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JUL 0 8 2002

LRN-02-0245

PSEG Nuclear LLC

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

Gentlemen:

INSERVICE INSPECTION PROGRAM
THIRD INTERVAL RELIEF REQUEST SUBMITTALS
SALEM GENERATING STATIONS– 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 twelve (12) Inservice Inspection (ISI) relief requests for NRC approval. These relief requests were originally included in Salem Unit 1's Third Interval Inspection Long Term Plan submittal, LRN-01-0310 dated September 25, 2001 in Section 14.0, Relief Requests and are hereby re-submitted.

The re-submitted Section 14.0 *Relief Requests*l has been revised. Five of the twelve relief requests contained in Section 14.0 *Relief Requests* were originally submitted for both Salem and Hope Creek Generating Stations. These five relief requests [identified in Attachment 1] have been revised to seek relief for only Salem. Relief requests associated with Hope Creek will be submitted under separate letter. PSEG Nuclear is re-submitting all twelve Salem related relief requests to enable review and approval for the upcoming Salem Unit 1 fall outage.

The revised Section *14.0 Relief Requests* (Attachment 2) include the proposed alternatives and supporting justifications for the relief. Based on the attached relief request evaluations, PSEG Nuclear has concluded that the proposed alternatives provide acceptable levels of quality and safety. Accordingly, the enclosed twelve relief request proposals satisfy 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,

for G. Salamon
Manager – Nuclear Safety and Licensing

Attachments:
1. Table of Relief Requests
2. Revised Section 14.0 *Relief Requests*

A047

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PSEG NUCLEAR LLC
SALEM GENERATING STATION

Relief Request, RR		Description	Priority[1]
Unit	Number		
S1	A03	Use of Code Case N-498-1	1
S1	F01	Perform plant Technical Specifications in lieu of OM Code, Part 4.	1
S1	F02	Acceptance of Component Supports by Evaluation or Test	1
SC	A01	Use of Code Case N-533-1	1
SC[2]	A06	Use of Code Case N-566-2	1
SC[2]	A07	Use of Code Case N-568	1
SC[2]	E01	Use of 1998 Edition, including 1998 Addenda for Class MC Components	1
SC[2]	L01	Use of 1998 Edition, including 1998 Addenda for Class CC Components	1
S1	A04	Use of Code Case N-532	1
S1	B02	Use of Code Case N-623	1
SC[2]	A02	Use of Code Case N-598	2
S1	A05	Illumination Level Checks for Portable Lights	2

[1] The priority ranking provided to assist in establishing a desired order of approval.
[2] Originally submitted as SH.

14.0 RELIEF REQUESTS

RELIEF REQUEST NO.	Table 14-1 GENERAL DESCRIPTION	NRC Approval	
		Approval Date	NRC Approval Document No.
A. General, Administrative and Multi-Class Reliefs			
SC-RR-A01 (RR-A5)	**N-533-1** Alternative requirements for VT-2 visual Examination of Class 1, 2, and 3 Insulated Pressure-Retaining Bolted Connections.		
SC-RR-A02 (RR-A7)	**N-598** Alternative Requirements to Required Percentages of Examinations		
S1-RR-A03 (RR-8(a))	**N-498-1** Alternative Rules for 10-Year Hydrostatic Pressure Testing for Class 1, 2, and 3 Systems		
S1-RR-A04 (RR-7)	**N-532** Alternative Requirements to Repair and Replacement Documentation Requirements and Inservice Summary Report Preparation and Submission as Required by IWA-4000 and IWA-6000.		
S1-RR-A05	Illumination level verifications of battery powered portable lights		
SC-RR-A06	**N-566-2** Corrective Action for Leakage Identified at Bolted Connections		
SC-RR-A07	**N-568** Alternative Examination Requirements for Welded Attachments		

14.0 RELIEF REQUESTS

RELIEF REQUEST NO.	Table 14-1 (cont'd) GENERAL DESCRIPTION	NRC Approval	
		Approval Date	NRC Approval Document No.
B. Class 1 Components			
S1-RR-B02	**N-623** Deferral of Inspections of Shell-to-Flange and Head-to-Flange Welds of a Reactor Vessel		
C. Class 2 Components			
None			
D. Class 3 Components			
None			
E. Class MC Components			
SC-RR-E01 (RR-E1)	Invoke 1998 Edition, including 1998 Addenda of IWE for class MC components		
F. Component Supports			
S1-RR-F01 (RR-5)	Perform visual examinations and functional tests of Snubbers to Plant Technical Specification		
SC-RR-F02	Acceptance of Component Supports by Evaluation or Test		

14.0 RELIEF REQUESTS

RELIEF REQUEST NO.	Table 14-1 (cont'd) GENERAL DESCRIPTION	NRC Approval	
		Approval Date	NRC Approval Document No.
L. Class CC Components			
SC-RR-L01 (RR-L1)	Invoke 1998 Edition, including 1998 Addenda of IWL for class CC components		

Relief Request: SC-RR-A01

Use of Code Case N-533-1

NRC Approved (Yes or No): _____ Date: _____Ref: _____

Component Description

Insulated, Pressure Retaining Bolted Connections on Class 1, 2, and 3 systems borated for the purpose of controlling reactivity.

ASME Section XI Class 1, 2, and 3

Code Requirement

Paragraph IWA-5242 of the 1995 Edition, including the 1996 Addenda of Section XI, requires in part that insulation shall be removed from pressure-retaining bolted connections for VT-2 visual examination of systems borated for the purpose of controlling reactivity.

Similarly, Paragraph IWA-5242 of the 1986 Edition (without Addenda) of Section XI requires in part, that, insulation shall be removed from pressure-retaining bolted connections for visual examination VT-2 of systems borated for the purpose of controlling reactivity.

