

April 4, 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:  
REMOVAL OF SURVEILLANCE REQUIREMENT PERFORMANCE  
RESTRICTIONS (TAC NO. MC8605)

Dear Mr. Levis:

The Commission has issued the enclosed Amendment No. 165 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 11, 2005. The amendment revises certain 18-month TS surveillance requirements to eliminate the condition that testing be conducted during shutdown conditions.

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. 165 to License No. NPF-57
2. Safety Evaluation

cc w/encls: See next page

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PSEG NUCLEAR LLC

DOCKET NO. 50-354

HOPE CREEK GENERATING STATION

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 165  
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 11, 2005, 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. 165, 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/*

Darrell J. Roberts, Chief  
Plant Licensing Branch I-2  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical  
Specifications

Date of Issuance: April 4, 2006

ATTACHMENT TO LICENSE AMENDMENT NO. 165

FACILITY OPERATING LICENSE NO. NPF-57

DOCKET NO. 50-354

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 1-20  
3/4 3-31  
3/4 3-55  
3/4 6-18  
3/4 6-49  
3/4 7-2  
3/4 7-4

Insert

3/4 1-20  
3/4 3-31  
3/4 3-55  
3/4 6-18  
3/4 6-49  
3/4 7-2  
3/4 7-4

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
RELATED TO AMENDMENT NO. 165 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 11, 2005 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML052920468), PSEG Nuclear LLC (the licensee) requested a license amendment for the Hope Creek Generating Station (Hope Creek). The amendment revises certain eighteen-month Technical Specification (TS) surveillance requirements (SRs) to eliminate the condition that testing be conducted during shutdown conditions.

The current wording for these TS SRs requires that all testing associated with the SRs be performed “during shutdown” or “during cold shutdown or refueling.” Given such constraints, the licensee does not take credit for equivalent tests on some components that are currently performed at power to comply with other surveillances. In addition, the current wording does not allow the licensee to perform SRs at power, even if such testing can be performed safely. This increases the number of surveillances that must be performed during shutdown conditions. One result is increased equipment unavailability during refueling outages, which increases shutdown risk. The proposed amendment would result in a reduction in the number of components that must be tested during shutdown conditions.

## 2.0 REGULATORY EVALUATION

Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50, “Requirements for monitoring the effectiveness of maintenance at nuclear power plants,” Section 50.65(a)(4), requires that the licensee assess and manage the increase in risk that may result from proposed maintenance activities prior to their performance. The intent of the current restriction in the Hope Creek TSs to perform certain 18-month SRs during shutdown conditions is to ensure that the surveillances are performed consistent with safe plant operation. The proposed amendment would allow use of the Hope Creek’s risk assessment program, in accordance with 10 CFR 50.65, to determine whether the performance of these SRs is consistent with safe plant operation.

The Nuclear Regulatory Commission (NRC or the Commission) staff reviewed the proposed changes to the TSs to ensure that they are consistent with similar SRs contained in the Standard Technical Specifications (STSSs) described in NUREG-1433, “Standard Technical Specifications General Electric Plants, BWR [boiling-water reactor] /4,” and with previous staff guidance for performance restrictions on SRs. In Generic Letter (GL) 91-04, “Changes to

Technical Specification Surveillance Intervals to Accommodate a 24-month Fuel Cycle,” the NRC described elimination of the shutdown condition from SRs. The intent of the restriction to perform surveillances “during shutdown” is to ensure the surveillances are performed consistent with safe plant operation. However, in GL 91-04, the NRC recognized that the consideration of safe plant operation is valid for other surveillances that are performed during operational modes other than shutdown, but is not addressed by restricting the conduct of these surveillances.

Additionally, the NRC has previously issued license amendments for the Shearon Harris Nuclear Power Plant, Unit No. 1 (ADAMS Accession No. ML020590045; April 14, 1998), Beaver Valley Power Station, Unit No. 2 (ADAMS Accession No. ML003750330; October 13, 2000), and D.C. Cook (ADAMS Accession No. ML030500450; April 22, 2003) to remove similar language on performing surveillance activities during shutdown. In each of these cases, the NRC staff concluded that removing the requirement to perform tests during shutdown was consistent with the STSs (in these cases, the STSs in NUREG-1431 for Westinghouse plants) and GL 91-04. During shutdown or at power, the licensees manage overall maintenance risk consistent with 10 CFR 50.65(a)(4).

### 3.0 TECHNICAL EVALUATION

The Hope Creek TSs require several SRs to be performed during shutdown. While the restriction is intended to ensure that the SRs are performed consistent with safe plant operation, many components affected by this restriction are designed such that they can be safely tested at power. If testing can be safely performed at power, and since some of the components are already tested at power, many redundant activities during shutdown would be eliminated without any adverse impact on plant safety.

