UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO THE INSERVICE INSPECTION PROGRAM AND REQUESTS FOR RELIEF

PENNSYLVANIA POWER AND LIGHT COMPANY

SUSQUEHANNA STEAM ELECTRIC STATION UNIT 1

DOCKET NO. 50-387

INTRODUCTION

The Technical Specification for the Susquehanna Steam Electric Station Unit 1 states that inservice examination of ASME Code Class 1, 2, and 3 components shall be performed in accordance with Section XI of the ASME Boiler and Pressure Vessel Code and applicable Addenda as required by 10 CFR 50.55a(g) except where specific written relief has been granted by the Commission. Some plants were designed in conformance to early editions of this Code Section, consequently certain requirements of later editions and addenda of Section XI are impractical to perform because of the plants' design, component geometry, material of construction or the need for extensive temporary modifications and the resultant substantial exposure to plant personnel. Regulation 10 CFR 50.55a(g)(6)(i) authorizes the Commission to grant relief from those requirements upon making the necessary findings.

By letters dated June 30, 1983, December 19, 1984, and August 12, 1986, Pennsylvania Power and Light Co. (PP&L) submitted its inservice inspection program, and additional information related to requests for relief from certain Code requirements determined to be impractical to perform on the Susquehanna Steam Electric Station Unit 1 during the first inspection interval. The program is based on the requirements of the 1980 Edition through Winter 1980 Addenda of Section XI of the ASME Code, and remains in effect until June 8, 1993, unless the program is modified or changed prior to the interval end date.

EVALUATION

The inservice inspection program and the results for relief from the requirements of Section XI that have been determined to be impractical to perform have been reviewed by the staff's contractor, Science Applications International Corporation (SAIC). The contractor's Technical Evaluation Report (TER) is attached. The staff has reviewed the TER and agrees with and adopts the evaluations and conclusions. The relief request determinations made by the staff are summarized in attachment 1. The granting of relief is based upon the fulfillment of commitments made by the licensee in its basis for the relief request and the alternate proposed examination.

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CONCLUSION

Based on the review, the staff concludes that the relief from the code-required examination and testing may be granted provided the alternate methods imposed through this document are followed. The staff further concludes that the licensee's inservice inspection program will still provide reasonable assurance of the piping and component pressure boundary structural integrity. During the review of the licensee's inservice inspection plan, the staff has not identified any significant misinterpretation or omissions of Code requirements. Thus, the inservice inspection plan is acceptable for implementation.

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ATTACHMENT 1

TABLE 1

CLASS 1 COMPONENTS

LICENSEE'S REQUEST NO.	IWB-2500-1 ITEM NO.	IWB-2500 EXAM CAT.	SYSTEM OR COMPONENT	AREA TO BE EXAMINED	REQUIRED METHOD	LICENSEE PROPOSED ALTERNATE EXAMINATION	RELIEF REQUEST STATUS
1RR-11	B1.11	B-A	Reactor Vessel	Circumferential Shell welds AD	Volumetric	80% of weld AD with special wedge	Granted
	B1.12			Longitudinal Shell Welds BK and BM	Volumetric	None	Granted
1RR-7	B3.90	B-D	Reactor Vessel	Nozzle-to-Vessel Welds	Volumetric	Periodic System Leakage Test* (Category B-P) and Inservice Hydrostatic Test* (Category B-P)	Granted
1RR-10	B9.10 B9.11&9.12	B-J	Piping Selection	Nominal Pipe Size 4 in. & Greater, B9.11: Circumferential Welds, B9.12: Longitudinal Welds.	Surface & Volumetric		Relief not needed for this (1st) interval only.

* These alternatives described by the licensee are already required by the code.

TABLE 1

CLASS 1 COMPONENTS (CONTINUED)

LICENSEE'S REQUEST NO.	IWB-2500-1 ITEM NO.	IWB-2500 EXAM CAT.	SYSTEM OR COMPONENT	AREA TO BE EXAMINED	REQUIRED METHOD	LICENSEE PROPOSED ALTERNATE EXAMINATION	RELIEF REQUEST STATUS
1RR-10	B9.20 B9.21	B-J	Piping Selection	Nominal Pipe Size < 4 in. Circumferential Welds	Surface		Relief not needed for this (1st) interval only
	B9.22			Longitudinal Welds			Same
	B9.30		Branch Piping Connections Selection				
	B9.31			Nominal Pipe size ≥ 4 in.	Volumetric and Surface		Same
	B9.32			Nominal Pipe size < 4 in.	Surface		Same
1RR-6	B.9.10	B-J	Reactor Recirculation System	Sweepolet/ Reducers to Risers	Volumetric and Surface	Visual During Pressure Tests Volumetric to extent practical both radiographic and ultrasonic.	Granted

