



DCI 9 1998

Docket No. 50-336  
B17481

Re: GL 87-02 and USI A-46

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

Millstone Nuclear Power Station, Unit No. 2  
Identification of The Resolutions For Unresolved USI A-46 Mechanical,  
Electrical, and Structural Outliers

The purpose of this letter is to provide the Nuclear Regulatory Commission (NRC) with identification of the resolutions for the unresolved USI A-46 mechanical, electrical, and structural outliers which are contained in the Northeast Nuclear Energy Company's (NNECO) letter dated January 22, 1996<sup>(1)</sup>.

In a letter dated January 22, 1996<sup>(1)</sup>, NNECO transmitted the USI A-46 Walkdown Summary Reports for Millstone Unit No. 2 (MP2) as required by Generic Letter (GL) 87-02. The reports, which consisted of the Safe Shutdown Equipment List Report, the Relay Report, and the Seismic Evaluation Report, contained the information outlined in the Generic Implementation Procedure (GIP) -2. NNECO committed to comply with GIP-2 in a letter dated September 21, 1992<sup>(2)</sup>.

By a letter dated January 17, 1997,<sup>(3)</sup> NNECO provided the Staff with additional information for MP2, which was requested in the NRC's letter dated September 11, 1996.<sup>(4)</sup> In NNECO's letter of January 17, 1997,<sup>(3)</sup> NNECO committed, prior to unit

- (1) E. A. DeBarba to U. S. Nuclear Regulatory Commission, "Millstone Nuclear Power Station, Unit No. 2, USI A-46 Walkdown Summary Report and Proposed Expansion of Licensing Basis for Verification of Equipment and Seismic Adequacy," dated January 22, 1996.
- (2) J. F. Opeka to U. S. Nuclear Regulatory Commission, "Haddam Neck plant, Millstone Nuclear Power Station, Unit Nos. 1 and 2 Plant-specific Response to Supplement 1 of Generic Letter 87-02," dated September 21, 1992.
- (3) M. L. Bowling to U. S. Nuclear Regulatory Commission, "Millstone Unit No. 2 Response to Request For Additional Information Regarding Generic Letter 87-02 (TAC No. M69459) Verification of Seismic Adequacy of Mechanical and Electrical Equipment," dated January 17, 1997.
- (4) D. G. McDonald to T. C. Feigenbaum, "Request for Additional Information - Generic Letter 87-02, Verification of Seismic Adequacy of Mechanical and Electrical Equipment in Operating Reactors, Unresolved safety Issue A-46, Millstone Nuclear Power Station, Unit 2 (TAC No. M69459)," dated September 11, 1996.

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startup, to resolve the unresolved mechanical, electrical and structural component outliers and relay outliers. The unresolved mechanical, electrical, and structural component outliers are listed in Table 4.1 of the Seismic Evaluation Report, and the relay outliers are listed in Attachment G of the Relay Evaluation Report which were provided in NNECO's letter dated January 22, 1996.<sup>(1)</sup> This letter is intended to describe NNECO's resolution of these outliers as previously committed.

Attachment 1 contains an updated version of Table 4.1 identifying NNECO's resolution of the mechanical, electrical and structural component outliers previously identified in the Seismic Evaluation Report. Note that two new entries have been added to the table resulting from NNECO's corrective action program: The Emergency Diesel Generator day tanks T-48A and T-48B and cable tray supports in the Cable Spreading Room. The anchorage of the tanks has been evaluated and found to be acceptable while modification to some cable tray supports was determined to be required to meet the GIP-2 requirements. Identification of cable tray support outliers, as identified above and in the attached Table 4.1, is also considered to be a revision of the answer to "NRC response for additional information (RAI) Number 12" provided in NNECO's letter dated January 17, 1997<sup>3</sup>. NNECO's previous response to RAI No. 12 had indicated that "No outliers were identified from" the raceway reviews. This statement is no longer valid based on the evaluations performed after the date of NNECO's letter dated January 17, 1997<sup>3</sup>. Also note that the number of limited analytical reviews (LAR) performed in support of the raceway evaluations has been increased from four, as indicated in our original Seismic Evaluation Report and the response to RAI No. 12, to sixteen.