In GL 91-04, the NRC staff specifically recommends the elimination of the condition “during shutdown” from SRs, stating:

The staff concludes that the TS[s] need not restrict surveillances as only being performed during shutdown. Nevertheless, safety dictates that when refueling interval surveillances are performed during power operation, licensees give proper regard for their effect on the safe operation of the plant. If the performance of a refueling interval surveillance during plant operation would adversely affect safety, the licensee should postpone the surveillance until the unit is shutdown for refueling or is in a condition or mode that is consistent with the safe conduct of that surveillance.

The licensee stated that risk is assessed and managed in accordance with 10 CFR 50.65(a)(4) prior to performing maintenance and surveillance activities both at power and during shutdown, and that activities are scheduled to minimize outage times for TS required equipment. At certain thresholds of risk, the licensee uses contingency plans to maximize the reliability of the other equipment relied upon for nuclear safety or power operation, and to safely recover from credible events that may further degrade the online risk level. For unacceptable levels of risk, the licensee defers the activity to an acceptable time in the schedule. The licensee also stated that some of the SRs will continue to be performed in whole, or in part, during periods of plant shutdown, but that the testing conditions will be based on an evaluation of specific plant conditions with respect to the individual components, the Hope Creek plant design, and the requirements of the specific test.

The licensee proposed the following changes to the TSs:

- TS 3/4.1.5, "Standby Liquid Control System," SR 4.1.5.d -- delete the term "during shutdown."
- TS 3/4.3.2, "Isolation Actuation Instrumentation," footnote (a) to Table 4.3.2.1-1 -- delete the term "during shutdown."
- TS 3/4.3.5, "Reactor Core Isolation Cooling System Actuation Instrumentation," footnote (a) to Table 4.3.5.1-1-- delete the term "during shutdown."
- TS 3/4.6.3, "Primary Containment Isolation Valves," SR 4.6.3.2 -- delete the term "during COLD SHUTDOWN or REFUELING."
- TS 3/4.6.5.2, "Secondary Containment Automatic Isolation Dampers," SR 4.6.5.2.b -- delete the term "during COLD SHUTDOWN or REFUELING."
- TS 3/4.7.1, "Service Water Systems," SR 4.7.1.1.b -- delete the term "during shutdown."
- TS 3/4.7.1, "Service Water Systems," SR 4.7.1.2.b -- delete the term "during shutdown."

For some of the affected components, the SR testing frequency of at least once per 18 months may have been already met by previous component testing. The licensee stated that many of the affected components are required by other TS SRs to be tested quarterly, at power. However, since the above SRs require all components to be tested during shutdown conditions, no credit is taken for the other testing. The proposed change would allow the licensee to take credit for testing accomplished at power, or in other conditions, to meet the 18-month SR, thus eliminating redundant testing and improving equipment availability during refueling outages.

The licensee stated that performance of some of the above SRs increases the shutdown risk. Some of the SRs involve testing of components (e.g., relays) that are coupled with systems that interface with the core cooling systems used during shutdown conditions. Therefore, performance of the SRs during shutdown conditions adds challenges to core cooling systems and extends the time that other safety systems are out of service. The licensee further stated that the redundant component testing performed during shutdown conditions is an unnecessary distraction for operation and maintenance personnel, and that shutdown risk can be reduced by allowing credit to be taken for testing accomplished while at power.

The NRC staff reviewed the above proposed changes against the STSs. For most of the above SRs, the STSs (including the STS Bases in NUREG-1433, Vol. 2) do not restrict the testing to shutdown conditions. The STS Bases indicate that, for testing similar to TS 3/4.1.5 and portions of TS 3/4.6.3, the 18-month frequency is based on the need for the surveillance to be performed during conditions during a unit outage because there is a potential for unplanned transients if the surveillances were performed with the reactor at power. Some of the testing covered by these SRs will need to be performed in shutdown conditions; however, the STS Bases do not preclude taking credit for testing already performed for specific components, or evaluating the specific plant conditions required for each test. There is no STS equivalent to

TS 3/4.6.5.2, but for similar components the STSs do not restrict testing to shutdown conditions.

In summary, the NRC staff finds that the licensee's proposed changes are consistent with the STSs and the guidance in GL 91-04. The proposed changes will result in a reduction of the risk associated with performing surveillances during shutdown, and will improve the availability of systems important to maintaining the plant in a safe shutdown condition. The performance of the above SRs during power operation will be evaluated for risk impact as required by 10 CFR 50.65(a)(4) and performed only when it is safe to do so. Therefore, the NRC staff finds the licensee's proposed changes 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 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 2593). 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. Valentine  
S. Bailey

Date: April 4, 2006