

# CATEGORY 1

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SUBJECT: Requests approval of relief request RRPT-6 to ISI pressure test program for plant.

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JAN 16 1997

U.S. Nuclear Regulatory Commission  
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**SUSQUEHANNA STEAM ELECTRIC STATION  
REQUEST FOR APPROVAL OF RELIEF REQUEST  
NO. RRPT-6 FOR THE ISI PRESSURE TEST  
PROGRAM FOR UNITS 1 AND 2  
PLA-4545**

**FILE R41-2**

**Docket Nos. 50-387  
and 50-388**

Pennsylvania Power & Light Company requests the approval of Relief Request No. RRPT-6 to the ISI Pressure Test Program for Susquehanna Units 1 and 2. Relief Request No. RRPT-6 requests relief from the ASME Code requirement that if leakage occurs at a bolted connection, the bolting shall be removed, VT-3 visually examined for corrosion, and evaluated in accordance with IWA-3100. In lieu of this requirement, Pennsylvania Power & Light Company proposes to do the following alternate provisions:

If leakage occurs at any bolted connection on other than a gaseous system, one of the bolts shall be removed, VT-3 examined, and evaluated in accordance with IWA-3100. The bolt selected shall be the one closest to the source of leakage. When the removed bolt has evidence of degradation, all remaining bolting in the connection shall be removed, VT-3 examined, and evaluated in accordance with IWA-3100. This is as provided by the 1990 Addenda of ASME Code Section XI paragraph IWA-5250(a)(2). All VT-3 visual examinations shall be completed prior to return to service of the component.

If leakage occurs at a bolted connection on a gaseous system, no bolts shall be removed nor VT-3 examined.

This relief is justified on the basis that later additions to the ASME Code (1990 Addenda which has not been endorsed by NRC) allow for the removal of one bolt that is closest to the source of leakage. The bolt will be VT-3 examined and all other bolting will be removed and examined if the original bolt shows evidence of degradation.

Handwritten initials: *ADJ*

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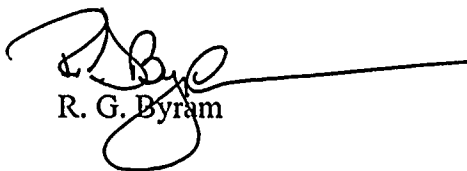
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In addition, relief similar to that requested was granted on September 10, 1996, to Duke Power Company for use at their Catawba Nuclear Station.

Pennsylvania Power and Light Company requests that this relief be approved by March 12, 1997 so that the relief can be used during the Unit 2 Eighth Refueling Outage.

If you have any questions, please call, Mr. C. T. Coddington at (610) 774-7531.

Very truly yours,



R. G. Byram

Attachment

copy: NRC Region I  
Mr. K. Jenison, NRC Sr. Resident Inspector  
Mr. C. Poslusny, NRC Sr. Project Manager



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## RELIEF REQUEST RRPT-6

I. RELIEF REQUEST APPLICABILITY

- A. Units: 1 and 2  
 B. Code Examination Category: N/A  
 C. Code Item Number: N/A  
 D. Code Reference: ASME Section XI (1989 Edition), Paragraph IWA-5250(a)(2), Corrective Measures

II. IDENTIFICATION OF COMPONENTS

ASME Section XI Class 1, 2, & 3 bolted connections with leakage identified during pressure testing, in the following plant systems:

<u>SYSTEM NUMBER</u>	<u>SYSTEM NAME</u>	<u>ASME CLASS</u>	<u>UNIT1 P&amp;ID</u>	<u>UNIT2 P&amp;ID</u>	<u>WATER QUALITY</u>
162 / 262	Reactor & Associated Piping	1	M141	M2141	Coolant
162 / 262	Reactor Instrumentation	1	M142	M2142	Coolant
164 / 264	Reactor Recirculation	1	M143	M2143	Coolant
161 / 261	Reactor Water Clean-up (portions)	1	M144	M2144	Coolant
145 / 245	Reactor Feedwater	2	M141	M2141	Coolant
149 / 249	Residual Heat Removal	2	M151	M2151	Coolant
150 / 250	Reactor Core Isolation Cooling	2	M149	M2149	Coolant
151 / 251	Core Spray	2	M152	M2152	Coolant
152 / 252	High Pressure Coolant Injection	2	M155	M2155	Coolant
153 / 253	Standby Liquid Control	2	M148	M2148	Borated
155 / 255	Control Rod Drive Hydraulic	2	M147	M2147	Coolant
183 / 283	Main Steam	2	M101	M2101	Coolant
054 /	Emergency Service Water-common	3	M111		Raw Water
154 / 254	Emergency Service Water	3	M111	M2111	Raw Water
116 / 216	RHR Service Water	3	M112	M2112	Raw Water

### III. CODE REQUIREMENTS FROM WHICH RELIEF IS REQUESTED

The 1989 Edition of ASME Code Section XI paragraph IWA-5250(a)(2), stating:

“The source of leakages detected during the conduct of a system pressure test shall be located and evaluated by the Owner for corrective measures as follows: ... ‘If leakage occurs at a bolted connection, the bolting shall be removed, VT-3 visually examined for corrosion, and evaluated in accordance with IWA-3100.’”

### IV. BASIS FOR RELIEF

While leakage from a bolted connection might eventually cause degradation of the bolting, VT-3 visual examination of a sample of the bolting provides assurance that any degradation of the bolting is identified at an early stage.

The requirements described above create a hardship for this plant and potentially compromise radiation safety. Removal of all bolting from a bolted connection is not always required to assure absence of significant corrosion and other forms of significant deterioration. Further, removal of all bolting is not always advisable, as some connections become more difficult to seal after disassembly, in contrast to retightening a connection already assembled. The complete disassembly of a connection in a radiation area would frequently result in significant personnel radiation exposure. The ASME has recognized the potential for such conditions and has subsequently modified this requirement to allow the removal and evaluation of one bolt closest to the leak in a bolted connection reported as leaking.

In the 1990 Addenda and later editions of ASME Code Section XI, paragraph IWA-5250(a)(2) has been improved to state, “If leakage occurs at a bolted connection, one of the bolts shall be removed, VT-3 examined, and evaluated in accordance with IWA-3100. The bolt selected shall be the one closest to the source of leakage. When the removed bolt has evidence of degradation, all remaining bolting in the connection shall be removed, VT-3 examined, and evaluated in accordance with IWA-3100.” Although not yet endorsed by the NRC, this updated requirement indicates the future direction of the industry.

ASME Code Intent Interpretation XI-1-92-51 states that it is not the intent of IWA-5250(a)(2) that, if leakage is detected at a bolted connection during the pressure test of a gaseous system, the bolting be removed for a VT-3 examination. This is reasonable because a leak from a gaseous system is not likely to induce any corrosion of the bolting at a bolted connection.

V. ALTERNATE PROVISIONS

The source of leakages detected during the conduct of a system pressure test shall be located and evaluated by the Owner for corrective measures as follows:

If leakage occurs at any bolted connection on other than a gaseous system, one of the bolts shall be removed, VT-3 examined, and evaluated in accordance with IWA-3100. The bolt selected shall be the one closest to the source of leakage. When the removed bolt has evidence of degradation, all remaining bolting in the connection shall be removed, VT-3 examined, and evaluated in accordance with IWA-3100. This is as provided by the 1990 Addenda of ASME Code Section XI paragraph IWA-5250(a)(2). All VT-3 visual examinations shall be completed prior to return to service of the component.

If leakage occurs at a bolted connection on a gaseous system, no bolts shall be removed nor VT-3 examined.