

FEB 11 2002
LRN-02-0045



United States Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555-0001

Gentlemen:

**INSERVICE INSPECTION PROGRAM
RELIEF REQUEST SC-RR-B06
SALEM GENERATING STATION – UNIT 1 and 2
FACILITY OPERATING LICENSES DPR-70 and DPR-75
DOCKET NOS. 50-272 and 50-311**

Pursuant to 10CFR50.55a(a)(3)(i), PSEG Nuclear is submitting Inservice Inspection (ISI) relief request SC-RR-B06 for NRC approval. The attached relief request proposes that a remote visual examination of the M-N surface [as shown in Figures IWB-2500-7 (a) through (d)] be performed on sixteen (16) Class 1 Reactor Pressure Vessel (RPV) Nozzle Inside Radius Sections, in lieu of the volumetric examination requirements of ASME Section XI, Table IWB-2500-1, Examination Category B-D, Item No. B3.100.

This relief request is applicable to the Salem Unit 1, 10-year second interval vessel examination scheduled for the spring of 2002. The performance of the enhanced visual examination of the M-N surface is expected to reduce vessel examination time, which translates into significantly reduced personnel radiation exposure and significant cost savings,

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).

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", with a long horizontal flourish extending to the right.

G. Salamon
Manager – Nuclear Safety and Licensing

Attachment: ISI Relief Request No. SC-RR-B06

A047

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**PSEG NUCLEAR LLC
SALEM GENERATING STATION
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Component Description

Alternative Requirements for Inner Radius Examinations of Class 1 Reactor Vessel Nozzles

ASME Section XI Class: 1

Code Requirement

Examine sixteen (16) Class 1 Reactor Pressure Vessel (RPV) Nozzle Inside Radius Sections in accordance with ASME Section XI, Class 1 Examination Category B-D, Item B3.100 requirements at Salem Nuclear Generating Station Units 1 and 2.

Salem Unit 1

ASME Section XI Class 1, ASME Boiler and Pressure Vessel Code, Section XI, Rules for Inservice Inspection of Nuclear Power Plant Components, 1995 Edition up through and including 1996 Addenda; IWB-2500-1, Examination Category B-D, Full Penetration Welded Nozzles In Vessels, Code Item B3.100, Figures IWB-2500-7 (a) through (d).

| Salem Unit 1 RPV Outlet Nozzle Inner Radius Exams | | |
|--|--|-----------------------------|
| Summary Number | Examination Area Identification | Configuration |
| 002900 | 29-RPV-1110-IRS | Outlet Nozzle @ 202 degrees |
| 003100 | 29-RPV-1120-IRS | Outlet Nozzle @ 338 degrees |
| 003300 | 29-RPV-1130-IRS | Outlet Nozzle @ 158 degrees |
| 003500 | 29-RPV-1140-IRS | Outlet Nozzle @ 22 degrees |

| Salem Unit 1 RPV Inlet Nozzle Inner Radius Exams | | |
|---|--|----------------------------|
| Summary Number | Examination Area Identification | Configuration |
| 003000 | 27.5-RPV-1110-IRS | Inlet Nozzle @ 247 degrees |
| 003200 | 27.5-RPV-1120-IRS | Inlet Nozzle @ 293 degrees |
| 003400 | 27.5-RPV-1130-IRS | Inlet Nozzle @ 113 degrees |
| 003600 | 27.5-RPV-1140-IRS | Inlet Nozzle @ 67 degrees |

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Salem Unit 2

ASME Section XI Class 1, ASME Boiler and Pressure Vessel Code, Section XI, Rules for Inservice Inspection of Nuclear Power Plant Components, 1986 Edition with no Addenda; IWB-2500-1, Examination Category B-D, Full Penetration Welds Of Nozzles In Vessels, Code Item B3.100, Figures IWB-2500-7 (a) through (d).

