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Electric and Gas  
Company

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Senior Vice President - Nuclear Engineering

SEP 20 1995  
LR-N95155

U. S. Nuclear Regulatory Commission  
Document Control Desk  
Washington, DC 20555

Gentlemen:

**REQUEST FOR APPROVAL, USE OF ASME CODE CASE N498-2  
AND CLARIFICATION OF ASME CODE CASE N416-1  
SALEM AND HOPE CREEK GENERATING STATIONS  
DOCKET NOS. 50-272, 50-311 AND 50-354**

Public Service Electric and Gas Company (PSE&G) hereby requests approval, in accordance with the provisions of 10CFR50.55a(a)(3) and footnote 6, to use ASME Code Case N498-2 in the Salem and Hope Creek Generating Station In Service Inspection Programs. We also seek NRC agreement with our incorporation of a clarification of ASME Code Case N416-1 nominal temperature requirements into the PSE&G Repair/Replacement Program. Both Code Case N416-1, "Alternative Requirement for Welded Repairs or Installation of Replacement Items by Welding, Class 1, 2 and 3" and Code Case N498-1, "Alternative Requirements for 10-Year System Hydrostatic Testing for Class 1, 2 and 3 Systems" (for which N498-2 is an ASME-approved revision) have been previously approved for PSE&G's use by the NRC. A detailed discussion of these requests is provided in Attachment 1.

While this request applies to both Salem and Hope Creek programs, expedited NRC treatment would be of particular benefit to us by permitting our application of the Code Cases during the upcoming Hope Creek Refueling Outage (RFO6), which is scheduled to begin November 5, 1995.

Should you have any questions regarding this request, we will be pleased to discuss them with you.

Sincerely,

250130

*E.C. Simpson*

Attachments (2)



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Q PDR

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SEP 20 1995

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USNRC Region I

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LR-N95155

ATTACHMENT 1

REQUEST TO USE ASME CODE CASE N498-2  
AND CLARIFICATION OF NOMINAL TEMPERATURE REQUIREMENTS  
OF CODE CASE N416-1

## ATTACHMENT 1

### REQUEST TO USE CODE CASE N498-2 AND CLARIFICATION OF TEMPERATURE REQUIREMENTS OF ASME CODE CASE N416-1

NRC letters dated January 20, 1995 and March 17, 1995 granted PSE&G approval to incorporate the requirements of ASME Code Case N498-1 and Code Case N416-1 into the ISI Program and the Repair and Replacement Program, respectively. These code cases permit a pressure test at nominal operating pressure (system leakage test) to be used in lieu of system hydrostatic tests.

Code Case N498-1, in §(a)(3), and §(b)(3), requires that, prior to performing the VT-2 visual examination, the tested system shall be pressurized to nominal operating pressure for a minimum of 4 hours for insulated systems and 10 minutes for non-insulated systems. When performing system leakage tests, Code case N416-1, §(b) requires that, "prior to, or immediately upon return to service, a visual examination (VT-2) shall be performed in conjunction with a system leakage test using the 1992 Edition of Section XI, in accordance with §IWA-5000 at nominal operating pressure and temperature." During our planning of the implementation of these requirements, it became apparent that, in order to preclude additional relief requests, an exemption from holding times and a clarification of nominal temperature requirements would be required as described below.

#### Revision to Holding Time

Subsequent to the NRC approval for PSE&G to use these Code Cases, ASME approved a revision to the the applicable section of the Code (IWA-5213) and to Code Case N498-1 (Code Case N498-2). In accordance with the attached letters from ASME, the Code change will be published in the 1995 addenda to Section XI, and Code Case N498-2 is scheduled to be published in Supplement 1 to the Nuclear Component Cases. Code Case N498-2, §(a)(3), §(b)(3), and §(c)(3) each state that:

"Prior to performing the VT-2 visual examination, the system shall be pressurized to nominal operating pressure. No holding time is required prior to performing the VT-2 visual examination. The system shall be maintained at nominal operating pressure during performance of the VT-2 visual examination."

This revision eliminates the need for relief requests that would have been necessary when applying the system leakage test hold time requirements in Code Case N498-1. These relief requests would have been required on portions of systems that are only in operation during surveillances that are required by Technical Specifications and whose run time is limited, due to either recirculation flow rate or to the injection of fluid into the reactor coolant system during operation that causes a positive reactivity addition.

