

October 22, 2004

Mr. A. Christopher Bakken, III  
President & Chief Nuclear Officer  
PSEG Nuclear LLC - X15  
Post Office Box 236  
Hancocks Bridge, NJ 08038

SUBJECT: HOPE CREEK GENERATING STATION - ISSUANCE OF AMENDMENT RE:  
REMOVAL OF EMERGENCY DIESEL GENERATOR LOCKOUT FEATURE  
SURVEILLANCE REQUIREMENT (TAC NO. MC1224)

Dear Mr. Bakken:

The Commission has issued the enclosed Amendment No. 155 to Facility Operating License No. NPF-57 for the Hope Creek Generating Station. This amendment consists of changes to the Technical Specifications in response to your application dated October 23, 2003 as supplemented by letters dated June 24, 2004 and August 26, 2004. The amendment removes the Surveillance Requirement associated with the Emergency Diesel Generator lockout feature.

A copy of our safety evaluation is also enclosed. Notice of Issuance will be included in the Commission's biweekly *Federal Register* notice.

Sincerely,

*/RA/*

Daniel S. Collins, Senior Project Manager, Section 2  
Project Directorate I  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

Docket No. 50-354

Enclosures: 1. Amendment No. 155 to  
License No. NPF-57  
2. Safety Evaluation

cc w/encls: See next page

Hope Creek Generating Station

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**/RA/**  
Daniel S. Collins, Senior Project Manager, Section 2  
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Office of Nuclear Reactor Regulation

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PSEG NUCLEAR LLC

DOCKET NO. 50-354

HOPE CREEK GENERATING STATION

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 155  
License No. NPF-57

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment filed by PSEG Nuclear LLC, dated October 23, 2003, as supplemented by letters dated June 24, 2004, and August 26, 2004, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
  - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
  - C. There is reasonable assurance: (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations set forth in 10 CFR Chapter I;
  - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
  - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. NPF-57 is hereby amended to read as follows:

(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 155, and the Environmental Protection Plan contained in Appendix B, are hereby incorporated into the license. PSEG Nuclear LLC shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. The license amendment is effective as of its date of issuance and shall be implemented within 60 days.

FOR THE NUCLEAR REGULATORY COMMISSION

*/RA by Richard J. Laufer for/*

James W. Clifford, Chief, Section 2  
Project Directorate I  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical  
Specifications

Date of Issuance: October 22, 2004

ATTACHMENT TO LICENSE AMENDMENT NO. 155

FACILITY OPERATING LICENSE NO. NPF-57

DOCKET NO. 50-354

Replace the following page of the Appendix A Technical Specifications with the attached revised page. The revised page is identified by amendment number and contains marginal lines indicating the areas of change.

Remove  
3/4 8-8

Insert  
3/4 8-8

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
RELATED TO AMENDMENT NO. 155 TO FACILITY OPERATING LICENSE NO. NPF-57

PSEG NUCLEAR LLC

HOPE CREEK GENERATING STATION

DOCKET NO. 50-354

## 1.0 INTRODUCTION

By letter dated October 23, 2003, as supplemented by letters dated June 24, and August 26, 2004, PSEG Nuclear, LLC (PSEG or the licensee) requested changes to the Hope Creek Generating Station (Hope Creek) Technical Specifications (TSs). The supplements dated June 24, and August 26, 2004, provided additional information that clarified the application, did not expand the scope of the application as originally noticed, and did not change the staff's original proposed no significant hazards consideration determination as published in the *Federal Register* on December 9, 2003 (68 FR 68671).

The amendment would revise TSs to remove Surveillance Requirement (SR) 4.8.1.1.2.h.14, which is associated with the emergency diesel generator (EDG) lockout feature. The amendment also deletes a footnote associated with this SR that was only applicable until the startup from RFO 11 in the spring of 2003.

On January 30, 2003, the Nuclear Regulatory Commission (NRC or the Commission) issued Hope Creek Inspection Report 50-354/03-002 which documented a team inspection of activities as they relate to safety system design and performance capability of the high-pressure coolant injection and electrical power system including the EDGs and offsite power systems. The inspection identified an apparent violation of SR 4.8.1.1.2.h.14 because of inadequate testing to verify that the EDG features associated with the 86R, 86B, and 86F lockout relays prevent the EDG from starting only when required. This apparent violation was dispositioned as a Green Non-cited Violation in Inspection Report 50-354/04-03-003 issued on July 28, 2004. In its application, the licensee provided information to demonstrate that the SR is not required to be included in TSs by Title 10 of the *Code of Federal Regulations* (10 CFR), Section 50.36. Additionally, PSEG stated that the requirements of this SR will be relocated to the Hope Creek updated final safety analysis report (UFSAR), which is governed by a change control process in accordance with 10 CFR 50.59.