Basis for Relief

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 relief to incorporate the alternate examination requirements of ASME Code Case N-533-1, titled 'Alternative Requirements, for VT-2 Visual Examination of Class 1, 2, and 3 Insulated Pressure Retaining Bolted Connections', for Salem Generating Station, Units 1 and 2.

For Class 1 Systems:

- Salem Generating Station, Unit 1 Technical Specification 3.4.9.1 does not allow pressurization of the Reactor Coolant System to nominal operating pressure without a heat up.
- Similarly, Salem Generating Station, Unit 2 Technical Specification 3.4.10.1 does not allow pressurization of the Reactor Coolant System to nominal operating pressure without a heat up.
- Re-installation of insulation requires exposing personnel to the safety hazards of higher radiation dose, additional personnel support, and elevated temperatures (550 degrees F) and a pressure of 2235 psi, which constitute a heat stress environment.

Relief Request: SC-RR-A01

Use of Code Case N-533-1

- The activities will be conducted at the end of the outage and will have the effect of extending the refueling outage durations by a minimum of 2 days.
- Boric acid leakage, leaves boric acid crystalline residue when evaporated, therefore it is not necessary to examine for boric acid leakage in conjunction with a pressure test.

For Class 2 & 3 Systems:

- Re-installation of insulation requires exposing personnel to the safety hazard at elevated temperatures, which includes a heat stress environment.
- Boric acid leakage, leaves boric acid crystalline residue when evaporated, therefore it is not necessary to examine for boric acid leakage in conjunction with a pressure test.

A similar relief was evaluated and previously granted for Salem Generating Station, Unit 2 for Insulated Pressure Retaining Bolted Connections on Class 1 systems borated for the purpose of controlling reactivity [Ref.: NRC Safety Evaluation for Relief From ASME Code on VT-2 Visual Inspection of Bolted Connections, Salem Nuclear Generating Station, Unit 2 (TAC No. M86246)].

This relief will permit application of the alternative rules from Code Case N-533-1 for Unit 1, and extend the application of the alternative rules to Class 2 and 3 systems at Unit 2.

Based on the alternative requirements of Code Case N-533-1 and the approval of a similar Relief Request Salem Generating Station, Unit 2, there is reasonable assurance that structural integrity will be assured, and an acceptable level of quality and safety will be maintained during the Third Ten-Year Inspection Interval.

Alternate Requirements

PSEG Nuclear, LLC proposes to fully implement the alternative requirements of Code Case N-533-1. This case requires that as an alternative to the requirements of IWA-5254 (a) to remove insulation from Class 1, 2, and 3 pressure-retaining bolted connections to perform VT-2 visual examinations, the following requirements shall be met:

(a) A system pressure test and VT-2 visual examination shall be performed each refueling outage for Class 1 connections and each period for Class 2 and 3 connections without removal of insulation.

(b) The insulation shall be removed from the bolted connection, each refueling outage for Class 1 connections and each period for Class 2 and 3 connections, and a VT-2 visual examination shall be performed. The connection is not required to be pressurized. Any evidence of leakage shall be evaluated in accordance with IWA-5250.

Relief Request: SC-RR-A01

Use of Code Case N-533-1

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.

Relief Request: SC-RR-A02

Use of Code Case N-598

NRC Approved (Yes or No): _____ Date: _____Ref: _____

Component Description

Maximum Percentages of examinations credited for each period.

ASME Section XI Class

1, 2, 3, and associated Component Supports

Code Requirement

For Salem, Unit 1, paragraphs IWB-2412, IWC-2412, IWD-2412, IWF-2410; and Tables IWB IWB-2412-1, IWC-2412-1, IWD-2412-1 & IWF-2410-2 of the 1995 Edition, including the 1996 Addenda of Section XI require that approximately one-third of the Code examinations be performed each inspection period and that 100 percent of the examinations be completed each inspection interval.

For Salem, Unit 2, paragraphs IWB-2412, IWC-2412, IWD-2412, IWF-2410; and Tables IWB IWB-2412-1, IWC-2412-1, IWD-2412-1 of the 1986 Edition, without Addenda of Section XI; and Table -2410-2 of Code Case N-491 require that approximately one-third of the Code examinations be performed each inspection period and that 100 percent of the examinations be completed each inspection interval.

Basis for Relief

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 relief to incorporate the alternate examination requirements of ASME Code Case N-598, titled 'Alternative Requirements to Required Percentages of Examinations, Section XI Division 1', to determine the required percentage of examinations each inspection period for Class 1, 2, and 3 components and associated component supports at Salem, Units 1 & 2.

Although Code Case N-598 also addresses Class MC components, relief is not being requested for scheduling of Class MC components in this Request for Alternative.

The ASME Code tables referenced above were originally established such that approximately one third of the non-deferred examinations would be performed each period. Over the past 20 years, it has become increasingly more difficult to meet these percentages. The emergence of longer fuel cycles increases the likelihood that one of the periods will only have one refueling outage in it. In addition, efforts to shorten refueling outages have limited the amount of time available to perform examinations. These factors have made it difficult to complete the Code required percentages of examinations in the allotted time.

Relief Request: SC-RR-A02

Use of Code Case N-598

Code Case N-598 was developed to address this issue. It expands the range of examination completion percentages to allow examinations to be distributed more evenly between outages. This minimizes the need to schedule an excessive number of examinations during one outage just to meet the percentages required by ASME, Section XI, Tables IWB-2412-1, IWC-2412-1, IWD-2412-1, and IWF-2410-2(-2410-2). In addition, Code Case N-598 allows for a more uniform distribution between outages that is more conducive to performing quality examinations.

