



STATE OF DELAWARE
**DEPARTMENT OF NATURAL RESOURCES
AND ENVIRONMENTAL CONTROL**

OFFICE OF THE
SECRETARY

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DOVER, DELAWARE 19901

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Secretary's Order No. 2011-CZ-0035

Re: Applications of E.I. DuPont De Nemours & Company, Inc. for a Coastal Zone Act Permit and an Air Pollution Control Permit To Install Two Natural Gas Fired Boilers at the Edge Moor Plant, 104 Hay Road, Edge Moor, New Castle

**Date of Issuance: August 25, 2011
Effective Date: August 25, 2011**

Background

This Order considers E.I. DuPont De Nemours & Company, Inc.'s (DuPont), permit applications to install two natural gas-fired boilers at its Edge Moor chemical manufacturing facility 104 Hay Road, Edge Moor, New Castle County (Facility). DuPont seeks a Coastal Zone Act (CZA), 7 Del. C. Chap. 70, permit to install two steam boilers as a CZA regulated proposed expansion of an existing nonconforming industrial use within the defined "Coastal Zone." DuPont also seek an air pollution control permit for the boilers' air emissions (Air permit).

The applications were the subject of a joint public notice and a joint July 18, 2011 public hearing. The Department's presiding hearing officer prepared the attached Report of recommendations dated August 17, 2011. The Report recommends that the permits be issued, as drafted by the Department's experts. I agree with the Report and adopt it to the extent it is consistent with this Order.

Delaware's Good Nature depends on you!

Findings and Reasons

I agree with the Report that the record amply supports allowing DuPont to install the two boilers. First, I find that the boilers installation should be approved under the CZA as an appropriate expansion within the Coastal Zone of an existing non conforming industrial use, even a "heavy industrial use" such as the Facility. The approval of the expansion is based upon a record that clearly and demonstrably shows that DuPont's environmental offset will more than offset the negative environmental impact from the boilers. As a result, approval of the permits and the environmental offset will improve the Coastal Zone's environment. Second, I find that the two boilers will meet the Department's stringent air emission standards by the boilers' that satisfy the "Best Available Control Technology" regulatory standard with their use of low NOx boilers and flue gas recirculation. This standard ensures that the emissions will be the lowest reasonably possible based upon current air emission control technology.

I agree with DuPont's economic reasons for the boilers as a way to enhance the Facility's economic competitiveness by lowering the Facility's cost of steam. DuPont obviously has calculated savings from installing the boilers, even with the substantial investment in the boilers. The Department's regulation of expansion under the CZA supports efforts to reduce costs because that will benefit the Facility continuing to operate efficiently. The record also sets forth the importance of the Facility to the Delaware economy based upon an estimated annual \$25 million value provided by its payroll and purchases. The boilers will also employ approximately 23 workers over an estimated six months construction period. Finally, the investment in the boilers represents DuPont's commitment to the Facility's continued operation. Thus, I find that approving the boilers

is consistent with the CZA's purpose to allow economic development by existing industrial uses in the Coastal Zone, as long as the environment is protected consistent with the CZA's purpose.

I find that the environment of the Coastal Zone will be protected by the permits, particular the CZA's permit condition that reflects DuPont's environmental offset to provide a \$250,000 contribution towards the cost to construct 20 electric service connections at Trinity Distribution Service, 504 Rogers Road, which is located adjacent to the Coastal Zone. This environmental offset will allow the trailers parked at Truck Stop Station to stop using diesel generators to power their refrigeration units. The Department and DuPont agreed that DuPont should be credited with 51 tons of NOx air emission reductions annually for its offset, and this credit will satisfy the Coastal Zone Act's environmental offset regulation. I find that the offset project clearly and demonstrably provides more of an environmental benefit than the negative environmental impact from the boilers.

I find that the Air permit also will protect the environment because it will approve boilers that comply with Best Available Control Technology by using low NOx boilers and flue gas recirculation. This boiler technology will reduce the air emissions from the boilers to as low as reasonably possible. Furthermore, the boilers will emit much fewer emissions than emitted by Calpine's coal-fired boiler now used to provide the steam.