Attachment 1 also contains an updated version of the relay outliers table which was included as part of Attachment G of the Relay Evaluation Report. The enclosed version describes the resolution for all the contactors/relays previously identified as outliers in the report contained in NNECO's letter dated January 22, 1996.<sup>(1)</sup> Note that numerous relays have been determined to be acceptable in their present configuration based on further reviews. As previously indicated in our letter dated May 21, 1998,<sup>(5)</sup> nine relays have also been determined to require operator actions from the control room after the Safe Shutdown Earthquake. Eight new entries (listed at the end of the table), associated with the 4.1 kV switchgears have also been added to the table resulting from our review of the original outlier list. Also note that the six relays previously identified, in Attachment D of the Relay Evaluation Report (also listed as the first six contactors in the attached table), as "Low Ruggedness Relays" have been determined not to be in that category and they will be relocated to a lower seismic demand location so as to meet the capacity levels identified through GIP-2. NNECO made a commitment to relocate these relays in a letter dated May 21, 1990<sup>(5)</sup> (commitment B17237-01 in Attachment 2).

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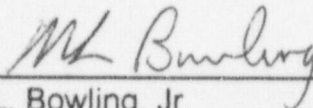
<sup>(5)</sup> M. L. Bowling to U. S. Nuclear Regulatory Commission, "Millstone Nuclear Power Station, Unit No. 2, Response to The Request For Additional Information Relating to The Summary Report On Verification of The Seismic Adequacy of Mechanical and Electrical Equipment, (TAC No. M69459)," dated May 21, 1998.

The hardware modifications and seismic shake table tests identified in the enclosed tables are either complete or presently on-going according to the planned GIP-2 implementation schedule. Revision to AOP-2562, to incorporate operator actions from the control room for some relays, is also planned for completion prior to unit startup. NNECO made a commitment to revise procedure AOP-2562 in a letter dated May 21, 1998<sup>(5)</sup> (commitment B17237-02 in Attachment 2). The completion letter/report required per GIP-2 will be sent after completion and closure of the planned actions for the resolution of USI A-46 for Millstone Unit 2 as previously indicated in NNECO's letter dated January 22, 1996 (Commitment B15469-1, page 5).<sup>(1)</sup>

The commitments associated with this letter are contained in Attachment 2. Should you have any questions regarding this submittal, please contact Mr. Ravi G. Joshi at (860) 440-2080.

Very truly yours,

NORTHEAST NUCLEAR ENERGY COMPANY



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Martin L. Bowling, Jr.  
Recovery Officer - Technical Services

Attachments

cc: H. J. Miller, Region I Administrator  
D. G. McDonald, Jr., NRC Senior Project Manager, Millstone Unit No. 2  
D. P. Beaulieu, Senior Resident Inspector, Millstone Unit No. 2  
E. V. Imbro, Director, Millstone ICAVP Inspections  
S. Dembek, NRC Project Manager, Millstone Unit No. 1

Docket No. 50-336  
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Attachment 1

Millstone Nuclear Power Station, Unit No. 2  
Identification of the Resolutions for Unresolved USI A-46 Mechanical,  
Electrical, and Structural Outliers

October 1998

SEISMIC EVALUATION REPORT FOR MILLSTONE 2

TABLE 4.1

RESOLVED OUTLIERS

SPECTRA EXCEEDANCE:

<u>EQUIP CLASS</u>	<u>COMPONENT ID</u>	<u>DESCRIPTION OF OUTLIER CONDITION</u>	<u>RESOLUTION</u>
1	22E-MCC	<ul style="list-style-type: none"> <li>The conservative FRS is not enveloped by 1.5 X BS for 22E-MCC.</li> </ul>	<ul style="list-style-type: none"> <li>The FRS was reevaluated and regenerated using the guidelines of the SRP/NUREG 0800, and shown to be enveloped by 1.5 X BS as shown in S&amp;A Calc. No. 97C2973-C-001.</li> </ul>
1	B52	<ul style="list-style-type: none"> <li>The conservative FRS is not enveloped by MCC function GERS for B52 MCC.</li> </ul>	<ul style="list-style-type: none"> <li>The capacity curve was reevaluated based on original MCC shake table tests and procedures presented in EPRI NP-5223-SL, Rev.1. Resulting curve was compared to conservative FRS in calc 97-ENG-01806C2 and found to be enveloped.</li> </ul>
2	22E	<ul style="list-style-type: none"> <li>The conservative FRS is not enveloped by 1.5 X BS.</li> </ul>	<ul style="list-style-type: none"> <li>The FRS was reevaluated and regenerated using the guidelines of the SRP/NUREG 0800, and shown to be enveloped by 1.5 X BS as shown in S&amp;A Calc. No. 97C2973-C-001.</li> </ul>
4	UB5	<ul style="list-style-type: none"> <li>The conservative FRS is not enveloped by 1.5 X BS.</li> <li>Caveat 4 - Transformer coils are not top braced or have "A" frame, external evaluation of coil support indicated that hold-down bolts for the transformer should be A-325 or better. The SRT could not confirm bolt material during walkdown. Reference VECTRA Calc. No. MP2ORT3, section 5.4, Rev. 0</li> </ul>	<ul style="list-style-type: none"> <li>The FRS was reevaluated and regenerated using the guidelines of the SRP/NUREG 0800, and shown to be enveloped by 1.5 X BS as shown in S&amp;A Calc. No. 97C2973-C-001.</li> <li>A subsequent walkdown (per DCN DM2-00-0281-97 &amp; AWO M2-96-03008) confirmed that the hold down bolts are 3/4" not 5/8" diameter as previously determined. Calculation Change Notice 01 to Vectra Calc. No. MP2ORT3 documented that the 3/4" bolts are acceptable considering a conservative A307 bolt material.</li> </ul>

