January 19, 2005

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

SUBJECT: HOPE CREEK GENERATING STATION, REQUEST FOR ADDITIONAL INFORMATION RE: RELIEF REQUESTS HC-RR-I2-W01 AND HC-RR-I2-30 (TAC NOS. MC5173 AND MC5174)

Dear Mr. Bakken:

By letters dated December 1, 2004, PSEG Nuclear, LLC submitted two relief requests for Hope Creek Generating Station. The applications requested approval of a proposed alternative to the American Society of Mechanical Engineers Boiler and Pressure Vessel Code requirements in the repair and subsequent inspection of the N2K reactor vessel nozzle.

On December 14, 2004, the Nuclear Regulatory Commission (NRC) staff faxed draft questions to Mr. Michael Mosier of your staff in order to support a conference call that occurred on December 22, 2004. On December 27, 2004, the NRC staff granted verbal approval of both the proposed alternatives. The NRC staff has determined that a response to the enclosed questions is necessary to properly document all issues that were discussed prior to granting verbal approval. The NRC staff requests that you provide responses to the enclosed questions within 30 days of the date of this letter in order for the NRC to complete its review in a timely manner. If circumstances result in the need to revise the target date, please contact me at (301) 415-1427.

Sincerely,

/RA/

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

Docket No. 50-354

Enclosure: Request for Additional Information

cc w/encl: See next page

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OFFICIAL RECORD COPY

Hope Creek Generating Station

cc:

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Senior Resident Inspector
Hope Creek Generating Station
U.S. Nuclear Regulatory Commission
Drawer 0509
Hancocks Bridge, NJ 08038

REQUEST FOR ADDITIONAL INFORMATION

REGARDING PROPOSED ALTERNATIVE TO

AMERICAN SOCIETY OF MECHANICAL ENGINEERS

BOILER AND PRESSURE VESSEL CODE REQUIREMENTS

HOPE CREEK GENERATING STATION

DOCKET NO. 50-354

By letters dated December 1, 2004, PSEG Nuclear, LLC (PSEG) submitted two relief requests for Hope Creek Generating Station (Hope Creek). The applications requested approval of a proposed alternative to the American Society of Mechanical Engineers Boiler and Pressure Vessel Code (ASME Code) requirements in the repair and subsequent inspection of the N2K reactor vessel nozzle. On December 14, 2004, the Nuclear Regulatory Commission (NRC) staff faxed draft questions to Mr. Michael Mosier of your staff in order to support a conference call that occurred on December 22, 2004. On December 27, 2004, the NRC staff granted verbal approval of both the proposed alternatives. The NRC staff has determined that a response to the enclosed questions is necessary properly document all issues discussed prior to granting verbal approval

Questions Applicable to HC-RR-I2-W01

1. In the enclosure of your December 1, 2004, submittal, you stated that the root cause evaluation has not been completed. Describe the plan and schedule for completion of your root cause evaluation.

2. When was hydrogen water chemistry and NobleChem implemented at Hope Creek? In view of the detected flaw at the subject weld (N2K), discuss its effectiveness in mitigating intergranular stress-corrosion cracking (IGSCC) initiation and propagation.

3. Provide ultrasonic testing (UT) inspection history of weld N2K. Was IGSCC detected in any other dissimilar metal welds at Hope Creek?

4. You stated that the N2K weld was examined in part in accordance with risk-informed classification RA. Describe the risk-informed classification RA and the inspection frequency associated with this weld classification. What is the basis for this frequency?

5. You stated in page 3 of your December 1, 2004, submittal and page 4 of its attachment that an Alloy 152 electrode may also be utilized for local repairs to the underlying weld metal. Please confirm that ASME Code Case-638 will not be applied to the repair welding using Alloy 152 since the subject Code Case is limited to the welding using gas tungsten arc welding temper bead technique.

6. Clarify the acceptance criteria in ASME Code Section XI Nonmandatory Appendix P that you propose to use for UT examination of weld overlay. It should be noted that Appendix P has not been incorporated in ASME Code nor endorsed by the NRC.

7. For the relief from system hydrostatic test, you referenced ASME Code Case N416-1. Please confirm that you will not take any exception to the subject ASME Code Case such as in item (b) which states that nondestructive examination is required to be performed in accordance with that of the applicable Subsection of the 1992 Edition of Section III.

8. In support of the exception to ASME Code Case-638 Paragraph 1.0(a) regarding the maximum allowable weld area, you referenced the conclusion of Electric Power Research Institute Technical Report No. 1008454. Please provide a summary description of how the conclusion was reached, including any testing data or analytical evaluation being performed.

9. To support the exception to ASME Code Case-638 Paragraph 2.0(i), which requires that the average lateral expansion of the three heat-affected zone impact tests shall be equal to or greater than the average of the three unaffected base metal tests, please provide the following additional information:

   a) What is the RT_{NDT} value for the N2K nozzle base material?

   b) Provide justification for your assumption that the nozzle base material initial RT_{NDT} value is consistent with the initial RT_{NDT} value of the low alloy steel material used in the core region pressure boundary. Is there test data to support the assumption?

   c) Provide reasons why the referenced requirement in Paragraph 2.0(i) cannot be met.

10. On page 8 of the Attachment to your December 1, 2004, submittal, under IWA-4610(a), you stated that AREVA Framatome ANP welding procedure qualification have been successfully performed using Alloy 52 Alloy welds on P-No. 3 Group No. 3 base material using the ambient temperature temper bead technique. However, in your submittal you are seeking exception to ASME Code Case N–638 Paragraph 2.0(i) because the results of welding procedure qualification failed to meet the requirement specified in the subject paragraph. Please clarify this apparent discrepancy.

11. Provide technical justification to support the acceptance of not performing UT of the band area as required in ASME Code Case-638 Paragraph 4.0(b).

12. Describe how the contact pyrometer will be calibrated in the temperature range that it will be used. If it has already been calibrated and its accuracy demonstrated, describe the results.

13. You requested the approval of the proposed alternative for the remainder of the plant life. The current NRC staff practice is that the staff will approve such as alternative for a period no longer than the remainder of the current in-service inspection 10-year interval because the need for the proposed alternative may change with the improvement of technology and changes of regulatory requirements including the ASME Code. Please

provide a justification of why the requested duration is appropriate or revise the requested duration to the end of the current 10-year interval.

14. Provide details of flaw characterization, such as the length and the depth of the flaw, and provide a sketch to show the location of the flaw. On Page 1 of the Enclosure to your December 1, 2004, submittal, you stated that, based on the UT data, the axial indication was contained solely within the safe-end to nozzle weld and buttering. However, during a conference call, you indicated that the axial indication was contained within the butter. This is consistent with the known IGSCC resistant property associated with Alloy 82 material. Please clarify this in your response.

Questions Applicable to Both Requests

1. By letter dated December 23, 2004, the NRC approved an update of the ASME Code of record for Hope Creek to the 1998 Edition with 2000 Addenda. Please clarify the ASME Code of record that these proposed alternatives are applicable to.