Overall the environment in the Coastal Zone and the nearby residential community of Southbridge will significantly improve as a result of the permits to be issued by this Order. The Report notes that no public comments opposed the permits. I find that the permits are well-supported in the record, and that the offset proposed will be

consistent with the CZA. I adopt the Hearing Officer's Report, its review of the record, and its recommendations.

Conclusions

In sum, as more fully described in the reasons and findings in the Report, I direct the following as a final order of the Department:

1. The Department has jurisdiction under its statutory authority to make a determination on the permit applications;
2. The Department provided adequate public notice of the applications, the draft Air Permit, and the public hearing.
3. The Department held a public hearing in a manner required by the law and its regulations and the public hearing process did not result in any comments in opposition to the permits;
4. The record supports issuance of the Coastal Zone Act Permit and the Air Pollution Control permit, as these have been drafted by the Department's experts; and
5. The Department shall provide legal notice of this Order in a manner consistent with the law and regulations, and shall publish it on the Department's web page.



Collin P. O'Mara
Secretary

HEARING OFFICER'S REPORT

TO: The Honorable Collin P. O'Mara
Secretary, Department of Natural Resources and Environmental Control

FROM: Robert P. Haynes, Esquire
Senior Hearing Officer, Office of the Secretary
Department of Natural Resources and Environmental Control

RE: Applications of E.I. DuPont De Nemours & Company, Inc. for a Coastal Zone Act Permit and an Air Pollution Control Permit to Install Two Natural Gas Fired Boilers at the Edge Moor Plant, 104 Hay Road, Edge Moor, New Castle County

DATE: August 17, 2011

I. PROCEDURAL HISTORY

This report considers two permit applications submitted by E.I. DuPont De Nemours & Company, Inc. (Applicant) dated December 20, 2010 to the Department of Natural Resources and Environmental Control (Department). The permits seek approval under the Coastal Zone Act and the Department's regulation of air emissions for the installation of two natural gas-fired boilers¹ at Applicant's 104 Hay Road, Edge Moor, New Castle County manufacturing plant (Facility).

In a revised application dated May 20, 2011, Applicant revised the proposed environmental offset, and the application was determined to be administratively complete by the Secretary's Assessment dated June 13, 2011. On June 15, 2011, the Department published notice of the applications, the draft Air permit prepared by experts in the Division of Air Quality,² and the public hearing, which was held on July 18, 2011 at the Department's office on Lukens Drive, New Castle. At the conclusion of the hearing the public comment record was closed.

¹ Each rated at producing 48.16MMBtu/hour.

² The Department's delegated federal Clean Air Act authority requires a public notice of a draft permit.

II. SUMMARY OF THE RECOMMENDED RECORD

The Department held a consolidated public hearing, but developed separate records for the CZA Permit application and the Air Permit application. One member of the public was present, who asked several questions that were answered by the Department's representatives. She did not provide any comments in opposition to the permit applications.

The Department's representatives, Kevin Coyle, Principal Planner from the Coastal Zone Act program, and Paul Foster, P.E., Branch Manager, and Shaikh Tayeb, P.E., Engineer, from the Division of Air's Engineering and Compliance Branch were present.

Mr. Coyle presented the following documents into the record on the CZA permit application: the CZA application dated December 20, 2010 (CZA Ex 1), the affidavits of publication of notice of the application (CZA Ex 2 & 3), the February 17, 2011 letter from the Department's Lee Ann Walling, Chief of Planning, to Applicant's Vimal Vijaykumar (CZA Ex. 4), the March 28, 2011 letter from Applicant responding to the February 17, 2011 letter (CZA Ex 5), the May 16, 2011 email from the Department's James Brunswick on the offset (CZA Ex 6), and Applicant's May 20, 2011 letter and revised application (CZA Ex. 7), the Secretary's June 13, 2011 Assessment (CZA Ex 8), and the affidavits of publication of the public hearing notices (CZA Ex. 9 and Ex 10).

Mr. Foster presented the following documents in to the Air Permit application's record: the Applicant's December 20, 2010 application and associated correspondence with the Department in the development of the draft permit (Air Ex.1); the legal notice, (Air Ex 2), the draft permit (Air Ex 2).

