



STATE OF DELAWARE  
DEPARTMENT OF NATURAL RESOURCES  
AND ENVIRONMENTAL CONTROL  
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DOVER, DELAWARE 19901

Office of the  
Secretary

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**Secretary's Order No. 2008-A-0024**

**Re: Application of Indian River Power Plant LLC for an Air Pollution Control Permit to Construct and Operate an Activated Carbon Injection System to Reduce the Air Emissions of Mercury**

**Date of Issuance: June 03, 2008**

**Effective Date: June 03, 2008**

Under the authority granted the Secretary of the Department of Natural Resources and Environmental Control ("Department" or "DNREC") under *7 Del C. §6003*, the following findings, reasons and conclusions are entered as an Order of the Secretary. This Order considers Indian River Power LLC's ("Applicant") application for a minor permit to be issued under the Department's Regulations Governing the Control of Air Pollution, 7 DE Admin C. §1102, in order to construct and operate pollution control equipment to reduce the air emission of mercury from Applicant's Indian River Generating Station ("Facility" or "IRGS") located in Millsboro, Sussex County.

On May 7, 2008, the Department held a public hearing on Applicant's permit application before the Department's assigned presiding Hearing Officer, Robert P. Haynes, who developed a record of decision, and prepared a Hearing Officer's Report dated June 2, 2008 ("Report"). The Report reviewed the public comments and recommended that the Department's Division of Air and Waste Management ("DAWM"), by its Air Quality Management Section ("AQMS"), issue Applicant an air

pollution control permit subject to reasonable conditions appropriate to protect the environment and public health.,

Based upon the Report, a copy of which is appended to this Order and incorporated herein, I direct that that the DAWM's AQMS issue the Applicant an air pollution control permit as requested in the application, subject to reasonable permit conditions developed by AQMS. I conclude that the permit should provide significant environmental and public health benefits by permitting the construction and operation of pollution control equipment that will reduce by approximately 80% the air emission of mercury from the Facility by the December 2008 deadlines in a court approved Consent Order. While the Department shares many of the concerns raised by the public comments on the Facility's impact on the environment and public health, I find that the pollution control equipment to be installed as a result of the permit is consistent with the goal of improving the Facility's impact on the environment and public health as quickly as possible. The issuance of the permit will include certain reasonable conditions that the Department imposes to protect the environment and public health from the risk of harm from the Facility's operations pursuant to the air pollution control permit that this Order directs AQMS to issue.

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

1. The Department has jurisdiction under its statutory authority to make a determination in this proceeding;
2. The Department provided adequate public notice of the proceeding and the public hearing in a manner required by the law and regulations;

3. The Department held a public hearing in a manner required by the law and regulations;

4. The Department considered all timely and relevant public comments in making its determination;

5. The Department shall issue Applicant a permit, subject to reasonable conditions determined by DAWM and pursuant to the Regulations, to allow the construction and operation of the pollution control equipment that should significantly reduce the air emission of mercury by the Consent Order's deadline;

6. The Department shall issue a permit to Applicant as soon as possible to allow construction to commence to comply with the Consent Order's time limits; and

7. The Department shall provide notice of this action by mail or email on each person who requested to receive such notice, as shown on the public hearing sign in sheet or in written correspondence to the Department.

*s/John A. Hughes*  
John A. Hughes  
Secretary

## HEARING OFFICER'S REPORT

TO: The Honorable John A. Hughes  
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: Application of Indian River Power Plant LLC for an Air Pollution Control Permit to Construct and Operate an Activated Carbon Injection System to Reduce the Air Emissions of Mercury

DATE: June 2, 2008

### I. BACKGROUND AND PROCEDURAL HISTORY

The Department of Natural Resources and Environmental Control (“DNREC” or “Department”) held a public hearing on May 7, 2008 in order to receive public comments on the January 24, 2008 permit application submitted by Indian River Power LLC (“Applicant”), a subsidiary of NRG Energy, Inc. The Applicant seeks permission to construct and operate pollution control equipment at Applicant’s electric generating station, known as the Indian River Generating Station, located at 29416 Power Plant Road, Millsboro, Sussex County (“Facility”).

The Facility has four coal-fired steam generating units, which were the subject of the Department’s Regulation 1146, *7 DE Admin. C. §1146*, which went into effect on December 11, 2006.<sup>1</sup> Regulation 1146 required the Facility and other large coal and oil fired electric generating stations to reduce air emissions of mercury and other pollutants. The Facility submitted a report in response to Regulation 1146, but the report indicated that the Facility would not be in compliance. Consequently, the Department issued a Notice of Violation (“NOV”).