During the development of Code Case N-598, two additional factors were considered when evaluating the impact of the Code Case on plant safety. The first was that the existing tables allow up to 50 percent of the examinations to be performed in the second and third periods, but only 34 percent can be performed in the first period. Therefore, the Inspection Plan B schedule is biased towards delaying examinations until the end of the interval. The more flexible percentages stated in Code Case N-598 allow for more examinations to be performed earlier in the interval. This should improve safety because any problems, should they exist, would be detected earlier in the interval.

The second factor that was considered when developing Code Case N-598 was that some minimum amount of examinations should be required in each period. To address this consideration, the Code Case, including Note (1), is structured such that examinations will be required during all three periods. Due to the factors documented above, PSEG Nuclear LLC considers that the alternative criteria of Code Case N-598 provide an acceptable, or improved, level of quality and safety during the Third Ten-Year Inspection Interval.

Alternate Requirements

PSEG Nuclear, LLC proposes to fully implement the alternative requirements of Code Case N-598 for Class 1, 2, and 3 components, and their associated Component Supports.

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.

Relief Request: S1-RR-A03

Use of Code Case N-498-1

NRC Approved (Yes or No): _____ Date: _____Ref: _____

Component Description

Pressure Testing of all pressure retaining Class 3 components

ASME Section XI Class 3

Code Requirement

For Salem, Unit 1, Paragraph IWD-2500, and Table IWD-2500-1, Category D-B, Item Nos. D2.20, D2.40, D2.60 & D2.80 of the 1995 Edition, including the 1996 Addenda of Section XI, require performance of a System hydrostatic tests each inspection interval.

Additionally, Paragraph IWA-2441(b) of the 1995 Edition, including the 1996 Addenda of Section XI requires that Code Cases be applicable to the Edition and Addenda specified in the Inspection Plan.

Basis for Relief

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 proposes to use Code Case N-498-1, titled '*Alternative Rules for 10-Year Hydrostatic Testing for Class 1, 2, and 3 Systems, Section XI, Division 1*', for Class 3 components.

The NRC has approved the concept of performing pressure tests at nominal operating pressure in lieu of hydrostatic test pressure. ASME Code Case N-498-1 has been approved for use in NRC Regulatory Guide 1.147, without any additional conditions.

However, the Applicability Index found within Supplement 12 of the 1998 Edition of Nuclear Code Cases, limits the applicability of this case to the 1992 Edition, including the 1993 Addenda. The basis for the applicability limitation was the issuance of subsequent revisions to the case.

Considerable effort in time and radiation exposure is incurred while conducting hydrostatic pressure tests. A significant effort is necessary (depending on the system and plant configuration) to temporarily remove or disable code safety and/or relief valves to meet test pressure requirements. The safety assurance provided by a slight increase in pressure during a system hydrostatic pressure test are offset or negated by having to gag or remove Code safety and/or relief

Relief Request: S1-RR-A03

Use of Code Case N-498-1

valves, placing the system in an off normal state, erecting temporary supports, possible extension of refueling outages, and resource requirements to set up testing with special equipment and gages.

Leakage in Class 3 systems is generally due to Flow Accelerated Corrosion (FAC), microbiological-induced corrosion (MIC), and general corrosion. PSEG Nuclear has sufficient programs in place for the prevention, detection, and evaluation of EC and MIC. Leakage from general corrosion is readily apparent to inspectors when performing VT-2 visual examinations during system pressure tests.

PSEG Nuclear experience has demonstrated that previously identified leaks are typically not discovered as a result of hydrostatic test pressure propagating a pre-existing flaw through wall. Leaks in most cases are found when the system is at nominal operating pressure.

Relief has been previously granted to utilize Code Case N-498-1 at Salem Generating Station, Units 1 & 2, as well as for Hope Creek Generating Station. Reference NRC Safety Evaluation for Inservice Inspection Requests for Relief, TAC Nos: M91036, M91037 & M91038, respectively.

Based on the information above and the approval of a similar Relief Request (RR-8) during the Salem, Unit 1 Second Ten-Year ISI Program, there is reasonable assurance that the structural integrity and an acceptable level of quality and safety will be maintained during the ISI Program Third Ten-Year Inspection Interval.

Alternate Requirements

PSEG Nuclear, LLC proposes to fully implement the alternative requirements of Code Case N-498-1.

Applicability

This Relief Request is applicable to:

Salem, Unit 1 – Third Ten-Year Interval Inservice Inspection Program.

Relief Request: S1-RR-A04

Use of Code Case N-532-1

NRC Approved (Yes or No): _____ Date: _____Ref: _____

Component Description

Repair and replacement documentation requirements and Inservice summary report preparation and submission.

ASME Section XI Class

1, 2, 3, MC, CC components, and their associated Component Supports.

Code Requirement

Articles IWA-4000 and IWA-6000 of the 1995 Edition, including the 1996 Addenda of Section XI.

Basis for Relief

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 continued use of Code Case N-532-1 during the Third Inspection Interval. This case provides the alternatives to the current ASME Section XI repair/replacement activity documentation requirements, and regulatory reporting requirements related to Inservice Inspections. NRC Letter SECY-94-093 dated April 1, 1994, provides the NRCs recommendation to eliminate the need to submit summary Inservice Inspection (ISI) reports to the NRC following each refueling outage in accordance with ASME Section XI, Article IWA-6000. The NRC recommended that Code reporting requirements per IWA-6000 be modified through its representation on the ASME Code Committee to reduce licensee burden and eliminate the need to submit the ISI summary reports. Consistent with the recommendations in the NRC SECY Letter, it is the intent of PSEG Nuclear LLC not to periodically submit the Owner's Activity Report identified by Code Case N-532-1. The Owners Activity Report will be completed by PSEG Nuclear, LLC in accordance with Code Case N-532-1 and will be available for NRC review upon request.