Elizabeth Schowe, the Facility's Manager, made a presentation for the CZA record. She explained the reasons for the installation of the boilers. She noted that the Facility employs 350, and provides an annual economic benefit of approximately \$25 million based upon payroll and

purchases. She highlighted that the current steam purchases from Calpine require Calpine to operate a very large boiler to produce the steam. She stated that replacing this boiler with the proposed two smaller boilers will reduce air emissions used to produce the steam used by the Facility. She also stated that Calpine's steam is transported to the Facility by pipeline, and this transportation causes an approximate 7-10% loss of the energy delivered to the Facility. She discussed the steam purchase agreement with Calpine contain a provision that imposed a surcharge on the steam purchases whenever Calpine boiler operating solely to serve the Facility. She indicated that the surcharge cost Applicant millions of dollars through 2010. Finally, she mentioned that Calpine was not in the business of selling steam and that there was no assurance that the steam contract would be extended beyond its 2014 termination date.

The Facility's environmental consultant, Mr. Vijaykumar, spoke and explained the two boilers' purpose and Applicant's proposed environmental offset for the CZA permit. The offset would have Applicant contributing \$250,000 towards funding the installation of electric service equipment for trailers parked at Trinity Distribution Services, which is adjacent to the Port of Wilmington. The offset would reduce air emissions more than the proposed emissions from the boilers. The Applicant's PowerPoint presentation was admitted into the record as Applicant Ex. 1.

The public comment portion of the record closed at the conclusion of the hearing with only a couple questions from one member of the public, which the Department representative answered. The record does contain any written comments and no comments in opposition. I recommend that this Report and its attached draft permits be included in the record based upon my research to develop the record beyond the record at the public hearing in order to support the recommendations in this Report.

III. DISCUSSION OF FINDINGS AND REASONS

The boilers would be an expansion of the Facility's existing non-conforming use under the CZA, and the Department's CZA Regulations. In addition, the boilers require an air pollution control permit under *7 Del. C. Chap. 60* and the Department's *Regulations Governing the Control of Air Pollution*. Applicant seeks to install the boilers for economic business reasons based upon the cost reductions from the Facility ending the purchase of steam produced at Calpine Corporation's Hay Road electric generating station. Applicant has purchased steam from the Hay Road generating station since 1984, which is when the Hay Road generating station's coal-fired steam-to-steam reboiler was built. Prior to 1984 the Facility generated its own steam. Calpine's Hay Road generating station primarily operates to generate electricity for sale, and the sale of electricity in the deregulated generation supply market now is based on operating the Hay Road generating station when it is the lowest cost available generating unit needed to supply power and energy.

Under Applicant's steam purchase agreement with Calpine, if the Hay Road generating station needs to operate only to serve the DuPont Facility, then the Applicant is charged a surcharge based upon the cost difference for Hay Road to sell its electricity. Applicant also wants to switch to self-generation of steam because Calpine plans to switch its boiler from coal to natural gas, which will change the economics of operating the Hay Road generating station to generate electricity, and, more importantly to the Applicant, could dramatically increase the price of steam sold to Applicant. Finally, the Calpine steam purchase will expire in 2014, which causes uncertain with the supply of steam that can be avoided by installing the two boilers. Thus, Applicant seeks to operate its own source of steam supply to better ensure the Facility's

economic viability and its \$25 million contribution to the Delaware economy through wages and purchases.

Applicant proposes to install two package boilers in an existing power house building, and the installation also would require constructing a 4"x 150' natural gas line. The boiler installation is estimated to require approximately 23 construction workers over a six-month time period at an average payroll cost estimated to be \$52,440 a week. Construction purchases are estimated to be \$300,000. The Applicant proposes to add one position to operate the boilers as well as using existing employees.

