



10 CFR 50.90

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LR-N17-0161  
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U.S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Washington, DC 20555-0001

Hope Creek Generating Station  
Renewed Facility Operating License No. NPF-57  
NRC Docket No. 50-354

Subject: **RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION REGARDING  
LICENSE AMENDMENT REQUEST FOR MEASUREMENT UNCERTAINTY  
RECAPTURE POWER UPRATE (CAC NO. MF9930)**

- References
1. PSEG letter to NRC, "License Amendment Request for Measurement Uncertainty Recapture (MUR) Power Uprate," dated July 7, 2017 (ADAMS Accession No. ML17188A260)
  2. NRC e-mail to PSEG, "Hope Creek MUR - Final Request for Additional Information," dated October 17, 2017 (ADAMS Accession No. ML17290B013)

In the Reference 1 letter, PSEG Nuclear LLC (PSEG) submitted a license amendment request for Hope Creek Generating Station (HCGS). The proposed amendment will increase the rated thermal power (RTP) level from 3840 megawatts thermal (MWt) to 3902 MWt, and make Technical Specification (TS) changes as necessary to support operation at the uprated power level.

In Reference 2, the U.S. Nuclear Regulatory Commission staff provided PSEG a Request for Additional Information (RAI) to support the NRC staff's detailed technical review of Reference 1.

PSEG has determined that the information provided in this submittal does not alter the conclusions reached in the 10 CFR 50.92 no significant hazards determination previously submitted. In addition, the information provided in this submittal does not affect the bases for concluding that neither an environmental impact statement nor an environmental assessment needs to be prepared in connection with the proposed amendment.

No new regulatory commitments are established by this submittal. If you have any questions or require additional information, please do not hesitate to contact Mr. Brian Thomas at (856) 339-2022.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on 11/1/17  
(Date)

Respectfully,



Eric Carr  
Site Vice President  
Hope Creek Generating Station

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Attachment

1. Response to Request for Additional Information Regarding MUR Power Uprate

cc: Mr. D. Dorman, Administrator, Region I, NRC  
Ms. L. Regner, Project Manager, NRC  
NRC Senior Resident Inspector, Hope Creek  
Mr. P. Mulligan, Chief, NJBNE  
Mr. L. Marabella, Corporate Commitment Tracking Coordinator  
Mr. T. MacEwen, Hope Creek Commitment Tracking Coordinator

**Response to Request for Additional Information Regarding MUR Power Uprate**

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION  
REGARDING LICENSE AMENDMENT REQUEST FOR  
MEASUREMENT UNCERTAINTY RECAPTURE POWER UPRATE

Hope Creek Generating Station  
Docket No. 50-354  
CAC No. MF9930

APLB-1

The staff notes that Hope Creek Generating Station License Amendment Request, Enclosure 6, GE-Hitachi Nuclear Energy, Document NEDC-33871P, Revision 0, "Safety Analysis Report for Hope Creek Generating Station, Thermal Power Optimization," April 2017, Section 6.7, "Fire Protection," states that "...*There is no change in the physical plant configuration and the potential for minor changes to combustible loading as result of TPO [thermal power optimization] Uprate are addressed by controlled design changes procedures...*"

Per Section 9.5.1.2, "Administrative Controls," of NUREG-1048, the licensee should summarize any changes to the combustible loading, however minor, and discuss the impact of these changes on the plant's compliance with the fire protection program licensing basis, Title 10 of the *Code of Federal Regulations* Part 50 (10 CFR 50.48), or applicable portions of 10 CFR 50, Appendix R. NUREG-1048, "Safety Evaluation Report related to the operation of Hope Creek Generating Station," October 1984 and its Supplements 1 through 6 describe the approved fire protection program at Hope Creek Generating Station and explain how it complies with the requirements of 10 CFR 50.48, "Fire protection," and the guidelines of Branch Technical Position (BTP) Chemical Engineering Branch (CMEB) 9.5-1 and Appendix A to BTP Auxiliary and Power Conversion Systems Branch (APCSB) 9.5-1. NUREG-1048 and its Supplement 1 through 6 are cited in the Hope Creek operating license condition 2.C.7.

**Response:**

Per Hope Creek operating license condition 2.C.7, PSEG Nuclear LLC may make changes to the approved fire protection program without prior approval of the Commission only if those changes would not adversely affect the ability to achieve and maintain safe shutdown in the event of a fire.

Combustible load changes are evaluated for impact on the ability to achieve and maintain safe shutdown in the event of a fire under Hope Creek's approved fire protection program's administrative controls, and those changes that do not have an adverse effect are implemented under license condition 2.C.7. These administrative controls meet Position C.2 of BTP CMEB 9.5-1. The MUR power uprate does not alter any aspects of the approved fire protection program's administrative controls.

The MUR power uprate modification adds 27 pounds of combustible material to Room 3449 in the Aux Radwaste building, which increases the loading of the room from 36,210 to 36,367 BTU/ft<sup>2</sup>. This is less than a 0.5% change. Room 3449 contains no safe shutdown equipment or cables. This change in combustible loading is made in accordance with Hope Creek's approved fire protection program and has been determined to have no adverse impact on the ability to achieve and maintain safe shutdown in the event of a fire. Therefore, the change is being

implemented without prior approval of the Commission in accordance with License Condition 2.C.7.

APLB-2

Some nuclear power plants credit aspects of their fire protection system for other than fire protection activities for the increased power operating conditions and total decay heat. For example, utilizing the fire water pumps and water supply as backup cooling or inventory for non-primary reactor systems.

If the Hope Creek Generating Station credits its fire protection system in this way, the licensee should identify the specific situations and discuss to what extent, if any, the MUR power uprate affects these “non-fire-protection” aspects of the plant fire protection system. In your response discuss how any non-fire suppression use of fire protection water will impact the ability to meet the fire protection system design demands per NUREG-1048, Section 9.5.1.5, “Fire Detection and Suppression.” If the Hope Creek Generating Station does not take such credit, the licensee needs to verify this as its response to this question.

**Response:**

Section 9.5.1.2.3.1 of the Hope Creek Updated Final Safety Analysis Report (UFSAR) addresses fire water storage. It says, in part:

*“Fire protection water supply is from two, 350,000 gallon nominal capacity, fire water storage tanks located north of the plant. Each tank feeds the [Fire Protection System] and the demineralized water and boiler makeup systems. Of the 350,000 gallons of storage capacity for each tank, 328,000 gallons is dedicated to the Fire Protection Water System, and the remaining amount is available for the demineralized water system. The demineralized and boiler makeup water systems are fed through an external tap physically located above the fire water level of 328,000 gallons.”*

No additional non-fire protection uses of fire water are credited in design or licensing basis events. Fire water may be utilized in beyond design basis events or severe accident management for an alternate source of water for RPV makeup, service water, emergency diesel generator cooling, condensate storage tank makeup, spent fuel pool makeup, safety auxiliaries cooling system makeup, hotwell makeup, or containment flooding. Procedural guidance is provided for makeup to the fire water ring header from either the cooling tower basin or the Delaware River during these scenarios.

The MUR power uprate does not affect demineralized or boiler water makeup demand, fire water demand, or the amount of fire water storage reserved for fire suppression use. No additional non-fire suppression uses for fire protection water are added as part of the MUR power uprate. Use of fire water for beyond design basis events or severe accident management is not affected by the MUR uprate.