bolt hangers on the Feed Water Line coming out of the #5 Heater to the Economizer. During inspection after the Unit 3 had shut down it was discovered that the eye bolts had been bent during the last operating period. The eye bolts attach to a skid plate that supports the feed water line and allows the pipe to move back and forth during operation. In replacing the eye bolts this will allow the piping to move as designed.

5.0 Capital Improvement Projects (CIP)

Project Number	Description	Update
EG1102	Units 1 & 2 Cooling Tower Life Extension	Progress: The scope of work is being planned for 2011-2012. Schedule: Work planned for this fiscal year is in development.
EG1107	Units 1 & 2 Life Extension	Progress: This project is to assess and determine the actions necessary to prolong the life of Units 1 and 2. Repair costs based on turbine inspection results will have to be developed and supplied to the City of Dover in order to make a decision on how and when to proceed. The plant is still waiting on estimated costs from Siemens. Schedule: Planning for 2011-2012 fiscal year has started.
EG1112	Unit 3 Air Heater Expansion Joint	Progress: The 2011 work was completed on the expansion joint. Schedule: The 2012 scheduled work is expected to be completed by the end of January 2012
EG1113	Units 1 & 2 Controls Modifications	Progress: The 2011 work was completed on the expansion joint. Schedule: The 2012 scheduled work will be completed by the end of Fiscal year.
EG1114	Unit 3 Gas Line Modification	Progress: The 2011 Fall work scope has been developed and bids are being evaluated. Schedule: The scheduled work is expected to be completed by the end of January 2012.
EG1201	Unit #3 Boiler Air Heater	Progress: Started on the development of the project work scope documents. Schedule: Work scope is close to being finalized with a pre-bid meeting to be scheduled in the November 2011 time period.
EG1202	Unit #3 Boiler Systems	Progress: Started on the development of the project work scope documents. Schedule: Planning for 2011-2012 fiscal year has started.
EG1203	Unit 3 FD & ID Fan Damper Upgrade	Progress: Started on the development of the project work scope documents which is expected to be completed by November 2011. Schedule: Planning for 2011-2012 fiscal year has started.
EG1204	Unit 3 DCS Computers & Software Upgrades	Progress: Started on the development of the project work scope documents. Schedule: Planning for 2011-2012 fiscal year has started.
EG1205	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 and there are no capital items identified at this time to go into this project fund.

Project Number	Description	Update
EG1206	McKee Run DI Controls Replacement	Progress: Started on the development of the project work scope documents. Schedule: Planning for 2011-2012 fiscal year has started.
EG1207	VanSant Component Replacements	Progress: Started on the development of the project work scope documents. The air filter purchase and installation portion of the project was completed in September 2011. Schedule: Planning for 2011-2012 fiscal year has started.
EG1208	McKee Run Switchyard Blast Walls	Progress: Started on the development of the project work scope documents. Schedule: Planning for 2011-2012 fiscal year has started.
EG1209	McKee Run Structural Preservation	Progress: Started on the development of the project work scope documents. Schedule: Planning for 2011-2012 fiscal year has started.
EG1210	Unit #3 Cooling Tower Line Inspection	Progress: Started on the development of the project work scope documents. Schedule: Planning for 2011-2012 fiscal year has started.
EG1211	Unit 3 Stack Repairs	Progress: Development of the work scope is in the process of commencing. Schedule: Planning for 2011-2012 fiscal year has started.
EG1212	Unit 3 Turbine Inspection	Progress: Plant Staff and NAES Turbine Services are working to finalize the work scope and specification and out for bids by the end of November 2011. Schedule: Planning for 2011-2012 fiscal year has started.
EG1213	Unit 3 Auxiliary System Components	Progress: Started on the development of the project work scope documents. Schedule: Planning for 2011-2012 fiscal year has started.

6.0 General Plant Information

Training:

Annual environmental training was conducted across all teams to review and discuss the facility obligations under the following programs/permits/plans: Accidental Release Prevention Program (ARPP), Facility Response Plan (FRP), National Pollutant Discharge Elimination System permit (NPDES), Spill Prevention Control and Countermeasures plan (SPCC), and Storm Water Pollution Prevention Plan (SWPPP).