| Salem Unit 2 RPV Outlet Nozzle Inner Radius Exams | | |
|--|--|-----------------------------|
| Summary Number | Examination Area Identification | Configuration |
| 003700 | 29-RCN-1230-IRS | Outlet Nozzle @ 22 degrees |
| 004000 | 29-RCN-1240-IRS | Outlet Nozzle @ 158 degrees |
| 004100 | 29-RCN-1220-IRS | Outlet Nozzle @ 203 degrees |
| 004400 | 29-RCN-1210-IRS | Outlet Nozzle @ 338 degrees |

| Salem Unit 2 RPV Inlet Nozzle Inner Radius Exams | | |
|---|--|----------------------------|
| Summary Number | Examination Area Identification | Configuration |
| 003800 | 27.5-RCN-1230-IRS | Inlet Nozzle @ 67 degrees |
| 003900 | 27.5-RCN-1240-IRS | Inlet Nozzle @ 113 degrees |
| 004200 | 27.5-RCN-1242-IRS | Inlet Nozzle @ 247 degrees |
| 004300 | 27.5-RCN-1210-IRS | Inlet Nozzle @ 293 degrees |

Basis for Relief

Pursuant to 10 CFR 50.55a(a)(3)(i), relief is requested on the basis that the proposed alternative examination provides an acceptable level of quality and safety and the granting of relief should not jeopardize the health and safety of the public.

As an alternative to ASME Section XI Table IWB-2500-1, *Examination Category B-D, Item B3.100*, which requires volumetric examination (Ultrasonic - UT) for Inner Radius of Class 1 Reactor Vessel Nozzles at Salem Units 1 & 2, PSEG Nuclear LLC proposes to perform a VT-1, Visual Examination of the surface M-N shown in Figures IWB-2500-7 (a) through (d) for those components previously identified above.

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PSEG Nuclear Salem Units 1 and 2 are currently required to perform inservice examinations of these selected areas in accordance with the requirements of 10CFR50.55a, and ASME Section XI (Code Editions and Addenda are previously listed above). According to a NRC memorandum (Reference No. 1), the NRC staff indicated that an ultrasonic examination could be replaced by a VT-1 visual examination for the proposed nozzle inspections on the basis surveillance is maintained and VT-1 visual examination is performed.

The implementation of this relief is also expected to reduce vessel examination time by approximately 24 hours, which translates to significantly reduced personnel radiation exposure and cost savings.

In NRC memorandum (Reference No. 1), the NRC staff indicated that an ultrasonic examination could be replaced by VT-1 visual examination for the proposed RPV nozzle inspection on the basis surveillance is maintained and VT-1 visual examination is performed.

Alternate Requirements

PSEG Nuclear, LLC proposes to perform a remote visual examination of the M-N surface as shown in Figures IWB-2500-7 (a) through (d) in lieu of the volumetric examination requirements of ASME Section XI, Table IWB-2500-1, Examination Category B-D, Item No. B3.100.

PSEG Nuclear proposes to perform an enhanced VT-1 (EVT) visual examination with essentially 100-percent coverage upon examination surface M-N. The enhanced aspect of the examination is to use 8x magnification video equipment to examine the inner radii. The resolution sensitivity for this remote examination will be established using a 1-mil diameter wire.

Crack-like surface flaws exceeding the acceptance criteria of Table IWB-3512-1 are unacceptable for continued service unless the reactor vessel meets the requirements of IWB-3142.2, IWB-3142.3 or IWB-3142.4.

Applicability

This Relief Request is applicable to the following:

- Salem Unit 1- Third Ten-Year Inservice Inspection Interval.
- Salem Unit 2- Second Ten-Year Inservice Inspection Interval.

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References

1. NRC Internal memorandum from K.R. Wichman (NRC) to W.H. Bateman (NRC) dated May 25, 2000; Subject The Third Meeting with the Industry to discuss the elimination of RPV Inner Radius Inspection (ML003718630).
2. Code Case N-648, Alternative Requirements for Inner Radius Examinations of Class 1 Reactor Vessel Nozzles Section XI, Division 1.