The cost effective alternatives afforded by this Code Case have been determined by the ASME to provide an acceptable alternative to existing requirements. The alternatives provide a substantial reduction in the overall administrative burden since each PSEG

Relief Request: S1-RR-A04

Use of Code Case N-532-1

Nuclear LLC plant is required to meet the requirements of IWA-6000. Further, Code Case N-532-1 does not create any technical changes that would impact the existing **ISI** programs or the Technical Specifications at Salem (or Hope Creek), and does not introduce a condition that would compromise existing levels of safety or quality.

Relief has been previously granted (RR-AI) to utilize Code Case N-532 at Salem Generating Station, Units 1 & 2, as well as for Hope Creek Generating Station. Reference: NRC Safety Evaluation for Relief Request for the Implementation of Code Case N-532, TAC Nos.: M94067, M94068 & M94069, respectively.

Alternate Requirements

PSEG Nuclear, LLC proposes to implement the alternative requirements of Code Case N-532-1.

Applicability

This Relief Request is applicable to:

Salem, Unit I - Third Ten-Year Interval Inservice Inspection Program,

Relief Request: S1-RR-A05

Illumination Level Checks for Portable Lights

NRC Approved (Yes or No): _____ Date: _____Ref: _____

Component Description

Components and component supports subject to VT-1, VT-2, and VT-3 visual examination.

ASME Section XI Class 1, 2, 3, and MC

Code Requirement

Paragraph IWA-2210 of the 1995 Edition, including the 1996 Addenda of Section XI requires, in part, that the illumination levels from battery powered portable lights be checked before and after each examination or series of examinations, not to exceed 4 hr between checks.

Basis for Relief

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 relief from the requirement to perform periodic illumination level checks, and proposes the alternative that the acceptance is based on a determination by the certified visual examiner that he has lighting sufficient to perform the examination.

PSEG Nuclear, LLC has an extensive program to train, qualify, examine and certify visual examiners in the VT-1, VT-2 and VT-3 visual examination methods. The program is based on a written practice that meets the requirements of the 1991 Edition of the ANSI/ASNT CP-189 standard titled, 'Standard for Qualification and Certification of Nondestructive Testing Personnel', as amended by the requirements of 1995 Edition, including the 1996 Addenda of Section XI.

The visual examiners used to conduct these examinations are permanent PSEG Nuclear, LLC employees, subject to oversight by the quality assurance organization, as well as various external oversight agencies and organizations.

Additionally, the procedures used to perform the examinations will meet the procedure demonstration requirements found within IWA-2210, including the minimum illumination levels as required within Table IWA-2210-1. These procedures will be demonstrated to the satisfaction of the Authorized Nuclear Inservice Inspector (ANII) who has jurisdiction at the plant site.

PSEG Nuclear, LLC has effective programs and policies that have been implemented to assure the qualification of our visual examination personnel, held to the highest standards of integrity.

Relief Request: S1-RR-A05

Illumination Level Checks for Portable Lights

These individuals have properly performed these visual examinations for the last two inservice inspection 10-year intervals using their own judgment to determine whether he has lighting sufficient to perform the examination. The requirement to verify or check the intensity of portable battery powered light sources undermines the integrity demonstrated by our visual inspection personnel.

Therefore it is PSEG Nuclear LLC's position that this new requirement is unnecessary, does not increase the structural integrity of the components, and does not provide an increase in the level of quality or safety.

Based on the above discussion, there is reasonable assurance of continued structural integrity, and an acceptable level of quality and safety will be maintained during the Third Inspection Interval.

Alternate Requirements

PSEG Nuclear LLC proposes to continue to conduct visual examinations based on a determination by the certified visual examiner that he has lighting sufficient to perform the examination as an alternative to the illumination level checks required for battery powered portable light sources, as required by paragraph IWA-2210 of the 1995 Edition, including the 1996 Addenda of Section XI.

Applicability

This Relief Request is applicable to the following:

Salem, Unit 1 - Third Ten-Year Inservice Inspection.

Relief Request: SC-RR-A06

Use of Code Case N-566-2

NRC Approved (Yes or No): _____ Date: _____Ref: _____

Component Description

Bolted connections for Class 1, 2, & 3 components.

ASME Section XI Class 1, 2, & 3 bolted connections.

Code Requirement

For Salem, Unit 1, sub-paragraph IWA-5250(a)(2) of the 1995 Edition, including the 1996 Addenda of Section XI requires the removal of the bolt closest to the source of the leakage, performance of VT-3 visual examination of the bolt, and performance of an evaluation in accordance with IWA-3100 when leakage occurs at bolted connections on systems other than gaseous systems.

For Salem, Unit 2, sub-paragraph IWA-5250(a)(2) of the 1986 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.

Basis for Relief

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-566-1, titled 'Corrective Action for Leakage at Bolted Connections, Section XI, Division 1' for the Third 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 (2235 psig) 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 damaged during the removal process. This difficulty is compounded when the removal must be performed under heat stress conditions.

Relief Request: SC-RR-A06

Use of Code Case N-566-2

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-566-1 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.

Alternate Requirements

PSEG Nuclear LLC proposes to implement the alternative requirements of Code Case N-566-1 when leakage occurs at bolted connections (other than gaseous systems).

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.

