

FEB 20 2003

LRN-03-0055

United States Nuclear Regulatory Commission
Document Control Desk
Washington, DC 20555-001



**INSERVICE INSPECTION PROGRAM
RELIEF REQUEST HC-RR-A06
HOPE CREEK GENERATING STATION
FACILITY OPERATING LICENSES NPF-57
DOCKET NOS. 50-354**

Pursuant to 10 CFR 50.55a(a)(3)(i), PSEG Nuclear, LLC requests the use of Code Case N-566-2, *Corrective Action for Leakage at Bolted Connections, Section XI, Division 1*, for the Hope Creek Second Inspection Interval. PSEG Nuclear, LLC proposes to implement the alternative requirements of Code Case N-566-2 when leakage occurs at bolted connections (other than gaseous systems).

The attachment to this letter includes the proposed alternative and supporting justification for the relief. Based on the evaluation contained in the attachment, PSEG Nuclear has concluded that the proposed alternative provides an acceptable level of quality and safety. Accordingly, this proposal satisfies the requirements of 10 CFR 50.55a(a)(3)(i).

This relief request is applicable to PSEG Nuclear LLC Hope Creek Generating Station. PSEG Nuclear requests that the NRC approve this request by April 2003 in order to support Hope Creek refueling outage RFO11 scheduled to commence April 12, 2003. Similar relief has been granted for Salem Units 1 and 2 [Docket Numbers 50-272 and 50-311 via approved TAC numbers MB6091 and MB6092, dated November 27, 2002, respectively].

Should you have any questions regarding this request, please contact Mr. Howard Berrick at 856-339-1862.

Sincerely,

A handwritten signature in black ink, appearing to read "G. Salamon", written over a horizontal line.

G. Salamon
Manager – Nuclear Safety and Licensing

Attachment:
ISI Relief Request HC-RR-A06

A047

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1. **ASME Code Component(s) Affected**
Bolted connections for Class 1, 2, & 3 components.
2. **Applicable Code Edition and Addenda**
The code of record for Hope Creek ISI Program is Section XI of the ASME Code, 1989 Edition.
3. **Applicable Code Requirement**
For Hope Creek, sub-paragraph IWA-5250(a)(2) of the 1989 Edition, without Addenda of Section XI requires the removal of all the bolting, performance of VT-3 visual examination of all the bolting, and performance of an evaluation in accordance with IWA-3100 when leakage occurs at bolted connections.
4. **Proposed Alternative**
PSEG Nuclear, LLC proposes to implement the alternative requirements of Code Case N-566-2 when leakage occurs at bolted connections (other than gaseous systems).
5. **Basis of Alternative for Providing Acceptable Level of Quality and Safety**
Pursuant to 10 CFR 50.55a(a)(3)(i), relief is requested on the basis that the proposed alternative provides an acceptable level of quality and safety.

PSEG Nuclear, LLC requests the use of Code Case N-566-2, *Corrective Action for Leakage at Bolted Connections, Section XI, Division 1* for the Hope Creek Second Inspection Interval.

Removal of bolts for VT-3 visual examination is not always the most prudent action when leakage is discovered at a bolted connection. Leakage at bolted connections is typically identified during system leakage tests. For Class 1 systems, this leakage test is conducted prior to plant startup following each refueling outage. This test is performed at full operating pressure (1000 psia) and temperature. When leakage is discovered during this test, the corrective action (i.e. removal of bolts) must be performed with the system at full temperature and pressure, or the plant must be cooled down. The removal of a bolt at full temperature and pressure conditions can be extremely physically demanding due to the adverse heat environment. Cooling down the plant subjects the plant to additional heat up and cool down cycles, and can add 3-4 days to the duration of the refueling outage. Bolted connections associated with pumps and valves are typically studs threaded into the body of the component. Removal of these studs is typically very difficult and time consuming due to length of time they have been installed and are often

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damaged during the removal process. This difficulty is compounded when the removal must be performed under heat stress conditions.

The requirements of IWA-5250(a)(2) must be applied regardless of the significance of the leakage or the corrosion resistance of the materials used in the bolted connection. Implementation of Code Case N-566-2 permits factors such as the number and service age of the bolts, the bolting materials, the corrosiveness of the system fluid, the leakage location and system function, leakage history at the connection or at other system components, and visual evidence of corrosion at the bolted connection be used to evaluate the need for corrective measures.

Granting the proposed alternative will provide an acceptable level of quality and safety, and will not adversely impact the health and safety of the public.

6. Duration of Proposed Alternative

Proposed alternative relief is requested for the duration of the second ten-year ISI interval at Hope Creek. The use of the Code Case is requested until the NRC publishes the Code Case in a future revision of the applicable Regulatory Guide.

7. Precedents

Previous relief has been granted for Salem Units 1 and 2 [Docket Numbers 50-272 and 50-311 via approved TAC numbers MB6091 and MB6092, dated November 27, 2002, respectively].

8. References

None.

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-- Alternative Provides Acceptable Level of Quality and Safety --