The CZA requires an environmental assessment of any negative environmental impacts and I find that the negative environmental impacts of the boilers include the purchased water required for the boilers, and the associated discharge of wastewater from the boilers' operation, solid waste, and air emissions released from the boilers burning natural gas to produce steam. I find that the water, waste water and solid waste negative impacts are minimal, as set forth in the application and in the Secretary's Assessment. The boilers' air emissions, however, pose a risk of negative environmental impact based upon the boilers' potential to emit³ the following annual amounts of air pollutants: 16.45 tons of Nitrogen Oxide(NOx), 16.88 tons of Carbon Monoxide (CO), 2.27 tons of Volatile Organic Compounds (VOCs), 3.14 tons of Particulate Matter (PM), and 0.25 tons of Sulfur Dioxide (SO₂). These pollutions impose a risk to public health even though the proposed boilers will use low NOx technology and have flue gas recirculation, which satisfies the current Best Available Control Technology (BACT) required by the Department's regulation of air quality.

The Department's regulation under the CZA required Applicant to propose an environmental offset to the proposed negative environmental impact, and Applicant, working

³ This is a design calculation based upon a theoretical maximum possible operation of the boilers.

together with the Department, a local community organization and a local business developed an environmental offset that the Secretary's Assessment approved. Applicant agreed to the offset that will require Applicant to pay \$250,000 towards the cost of a local project to reduce air emissions more than the air emissions from the boilers. The offset is based upon reducing air emissions from up to 20 trailer-mounted diesel generators when they are parked at the Trinity Distribution Services facility located at 504 Rogers Road, New Castle. These diesel generators currently are used to power the trailers' refrigeration units to maintain the necessary temperature for proper storage of the perishable goods pending their transportation. The offset project is near the Port of Wilmington in the Southbridge residential neighborhood and just outside the Coastal Zone. The trailers switching from diesel generator to electric power to operate the refrigeration units will also provide an economic benefit from diesel fuel savings, avoid the need to fill the diesel generators with fuel, and lower the risk of diesel fuel spills. The Department, the Clean Air Council, and the owner of the Trinity facility will agree to the administration of the offset, and the offset is estimated to be completed in six months. If any additional money is needed to complete the offset project, Trinity's owner is to contribute the addition funds.

I find the offset is acceptable because it will benefit the environment from reducing air emissions in a manner that is clearly and demonstrably more beneficial to the environment in the Coastal Zone than the air emissions from the two boilers. I find that the reduced air emissions at the Trinity facility will benefit the environment of the nearby Coastal Zone and the Southbridge neighborhood. Moreover, the offset project will reduce noise, fumes and air pollution from the constant operation of diesel generators at the Trinity facility. The Department's experts calculated that the reduced annual air emissions from operating the trailers' diesel generators at Trinity will be up to 65 tons per year of NO_x, up to 42 tons per year of CO, up to 7 tons of VOCs, up to 6 tons per year of PM and up to 0.34 ton per year of SO₂. Applicant proposed an

offset only based upon an annual 51-ton NOx reduction. I accept this agreed-to level as conservative in light of the above air emission reductions.

I recommend adoption of the records developed as providing sufficient support for a decision to issue the CZA and Air permits, as drafted by the Department's experts and attached hereto. I find that the record does not contain any public comments, either at the hearing or submitted in writing, in opposition to issuance of the permit.

The CZA provides certain regulatory requirements that I find have been satisfied, as set forth in the revised CZA application. The Secretary's Assessment also explains the decision to accept the application as complete under the CZA and its regulations, particularly on whether the proposed Offset Project demonstrates environmental offsets to the impacts. The Department traditionally uses a 1 to 1.3 ratio to determine whether a proposed environmental offset is sufficient to warrant a CZA permit. I find the proposed offset satisfies this policy.

I find that the Offset Project clearly demonstrates that the Coastal Zone's environment will be enhanced by issuing a CZA permit that includes as a condition the funding that will eliminate the operation of up to 20 diesel generators operating near the Coastal Zone. This offset will reduce harmful air emissions that will otherwise be transported into the Coastal Zone. The availability of electricity to operate the refrigeration units will substantially more than offset the environmental impacts from the Facility's operation of the two natural gas fired boilers. I also find that the boilers' water usage and the waste and wastewater production are minimal and more than offset by the air reductions from the offset.