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<sup>1</sup> The Department issued Regulation 1146 in order to improve Delaware’s air quality and public health, and in response to changes in federal Clean Air Act regulations, as issued by the United States Environmental Protection Agency (“EPA”).

The Applicant appealed Regulation 1146 and the NOV, and the appeals were resolved by a negotiated settlement approved by the Superior Court of Delaware in and for New Castle County in its Consent Order issued in C.A. 07C-02-283FSS. The Consent Order in Part V specifically addressed the Facility's mercury emissions and requires the Applicant to meet certain emission limits no later than December 1, 2008. The Consent Order states that NRG will operate each of the four units so that mercury emissions "do not exceed one pound per trillion Btu heat output or shall install and operate control technology to capture and control a minimum 80 percent of baseline inlet mercury emissions." The Consent Order also set annual mercury mass emission limits of 207 ounces for Unit 1, 216 ounces for Unit 2, 337 ounces for Unit 3 and 700 ounces for Unit 4. The Consent Order also requires all reasonable efforts to achieve a 90% reduction from the baseline or 0.6 pounds per trillion Btu limit by December 31, 2011, and the Applicant may have to install other pollution control equipment before this deadline in order to satisfy the more stringent standards. The Consent Order also requires the Applicant's future shutdown on May 1, 2010 and May 1, 2011 of Units 1 and 2, respectively, which are the Facility's oldest generating units. The Applicant's agreement to shutdown Units 1 and 2 will significantly reduce the air emission of mercury, which is an air pollutant. Moreover, Applicant already installed pollution control equipment, and switched to burning lower sulfur coal based upon the Consent Order, and these changes already have significantly reduced the Facility's air emissions of sulfur dioxide ("SO<sub>2</sub>") and nitrogen oxides ("NO<sub>x</sub>").

The Applicant requests that the Department's Division of Air and Waste Management ("DAWM"), Air Quality Management Section ("AQMS") issue a minor air pollution control permit<sup>2</sup> to allow the construction and operation of an Activated Carbon Injection System ("ACIS"), which is designed to reduce mercury air emissions. The ACIS system has been

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<sup>2</sup> The Secretary has delegated the permit issuance of Air Pollution Control permits to the DAWM's AQMS.

recognized as achieving mercury reductions to comply with Consent Order's December 2008 deadline and limits.

This Report considers the permit application, my research and review of relevant information in the Department's files and from information provided by the Department's experts, and the public comments in order to develop an administrative record for the Department's final decision by the Secretary of the Department.

## **II. SUMMARY OF THE PUBLIC HEARING RECORD**

The public hearing record contains a 100 page verbatim transcript of the public hearing and the documents introduced in the record at the public hearing as exhibits. At the public hearing, AQMS's representatives Paul Foster, P.E., Joanna French, P.E., and Tom Lilly, P.E., provided the public hearing record with certain documents that were introduced as Department exhibits,<sup>3</sup> which included the Applicant's permit application, correspondence from the public, and the public notices. The Applicant made a brief presentation from the Facility's Plant Manager, John Robinson.

The public comments were made by nine members of the public<sup>4</sup>. Michael Fiorentino, Executive Director of the Mid-Atlantic Environmental Law Center ("MAELC"), presented comments and asked extensive questions. These comments raised questions about the pollution control equipment that Applicant selected to install and whether it would trigger a New Source Review or conflict with the installation of other pollution control equipment. John Austin

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<sup>3</sup> The Department does not have an obligation to develop the public hearing record. The Department remains neutral on the merits of a pending permit application until after the public hearing, but the Department develops a basic public hearing record for the public's benefit.

<sup>4</sup> A person requested to ask "press questions," which I denied. My ruling was based on my discretion as the presiding hearing officer to conduct a hearing for the purpose of receiving public comments on the permit application. I determined that entertaining "press" questions would not be consistent with hearing questions from the public, but instead would turn a public hearing into a press conference. Allowing a public hearing to be used by the media to make news, as opposed to reporting on what the public has to say, is an important distinction. The Department, however, does not now screen in advance its speakers at its public hearing, although it could like some public hearings held by other part of Delaware's government. My ruling did not deny the "press" reporter the ability to gather news, or otherwise report on the hearing. In fact, the reporter interviewed the Department's staff following the hearing, but reported that the public was not allowed to speak at the public hearing, which was not correct.

presented comments on the solid waste disposal of the fly ash that would include mercury if the ACIS is installed and removes the mercury as anticipated. He requested that the solid waste be disposed in a lined and covered landfill. Other members of the public voiced similar concerns with the Facility in general and its impact on the environment, including the fly ash disposal, health risks of cancer and other illnesses and water pollution.