SEISMIC EVALUATION REPORT FOR MILLSTONE 2

TABLE 4.1 (continued)

OTHER:

<u>EQUIP CLASS</u>	<u>COMPONENT ID</u>	<u>DESCRIPTION OF OUTLIER CONDITION</u>	<u>RESOLUTION</u>
7	2-CHW-11	<ul style="list-style-type: none"><li>• Valve actuator is independently braced to building steel cross bracing at column line E.</li></ul>	<ul style="list-style-type: none"><li>• The seismic stresses at the valve yoke were shown to be within the allowable stress limits as documented in calculation 96-ENG-1406M2.</li></ul>
21	T48A/ T48B	<ul style="list-style-type: none"><li>• EDG day tank anchorage was determined to be Wej-It Nose Cone non-removable type compared to the GIP requirement for cast-in-place anchors for tanks.</li></ul>	<ul style="list-style-type: none"><li>• The tanks have been evaluated and shown to be adequate in calculation 98-ENG-02653C2.</li></ul>
Raceway		<ul style="list-style-type: none"><li>• Ceiling to floor single and two bay trapeze cable tray supports in the Cable Spreading Room, with Wej-It wedge anchors at the ceiling, have gaps up to 0.5" between the support posts and the stops at the floor such that, during a seismic event, and in the direction of the gap, the anchor bolt capacity may be exceeded before the post comes in contact with the stop.</li></ul>	<ul style="list-style-type: none"><li>• The loads on the anchor bolts are reduced by installing shims to fill in the gaps and ensure that the posts are laterally restrained at all affected supports per Minor Modification/MMOD M2-97535 - In progress.</li></ul>

SEISMIC EVALUATION REPORT FOR MILLSTONE 2

TABLE 4.1 (continued)

ADJACENT CABINETS NOT BOLTED TOGETHER:

<u>EQUIP CLASS</u>	<u>COMPONENT ID</u>	<u>DESCRIPTION OF OUTLIER CONDITION</u>	<u>RESOLUTION</u>
14	D11 / D12 / D21 / D22 / VR11 / VR21	<ul style="list-style-type: none"> <li>• D11 and D12 are not bolted to adjacent VR11 distribution panel. Similarly, D21 and D22 are not bolted to VR21. The SRT is of the opinion that adjacent cabinets should be bolted together even though no essential relays are present; the basis for this recommendation is the data represented in EPRI GERS report (NP-5223-SL) for distribution panels. The report indicated that circuit breakers were more sensitive to high frequency input. Therefore bolting the cabinets together eliminates any pounding and any potential breaker trips would be precluded.</li> </ul>	<ul style="list-style-type: none"> <li>• Bolting of D11 and D12 to VR11; and bolting of D21 and D22 to VR21 is complete per MMOD M2-96570.</li> </ul>
20	C25A / C25B / C80	<ul style="list-style-type: none"> <li>• Adjacent cabinet C80 is not bolted to C25B, since C25A and C25B cabinets act as one unit, seismic impact is not precluded. In addition, C80 cabinet is not bolted to adjacent C26 cabinet.</li> </ul>	<ul style="list-style-type: none"> <li>• Bolting cabinet C80 to adjacent C25B and C26 cabinets is complete per MMOD M2-96569.</li> </ul>