The CZA also includes consideration of economic benefits. I find that the proposed boiler installation will improve the ability of the Facility to compete by lowering its operating costs, and that this will allow the Facility to operate more efficiently and provide an economic benefit in continued employment at the Facility.

I find that the draft Air Permit also is well-supported. The Department's experts have required the installation of Best Available Control Technology using the package Low NOx natural gas fired boilers with flue gas recirculation. Best Available Control Technology will mean low emissions from the operation of the natural gas boilers. The draft Air permit also provides permit conditions that will ensure safe operation in compliance with all application air quality regulations.

In sum, I find that the Applicant's applications have met the regulatory requirements set forth in the Department's regulations and that the record supports the issuance of the permits prepared by the Department's experts.

IV. RECOMMENDED FINDINGS AND CONCLUSIONS

Based on the record developed, I find and conclude that the records support the approval of the permits, subject to the reasonable permit conditions recommended by the Department's experts. In conclusion, I recommend the Secretary adopt the following findings and conclusions:

1. The Department has jurisdiction to issue the CZA Permit and Air Permit;
2. The Department provided adequate public notices of the applications, including the draft Air Permit, and the public hearing in a manner required by the law and its regulations;
3. The Department held a public hearing in a manner required by the law and its regulations;
4. The Department considered all timely and relevant public comments in making its determination; and
5. The Department shall serve and publish this Order on all affected persons in a manner consistent with the law and its regulations.



Robert P. Haynes, Esquire
Senior Hearing Officer

MEMORANDUM

TO: Robert P. Haynes, Esq., Senior Hearing Officer

FROM: Lee Ann Walling, AICP, Chief of Planning
Kevin F. Coyle, AICP, Principal Planner

SUBJECT: DuPont Edge Moor Coastal Zone Act (CZA) Permit Application

DATE: July 29, 2011

Please find a draft CZA permit for the DuPont Edge Moor facility to install and operate two natural gas fired boilers to supply steam for their existing facility at 104 Hay Road, Edge Moor, Delaware, attached. There are no additional or special conditions associated with the permit. No issues were raised during the application process, including at the public hearing, which would require a technical response. We are satisfied with the Division of Air Quality's assessment of the adequacy of the proposed offset, which was introduced by the Department as Exhibit 6 at the public hearing. We recommend that the Secretary approve the permit as drafted.

One special condition is included in the draft permit, which is DuPont's payment of \$250,000 to the Clean Air Council of Philadelphia for the electrification project at Trinity Distribution Service, 504 Rogers Road, New Castle, Delaware.

**DELAWARE
COASTAL ZONE ACT
PERMIT**

NUMBER: 390

ISSUED TO: E.I. DuPont De Nemours and Company, Inc., Edge Moor Plant

TO PERMIT: The installation and operation of two natural gas fired boilers, each rated at 48.16 MMBTU/hour, to supply steam for their existing facility.

SITE LOCATION: 104 Hay Road, Edge Moor, Delaware

Conditions Incorporated and Made Part of this Permit:

1. This permit is conditional upon the Permittee's compliance with all other applicable permit requirements, regulations and laws of the State of Delaware.
2. Issuance of this permit does not relieve the Permittee of the legal obligation of complying with all building permits, subdivision and other applicable code requirements of the county or municipality wherein the permitted project is located.
3. If there are significant deviations from the plan and operations approved by the Secretary, the Permittee shall notify the Secretary as soon as possible. This permit may be revoked and a new permit application required if the Secretary deems the deviation to substantially change the nature of scale of the project and to be of actually or probably harm to the purposes of the Coastal Zone Act.

4. The Permittee shall comply with the provisions of the offset agreement by making payment in the amount of \$250,000 to the Clean Air Council, Suite 300, 135 South 19th Street, Philadelphia PA, 19103 for the electrification project no later than XX.

