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**2007 ANNUAL ENVIRONMENTAL OPERATING REPORT  
HOPE CREEK GENERATING STATION  
FACILITY OPERATING LICENSE NO. NPF-57  
DOCKET NO. 50-354**

The attached 2007 Annual Environmental Operating Report is hereby submitted pursuant to Technical Specification Section 6.9.1.6 and Subsection 5.4.1 of the Environmental Protection Plan (Non-radiological) for Hope Creek Generating Station. The Environmental Protection Plan is Appendix B to Facility Operating License NPF-57 (Docket No. 50-354).

Sincerely,

A handwritten signature in black ink that reads "John F. Perry". The signature is written in a cursive, flowing style.

John F. Perry  
Hope Creek Plant Manager

/cew  
Attachment (1)

APR 25 2008

USNRC  
HCH-2008-064

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2007 ANNUAL ENVIRONMENTAL OPERATING REPORT  
(NON-RADIOLOGICAL)  
January 1 through December 31, 2007

HOPE CREEK GENERATING STATION  
DOCKET NO. 50-354  
OPERATING LICENSE NO. NPF-57

PSEG NUCLEAR LLC  
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APRIL 2008

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## 1.0 INTRODUCTION

This 2007 Annual Environmental Operating Report (AEOR) for the Hope Creek Generating Station was prepared in accordance with Subsection 5.4.1 of Appendix B to Facility Operating License No. NPF-57, Environmental Protection Plan (Non-radiological). The reporting requirements of the Environmental Protection Plan (EPP) became effective April 11, 1986, with the issuance of the initial Hope Creek Operating License (NPF-57).

This is the 23rd AEOR submitted for Hope Creek Generating Station. It corresponds to the reporting period January 1, 2007 to December 31, 2007. Hope Creek Generating Station produced 8,141,144 megawatt-hours of net electrical energy during this period.

As required by Subsection 5.4.1 of the EPP, we have included summaries and analyses of all required environmental protection activities. This information is described in Section 2.0. Section 3.0 addresses the issue of EPP compliance. Changes to station design or operation and the review for potentially significant unreviewed environmental questions are addressed in Section 4.0. Administrative review procedures and unusual and/or important environmental events are discussed in Section 5.0.

## 2.0 ENVIRONMENTAL PROTECTION ACTIVITIES

### 2.1 AQUATIC ISSUES

Subsection 4.2.1 of the EPP references the Clean Water Act as the mechanism for protecting aquatic biota through water quality monitoring. The United States Nuclear Regulatory Commission (USNRC) relies upon the State of New Jersey, acting under the authority of the Clean Water Act, to insure applicable requirements for aquatic monitoring are implemented. The New Jersey Department of Environmental Protection (NJDEP) is the state's regulatory agency.

The state of New Jersey requires as part of their New Jersey Pollutant Discharge Elimination System (NJPDES) permit program that effluent monitoring be performed, with the results summarized and submitted monthly on Discharge Monitoring Report (DMR) forms. The monitoring is intended to determine compliance with permit (NJPDES No. NJ0025411) effluent limitations. We have reviewed the DMR's corresponding to the 2007 AEOR reporting period and have determined that no significant deviations have occurred. Copies of monthly DMR's are routinely sent to USNRC's Document Control Desk and additional copies are available upon request.

On December 31, 2002, the New Jersey Department of Environmental Protection (NJDEP) issued a Final New Jersey Pollutant Discharge Elimination System (NJPDES) Permit that authorizes the continued discharge of cooling tower blowdown and other effluents from the Hope Creek Generating Station to the Delaware River. The Permit was effective on March 1, 2003 and contains conditions and limitations for continued compliance with the federal and state Clean Water Act (CWA) and the NJDEP's regulations.

On January 31, 2005 the NJDEP issued a major modification to the NJPDES permit to correct technical errors contained in the original Permit. The NJPDES Permit retains substantially similar effluent limitations and conditions, including chemical-specific requirements and system operational requirements.