SEISMIC EVALUATION REPORT FOR MILLSTONE 2

TABLE 4.1 (continued)

EQUIP CLASS	COMPONENT ID	DESCRIPTION OF OUTLIER CONDITION	RESOLUTION
20	RC02A1 / RC02B / RC02B2 / RC02C / RC02C3 / RC02D4 / RC05B / C06X	<ul style="list-style-type: none"> <li>• RC02A1 is part of the ESAS cabinets, the TSI C20 cabinet at South side and the Annunciator logics RC22 cabinet at North side are not bolted to ESAS cabinets.</li> <li>• In addition, C06X cabinet is not bolted to adjacent TSI C20 and C08X cabinets. Therefore, seismic impact is not precluded.</li> <li>• Similarly, seismic impact is not precluded for the RPS panel RCC5B which is one section of the single cabinet RC05 and is located next to RC05A section which is not bolted to adjacent cabinet RC05E.</li> </ul>	<ul style="list-style-type: none"> <li>• Bolting the ESAS cabinets to adjacent TSI C20 and RC22 cabinets is complete per MMOD M2-96569.</li> <li>• Bolting of cabinet C06X to TSI C20 and C08X is complete per MMOD M2-96569.</li> <li>• Bolting of cabinet RC05A to RC05E is complete per MMOD M2-96569.</li> </ul>



SEISMIC EVALUATION REPORT FOR MILLSTONE 2

TABLE 4.1 (continued)

UNACCEPTABLE INSTALLATION (FIELD CONDITION):

<u>EQUIP CLASS</u>	<u>COMPONENT ID</u>	<u>DESCRIPTION OF OUTLIER CONDITION</u>	<u>RESOLUTION</u>
15	DB1 / DB2	<ul style="list-style-type: none"><li>• The battery rack bolts do not meet the GIP screening criteria due to 2.75" gaps under the base. The anchorage capacity does not exceed the demand due to high shear and tension forces on the bolts as a result of the large gaps. Also, the longitudinal bracing on the front of the rack is intermittent. Given the gaps under the anchorage, redistribution of the load to locations with no gap may cause load path concern with the rack members.</li></ul>	<ul style="list-style-type: none"><li>• Modification of the anchorage of the battery racks, to eliminate the described outlier conditions, is complete per MMOD M2-96568.</li></ul>
21	X-82	<ul style="list-style-type: none"><li>• Quench tank Hx X-82 does not meet the GIP screening criteria since the tank anchorage capacity does not exceed the demand due to crack in concrete pedestal on the fixed end of the tank. Refer to VECTRA calc. No. MP2ORT3, section 5.3, Rev. 0 for tank evaluation.</li></ul>	<ul style="list-style-type: none"><li>• Repair of the cracked pedestal is complete per NCR 295-223 &amp; AWO M2-96-03436. Anchorage is now acceptable.</li></ul>

**SEISMIC EVALUATION REPORT FOR MILLSTONE 2**

**TABLE 4.1 (continued)**

MAINTENANCE ITEMS:

<u>EQUIP CLASS</u>	<u>COMPONENT ID</u>	<u>DESCRIPTION OF OUTLIER CONDITION</u>	<u>RESOLUTION</u>
20	C01X	<ul style="list-style-type: none"> <li>• Some internal relay panels are loose and/or missing bolts for C01X cabinet.</li> </ul>	<ul style="list-style-type: none"> <li>• Tightening of the loose bolts and replacement of missing ones in the internal panels is complete (per NCR 236-039 &amp; AWO M2-96-02539).</li> </ul>
20	C05 / C05R / C06 / C06R	<ul style="list-style-type: none"> <li>• Top bolt between adjacent cabinets C05 and C06 is loose.</li> <li>• For C05 cabinet bottom wireway cover not secured, no screws.</li> <li>• C05R and C06R are bolted together with three bolts. There is a 1/8" gap at top and 1/4" gap at bottom bolt on the C06R side.</li> </ul>	<ul style="list-style-type: none"> <li>• Tightening of the top bolt between C05 and C06 cabinets is complete (per NCR 297-164 &amp; AWO M2-97-04799).</li> <li>• A subsequent walkdown determined that the wireway cover at bottom of C05 cabinet has been secured.</li> <li>• Tightening of the bolts between C05R and C06R cabinets is complete (per NCR 297-164 &amp; AWO M2-97-04799).</li> </ul>