TABLE 1

CLASS 1 COMPONENTS (CONTINUED)

LICENSEE'S REQUEST NO.	IWB-2500-1 ITEM NO.	IWB-2500 EXAM CAT.	SYSTEM OR COMPONENT	AREA TO BE EXAMINED	REQUIRED METHOD.	LICENSEE PROPOSED ALTERNATE EXAMINATION	RELIEF REQUEST STATUS
1RR-5	B6.180	B-G-1	Pump Bolts and studs	All bolts and studs	Volumetric	Volumetric to the extent possible. If pump disassembled complete examination. Area examined during system leakage test* and during system hydro-static test.*	Granted
1RR-1	B12.20	B-L-2	Pump Casings	Internal surfaces	Visual, VT-3	Any valve(s) or pump(s) disassembled have visual examination	Granted
1RR-2	B12.40	B-M-2	Valve Bodies, Exceeding 4 in.	Internal surfaces	Visual, VT-3	Same	Granted

TABLE 2

CLASS 2 COMPONENTS

LICENSEE'S REQUEST NO.	IWB-2500-1 ITEM NO.	IWB-2500 EXAM CAT.	SYSTEM OR COMPONENT	AREA TO BE EXAMINED	REQUIRED METHOD	LICENSEE PROPOSED ALTERNATE EXAMINATION	RELIEF REQUEST STATUS
1RR-3	C5.10	C-F	Piping ≤ ½ in. Nominal wall thickness	Circumferential and welds	Surface		Relief not needed for (1st) interval only
	C5.20		Piping >½ in. nominal	Circumfer- and Longitudinal welds	Surface and Volumetric		
	C5.31		Branch Pipe Connections	Circumfer- Welds	Surface		
1RR-4	C6.10	C-G	Pumps Core Spray and RHR	Pressure Retaining Pump Casing Welds	Surface	Visual when disassembled for maintenance.	Granted
				Discharge elbow-to-sleeve forging weld Discharge elbow-to-sleeve plate flange weld			Relief not needed welds are located within pressure boundary

TABLE 3

ASME CLASS 3 COMPONENTS - NO RELIEF REQUESTS

PRESSURE TESTS - NO RELIEF REQUESTS

TABLE 4

COMPONENT SUPPORTS

Licensee's Request No.	Code Requirements	Licensee's Proposed Alternative Examination	Relief Request Status
1RR.8	Non-Snubber Exemption and Selection Criteria		
	IWF-1230 Supports Exempt from Examination and Test:	Exemption	
	In the course of preparation.	Component supports shall be exempt from the VT-3 and VT-4 examination requirements as follows:	Granted
	IWF-2510 Supports Selected for Examination:	(a) Class 1 and 2 components which are exempt from surface and volumetric examination in accordance with IWB-1220 and IWC-1220, respectively, of the Code.	Granted
	(a) Component supports selected for examination shall be the supports of those components that are required to be examined under IWB, IWC, and IWD during the first inspection interval.	(b) Class 3 components which are 4 inch nominal pipe size and smaller in accordance with IWD-1220.1 of the Code.	
	(b) For multiple components within a system of similar design, function, and service, the supports of only one of the multiple components are required to be examined.	Selection Criteria	
		Criteria for Class 1, 2 and 3 pipe supports not exempt from examination is based on statistical sampling.	

TABLE 5

STANDARDS FOR EXAMINATION EVALUATIONS

LICENSEE'S RELIEF REQUEST NO.	SYSTEM OR COMPONENT	REQUIREMENT	LICENSEE PROPOSED ALTERNATIVE EXAMINATION	RELIEF REQUEST STATUS
1RR-9	Snubbers 50 kips or greater	In preparation	Functional testing requirements of Technical Specification 3.4.7.4	No relief required. Testing per T.S. should meet Code requirements if Licensee ensures that 10% of all snubbers rated less than 50 kips are examined.
	Snubbers less than 50 kips	Representative sample of 10% tested each inspection period.	VT-3 and VT-4 visual	