On August 31, 2007, PSEG Nuclear submitted a comprehensive request for renewal of the NJPDES Permit. The current NJPDES permit is administratively continued pending action by NJDEP relative to the NJPDES permit renewal application.

While the NRC relies on the State of New Jersey for protection of the water quality, the National Marine Fisheries Service (NMFS) maintains regulatory authority with respect to certain migratory threatened and endangered aquatic species. On May 15, 1993 the NMFS issued a revised Section 7 Consultation, Biological Opinion. The revision removed all requirements for marine life monitoring at the Hope Creek Generating Station. This revision was incorporated into the Facility Operating License No. NPF-57 through Amendment No. 60.

## 2.2 TERRESTRIAL ISSUES

PSEG NUCLEAR LLC has been voluntarily monitoring the osprey population that nest on our transmission towers through a joint effort with the NJDEP since 1989.

## 3.0 EPP COMPLIANCE STATUS

### 3.1 EPP NONCOMPLIANCES

Subsection 5.4.1 of the EPP requires a list of EPP noncompliances and the corrective actions taken to remedy them. No previously unreviewed environmental impacts attributable to the operation of the Hope Creek Generating Station were observed during 2007. Likewise, there were no instances of noncompliance with the EPP.

### 3.2 REVIEW

Subsection 5.1 of the EPP for Hope Creek Generating Station requires that an independent review of compliance with the EPP be maintained and made available for inspection. Compliance with the EPP was reviewed as part of the QA Assessment Program in 2008. No substantive findings were identified and a copy of the review is available for inspection. A triennial compliance review of the EPP is scheduled for 2011.

### 4.0 CHANGES IN STATION DESIGN OR OPERATION

Pursuant to the requirements of Section 3.1 of the EPP, station design/operational changes during the time period covered by this report were reviewed for potential environmental impact. None of the recommended changes posed a potential to significantly affect the environment, and therefore, none involved an unreviewed environmental question or a change in the EPP.

Hope Creek submitted an application to NRC for an Extended Power Uprate (EPU), a component of the application was an Environmental Report assessing the potential environmental impacts of the EPU. NRC reviewed the EPU and Environmental Report and issued a Final Environmental Assessment and Finding Of No Significant Impact on March 3, 2008, which was published in the Federal Register on March 11, 2008.

### 5.0 NONROUTINE REPORTS

#### 5.1 2007 NONROUTINE REPORTS

Subsection 5.4.1 of the EPP requires that a list of nonroutine reports (submitted in accordance with Subsection 5.4.2 of the EPP) be included as part of the Annual Operating Environmental Report. Hope Creek Generating Station experienced no unusual or important events (in accordance with section 4.1 of the EPP) that indicated or could have resulted in a "significant environmental impact" during the 2007 reporting period. However, the following events were reported to other Federal, State or local agencies in accordance with their reporting requirements, and copies of those reports were provided to the USNRC at the same time:

- On October 13, 2007 at approximately 1307 hours, personnel observed that the cooling tower basin was full and the wind was causing water to be blown out of the cooling tower basin. At 1322 the Control Room was notified of the water being blown out of the cooling tower basin and on to the ground. PSEG Nuclear had completed a shutdown of Hope Creek at 0941 and the cooling tower was not in service for heat removal. The

elimination of the evaporative losses normally incurred during heat removal increased the volume of water in the cooling tower basin, reducing the normal freeboard available. The high water levels in the basin were attributed to three service water pumps being in service at the time of the event. The high water level in addition to high winds caused water in the cooling tower basin to be blown over the wall of the cooling tower basin and onto the ground. The amount of water discharged is calculated to be less than 1480 gallons. At the time of the event Sodium Hypochlorite injection was in service and samples of the spilled water were taken. At the observed concentrations this equated to approximately 732 milligrams of sodium hypochlorite, about 0.0016 pounds.

Corrective actions for the above event have been completed. No visible impacts to the environment were observed.