OUTLIERS RESOLVED IN OUTLIER SEISMIC VERIFICATION SHEET (OSVS)

<u>EQUIP CLASS</u>	<u>COMPONENT ID</u>	<u>DESCRIPTION OF OUTLIER CONDITION</u>	<u>RESOLUTION/REMARKS</u>
2	22F	<ul style="list-style-type: none"> <li>• The front of 22F SWGR sections were not anchored to the embedded plate.</li> </ul>	<ul style="list-style-type: none"> <li>• Outlier has been resolved, see OSVS.</li> </ul>
9	F38A / F38B	<ul style="list-style-type: none"> <li>• The conservative FRS is not enveloped by 1.5 X BS.</li> </ul>	<ul style="list-style-type: none"> <li>• Outlier has been resolved, see OSVS.</li> </ul>
9	F52	<ul style="list-style-type: none"> <li>• The realistic FRS is not enveloped by 1.5 X BS.</li> </ul>	<ul style="list-style-type: none"> <li>• Outlier has been resolved, see OSVS.</li> </ul>

SEISMIC EVALUATION REPORT FOR MILLSTONE 2

TABLE 4.1 (continued)

10	F14C / F14D / X-34A	<ul style="list-style-type: none"> <li>The conservative FRS is not enveloped by 1.5 X BS.</li> </ul>	<ul style="list-style-type: none"> <li>Outlier has been resolved, see OSVS.</li> </ul>
11	F1A / F1B	<ul style="list-style-type: none"> <li>Block walls surrounding compressor do not have safety related marking. The SRT conservatively assumed that seismic interaction with Waste Gas Compressor can not be precluded.</li> </ul>	<ul style="list-style-type: none"> <li>Outlier has been resolved, see OSVS.</li> </ul>
20	C08 / C08R	<ul style="list-style-type: none"> <li>There is a line of lockers 43" away south of C08 and C08R cabinets which may cause seismic interaction. Although there are no essential relays within these cabinets, the SRT recommends that the lockers be secured or removed as part of good housekeeping practices.</li> </ul>	<ul style="list-style-type: none"> <li>Outlier has been resolved, see OSVS.</li> </ul>
21	T3	<ul style="list-style-type: none"> <li>Tank T3 does not meet the GIP screening criteria since it is a large vertical tank supported by legs. A detailed tank evaluation was performed to qualify the tank anchorage and connections between anchor bolts and the tank shell. See VECTRA Calc No. MP2ORT3, section 5.1, Rev. 0 for the tank evaluation. Based on the evaluation, the tank anchor bolts fail due to insufficient tension capacity; the tank legs fail in bending; and the concrete floor punching shear capacity is exceeded.</li> </ul>	<ul style="list-style-type: none"> <li>Outlier has been resolved, see OSVS. When the A-46 outlier condition was discovered a temporary design was installed to resolve the outlier prior to start-up. An Operability Evaluation concluded that tank T3 was operable under normal operating (VECTRA Calc No. MP2T3OPER Rev. 0). Permanent modification of the tank was implemented under PDCR 2-95-040 and Calc. No. 95-ENG-1198 M2. Modifications are now complete.</li> </ul>