Relief Request: SC-RR-A07

Use of Code Case N-568

NRC Approved (Yes or No): _____ Date: _____Ref: _____

Component Description

Welded attachments to the pressure-retaining boundary of Class 1, 2, and 3 components

ASME Section XI Class 1, 2 & 3

Code Requirement

For Salem, Unit 1, Table IWB-2500-1, Category B-K, Note 2; Table IWC-2500-1, Note 2; Table IWD-2500-1, Category C-C, Note 2; and Table IWD-2500-1, Category D-A, Note 2 of the 1995 Edition, including the 1996 Addenda of Section XI, specify the extent of examination include essentially 100% of the length of the attachment weld at each attachment subject to examination.

For Salem, Unit 2, Table 2500-1, Category B-K, Note 2; Table 2500-1, Category C-C, Note 2; and Table 2500-1, Category D-A, Note 2 of Code Case N-509 specify the extent of examination include essentially 100% of the length of the attachment weld at each attachment subject to examination. The Salem, Unit 2 Inservice Inspection Program has incorporated this case as permitted by NRC Reg. Guide 1.147, Rev.12.

Basis for Relief

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-568, entitled 'Alternative Examination Requirements for Welded Attachments, Section XI, Division 1' for examination of welded attachments obstructed by a component support or a portion of a component support.

Use of this Code Case will permit the extent of examination to be limited to the accessible portion of the welded attachment without submittal of an application for relief per the criteria of 10 CFR 50.55a(g)(5)(iv) due to examination limitations identified during the course of the interval that is obstructed by a component support or a portion of a component support for each welded attachment.

Further, use of this case will clarify that disassembly of the component support or a portion of a component support is not required. This will permit the reduction of resource requirements for scaffolding, insulation removal, support disassembly and reassembly, re-examination of the support that was disassembled solely for the purpose of examination of the inaccessible portions of the welded attachment, reapplication of insulation materials, and removal of scaffolding. Additionally, reductions of radiation dose absorbed, and potential outage duration could be realized.

Relief Request: SC-RR-A07

Use of Code Case N-568

Based on the alternative requirements of Code Case N-568, and the basis described above, there is reasonable assurance of continued structural integrity, and an acceptable level of quality and safety will be maintained during the Third Inspection Interval.

Alternate Requirements

PSEG Nuclear LLC proposes to implement the alternative requirements of Code Case N-568 for examination of welded attachments obstructed by a component support or a portion of a component support.

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.

Relief Request: S1-RR-B02

Use of Code Case N-623

NRC Approved (Yes or No): _____ Date: _____Ref: _____

Component Description

Reactor Pressure Vessel Shell-to-flange weld (Weld Id.: 1-RPV-7042, Summary Nos. 002000 & 002001)

ASME Section XI Class 1

Code Requirement

Table IWB-2500, Category B-A, Note 3 of the 1995 Edition, including the 1996 Addenda of Section XI requires that: '*When using Inspection Program B, the shell- to- flange weld examination may be performed during the first and third periods, in which case 50% of the shell- to- flange weld shall be examined by the end of the first period, and the remainder by the end of third period. During the first period, the examination need only be performed from the flange face, provided this same portion is examined from the shell during the third period.*'

Basis for Relief

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-623, titled 'Deferral of Inspections of Shell-to-flange and Head-to-flange Welds of a Reactor Vessel, Section XI, Division 1' to permit deferral of the shell-to-flange weld partial examination from the flange surface during the Third Inspection Interval.

This weld was examined in April, 2001 in accordance with Appendix VIII, Supplements 4 and 6 of the 1995 Edition, including 1996 Addenda of Section XI as supplemented and amended by the requirements of 10 CFR 50.55a, and authorized by NRC approval of Relief Request RR-B11.

This examination was conducted from the Reactor Vessel shell using a multiple transducer head using 45° longitudinal wave and 45° shear wave angles. Additionally, a 70° longitudinal wave was used for examination of the near surface region.

The examination was performed by scanning from four opposing beam directions such that all of the angle beams passed through the weld metal from each direction. The adjacent base metal was scanned from one direction perpendicular to the weld and two directions parallel to the weld. A total of 10 sub-surface indications were detected, which were all oriented parallel to the weld. All ten indications were evaluated as acceptable to the Acceptance Standards of IWB-3510.

Code Case N-623 permits deferral of the shell-to-flange weld examination to the end of the interval without conducting the partial examinations from the flange face provided the following conditions are met:

Relief Request: S1-RR-B02

Use of Code Case N-623

(a) No welded repair/replacement activities have ever been performed on the shell-to-flange or head-to- flange weld.
(b) Neither the shell-to-flange weld nor head-to-flange weld contains identified flaws or relevant conditions that currently require successive inspections in accordance with IWB-2420(b).
(c) The vessel is not in the first inspection interval.

The Salem Unit 1 reactor vessel shell-to-flange weld meets all the Code Case N-623 conditions, therefore continued performance of the partial examination from the flange face during the first inspection period will require the expenditure of resources and incur radiation dose that is considered by the industry to be unnecessary without a commensurate increase the level of safety and quality.

Based on the alternative requirements of Code Case N-623 and the previous acceptable examination history, there is reasonable assurance of continued structural integrity, and an acceptable level of quality and safety will be maintained during the Third Inspection Interval.

Alternate Requirements

PSEG Nuclear LLC proposes to implement the alternative requirements of Code Case N-623 for the Reactor Pressure Vessel Shell-to-flange weld.

Applicability

This Relief Request is applicable to the following:

Salem, Unit 1 - Third Ten-Year Inservice Inspection.