## 2.0 REGULATORY EVALUATION

Appendix A to 10 CFR, Part 50, General Design Criterion (GDC) 17 requires, among other things, that the licensee have an onsite electric power system to permit the functioning of structures, systems, or components (SSCs) important to safety. The safety function of each system (assuming the other system is not functioning) shall be to provide sufficient capacity

and capability to assure that (1) specified acceptable fuel design limits and design conditions of the reactor coolant pressure boundary (RCPB) are not exceeded as a result of anticipated operational occurrences, and (2) the core is cooled and containment integrity and other vital functions are maintained in the event of postulated accidents. The onsite system is required to have sufficient independence, redundancy, and testability, to perform its safety function, assuming a single failure.

Section 50.36 of 10 CFR sets forth the regulatory requirements for the content of the TSs. This regulation requires, in part, that the TSs contain limiting conditions for operation (LCOs). Section 50.36(c)(2)(ii) of 10 CFR gives four criteria to be used in determining whether an LCO is required to be included in the TSs for a particular item. The four criteria are as follows:

1. Installed instrumentation that is used to detect, and indicate in the control room a significant abnormal degradation of the reactor coolant pressure boundary.
2. A process variable, design feature, or operating restriction that is an initial condition of a design basis accident or transient analysis that either assumes the failure of or presents a challenge to the integrity of a fission product barrier.
3. A structure, system, or component that is part of the primary success path and which functions or actuates to mitigate a [design basis accident] DBA or transient that either assumes the failure of or presents a challenge to the integrity of a fission product barrier.
4. A structure, system or component which operating experience or probabilistic risk assessment has shown to be significant to public health and safety.

Additionally, 10 CFR 50.36(c)(3) states:

Surveillance requirements are requirements relating to test, calibration, or inspection to assure that the necessary quality of systems and components is maintained, that facility operation will be within safety limits, and that the limiting conditions for operation will be met.

The Final Commission policy statement issued on July 22, 1993 (58 FR 39132), presents the policy of the NRC with respect to the scope and purpose of TSs. Included in this policy statement is a discussion of the criterion contained in 10 CFR 50.36(c)(2)(ii) and 10 CFR 50.36(c)(3). The policy statement further identifies that LCOs and SRs which do not meet any of these criteria may be proposed for removal from the TSs provided they are relocated to a licensee-controlled document, governed by the 10 CFR 50.59 change control process.

### 3.0 TECHNICAL EVALUATION

The licensee has proposed the following changes to the Hope Creek TSs:

1. SR 4.8.1.1.2.h.14 is deleted.
2. The footnote “\*” on page 3/4 8-8 is removed.

Currently, SR 4.8.1.1.2.h.14 requires verification that the following EDG lockout features prevent EDG starting only when required:

1. Engine overspeed, generator differential, and low lube oil pressure (regulator lockout relay (1) 86R)
2. Backup generator differential and generator overcurrent (backup lockout relay, (1) 86B)
3. Generator ground and lockout relays-regular, backup and test, energized (breaker failure lockout-relay (1) 86F)

In its submittal, the licensee stated that the deletion of SR 4.8.1.1.2.h.14 was appropriate because SR 4.8.1.1.2.h.7 verifies that all automatic EDG trips, except engine overspeed, generator differential current, generator overcurrent, bus differential current, and low lube oil pressure are automatically bypassed upon a loss of voltage on the emergency bus concurrent with an emergency core cooling system actuation signal. The features bypassed are for equipment protection under non-emergency conditions only. Additionally, a successful performance of SR 4.8.1.1.2.h.7 demonstrates that the 86R, 86B, and 86F relays are not preventing a valid EDG start. The licensee further stated that the intent of SR 4.8.1.1.2.h.14 (i.e., verification that the lockout features prevent the EDG from starting only when required) is superfluous. Instead, the purpose of the lockout features is to provide equipment protection from potentially unrecoverable conditions and allow for subsequent repair and recovery of the power source. The condition that the lockout relays are not preventing EDG start is confirmed each time the EDG experiences a demand to start as part of the monthly surveillance. Additionally, the licensee stated that the lockout features do not meet any of the TS selection criteria of 10 CFR 50.36.