### Basis for Code Case Approval

PSE&G believes that our request for approval to use ASME Code Case N498-2 is acceptable for Salem Units 1 and 2 and Hope Creek Station in accordance with the provisions of 10CFR 50.55(a)(3). ASME, by approval of revision to the Code, itself, and to Code Case, N498-1, (as incorporated in Code Case N498-2) indicates that organization's satisfaction that the revision in no way compromises acceptable levels of quality and safety. A copy of Code Case N498-2 is provided in Attachment 2.

### Clarification of Temperature Requirements

For welded repairs, or for the installation of replacement items by welding, Code Case N416-1, §(b) requires that, "Prior to, or immediately upon return to service, a visual examination (VT-2) shall be performed in conjunction with a system leakage test, using the 1992 Edition of Section XI, in accordance with IWA-5000, at nominal operating pressure and temperature".

For conducting System Leakage Tests, PSE&G proposes to include in our Repair and Replacement Program, the following clarification derived from §IWB-5230 for Class 1 and from §IWC-5230 and §IWD-5230 for Class 2 and Class 3 systems.

Nominal operating temperature is that temperature which meets the following requirements:

#### **Class 1**

- a) The minimum test temperature for system leakage test shall not be lower than the minimum temperature for the associated pressure specified in the plant technical specifications.
- b) The system test temperature shall be modified as required by the results obtained from each set of material surveillance specimens withdrawn from the reactor vessel during the service lifetime.
- c) For tests of systems or portions of systems constructed entirely of austenitic steel, test temperature limitations are not required to meet fracture prevention criteria. In cases where the components of the system are constructed of ferritic and austenitic steels that are non-isolable from each other during a system leakage or system hydrostatic test, the test temperature shall be in accordance with IWB-5230(a).

#### **Class 2 and Class 3**

- a) The system test temperature in systems containing ferritic steel components shall meet the requirements specified by fracture prevention criteria, as applicable, or the test temperature determined by the owner.
- b) In systems containing ferritic steel components, for which fracture toughness requirements were neither specified nor required in the construction of the components, the system test temperature shall be determined by the owner.

c) No limit on system temperature is required for systems comprised of components constructed entirely of austenitic steel materials.

This temperature clarification proposes to use the same basis for system leakage testing at nominal operating pressure as specified in IWC-5230 and IWD-5230, since this testing would be bounded by the hydrostatic test criteria. We believe that our clarification of nominal operating temperature accurately and conservatively defines the term as used in Code Case N416-1.

LR-N95155

ATTACHMENT 2

COPIES OF ASME CORRESPONDENCE TO PSE&G  
REGARDING ASME CODE CASE N498-2 AND  
ASME SECTION XI, IWA-5213



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September 6, 1995

A. Tom Roberts  
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Mail Code N14  
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Subject: ASME Section XI, ISI 93-29 [IWA-5213 Test Condition  
Holding Time] MC 94-323

Reference: Telephone Call of September 6, 1995

Dear Mr. Roberts:

In response to your telephone call of September 6, 1995 requesting a written status report on Section XI ISI 93-29, I will inform you that ISI 93-29 was approved by the BPV Main Committee during their September 1994 meeting. The proposal was then balloted by the Board on Nuclear Codes and Standards (BNCS) under Letter Ballot # 547 and was approved. The proposal is scheduled to be published in the 1995 addenda to Section XI.

A copy of the proposal as approved by BNCS is attached.

Yours truly,

Steve Weinman  
Secretary, Section XI  
(212) 705-7025  
FAX (212) 705-7025



**IWA-5213 Test Condition Holding Time**

The holding time after pressurization to test conditions, before the visual examinations commence, shall be as follows:

(a) *system leakage tests* — no holding time required after attaining test pressure and temperature conditions when the system has been in operation for at least 4 hr, otherwise, a 10 min holding time for noninsulated systems or components, or 4 hr for insulated systems or components, is required after attaining system operating pressure;

; except that for tests required by IWA-4700,

test pressure and temperature.

(b) *system hydrostatic tests* — 4 hr holding time required after attaining the test pressure and temperature conditions for insulated systems, and 10 min for non-insulated systems or components.

(c) *system pneumatic tests* — 10 min holding time required after attaining the test pressure.