Relief Request: SC-RR-E01

Use of 1998 Edition/Addenda for Class MC Examinations

NRC Approved (Yes or No): ____ Date: _____ Ref: _____

Component Description

Metallic containment shell and penetration liners and their integral attachments

ASME Section XI Class MC

Code Requirement

1992 Edition, 1992 Addenda of Subsection IWE, "Requirements for Class MC and Metallic Liners of Class CC Components of Light-Water Cooled Power Plants", of Section XI, Division 1, of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code.

Alternately, 10 CFR 50.55a(b)(2)(vi) permits use of the 1995 Edition with the 1996 Addenda of Subsection IWE, titled 'Requirements for Class MC and Metallic Liners of Class CC Components of Light-Water Cooled Power Plants,' as modified and supplemented by the requirements of paragraph 50.55a(b)(2)(ix).

Basis for Relief

Pursuant to 10 CFR 50.55a(a)(3)(i), relief is requested to continue use of the 1998 Edition of Subsection IWE on the basis that the proposed alternative provides an acceptable level of quality and safety.

In the Federal Register, dated August 8, 1996 (61 FR 41303), the NRC amended its regulations to incorporate, by reference, the ASME Code Section XI, 1992 Edition and Addenda of Subsection IWE for expedited examination of containments. Considerable comments were provided by the industry to this rule change, and the NRC staff took appropriate action to provide exceptions to allow licensees a flexible implementation schedule and relaxation in specific areas to meet these requirements. Based on the effective date of the rule change of September 9, 1996, licensees have until September 9, 2001 to have a Containment ISI program in place and to complete the first period inspection requirements contained in Section XI.

ASME has made extensive changes to the Subsection IWE contained in the 1992 Edition and Addenda concerning the examination requirements for containments. These changes were based on industry concerns and comment and are now published in the 1998 Edition of the ASME Code Section XI. Publication of the 1998 Edition by the ASME, with NRC participation, provides the basis for the approval of these new 1998 Edition requirements that have been determined by the ASME consensus process to provide an acceptable level of quality and safety.

Relief Request: SC-RR-E01

Use of 1998 Edition/Addenda for Class MC Examinations

The proposed alternative is to utilize the current ASME approved 1998 Edition of Subsection IWE of Section XI in its entirety as augmented by the additional requirements contained in the "Alternative Examinations" section below. Utilizing the 1998 Edition of IWE in its entirety incorporates other exceptions to the 1992 addenda stated in NRC rulemaking and provides more cohesiveness than could be achieved by requesting relief on several individual subjects separately. The examination requirements of the 1998 Edition of the Code were developed in accordance with the ASME Code committee process with input from interested parties, other utilities, manufacturers, engineering organizations, Authorized Nuclear Inspection Agencies, EPRI and the NRC. The updating of requirements by this consensus process is intended to ensure the continued safe operation of nuclear power plants and specifically, in this case, ensures the continued leak-tight and structural integrity of metallic containment components. Therefore, the overall level of plant quality and safety will not be adversely affected by utilizing the requirements of the 1998 Edition of IWE.

PSEG Nuclear LLC has determined that the use of the 1998 Edition requirements as augmented by the additional requirements contained in the "Alternative Examinations" section below in lieu of the 1992 Edition and Addenda requirements for our Containment ISI program represents an equivalent level of quality and safety. A line-by-line comparison was made of the 1998 Edition to the 1992 Edition and Addenda. The 1998 Edition provides an equivalent, and in some cases an increased, level of quality and safety to our proposed containment inspection program.

Alternate Requirements

The 1998 Edition of Subsection IWE provides the alternate examinations of this relief request. The requirements of the 1998 Edition of the Code are augmented by the requirements described below.

The PSEG Nuclear LLC program governing containment visual examinations and personnel qualifications includes the following:

- "General Visual Examination" criteria are developed from VT-3 procedures that are used to examine ASME Class 1, 2, and 3 components.
- Pressure retaining bolting recording criteria is developed from the VT-1 procedure used for Class 1 bolting.
- Moisture barriers are examined for tears, cracks or damage that permits moisture to intrude.
- Detailed Visual exam criteria are developed similar to VT-1 and VT-3 procedures.

Relief Request: SC-RR-E01

Use of 1998 Edition/Addenda for Class MC Examinations

- The containment visual examination procedure qualification requirement for lighting and illumination are similar to, and developed from, the procedures used for VT-1 and VT-3 examinations of ASME Class 1, 2, and 3 components.
- In applications where remote visual examination systems are to be used, those systems will be demonstrated to have a resolution capability at least equivalent to that attainable by direct visual examination.
- Containment visual examination procedures will be demonstrated to the authorized nuclear inspector for capability to detect flaws and degradation levels defined within the procedure, and
- The containment visual examination program is developed from the guidelines of SNT-TC-1A and ANSI/ANST CP-189. Certified personnel will have "demonstrated skill, demonstrated knowledge, documented training, and documented experience required to properly perform the duties of a specific job."

The PSEG Nuclear LLC Program for examination of paints or coatings requires that procedures exist to ensure the following:

- In areas important to containment integrity, coating deficiencies identified on the containment liner are brought to the attention of the IWE Responsible Individual; and
- Base metal conditions that could challenge the structural integrity of the containment are examined by properly qualified personnel.

The PSEG Nuclear LLC Program requires that the ultrasonic examinations required by IWE 3511.3 apply to Class CC components as well as to Class MC components.

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.

Relief Request: S1-RR-F01

Snubber Testing and Inspection

NRC Approved (Yes or No): _____ Date: _____Ref: _____

Component Description

Snubbers

ASME Section XI Class 1, 2, and 3 Component Supports

Code Requirement

Paragraphs IWF-5200(a) and IWF-5300(a) require Preservice and Inservice examinations to be performed in accordance with ASME/ANSI OM, Part 4, using the VT-3 visual examination method described in IWA-2213. Additionally, Paragraphs IWF-5200(b) and IWF-5300(b) require Preservice and Inservice tests to be performed in accordance with ASME/ANSI OM, Part 4.