### **III. DISCUSSION AND REASONS**

The Department reviews the pending permit application pursuant to its authority set forth in *7 Del C. Chapter 60 and Regulations Governing the Control of Air Pollution* (“Regulations”), *7 DE Admin. §§1100 et seq.*<sup>5</sup> This discussion will address the public comments on the permit application, which I summarize as raising the following issues appropriate for discussion in this Report: 1) whether the air pollution control equipment to be installed is the best alternative and whether its operation would subject the Facility to a new source review application under the Clean Air Act, 2) whether the air pollution control permit should be conditioned on the disposal of the solid waste produced in a lined and covered landfill, and 3) the Facility’s overall environmental impact.

The ACIS is one part of an important pollution reduction effort that the Applicant agreed to undertake when it entered into the Consent Order and its mercury reduction performance standards. The Applicant, to its credit, chose to reach a negotiated settlement rather than further litigate and possibly obtain the reversal of Regulation 1146. The Applicant agreed to the mercury performance standards set forth in the Consent Order. MAELC’s comments appear to question whether the Applicant selected the best method to control mercury emissions. I find that this issue is not one that the Department should review as part of a permit application process, except that the Department’s experts should confirm that the application’s engineering and

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<sup>5</sup> The Regulations have not been totally codified in the Delaware Administrative Code.

design will allow the Facility to meet the Consent Order's limits. Indeed, the Department's experts confirmed that the ACIS should be able to meet the Consent Order's limits for mercury reductions required by December 2008. I find that the Applicant has managerial discretion to select the specific equipment to install to meet the Consent Order. The Department's role is not to interfere with this managerial discretion so long as the Applicant's decision reflects a reasonable likelihood that the permit application will achieve its intended limits, in this case compliance with the Consent Order's December 2008's limits. The Consent Order sets emission levels that must be met, and the Applicant selected the ACIS as an appropriate technology. The Department's experts indicate that ACIS has been installed in other jurisdictions and that EPA has recognized that ACIS is capable of meeting the Consent Order's levels for an 80% reduction in mercury emissions. I find that the public comments that suggest alternatives may be better are too vague to require any change to the Applicant's ACIS decision at this time.

Applicant committed to a multi-year, multi-million dollar effort to reduce the mercury and other air emissions of pollutants from the Facility, and the ACIS is one step in that process that will bring significant improvements to the Facility's air emissions. The Department, as a signatory of a consent decree that set forth certain conditions and time deadlines for compliance, supports the air pollution efforts that the Applicant will be undertaking and will carefully monitor the progress to ensure compliance with the consent decree.

I also address the line of questioning by MAELC on the interaction between this permit application and a new source review ("NSR") permit application. AQMS provided me technical assistance in a memorandum dated May 30, 2008, which I attach hereto and incorporate. This analysis indicates that the Department will as a permit condition ensure that the air emissions resulting from the ACIS do not trigger a NSR. The recovery of solid waste from the ACIS and

its proper disposal also does not result in any support for finding that the ACIS should trigger NSR.

The final issue to be addressed is the Facility's overall impact on the environment and public health. One issue was the placement of the solid waste to be produced by ACIS, which essentially acts like a carbon filter used in many households to filter water and air. The carbon will be injected into the boilers' exhaust, and the mercury will be absorbed by the carbon and recovered in the existing pollution control equipment. The fly ash will be placed in the Facility's on-site industrial landfill for final disposal pursuant to the terms and conditions of the Facility's solid waste permit to operate the landfill. Thus, the Applicant currently is entitled by its permit to place the solid waste from the Facility's coal-fired operations into the existing landfill.