Signature: _____



Date: _____

8/25/11

Collin P. O'Mara, Secretary

Department of Natural Resources & Environmental Control

June 15, 2011

**"Draft\Proposed" Permits: APC-2011/0064-Construction(NSPS)(FE)
APC-2011/0065-Construction(NSPS)(FE)**

Two 48.16 MMBTU/hr natural gas fired boilers. Equipment ID Nos. B01 and B02

DuPont Edge Moor Plant (DuPont Titanium Technologies)
104 Hay Road
Wilmington, Delaware 19809

ATTENTION: Elizabeth Schowe
Plant Manager

Dear Ms. Schowe:

Pursuant to the 7 **DE Admin. Code** 1102 Section 2 and Section 11, approval by the Department of Natural Resources and Environmental Control is hereby granted to install two 48.16 MMBTU/hr natural gas fired *Cleaver Brooks* boilers (designated as B01 and B02) located at the 104 Hay Road, Wilmington, Delaware, in accordance with the application submitted on Form Nos. AQM-1, AQM-3.2, AQM-5, and AQM-6 signed by Michael K. Welch, former Plant Manager, a cover letter dated December 20, 2010 signed by Vimal Vijaykumar, Environmental Consultant, and the additional information related to this application received from the Company on April 29, 2011.

This permit is issued subject to the following conditions all of which are federally enforceable except Conditions 2.6, 3.3, and 6.1.2:

1. General Provisions

- 1.1 This permit expires on **June 15, 2013**. If the equipment covered by this permit will not be constructed by June 15, 2013, a request to extend the construction permit must be submitted by February 15, 2013. [Reference 7 **DE Admin. Code** 1102 Section 11.10 dated 6/1/97]
- 1.2 The project shall be constructed in accordance with the information described above. If changes are necessary, revised plans must be submitted and a supplemental approval issued prior to actual construction. [Reference 7 **DE Admin. Code** 1102 Section 11 dated 6/1/97]
- 1.3 Upon presentation of identification, the Company shall authorize officials of the Department to:
 - 1.3.1 Enter upon the Company's premises where a source is located or an emissions-related activity is conducted, or where records that must be kept under the terms and conditions of this permit are located. [Reference 7 **DE Admin. Code** 1130 Section 6.3.2.1 dated 12/11/00]
 - 1.3.2 Have access to and copy, at reasonable times, any record(s) that must be kept under the terms and conditions of this permit. [Reference 7 **DE Admin. Code** 1130 Section 6.3.2.2 dated 12/11/00]
 - 1.3.3 Inspect, at reasonable times, any record(s) that must be kept under the terms and conditions of this permit. [Reference 7 **DE Admin. Code** 1130 Section 6.3.2.3 dated 12/11/00]

MEMORANDUM

"Draft\Proposed" Permits: APC-2011/0064-Construction(NSPS)(FE)

APC-2011/0065-Construction(NSPS)(FE)