The regulation in 10 CFR 50.55a(b)(3)(v) permits the use of Subsection ISTD, titled 'Inservice Testing of Dynamic Restraints (Snubbers) in Light-water Reactor Power Plants', ASME OM Code, 1995 Edition up to and including the 1996 Addenda, in lieu of the requirements for snubbers in Section XI, IWF-5200(a) and (b) and IWF-5300(a) and (b), by making appropriate changes to their technical specifications or licensee controlled documents. Preservice and Inservice examinations shall be performed using the VT-3 visual examination method described in IWA-2213.

Basis for Relief

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 continued use of Plant Systems Technical Specification No. 3/4.7.9, Snubbers, and associated bases; as found within the Salem Nuclear Generating Station, Unit 1 Technical Specifications, Appendix 'A' to License No. DPR-70, Amendment No. 243, dated May 25, 2001.

The Salem Nuclear Generating Station, Unit 1 Technical Specifications contain specifically developed and approved visual examination and functional testing requirements.

Performance of examinations and testing to the requirements of the Technical Specification meet the intent of the Code requirements. However, use of the Technical Specification differs in the areas of examination scheduling, re-examinations and functional testing requirements. Visual examination and testing to the more stringent requirements of the Technical Specification will continue to result in an increase in the overall level of Plant quality and safety.

These mechanical and hydraulic snubbers were constructed and installed in accordance with the requirements of the Salem UFSAR. Documentation of fabrication and installation

Relief Request: S1-RR-F01

Snubber Testing and Inspection

examinations is stored at the plant site. Subsequent to the plant going into operation, these snubbers have been and continue to be visually inspected and functionally tested in accordance with Plant Technical Specifications.

Additionally, relief has been previously granted to perform the examination and testing in accordance with the plant Technical specifications (Ref. NRC SER/TAC 66932), therefore there is reasonable assurance of continued structural integrity, and an acceptable level of quality and safety will be maintained during the Third Inspection Interval.

Alternate Requirements

PSEG Nuclear LLC proposes to continue implementation of the visual examinations and functional testing on Code Class 1, 2 and 3 (and other) snubbers in compliance with the Salem Nuclear Generating Station, Unit 1 Technical Specification 3/4.7.9 and its associated bases.

Applicability

This Relief Request is applicable to the following:

Salem, Unit 1 - Third Ten-Year Inservice Inspection.

Relief Request: SC-RR-F02

Acceptance of Component Supports by Evaluation or Test

NRC Approved (Yes or No): _____ Date: _____Ref: _____

Component Description

Component Supports

ASME Section XI Class 1, 2, 3, and MC

Code Requirement

For Salem, Unit 1, sub-paragraphs IWF-3112.3 and IWF-3122.3 of the 1995 Edition, including the 1996 Addenda of Section XI provide requirements for acceptance of a component support or a portion of a component support by evaluation or test.

For Salem, Unit 2, sub-paragraphs –3112.3 and –3122.3 of Code Case N-491 provide requirements for acceptance of a component support or a portion of a component support by evaluation or test.

Basis for Relief

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 to use Sub-paragraphs IWF-3112.3 and IWF-3122.3 from the 1995 Edition, includes the 1997 Addenda of Section XI. The 1997 Addenda incorporated revisions to these paragraphs as was shown within sub-paragraphs –3112.3 and –3122.3 of Code Case N-491-2.

Under the requirements of Sub-paragraphs IWF-3112.3 and IWF-3122.3 of the 1995 Edition, including the 1996 Addenda of Section XI, and similar paragraphs within the above quoted Code Cases; examination results that exceed the acceptance standards of IWF-3410 are initially considered to be unacceptable for service, but may be accepted without performing corrective measures based on an analysis and/or test to substantiate its integrity for continued service. However, if the owner optionally elects to perform the corrective measures of IWF-3112.2 or IWF-3122.2, re-examination requirements of IWF-2220 are then required.

The requirement to perform re-examination of acceptable component supports that are optionally adjusted or have a repair/replacement activity performed to restore the component support to its original design condition is unnecessary.

The re-examination following these corrective measures on acceptable supports requires expenditure of visual examiner resources, potentially incur additional radiation dose, and potentially require additional critical path duration without a compensating increase in quality or safety.

In the 1997 Addenda, sub-paragraphs IWF-3112.3 and IWF-3122.3 were revised to clarify that corrective measures may be performed on a component support to return the

Relief Request: SC-RR-F02

Acceptance of Component Supports by Evaluation or Test

support to its original design condition, after acceptance by an evaluation or test, without additionally requiring the re-examinations of IWF-2220.

This revision provides a realistic approach to the inspection of component supports. Examination results that exceed the acceptance standards of IWF-3410 are first evaluated or tested to determine whether the component support is acceptable for service. This is similar to an operability determination. If the component support is determined to be acceptable for service, no corrective measures are required. However, if PSEG Nuclear LLC optionally elects to perform corrective measures in order to return the component support to its original design condition, the additional re-examination requirements of IWF-2220 are not required.

All related requirements will be met, because these revisions to sub-paragraphs IWF-3112.3 and IWF-3122.3 are the only revisions to Subsection IWF in the 1997 Addenda. All other provisions of Article IWF remain identical to the 1995 Edition, including the 1996 Addenda of Section XI.

This revision to the Code therefore, has the net effect of encouraging the owner to perform corrective measures on degraded but acceptable component supports.