Relay Outliers Table

No.	CONTACT ID	MAKE	DESC	RELAY ENER.	NO/NC	DRAWING No.	CAB ID	BLDG	ELEV	DUP RLY	LOC.	Outlier Resolution
1	87A/A312-RELAY SDR (A)	GE-IJD	12IJD52A11A	NO	NO	32041 SH. 1	24C	AB	31.50		A312	Relocate for Cap>Dem-MMOD M2-97531 In progress (Note 1)
2	87B/A312-RELAY SDR (A)	GE-IJD	12IJD52A11A	NO	NO	32041 SH. 1	24C	AB	31.50		A312	Relocate for Cap>Dem-MMOD M2-97531 In progress (Note 1)
3	87C/A312-RELAY SDR (A)	GE-IJD	12IJD52A11A	NO	NO	32041 SH. 1	24C	AB	31.50		A312	Relocate for Cap>Dem-MMOD M2-97531 In progress (Note 1)
4	87A/A401-RELAY SDR (B)	GE-IJD	12IJD52A11A	NO	NO	32041 SH. 19	24D	AB	54.50		A401	Relocate for Cap>Dem-MMOD M2-97531 In progress (Note 1)
5	87B/A401-RELAY SDR (B)	GE-IJD	12IJD52A11A	NO	NO	32041 SH. 19	24D	AB	54.50		A401	Relocate for Cap>Dem-MMOD M2-97531 In progress (Note 1)
6	87C/A401-RELAY SDR (B)	GE-IJD	12IJD52A11A	NO	NO	32041 SH. 19	24D	AB	54.50		A401	Relocate for Cap>Dem-MMOD M2-97531 In progress (Note 1)
1	86-A312	GE-HEA	HEA61B	NO	NO	32041 SH. 1	24C	AB	31.50		A312	Cap > Dem based on seismic tests - In progress
2	86/A312-RELAY SDR (A)	GE-HEA	HEA61B	NO	NO	32041 SH. 7	24C	AB	31.50		A312	Cap > Dem based on seismic tests - In progress
3	86-2-A305	GE-HFA	12HFA151A2H	NO	NO	32002 SH. 11	24C	AB	31.50	Y	A304	Chatter Determined Acceptable (per M2-EV-97-0032)
4	86-2/22S3-24C2-A312	GE-HFA	12HFA151A2H	NO	NO	32041 SH. 1	24C	AB	31.50		A302	Chatter Determined Acceptable (per M2-EV-97-0032)
5	86X-A305	GE-HGA	HGA11W	NO	NO	32002 SH. 13	24C	AB	31.50		A305	Operator Action - AOP 2562 to be revised
6	50/51A-A303	GE-IAC	12IAC53B104A	NO	NO	32002 SH. 3	24C	AB	31.50		A303	Acceptable per SWGR GERS (per M2-EV-97-0032)
7	50/51A-A306	GE-IAC	12IAC66K8A	NO	NO	32013 SH. 5	24C	AB	31.50		A306	Acceptable per SWGR GERS (per M2-EV-97-0032)
8	50/51A-A307	GE-IAC	12IAC66K8A	NO	NO	30044 SH. 3	24C	AB	31.50		A307	Acceptable per SWGR GERS (per M2-EV-97-0032)
9	50/51B-A303	GE-IAC	12IAC53B104A	NO	NO	32002 SH. 3	24C	AB	31.50		A303	Acceptable per SWGR GERS (per M2-EV-97-0032)
10	50/51B-A306	GE-IAC	12IAC66K8A	NO	NO	32013 SH. 5	24C	AB	31.50		A306	Acceptable per SWGR GERS (per M2-EV-97-0032)
11	50/51B-A307	GE-IAC	12IAC66K8A	NO	NO	30044 SH. 3	24C	AB	31.50		A307	Acceptable per SWGR GERS (per M2-EV-97-0032)
12	50/51C-A303	GE-IAC	12IAC53B104A	NO	NO	32002 SH. 3	24C	AB	31.50		A303	Acceptable per SWGR GERS (per M2-EV-97-0032)
13	50/51C-A306	GE-IAC	12IAC66K8A	NO	NO	32013 SH. 5	24C	AB	31.50		A306	Acceptable per SWGR GERS (per M2-EV-97-0032)
14	50/51C-A307	GE-IAC	12IAC66K8A	NO	NO	30044 SH. 3	24C	AB	31.50		A307	Acceptable per SWGR GERS (per M2-EV-97-0032)
15	51-A312	GE-IAC	12IAC53A3A	NO	NO	32002 SH. 1	24C	AB	31.50	Y	A302	Acceptable per SWGR GERS (per M2-EV-97-0032)
16	51A-A305	GE-IAC	12IAC53A101A	NO	NO	32002 SH. 11	24C	AB	31.50	Y	A505	Acceptable per SWGR GERS (per M2-EV-97-0032)
17	51A-A305	GE-IAC	12IAC53A101A	NO	NO	32002 SH. 11	24C	AB	31.50		A305	Acceptable per SWGR GERS (per M2-EV-97-0032)
18	51A-A305	GE-IAC	12IAC53A101A	NO	NO	32002 SH. 11	24C	AB	31.50	Y	A304	Acceptable per SWGR GERS (per M2-EV-97-0032)
19	51B-A305	GE-IAC	12IAC53A101A	NO	NO	32002 SH. 11	24C	AB	31.50		A304	Acceptable per SWGR GERS (per M2-EV-97-0032)
20	51B-A305	GE-IAC	12IAC53A101A	NO	NO	32002 SH. 13	24C	AB	31.50		A305	Acceptable per SWGR GERS (per M2-EV-97-0032)
21	51C-A305	GE-IAC	12IAC53A101A	NO	NO	32002 SH. 11	24C	AB	31.50		A304	Acceptable per SWGR GERS (per M2-EV-97-0032)
22	51C-A305	GE-IAC	12IAC53A101A	NO	NO	32002 SH. 13	24C	AB	31.50		A305	Acceptable per SWGR GERS (per M2-EV-97-0032)
23	51GS-A305	GE-IAC	12IAC53A3A	NO	NO	32002 SH. 11	24C	AB	31.50	Y	A304	Acceptable per SWGR GERS (per M2-EV-97-0032)

