

October 31, 2006

Mr. William Levis
Senior Vice President & Chief Nuclear Officer
PSEG Nuclear LLC - N09
Post Office Box 236
Hancocks Bridge, NJ 08038

SUBJECT: HOPE CREEK GENERATING STATION - ISSUANCE OF AMENDMENT
RE: CLARIFICATION OF REQUIREMENTS DURING HANDLING OF
IRRADIATED FUEL, CORE ALTERATIONS, AND OPERATIONS WITH THE
POTENTIAL FOR DRAINING THE REACTOR VESSEL (TAC NO. MC8624)

Dear Mr. Levis:

The Commission has issued the enclosed Amendment No. 170 to Facility Operating License No. NPF-57 for the Hope Creek Generating Station. This amendment consists of changes to the Technical Specifications (TSs) in response to your application dated October 7, 2005, as supplemented by letter dated September 8, 2006. The amendment revises the TSs to clarify certain requirements during fuel movement, core alterations, and operations with the potential for draining the reactor vessel. The amendment makes the TSs better aligned with the Nuclear Regulatory Commission-approved Revision 2 to Technical Specification Task Force (TSTF) Traveler TSTF-51, "Revise Containment Requirements During Handling Irradiated Fuel and Core Alterations," and NUREG-1433, "Standard Technical Specifications General Electric Plants, BWR [boiling water reactor]/4."

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/

Stewart N. Bailey, Senior Project Manager
Plant Licensing Branch I-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-354

Enclosures:

1. Amendment No. 170 to License No. NPF-57
2. Safety Evaluation

cc w/encls: See next page

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Accession Nos.:

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OFFICE	LPL1-2/PM	LPL1-2/LA	OGC	LPL1-2/BC
NAME	SBailey	CRaynor	SHamrick	HChernoff
DATE	10/30/06	10/31/06	10/27/06	10/31/06

OFFICIAL RECORD COPY

Hope Creek Generating Station

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PSEG NUCLEAR LLC

DOCKET NO. 50-354

HOPE CREEK GENERATING STATION

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No.170
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 7, 2005, as supplemented by letter dated September 8, 2006, 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. 170, 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/

Harold K. Chernoff, Chief
Plant Licensing Branch I-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment: Changes to the Facility
Operating License and Technical
Specifications

Date of Issuance: October 31, 2006

ATTACHMENT TO LICENSE AMENDMENT NO. 170

FACILITY OPERATING LICENSE NO. NPF-57

DOCKET NO. 50-354

Replace the following page of the Facility Operating License No. NPF-57 with the attached revised page as indicated. The revised page is identified by amendment number and contains marginal lines indicating the areas of change.

Remove

3

Insert

3

Replace the following pages of the Appendix A Technical Specifications with the attached revised pages. The revised pages are identified by amendment number and contain marginal lines indicating the areas of change.

Remove

3/4 6-51
3/4 6-52a
3/4 7-4
3/4 8-11
3/4 8-17
3/4 8-23

Insert

3/4 6-51
3/4 6-52a
3/4 7-4
3/4 8-11
3/4 8-17
3/4 8-23

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 170 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 7, 2005, as supplemented by letter dated September 8, 2006, PSEG Nuclear LLC (PSEG, or the licensee) requested changes to the Technical Specifications (TSs) for the Hope Creek Generating Station (Hope Creek). The proposed changes would clarify certain requirements during core alterations, fuel movement, and operations with the potential for draining the reactor vessel in order to make the Hope Creek TSs better aligned with Revision 2 to Technical Specification Task Force (TSTF) Traveler TSTF-51, "Revise Containment Requirements During Handling Irradiated Fuel and Core Alterations," and NUREG-1433, "Standard Technical Specifications General Electric Plants, BWR [boiling water reactor]/4." Specifically, the licensee proposed the following changes:

- (a) revise ACTION requirement b. of TS 3.6.5.3.1 and 3.6.5.3.2 to change "or" to "and" between the words "containment" and "operations";
- (b) revise footnote * to TS 3.7.1.2 to add "recently" between the words "handling" and "irradiated";
- (c) revise ACTION requirement a. of TSs 3.8.1.2, 3.8.2.2, and 3.8.3.2 to add "CORE ALTERATIONS" between the words "suspend" and "handling"; and
- (d) revise ACTION requirement b. of TS 3.8.3.2 to add "recently" between the words "of" and "irradiated."

The licensee's September 8, 2006, supplement provided clarifying information that did not change the scope of the proposed amendment as described in the original notice of proposed action published in the *Federal Register*, and did not change the initial proposed no significant hazards consideration determination.

2.0 REGULATORY EVALUATION

In Title 10 of the *Code of Federal Regulations* (10 CFR) Section 50.36, the Nuclear Regulatory Commission (NRC) established its regulatory requirements related to the content of TSs. Pursuant to 10 CFR 50.36, TSs are required to include items in the following five specific

categories: (1) safety limits, limiting safety system settings, and limiting control settings; (2) limiting conditions for operation; (3) surveillance requirements (SRs); (4) design features; and (5) administrative controls. The regulation does not specify the particular requirements to be included in a plant's TSs.

In its Safety Evaluation (SE) for Amendment No. 146 to the Hope Creek facility operating license, the NRC staff approved, in part, 1) Hope Creek's use of an alternate source term (AST) in the re-analysis of the fuel handling accident (FHA), and 2) Hope Creek's adoption of TSTF-51. However, for Amendment No. 146, the licensee did not request complete implementation of the guidance contained in TSTF-51 and the standard technical specifications (STs) related to certain TS requirements for FHA radiological consequence mitigation systems. Some of the inconsistencies were addressed by Amendment No. 156. The licensee proposed to correct the remaining inconsistencies with the present application.