The public comments on the placement of mercury in the existing industrial landfill will be considered by the Department's experts, but I recommend not as part of this permit except to require disposal in a manner consistent with the Department's regulations and permits. Instead, I recommend that this be considered when the solid waste from the ACIS has been generated and can be tested. The Department's Solid and Hazardous Waste Management Branch ("SHWMB") within DAWM administers the solid waste permit issued to the Applicant for the industrial landfill and it is better at this time to defer to SHWMB's expertise. SHWMB may require that the ACIS' solid waste be tested in order to determine the waste's suitability for disposal in the existing landfill. The Applicant has submitted a permit application to construct and operate a new industrial landfill, which will be designed to comply with the Department's *Regulations Governing Solid Waste*. This proposed landfill may be available for use by the Applicant and may resolve some of the public concerns, but I do not recommend, based upon the technical advice from the DAWM's Solid and Hazardous Waste Management Branch ("SHWMB") that the Department take any action at this time other than to condition the permit on disposal in a

lawful manner. The on-site disposal in the existing industrial landfill may comply with this condition based upon the testing of the solid waste prior to its introduction into the existing industrial landfill in order that the Department may determine that the landfill is suitable and approved for solid waste to be generated by the ACIS.

There were passionate public comments on the Facility and its possible role as cause of human illnesses and harm to the environment. The Department is aware of these public concerns, but I recommend that the Department not delay the construction and operation of the ACIS to address these concerns because the ACIS will bring significant improvements to the Facility's air quality by an approximate 80% reduction in the air emission of mercury. The DAWM technical response also highlights some of the permit conditions that will ensure the permit will protect the environment and public health.

I recommend approval of DAWM's issuance of an air pollution control permit for the ACIS pollution control equipment based my review of the administrative record, including the public hearing record, and the technical advice provided by experts within AQMS. I find the proposed conditions to the permit, as prepared by the Department's technical experts, are reasonable and appropriate to ensure that the environment and public health will be protected from any undue risk of harm. As with any permit, the Department has its enforcement authority to exercise when needed to require compliance with the permit.

#### **IV. RECOMMENDED FINDINGS AND CONCLUSIONS**

Based on the record developed, I find and conclude that the record supports approval of the permit for the air pollution control equipment in the application. I recommend the Secretary adopt the following findings and conclusions:

1. The Department has jurisdiction under its statutory authority to make a determination in this proceeding;

2. The Department provided adequate public notice of the proceeding and the public hearing in a manner required by the law and regulations;

3. The Department held a public hearing in a manner required by the law and regulations;

4. The Department considered all timely and relevant public comments in making its determination;

5. The Department shall issue Applicant a permit, subject to reasonable conditions determined by DAWM and pursuant to the Regulations, to allow the construction and operation of the pollution control equipment that should significantly reduce the air emission of mercury by the Consent Order's deadline;

6. The Department shall issue a permit to Applicant as soon as possible to allow construction to commence to comply with the Consent Order's time limits; and

7. The Department shall provide notice of this action by mail or email on each person who requested to receive such notice, as shown on the public hearing sign in sheet or in written correspondence to the Department.

*s/Robert P. Haynes*  
Robert P. Haynes, Esquire  
Senior Hearing Officer

## MEMORANDUM

TO: Robert P. Haynes, Hearing Officer

THROUGH: Joanna L. French, P.E.

FROM: Thomas I. Lilly, P.E.

SUBJECT: Indian River Power, LLC, Indian River Generating Station  
Public Hearing Held May 7, 2008  
Additional Information Relating To Phone Conversation on May 29, 2008

DATE: May 29, 2008

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The write-up for NSR/PSD which follows is part of the memorandum for the construction permit.

**Regulation No. 1125**, *Requirements For Preconstruction Review*, is not applicable to the facility. The Company will perform stack testing to confirm that no significant increase in particulate or PM10 will occur. Should the stack testing indicate that a significant increase could occur, the Company will propose permit limits to be incorporated into an operating permit to avoid triggering a significant increase.

If usage of activated carbon results in an increase to particulate emissions, it is the intent of the Company to limit its potential to emit by permit by limiting the quantity of activated carbon used for mercury control to such an extent that no significant increase will occur.

What follows is a summary of other information that was mentioned in the phone conversation that could help in your document relating to the hearing.

Condition 3.1.4 of the permit will require installation of Continuous Emissions Monitoring Systems (CEMS) or equivalent to determine mercury emissions. Condition 4.3 will require the Company to perform any additional stack testing needed for the CEMS or equivalent method of determining mercury emissions. These conditions relate to inquiries from the audience about monitoring and testing.

Condition 3.2 will require the Company to dispose of wastes in accordance with applicable regulations. This condition relates to inquiries concerning disposal of solid wastes.

Condition 4.2 will require stack testing to determine that no significant increase of particulate and PM10 emissions will occur.

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