The Q3 FRP Deployment Drill was held with a focus on an accident between two #2 fuel oil delivery tankers in the unloading area and subsequent medical and oil spill response. The drill went very well and it would seem that emphasis put on the Incident Command System (ICS) in past exercises has been effective in enhancing our response capabilities.

Plant employees continue General Physics safety training and environmental courses to enhance their overall knowledge of permit and safety requirements. As the GPI courses are being completed the employee reviews the Safety Manual Policy (SMP) for the same topic they are training on to review NAES policy and score a minimum 80% on a quiz before they can complete the SMP.

Personnel:

On September 12th, Fred Knight received a NAES Service Recognition Award from Vincent Scire, Plant Manager, in recognition of completing 20 years of service working at the City of Dover Generating Facilities.

Calendar of Events	Date
NOx Ozone Season Ends	September 30, 2011
One Year Accident Free	October 14, 2011
Units 1, 2, 3 and 11 Fall Outage	October 3 to December 2, 2011
Winter Capacity Period	December 1, 2011 to February 28, 2012
McKee Run and VanSant Title V Annual Certification Due	February 1, 2012
NOx Emissions Reconciliation Due	March 1, 2012
SO2 Emissions Reconciliation Due	March 1, 2012
SARA III Report	March 1, 2012
Annual VanSant Black Start Test	March , 2012
Units 1, 2, 3 and 11 Spring Outage	TBD
Air Emission Inventory	April 1, 2012
McKee Run Title V Permit Renewal	April 20, 2012
EIA-860 Report	April 29, 2011
Units 1, 2, and 3 Spring Outage	TBD
NOx Ozone Season Starts	May 1, 2012
EIA-923 Report	May 6, 2012
Fiscal Year 2011-2012 Ends	June 30, 2012
PJM Summer Capacity Test Period	June 1, 2012- August 31, 2012
Toxic Release Inventory (TRI) Annual Report	July 1, 2012
McKee Run and VanSant Title V Semi-Annual Certification Due	August 1, 2012

7.0 Summary of NAES Performance to Date

Plant Performance FY 2011-2012						
Measure	Month		Year to Date		YTD Incentive	FY Maximum Incentive
Commercial Unavailability (CU)	0%		0		$91,198	$91,198
Safety	0		0		$17,099	$17,099
Environmental	0		0		$17,099	$17,099
Capacity Tests Completed	Summer	Winter	Summer	Winter		
Unit 1	No	No	Yes	Yes	$3,420	$3,420
Unit 2	No	No	Yes	Yes	$3,420	$3,420
Unit 3	No	No	Yes	Yes	$20,520	$20,520
Unit 11	No	No	Yes	Yes	$6,840	$6,840
Total YTD Incentive %	100.00%		***Total YTD Incentive***		$159,597	$159,597

Note: Units 1, 2, 3 and 11 PJM Summer Capacity Tests have been successfully completed and would be entered into the PJM Winter Capacity Test Exemption Program. The YTD Incentive calculation reflects this information.