3.0 TECHNICAL EVALUATION

The NRC staff has previously accepted the licensee's analyses of the radiological consequences for the design-basis FHA and the design-basis loss of coolant accident (LOCA) for Hope Creek, which were based on use of an AST, as documented in Amendment No. 146. The changes proposed in the present application rely on the NRC staff's previous conclusion that these analyses are acceptable. The NRC staff's SE supporting Amendment No. 146 is available in the NRC's Agencywide Documents Access and Management System under Accession No. ML030760293. In addition, the proposed changes are based on the guidance of TSTF-51 and the STs.

3.1 Recently Irradiated Fuel

The licensee proposed changes to TS 3.7.1.2, "Service Water," and TS 3.8.3.2, "Distribution - Shutdown," to add "recently" before the phrase "irradiated fuel." TSTF-51 made a generic change to the STs to refer to irradiated fuel that has not sufficiently decayed to allow relaxation of system operability requirements as "recently" irradiated fuel.

For Hope Creek, recently irradiated fuel is defined as fuel that has decayed less than 24 hours. When using 24 hours for the decay time in the design-basis FHA analysis, projected radiological consequences remain within the acceptance criteria of 10 CFR 50.67. This proposed change is consistent with TSTF-51 and the STs and should have been included in the licensee's previous proposal, approved in Amendment No. 146, to modify these TS applicability and action statements. The change is supported by the design-basis analyses and is, therefore, acceptable.

3.2 Suspension of Fuel Handling and Operations with a Potential for Draining the Reactor Vessel (OPDRVs)

The licensee proposed changes to filtration, recirculation, and ventilation system (FRVS) TS 3.6.5.3.1, "FRVS Ventilation Subsystem," to clarify in requirement b. that both OPDRVs and handling of recently irradiated fuel in the secondary containment must be suspended when both FRVS ventilation units are inoperable in Operational Condition *, and TS 3.6.5.3.2, "FRVS Recirculation Subsystem," to clarify in requirement b. that both OPDRVs and handling of

recently irradiated fuel in the secondary containment must be suspended when three or more required recirculation units are inoperable.

The FRVS is designed to clean contaminated air recirculated through the reactor building and process containment air before it is released to the environment. In Operational Conditions 1, 2, and 3, a LOCA could lead to a fission product release to primary containment that leaks to secondary containment. Hence, TSs require FRVS operability in these operational conditions. In Operational Conditions 4 and 5, however, the probability and consequences of a LOCA are reduced because of TS limitations on reactor coolant system pressure and temperature, and because the reactor is shut down. Therefore, FRVS operability is not required in Operational Conditions 4 and 5 except during specific activities (defined as Operational Condition *) for which significant releases of radioactive material can be postulated, namely OPDRVs and movement of recently irradiated fuel assemblies in secondary containment. Requiring FRVS system operability during these conditions will ensure that radiological exposures in excess of regulatory limits are not received in the event of an FHA or vessel draindown event.

The proposed revision clarifies that both activities must be suspended, not one or the other, when the FRVS subsystems are inoperable. The revision would make requirement b. of both TSs consistent with requirement a.2 of the same TSs, as well as with TSTF-51 and the STSs. Therefore, the change is acceptable.

3.3 Suspension of CORE ALTERATIONS

Additionally, the licensee proposed to add a requirement to electrical power distribution system TS 3.8.1.2, "A.C. Sources - Shutdown," TS 3.8.2.2, "D.C. Sources - Shutdown," and TS 3.8.3.2, "Distribution - Shutdown," to suspend CORE ALTERATIONS when fewer than the required number of channels of the required AC power sources, DC power sources, or electrical distribution system are available. This change is consistent with TSTF-51 and the STSs. Specifically, STS 3.8.2, "AC Sources - Shutdown"; 3.8.5, "DC Sources - Shutdown"; and 3.8.10, "Distribution Systems - Shutdown," all require suspension of core alterations, handling of recently irradiated fuel, and OPDRVs when the required number of channels are not available. The proposed change is more restrictive than the current TS action requirements and is acceptable.

3.4 Relationship to TSTF-51 and STS

When implementing TSTF-51, licensees commit to following the guidelines in Revision 3 of NUMARC 93-01, Section 11, "Assessment of Risk Resulting from Performance of Maintenance Activities." This guidance states, in part, that when licensees are conducting maintenance that involves the need for an open containment, they should evaluate the ability to close the containment in time to mitigate potential fission product releases. The guidance goes on to state that licensees should develop a method to close containment penetrations promptly in order to enable ventilation systems to draw any release from an FHA in such a way that it can be treated and monitored.

In its letter dated January 18, 2003 (supporting Amendment No. 146), PSEG stated that it would follow the guidelines in Section 11 of NUMARC 93-01, Revision 3, at Hope Creek during refueling inside containment. Based on the licensee's commitment to NUMARC 93-01, the consistency of the proposed changes with TSTF-51, and the reasons described above, the

NRC staff finds that the proposed TS changes are not adverse to operational safety at Hope Creek, in all operational conditions including during movement of recently irradiated fuel assemblies in secondary containment and during OPDRVs.

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. As stated in a letter dated January 6, 2006, the State official had no comments.

5.0 ENVIRONMENTAL CONSIDERATION

The amendment changes a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. 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 (71 FR 27002). 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: T. Clark

Date: October 31, 2006