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September 7, 1995

A. Tom Roberts  
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Mail Code N14  
PO Box 236  
Hancocks Bridge, NJ 08038-0236

Subject: ASME Section XI, ISI 94-36, [Revise Code Case N-498-1 Alternative Requirements for 10-Year System Hydrostatic Testing for Class 1, 2 and 3 Systems] MC 94-416

Reference: Telephone Call of September 7, 1995

Dear Mr. Roberts:

In response to your telephone call of September 7, 1995 requesting a written status report on Section XI ISI 94-36, I will inform you that ISI 94-36 was recorded as approved during the March 1995 BPV Main Committee meeting. The proposal was then balloted by the Board on Nuclear Codes and Standards (BNCS) under Letter Ballot # 568 and was approved. The proposal is scheduled to be published in Supplement 1 to the Nuclear Component Code Cases.

A copy of the proposal as it will be published is attached.

Yours truly,

Steve Weinman  
Secretary, Section XI  
(212) 705-7025  
FAX (212) 705-7025

\*\*\* START mod \*\*\*

N-498-2

Approval Date: June 9, 1995

See Numerical Index for expiration  
and any reaffirmation dates.

Case N-498-2

Alternative Requirements for 10-Year System  
Hydrostatic Testing for Class 1, 2 and 3 Systems  
Section XI, Division 1

*Inquiry:* What alternative rules may be used in lieu of those required by Section XI, Division 1, Table IWB-2500-1, Category B-P, Table IWC-2500-1, Category C-H, and Table IWD-2500-1, Categories D-A, D-B, and D-C, as applicable, for the 10-year system hydrostatic test?

*Reply:*

(a) It is the opinion of the Committee that as an alternative to the 10-year system hydrostatic test required by Table IWB-2500-1, Category B-P, the following rules shall be used.

(1) A system leakage test (IWB-5221) shall be conducted at or near the end of each inspection interval, prior to reactor startup.

(2) The boundary subject to test pressurization during the system leakage test shall extend to all Class 1 pressure retaining components within the system boundary.

(3) Prior to performing the VT-2 visual examination, the system shall be pressurized to nominal operating pressure. No holding time is required prior to performing the VT-2 visual examination. The system shall be maintained at nominal operating pressure during performance of the VT-2 visual examination.

(4) Test temperatures and pressures shall not exceed limiting conditions for the hydrostatic test curve as contained in the plant Technical Specifications.

(5) The VT-2 visual examination shall include all components within the boundary identified in (a)(2) above.

(6) Test instrumentation requirements of IWA-5260 are not applicable.

(b) It is the opinion of the Committee that, as an alternative to the 10-year system hydrostatic test required by Table IWC-2500-1, Category C-H, the following rules shall be used.

(1) A system pressure test shall be conducted at or near the end of each inspection interval or during the same inspection period of each inspection interval of Inspection Program B.

(2) The boundary subject to test pressurization during the system pressure test shall extend to all Class 2 components included in those portions of systems required to operate or support the safety system function up to and including the first normally closed valve, including a safety or relief valve, or valve capable of automatic closure when the safety function is required.

(3) Prior to performing the VT-2 visual examination, the system shall be pressurized to nominal operating pressure. No holding time is required prior to performing the VT-2 visual examination. The system shall be maintained at nominal operating pressure during performance of the VT-2 visual examination.

(4) The VT-2 Visual Examination shall include all components within the boundary identified in (b)(2) above.

(5) Test instrumentation requirements of IWA-5260 are not applicable.

(c) It is the opinion of the Committee that, as an alternative to the 10-year system hydrostatic test required by Table IWD-2500-1 Categories D-A, D-B, or D-C (D-B for the 1989 Edition with the 1991 and subsequent Addenda), as applicable, the following rules shall be used.

(1) A system pressure test shall be conducted at or near the end of each inspection interval or during the same inspection period of each inspection interval of Inspection Program B.

(2) The boundary subject to test pressurization during the system pressure test shall extend to all Class 3 components included in those portions of systems required to operate or support the safety system function up to and including the first normally closed valve, including a safety or relief valve or valve capable of automatic closure when the safety function is required.

(3) Prior to performing the VT-2 visual examination, the system shall be pressurized to nominal operating pressure. No holding time is required prior to performing the VT-2 visual examination. The system shall be maintained at nominal operating pressure during performance of the VT-2 visual examination.

(4) The VT-2 visual examination shall include all components within the boundary identified in (c)(2) above.

(5) Test instrumentation requirements of TWA-5260 are not applicable.

\*\*\* END \*\*\*