

NORTHEAST UTILITIES



THE CONNECTICUT LIGHT AND POWER COMPANY
THE HARTFORD ELECTRIC LIGHT COMPANY
WESTERN MASSACHUSETTS ELECTRIC COMPANY
HOLYOKE WATER POWER COMPANY
NORTHEAST UTILITIES SERVICE COMPANY
NORTHEAST NUCLEAR ENERGY COMPANY

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November 8, 1979

Docket No. 50-245

Mr. Boyce H. Grier, Director
Region I
Office of Inspection and Enforcement
U. S. Nuclear Regulatory Commission
631 Park Avenue
King of Prussia, PA 19406

- References: (1) W. G. Council letter to B. H. Grier dated August 1, 1979.
(2) W. G. Council letter to B. H. Grier dated August 31, 1979.
(3) W. G. Council letter to B. H. Grier dated September 28, 1979.

Gentlemen:

Millstone Nuclear Power Station, Unit No. 1
Response to I&E Bulletin No. 79-14

References (1), (2), and (3) provided status reports of the inspections required by I&E Bulletin No. 79-14. This letter transmits an update report of Northeast Nuclear Energy Company's (NNECO) progress in verifying the seismic analysis input for safety-related piping systems.

The inspection and measurement phases of all accessible piping and supports contained in the 21 systems under investigation have now been completed. The attachment provides the results of this work. Based upon the high degree of confidence derived from the inspections that have been completed and the system work/ISI inside the drywell as outlined in References (1), (2), and (3) and within the attachment, NNECO reaffirms that the most prudent course available is the examination of the remaining inaccessible areas at the next refueling outage. Any shutdowns which may occur due to maintenance problems will be used to perform as much work as possible inside the drywell. A preliminary schedule will be submitted in early December, 1979, for any reanalysis and any modifications that may be required based on evaluations of deviations from the original design. Should you have any questions, please contact us.

Very truly yours,

NORTHEAST NUCLEAR ENERGY COMPANY

W. G. Council

W. G. Council
Vice President

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Attachment

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ATTACHMENT

MILLSTONE NUCLEAR POWER STATION, UNIT NO. 1

RESPONSE TO I&E BULLETIN NO. 79-14

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Twenty-one systems are included in the I&E Bulletin No. 79-14 investigations. These systems contain in excess of 21,000 feet of seismic Category I piping and 1,300 supports in accessible and inaccessible areas. The inspection and measurement phases of all accessible piping and supports contained in the 21 systems under investigation have been completed. This verification was conducted in accordance with I&E Bulletin No. 79-14 dated July 2, 1979, and revisions or supplements dated July 18, August 15, and September 7, 1979. All system analysis review packages for accessible areas have been forwarded to our architect engineering firm for stress analysis and support/restraint review. The piping lengths and the number of supports associated with each system are presented in Table I. Table II summarizes the verification effort to date indicating the proportion of accessible versus inaccessible piping and supports.

Throughout the inspection and measurement phase of this project, the need for accurate verification has been emphasized as well as the complete documentation of all deviations. By the utilization of two man teams, documentation and installation reviews, compiling deviation lists upon completion of walkdowns, spot checking of records, there is high confidence in the accuracy of the inspections completed. The deviations identified to date are recorded by separating them into three distinct categories:

Category 1: Minor Deviations

- Deviation will not adversely affect safe plant shutdown during a seismic event.
- Deviation will not affect the results of the stress analysis.
- Field fixes in some cases alleviates deviation (loose turnbuckles, etc.).

Category 2: Deviations Requiring Review

- Deviation requires review and potential reanalysis by stress analysis and support/restraint groups prior to final judgment as to severity of deviations.
- Deviations have been placed in this category by cognizant site engineer and stress analyst.

Category 3: Significant Deviation

- Deviation would affect safe plant shutdown during a seismic event.
- Deviation in this category is classified as a nonconformance.

The following is presented as a summary of site inspection and measurement findings to date:

- The vast majority of deviations are either Category 1 or 2.
- Of the 988 supports, two Category 3 deviations were discovered and corrected as follows:

1. Service Water System

- a. Installation of an anchor on 16"-SW-46
- b. Installation of a restraint on 12"-SW-47 and 8"-SW-28
- c. Installation of an anchor on 6"-SW-15

2. Containment Cooling System

- a. Installation of two anchors on 20"-CC-15a

After the initial engineering review uncovered the above nonconformances, recommendations to resolve the situation until a complete system reanalysis could be accomplished were forwarded to NUSCO and were implemented immediately, as described above. Technical Specifications and operational procedures were adhered to in all cases.

Of 988 supports reviewed, the locations requiring modifications represent 0.5 percent of the total number of supports reviewed. Although the nonconformances found were serious enough to require field modifications, the results of the total inspection and measurement effort have been excellent and confidence levels for work in the inaccessible areas is still high. As outlined in previous submittals, (References (1), (2), and (3)), there are many items which support this high level of confidence for inaccessible inspections. Additionally, the following list identifies supports/restraints that have been dye penetrant checked at the welded attachment to the pipe during ISI examinations.

<u>Main Steam</u>	<u>Feedwater</u>	<u>Isolation Condenser</u>	<u>Low Pressure Coolant Injection</u>
MSR-H2	FWR-H2	IC-H21	
MSR-H7	FWR-H4		CC-H101
MSR-H8	FWR-H5	<u>Cleanup Water</u>	CC-H100
MSR-H34	FWR-H11		CC-H104
MSR-H22	FWR-H14	CUW-H5	
MSR-H14	FWR-H20		
	<u>Recirculation</u>	<u>Core Spray</u>	<u>Shutdown Cooling</u>
	H9	CS-H1	SHC-H44
	H10	CS-H56	SHC-H46
	SS2		

The following information represents the status of the systems presently under stress analysis and support/restraint review in the accessible areas. If a particular system has all accessible areas inspected, it may not be possible to completely review the stress problem because portions may be inaccessible. If this occurs, a review of the information available will be conducted; if it is deemed acceptable, the remainder of the review will be completed when the inaccessible portion is verified. If it is found to be questionable as to the acceptability of the accessible portion, then field modifications will be made to whatever extent is necessary to maintain system integrity.