Two 48.16 MMBTU/hr natural gas fired boilers. Equipment ID Nos. B01 and B02

June 15, 2011

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- 1.3.4 Sample or monitor, at reasonable times, any substance or parameter for the purposes of assuring compliance with this permit or any applicable requirement. *[Reference 7 DE Admin. Code 1130 Section 6.3.2.4 dated 12/11/00]*
- 1.4 This permit may not be transferred to another location or to another piece of equipment or process. *[Reference 7 DE Admin. Code 1102 Section 7.1 dated 6/1/97]*
- 1.5 This permit may not be transferred to another person, owner, or operator unless the transfer has been approved in advance by the Department. Approval (or disapproval) of the permit transfer will be provided by the Department in writing. A request for a permit transfer shall be received by the Department at least thirty (30) days before the date of the requested permit transfer. This request shall include: *[Reference 7 DE Admin. Code 1102 Section 7.1 dated 6/1/97 and 7 Del. C., Chapter 79]*
- 1.5.1 Signed letters from each person stating the permit transfer is agreeable to each person; and
- 1.5.2 An Applicant Background Information Questionnaire pursuant to 7 Del. C., Chapter 79 if the person receiving the permit has not been issued any permits by the Department in the previous five (5) years.
- 1.6 The Company shall, upon completion of the construction, installation, or alteration of each emission unit, request in writing that the Department transfer the terms and conditions of this construction permit into the 7 DE Admin. Code 1130 operating permit. *[Reference 7 DE Admin. Code 1102 Section 11.5 dated 6/1/97]*
- 1.7 The request shall contain the following information, and shall contain the following language from the responsible official: "I certify, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete." *[Reference 7 DE Admin. Code 1102 Section 11.5.1 dated 6/1/97]*
- 1.7.1 A description of the compliance status, a complete schedule, and a certification of compliance for the equipment, facility, or air contaminant control device with respect to all applicable requirements, in accordance with 7 DE Admin. Code 1130 Section 5.4.8 and 5.4.9; and
- 1.7.2 A statement of the methods used to determine compliance, including a description of the monitoring, record keeping, and reporting requirements and test methods.
- 1.8 Upon satisfactory demonstration that the equipment, facility, or air contaminant control device complies with all applicable requirements and all terms and conditions of the construction permit, and not prior to the expiration of the EPA review period provided for in 7 DE Admin. Code 1102, Section 12.5, the Department shall transfer the specified terms and conditions to the 7 DE Admin. Code 1130 permit via the administrative amendment process specified in 7 DE Admin. Code 1130. *[Reference 7 DE Admin. Code 1102 Section 11.5.2 dated 6/1/97]*
- 1.9 The provisions of 7 DE Admin. Code 1102 Sections 2.1, 11.3, and 11.5 shall not apply to the operation of equipment or processes for the purpose of initially demonstrating satisfactory performance to the Department following construction, installation, modification, or alteration of the equipment or processes. The Company shall notify the Department sufficiently in advance of the demonstration and shall obtain the Department's

MEMORANDUM

"Draft\Proposed" Permits: APC-2011/0064-Construction(NSPS)(FE)

APC-2011/0065-Construction(NSPS)(FE)

Two 48.16 MMBTU/hr natural gas fired boilers. Equipment ID Nos. B01 and B02

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prior concurrence of the operating factors, time period, and other pertinent details relating to the demonstration. [Reference 7 DE Admin. Code 1102 Section 11.12 dated 6/1/97]

- 1.10 The owner or operator shall not initiate construction, install, or alter any equipment or facility or air contaminant control device which will emit or prevent the emission of an air contaminant prior to submitting an application to the Department pursuant to 7 DE Admin. Code 1102, and, when applicable, 7 DE Admin. Code 1125, and receiving approval of such application from the Department; except as exempted in 7 DE Admin. Code 1102 Section 2.2. [Reference 7 DE Admin. Code 1102 Section 2.1 dated 6/1/97]

2. Emission Limitations

- 2.1 Air contaminant emission levels from each boiler shall not exceed those specified in 7 DE Admin. Code 1100 and the following: [Reference 7 DE Admin Code 1130 Sections 6.1.1 & 6.2.1 dated 12/11/00]

2.1.1 Volatile Organic Compound (VOC) Emissions

VOC emissions shall not exceed 1.13 tons per twelve (12) month rolling period.

2.1.2 Sulfur Dioxide (SO₂) Emissions

SO₂ emissions shall not exceed 0.125 tons per rolling twelve (12) month period.

2.1.3 Nitrogen Oxide (NO_x) Emissions

NO_x emissions shall not exceed 8.22 tons per twelve (12) month rolling period.

2.1.4 Carbon Monoxide (CO) Emissions

CO emissions shall not exceed 8.44 tons per rolling twelve (12) month period.

2.1.5 Particulate Matter (PM) Emissions

PM emissions shall not exceed 1.57 tons per rolling twelve (12) month period.

- 2.2 By operating the boilers B01 and B02, the Company shall not exceed the Plant-wide Applicability Limits of pollutants identified by the existing Title V operating permit AQM-003/00010-Renewal 2 dated June 11, 2010 or as the Title V permit is revised, amended, or renewed in the future. [Reference 7 DE Admin. Code 1130 Section 6.3.1 dated 12/11/00]

- 2.3 NO_x emissions shall not exceed those achieved by the installation and maintenance of low NO_x burner and flue gas recirculation (FGR) technology.