Based on the alternative requirements of sub-paragraphs IWF-3112.3 and IWF-3122.3 in the 1997 Addenda there is reasonable assurance of continued structural integrity, and an acceptable level of quality and safety will be maintained during the Third Inspection Interval.

Alternate Requirements

PSEG Nuclear LLC proposes to implement the alternative requirements of Code paragraphs IWF-3112.3 and IWF-3122.3 from the 1995 Edition, including the 1997 Addenda of Section XI for component supports.

Applicability

This Relief Request is applicable to the following:

Salem, Unit 1 – Third Ten-Year Inservice Inspection.

Salem, Unit 2 – Second Ten-Year Inservice Inspection Interval.

Relief Request: SC-RR-L01

Use of 1998 Edition/Addenda for Class CC Examinations

NRC Approved (Yes or No): ____ Date: _____ Ref: _____

Component Description

Reinforced concrete and post-tensioning systems of Class CC components.

ASME Section XI Class CC

Code Requirement

1992 Edition, 1992 Addenda of Subsection IWL, "Requirements for Class CC Concrete Components of Light-Water Cooled Power Plants", of Section XI, Division 1, of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code.

Alternately, 10 CFR 50.55a(b)(2)(vi) permits use of the 1995 Edition with the 1996 Addenda of Subsection IWL, titled 'Requirements for Class CC Concrete Components of Light-Water Cooled Power Plants,' as modified and supplemented by the requirements of paragraph 50.55a(b)(2)(viii).

Basis for Relief

Pursuant to 10 CFR 50.55a(a)(3)(i), relief is requested to continue use of the 1998 Edition of Subsection IWL on the basis that the proposed alternative provides an acceptable level of quality and safety.

In the Federal Register, dated August 8, 1996 (61 FR 41303), the NRC amended its regulations to incorporate by reference the ASME Code Section XI, 1992 Edition and Addenda of Subsection IWL for expedited examination of containments. Considerable comments were provided by the industry to this rule change and the NRC staff took appropriate action to provide exceptions to allow licensees a flexible implementation schedule and relaxation in specific areas to meet these requirements. Based on the effective date of the rule change of September 9, 1996, licensees have until September 9, 2001 to have a Containment ISI program in place and to complete the first period inspection requirements contained in Section XI.

ASME has made extensive changes to the Subsection IWL contained in the 1992 Edition and Addenda concerning the examination requirements for containments. These changes were based on industry concerns and comments and are now published in the 1998 Edition of the ASME Code Section XI. The 1998 Edition provides the 'Responsible Engineer', adds a requirement to train personnel, and establishes the examination categories of general and detailed visual. The 1998 Edition also provides additional inspections of tendon end caps, as well as guidelines to inspect for leakage of corrosion protection medium. Publication of the 1998 Edition by the ASME, with NRC participation, provides the basis for the approval of these new 1998 Edition

Relief Request: SC-RR-L01

Use of 1998 Edition/Addenda for Class CC Examinations

requirements that have been determined by the ASME consensus process to provide an acceptable level of quality and safety.

The proposed alternative is to utilize the current ASME approved 1998 Edition of Subsection IWL of Section XI in its entirety as augmented by the additional requirements contained in the "Alternative Examinations" section below. Utilizing the 1998 Edition of IWL in its entirety incorporates other exceptions to the 1992 addenda stated in NRC rulemaking and provides more cohesiveness than could be achieved by requesting relief on several individual subjects separately. The examination requirements of the 1998 Edition of the Code were developed in accordance with the ASME Code committee process with input from interested parties, other utilities, manufacturers, engineering organizations, Authorized Nuclear Inspection Agencies, EPRI and the NRC. The updating of requirements by this consensus process is intended to ensure the continued safe operation of nuclear power plants and specifically, in this case, ensures the continued leak-tight and structural integrity of concrete containment components. Therefore, the overall level of plant quality and safety will not be adversely affected by utilizing the requirements of the 1998 Edition of IWL.

PSEG Nuclear LLC has determined that the use of the 1998 Edition requirements as augmented by the additional requirements contained in the "Alternative Examinations" section below in lieu of the 1992 Edition and Addenda requirements for our Containment ISI program represents an equivalent level of quality and safety. A line-by-line comparison has been made of the 1998 Edition to the 1992 Edition and Addenda. The 1998 Edition provides an equivalent, and in some cases an increased, level of quality and safety to our proposed containment inspection program.

Alternate Requirements

The 1998 Edition of Subsection IWL provides the alternate examinations of this relief request. The requirements of the 1998 Edition of the Code are augmented by the requirements described below.

The PSEG Nuclear LLC program governing containment visual examinations and personnel qualifications includes the following:

1. General and Detailed Visual Examinations are developed to identify areas of concrete deterioration and distress as defined in ACI 201.1 and are equivalent to the VT-3C and VT-1C examinations in terms of assessing the condition and potential for deterioration within the containment system.

2. In applications where remote visual examination systems are to be used, those systems will be demonstrated to have a resolution capability at least equivalent to that attainable by direct visual examination.

Relief Request: SC-RR-L01

Use of 1998 Edition/Addenda for Class CC Examinations

- Containment visual examination procedures will be demonstrated to the authorized nuclear inspector for capability to detect flaws and degradation levels defined within the procedure, and
- The containment visual examination program is developed from the guidelines of SNT-TC-1A and ANSI/ANST CP-189. Certified personnel will have "demonstrated skill, demonstrated knowledge, documented training, and documented experience required to properly perform the duties of a specific job."

The PSEG Nuclear LLC Program requires a detailed inspection on suspect areas (1998 Edition of the ASME Code Section XI, Table 2500-1, Item L1.12).

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.