<u>System</u>	<u>Analysis/Review Status</u>
Service Water	<ul style="list-style-type: none">● Service water system in the reactor building and turbine building will be reviewed by stress analysis● If reanalysis is required, NUSCO will perform● Ebasco Support and Restraint Group will then review the supports utilizing the NUSCO stress information
Reactor Building Closed Cooling Water	<ul style="list-style-type: none">● Review to begin shortly
Isolation Condenser	<ul style="list-style-type: none">● Stress analysis of supply piping is acceptable● NUSCO is to reanalyze vent and return piping● Results will be forwarded to Ebasco Support and Restraint Group for review
Standby Liquid Control	<ul style="list-style-type: none">● System required reanalysis● Reanalysis performed and system found acceptable● Support and Restraint Group now reviewing system
Secondary Cooling System	<ul style="list-style-type: none">● Review to begin shortly

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<u>System</u>	<u>Analysis/Review Status</u>
Core Spray	● Review to begin shortly
Containment Cooling/ Core Spray	● Review to begin shortly
Fuel Pool Cooling System	● Review to begin shortly
Shutdown Cooling System	● Stress analysis review partially completed, review continuing
Condensate System	● Presently being reviewed
Feedwater System	● Accessible areas have been reviewed ● Inaccessible area information is required to complete analysis properly
Reactor Water Cleanup	● Review to begin shortly
Standby Gas Treatment	● Presently being reviewed
Control Rod Hydraulic System	● Review to begin shortly
Nuclear Boiler	● System is presently inaccessible
Radwaste System	● Review to begin shortly
Atmospheric Control System	● Presently being reviewed
Main, Extraction, and Auxiliary Steam	● System is presently inaccessible
Fire, Domestic, and Condensate Transfer Systems	● Presently being reviewed
Primary Containment Coding Service Water	● Stress isometrics X-1, 2, and VI-6 being reviewed

- Stress isometric VI-5 had been reviewed and requires reanalysis. NUSCO will perform the reanalysis

Diesel Generator Fuel Oil
System

- Review to begin shortly

Engineering reviews and stress analysis reviews accomplished by our architect engineering firm have not uncovered any nonconformances to-date, which have not either been corrected by the field modifications described previously or deemed acceptable by engineering review/analysis. In all cases, safe shutdown of the plant during a postulated seismic event was not jeopardized.

Based upon the high degree of confidence derived from the inspections that have been completed and the system work/ISI inside the drywell as outlined in References (1), (2), and (3) and within this report, the most prudent course available is still the examination of the remaining inaccessible areas at the next refueling outage. Preparations are underway to prepare to the maximum extent possible to conduct the surveys of inaccessible areas in the most expeditious and accurate manner possible.

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TABLE I
PHYSICAL COMPLETION:

DATE: Oct. 31, 1979

PROJECT STATUS SUMMARY

	Tot. Ft. Pipe to Surveyed Acc. & Inacc.	Tot. Ft. Acc. Pipe Surveyed	Act. Ft. Acc. Pipe Verified	Tot. Ft. Inacc. Pipe to Survey	Act. Ft. Inacc. Pipe Verified	Tot. # Hrs. to Survey	Tot. # Acc. Hrs. Survey.	Act. # Acc. Hrs Verified	Tot. # Inacc. Hrs. Survey	Act. # Inacc. Hrs. Verified	Anal. Work Pack. Prep. (% Comp.)
Service Water	1260	1120	1120	140	140	97	92	92	5	4	100
Reactor Closed Cooling Water	2050	1300	1300	750	0	145	80	80	65	0	100
Isolation Condenser	706	583	583	123	0	55	49	49	6	0	100
Standby Liquid Control	300	225	225	75	0	37	30	30	7	0	100
Secondary Cooling System	2464	2233	2233	231	0	123	115	115	8	0	100
Core Spray (LPCI)	1700	1400	1400	300	0	110	80	80	30	0	100
Contain Cooling Core Spray	800	700	700	100	0	85	75	75	10	0	100
Fuel Pool Cooling System	1160	1000	1000	160	0	63	63	63	0	0	100
Shutdown Cooling System	790	620	620	170	0	68	56	56	12	0	100
Condensate System	3650	1500	1500	2150	100	238	120	120	118	7	100

POOR ORIGINAL

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TABLE II

MILLSTONE UNIT NO. 1

IE 79-14 AS BUILT VERIFICATION

PROJECT INSPECTION & MEASUREMENT SUMMARY

<u>ITEM</u>	<u>QUANTITY</u>	<u>PERCENT</u>
Total Linear Feet to be Investigated (Accessible & Inaccessible)	21,657 FT	100%
Accessible Piping	13,700 FT	63%
Inaccessible Piping	7,957 FT	37%
Total Linear Feet Verified to Date		
Accessible Piping	13,700 FT	100%
Inaccessible Piping	240 FT	3%
Total Number of Supports & Restraints to be Investigated (Accessible & Inaccessible)	1428	100%
Accessible Supports & Restraints	988	69%
Inaccessible Supports & Restraints	440	31%
Total Supports & Restraints Verified to Date		
Accessible Supports & Restraints	988	100%
Inaccessible Supports & Restraints	0	0%

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