V. Appendix

PJM Invoice Breakdown

Charge Type	Generation	Load	Grand Total
Auction Revenue Rights		-66483.3	-66483.3
Balancing Operating Reserve	-939.23	10214.93	9275.7
Balancing Spot Market Energy	-7016.38	31567.24	24550.86
Balancing Transmission Congestion	-121.36	11366.6	11245.24
Balancing Transmission Losses	-458.79	3280.41	2821.62
Black Start Service	-6111.93	1391.43	-4720.5
Day-ahead Operating Reserve		5866.48	5866.48
Day-ahead Scheduling Reserve		275.39	275.39
Day-ahead Spot Market Energy		478495.61	478495.61
Day-ahead Transmission Congestion		-5765.36	-5765.36
Day-ahead Transmission Losses		133555.79	133555.79
Expansion Cost Recovery		408.6	408.6
FERC Annual Recovery		3686.81	3686.81
Generation Deactivation Refund		-741.04	-741.04
Inadvertent Interchange		1519.89	1519.89
Load Reconciliation for Balancing Operating Reserve		-46.25	-46.25
Load Reconciliation for FERC Annual Recovery		-6.64	-6.64
Load Reconciliation for Inadvertent Interchange		-14.3	-14.3
Load Reconciliation for Market Monitoring Unit (MMU) Funding		-0.6	-0.6
Load Reconciliation for North American Electric Reliability Corporation (NERC)		-1.03	-1.03
Load Reconciliation for PJM Scheduling, System Control and Dispatch Service		-25.21	-25.21
Load Reconciliation for PJM Scheduling, System Control and Dispatch Service Refund		2.17	2.17
Load Reconciliation for Reactive Services		-83.45	-83.45
Load Reconciliation for Regulation and Frequency Response Service		-90.59	-90.59
Load Reconciliation for Reliability First Corporation (RFC)		-1.56	-1.56
Load Reconciliation for Schedule 9-6 - Advanced Second Control Center		-1.13	-1.13
Load Reconciliation for Spot Market Energy		-11221.96	-11221.96

Charge Type	Generation	Load	Grand Total
Load Reconciliation for Synchronized Reserve		-63.62	-63.62
Load Reconciliation for Transmission Congestion		-287.36	-287.36
Load Reconciliation for Transmission Losses		-624.1	-624.1
Load Reconciliation for Transmission Owner Scheduling, System Control and Dispatch Service		-8.77	-8.77
Locational Reliability		693466.5	693466.5
Market Monitoring Unit (MMU) Funding		204.6	204.6
Meter Error Correction		-5401.87	-5401.87
Network Integration Transmission Service		262228.8	262228.8
Non-Firm Point-to-Point Transmission Service		-543.56	-543.56
North American Electric Reliability Corporation (NERC)		569.73	569.73
Organization of PJM States, Inc. (OPSI) Funding		40.6	40.6
PJM Scheduling, System Control and Dispatch Service - Advanced Second Control Center		995.29	995.29
PJM Scheduling, System Control and Dispatch Service - Capacity Resource/Obligation Mgmt.		1002.6	1002.6
PJM Scheduling, System Control and Dispatch Service - Control Area Administration		11459.9	11459.9
PJM Scheduling, System Control and Dispatch Service - Market Support		2586.09	2586.09
PJM Scheduling, System Control and Dispatch Service - Market Support Offset		-373.65	-373.65
PJM Scheduling, System Control and Dispatch Service - Regulation Market Administration		168.48	168.48
PJM Scheduling, System Control and Dispatch Service Refund - Capacity Resource/Obligation Mgmt.		-74.1	-74.1
PJM Scheduling, System Control and Dispatch Service Refund - Control Area Administration		-982.27	-982.27
PJM Scheduling, System Control and Dispatch Service Refund - Market Support		-225.61	-225.61
PJM Scheduling, System Control and Dispatch Service Refund - Regulation Market Administration		-13.86	-13.86

Charge Type	Generation	Load	Grand Total
PJM Settlement, Inc.		373.65	373.65
Reactive Services		44244.88	44244.88
Reactive Supply and Voltage Control from Generation and Other Sources Service	-29467.58	32059.66	2592.08
Regulation and Frequency Response Service		18651.77	18651.77
Reliability First Corporation (RFC)		864.4	864.4
RPM Auction	-573435		-573435
Synchronized Reserve		12289.56	12289.56
Synchronous Condensing		43.93	43.93
Transmission Enhancement		10132.01	10132.01
Transmission Losses		-47329.91	-47329.91
Transmission Owner Scheduling, System Control and Dispatch Service		4865.56	4865.56
Balancing Operating Reserve for Load Response		0.25	0.25
Load Reconciliation for Organization of PJM States, Inc. (OPSI) Funding		-0.07	-0.07
Load Reconciliation for Day-ahead Scheduling Reserve		82.6	82.6
Load Reconciliation for Synchronous Condensing		2	2
Emergency Load Response		126.66	126.66
Grand Total	**$ (617,550.27)**	**$1,637,679.70**	**$1,020,129.43**