By letter dated August 2, 2004, the NRC staff informed the licensee that the proposed change would essentially perform a line-item conversion to the Improved Standard Technical Specifications (ISTS) for the Hope Creek EDG SRs and as such cannot be totally deleted. Conversion to the ISTS involves an evaluation of the proposed changes as discussed in the Final policy statement contained in 58 FR 39132. As discussed in this policy statement, removal of requirements from the TSs in the process of converting to the ISTS involves relocation of those requirements to a licensee-controlled document (such as a Technical Requirements Manual or other document controlled under the 10 CFR 50.59 change control process). In the August 2, 2004 letter, the NRC staff requested PSEG to indicate (1) where the SRs currently in SR 4.8.1.1.2.h.14 would be relocated, and (2) which licensee-controlled document would govern this requirement.

By letter dated August 26, 2004, the licensee stated that it would incorporate the SRs currently in SR 4.8.1.1.2.h.14 into the UFSAR. In addition, the licensee stated that the changes to the

UFSAR are controlled under the 10 CFR 50.59 change control process. Therefore, the changes to the procedures that govern the lockout feature testing would also be screened under the 10 CFR 50.59 change control process. The NRC staff finds that the relocation of the requirements to the UFSAR satisfies the policy statement contained in the NRC's final policy statement 58 FR 39132, as noted above.

The failure of a single EDG, regardless of cause, has been accounted for in the design of the onsite power system for Hope Creek. Thus, compliance with 10 CFR Appendix A, GDC 17 remains unchanged because there is no change to the design function of the EDG, and its ability to perform this design function will continue to be verified by the remaining SRs of TS 4.8.1.1.

The EDG lockout features are not installed instrumentation used to detect and indicate in the control room, a significant abnormal degradation of the RCPB, nor are they a process variable, design feature, or operating restriction that is an initial condition of a DBA or transient analysis. Therefore, the lockout features do not meet 10 CFR 50.36(c)(2)(ii) Criteria 1 or 2. The lockout features are not an SSC that is part of the primary success path. The lockout features do not function or actuate to mitigate a DBA or transient; instead, the features are designed to prevent EDG operation under conditions in which a catastrophic failure could occur. Therefore, their passive allowance of a valid start signal is all that is necessary for the EDG to fulfill its design function. Therefore, the lockout features do not meet Criterion 3 of 10 CFR 50.36(c)(2)(ii). In its August 26, 2004, submittal, PSEG stated that the type 86 lockout, over current, and differential over current relays at Hope Creek have historically been reliable. Because the onsite power system is GDC 17 compliant, the consequences of failure (i.e., their prevention of a valid start) of the lockout features are relatively low. Therefore, the lockout features are not significant to public health and safety and, thus, do not meet Criterion 4 of 10 CFR 50.36(c)(2)(ii). Given the above consideration, the EDG lockout features are not required to be in the TSs as specified in 10 CFR 50.36(c)(2)(ii).

The EDG lockout features do have the potential to, by their failure, prevent the EDG from starting and thus, fail to perform its design function. The onsite power system for Hope Creek, in accordance with GDC 17, is designed to be sufficiently redundant such that a single failure will not result in an inability to safely shut down the unit. Although it does not test the ability of the lockout feature's function, successful performance of SR 4.8.1.1.2.h.7 does demonstrate that the lockout features are in a state such that they do not block a valid start signal. Given this consideration, the staff finds that SR 4.8.1.1.2.h.14 is not required to assure that the necessary quality of systems and components is maintained, that the facility operation will be within safety limits, and that the LCOs will be met and, therefore, is not required by 10 CFR 50.36(c)(3).

Given that the SR is not required to be in the TSs as specified by 10 CFR Sections 50.36(c)(2)(ii) or (c)(3), and compliance with GDC 17 will continue, the NRC staff finds the removal of SR 4.8.1.1.2.h.14 from the Hope Creek TSs and its relocation to the UFSAR to be acceptable.

The licensee has also proposed to delete footnote “\*” from the SR 4.8.1.1.2.h. The licensee stated that the footnote was only applicable until the startup from refueling outage RFO11, which was completed in the spring of 2003, and only applicable to SR 4.8.1.1.2.h.14.

Therefore, this footnote is no longer needed or applicable to any SR. Based on the above consideration, the NRC staff finds the proposed change to be acceptable.

#### 4.0 STATE CONSULTATION

In accordance with the Commission's regulations, the New Jersey State Official was notified of the proposed issuance of the amendment. The State official had no comments.

#### 5.0 ENVIRONMENTAL CONSIDERATION

The amendment changes a surveillance requirement. The NRC staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendment involves no significant hazards consideration, and there has been no public comment on such finding (68 FR 68671). Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendment.

#### 6.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributors: O. Chopra  
G. Miller

Date: October 22, 2004