- 2.4 The Company shall not cause or allow the emission of particulate matter in excess of 0.3 lb/MMBTU heat input, maximum two (2) hour average. [Reference 7 DE Admin. Code 1104, Section 2.1 dated 2/1/81]

- 2.5 No person shall cause or allow the emission of visible air contaminants and/or smoke from a stationary or mobile source, the shade or appearance of which is greater than twenty percent (20%) opacity for an aggregate of more than three (3) minutes in any one (1) hour or more than fifteen (15) minutes in any twenty-four (24) hour period. [Reference 7 DE Admin. Code 1114 Section 2.1 dated 7/17/84]

- 2.6 Odors from this source shall not be detectable beyond the plant property line in sufficient quantities such as to cause a condition of air pollution. [Reference 7 DE Admin. Code 1119 Section 2.1 dated 2/1/81] (State Enforceable Only)

MEMORANDUM

"Draft\Proposed" Permits: APC-2011/0064-Construction(NSPS)(FE)
APC-2011/0065-Construction(NSPS)(FE)

Two 48.16 MMBTU/hr natural gas fired boilers. Equipment ID Nos. B01 and B02

June 15, 2011

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3. Operational Limitations

- 3.1 The Company shall combust only natural gas in the boilers. *[Reference 7 DE Admin Code 1130 Sections 6.1.1 and 6.2.2 date 12/11/00]*
- 3.2 The boilers shall be equipped and operated with Low-NO_x burners and FGR technologies. The percentage of flue gas recirculation shall be established based on the initial stack testing on the boiler. *[Reference 7 DE Admin Code 1112 Section 3 dated 2 date 12/11/00]*
- 3.3 During all periods of operation, each boiler shall be operated at the highest practical combustion efficiency, but at no time shall the combustion efficiency be less than seventy-five percent (75%). The efficiency shall be determined by flue gas oxygen or carbon dioxide analysis, and flue gas net temperature. *[Reference 7 DE Admin Code 1101 Section 3 dated 2/1/81 and 7 DE Admin. Code 1102 Section 11.6 dated 6/1/97]* (State Enforceable Only)
- 3.4 Maximum emission rates for nitrogen oxides from fuel burning equipment shall not exceed those achieved through an annual tune up performed by qualified personnel. The Company shall have an annual tune-up conducted by qualified personnel on each boiler. *[Reference 7 DE Admin Code 1112 Section 3.3.2 dated 11/24/93]*
- 3.5 At all times, including periods of startup, shutdown, and malfunction, the owner or operator shall, to the extent practicable, maintain and operate the facility, including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determinations of whether acceptable operating procedures are being used will be based on information available to the Department, which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source. **[This condition was taken from Permit: AQM-003/00010-Renewal 2(Rev. 1)]** *[Reference 7 DE Admin. Code 1101 Section 3 dated 2/1/81 and 7 DE Admin. Code 1102 Section 11.6 dated 6/1/97]*
- 3.6 All structural and mechanical components of the equipment covered by this permit and in use shall be maintained in proper operating condition. **[This condition was taken from Permit: AQM-003/00010-Renewal 2 (Rev. 1)]** *[Reference 7 DE Admin. Code 1101 Section 3 dated 2/1/81 and 7 DE Admin. Code 1102 Section 11.6 dated 6/1/97]*

4. Testing and Monitoring Requirements

- 4.1 Within ninety (90) days after achieving the maximum production rate at which each boiler can be operated, but not later than 180 days after initial startup of each boiler, the owner or operator shall conduct performance stack tests and subsequent performance testing shall be conducted every five (5) years thereafter, to determine the NO_x and CO emissions and furnish the Department with a written report of the results of such performance tests in accordance with the following general provisions:
 - 4.1.1 One (1) original and two (2) copies of the test protocol shall be submitted a minimum of forty-five (45) days in advance of the tentative test date to the addresses in Condition 6.5. The tests shall be conducted in accordance with the State of Delaware and Federal Requirements. *[Reference 7 DE Admin Code 1117 Section 2.2 dated 7/17/84]*
 - 4.1.2 The test protocol shall be approved by the Department prior to initiating any testing. Upon approval of the test protocol, the Department will notify the owner or operator and the Company shall schedule a test date with the Air Surveillance and Engineering & Compliance Branches. The Department must observe the test