Relay Outliers Table (continued)

No.	CONTACT ID	MAKE	DESC	RELAY ENER.	NO/NC	DRAWING No.	CAB ID	BLDG	ELEV	DUP RLY	LOC.	Outlier Resolution
24	51GS-A305	GE-IAC	12IAC53A3A	NO	NO	32002 SH. 11	24C	AB	31.50		A305	Acceptable per SWGR GERS (per M2-EV-97-0032)
25	51GS-A312	GE-IAC	12IAC53A3A	NO	NO	32002 SH. 1	24C	AB	31.50	Y	A305	Acceptable per SWGR GERS (per M2-EV-97-0032)
26	50-A312	GE-PJC	12PJC11X3A	NO	NO	32041 SH. 1	24C	AB	31.50		A312	Acceptable per SWGR GERS (per M2-EV-97-0032)
27	50GS-A303	GE-PJC	121PJC11AV1A	NO	NO	32002 SH. 3	24C	AB	31.50		A303	Acceptable per SWGR GERS (per M2-EV-97-0032)
28	50GS-A306	GE-PJC	121PJC11AV1A	NO	NO	32013 SH. 5	24C	AB	31.50		A306	Acceptable per SWGR GERS (per M2-EV-97-0032)
29	50GS-A307	GE-PJC	121PJC11AV1A	NO	NO	32012 SH. 11, 30044 SH. 3	24C	AB	31.50		A307	Acceptable per SWGR GERS (per M2-EV-97-0032)
30	50GS-A312	GE-PJC	12PJC11AV	NO	NO	32041 SH. 1	24C	AB	31.50		A312	Acceptable per SWGR GERS (per M2-EV-97-0032)
31	86-A401	GE-HEA	HEA61B	NO	NO	30041 SH. 2	24D	AB	54.50		A401	Cap > Dem based on seismic tests - In progress
32	86/15G-13U-2-A408	GE-HEA	HEA61B	NO	NO/NC	32041 SH. 2	24D	AB	54.50		A401	Cap > Dem based on seismic tests - In progress
33	86/A401-RELAY SDR (B)	GE-HEA	HEA61B	NO	NO	32041 SH. 19	24D	AB	54.50		A401	Cap > Dem based on seismic tests - In progress
34	86-1/22S3-24D-2-A408	GE-HFA	12HFA151A2H	NC	NO	32002 SH. 2	24D	AB	54.50	Y	A411	Acceptable per SWGR GERS (per M2-EV-97-0032)
35	86-1/24D-1T-2-A408	GE-HFA	12HFA151A2H	NO	NO	32002 SH. 12	24D	AB	54.50		A410	Acceptable per SWGR GERS (per M2-EV-97-0032)
36	86-2-A408	GE-HFA	12HFA151A2H	NO	NO	32002 SH. 12	24D	AB	54.50	Y	A410	Chatter Determined Acceptable (per M2-EV-97-0032)
37	86-2-A408	GE-HFA	12HFA151A2H	NO	NC	32002 SH. 12	24D	AB	31.50	Y	A505	Chatter Determined Acceptable (per M2-EV-97-0032)
38	86-2/22S3-24D-2-A401	GE-HFA	12HFA151A2H	NO	NO	32041 SH. 2	24D	AB	54.50		A411	Chatter Determined Acceptable (per M2-EV-97-0032)
39	86-A408	GE-HFA	12HFA151A2H	NO	NC	32002 SH. 14	24D	AB	54.50		A408	Acceptable per SWGR GERS (per M2-EV-97-0032)
40	86X-A408	GE-HGA	HGA11W'	NO	NO	32002 SH. 14	24D	AB	54.50		A408	Operator Action - AOP 2562 to be revised
41	50/51A-A406	GE-IAC	12IAC66K8A	NO	NO	30044 SH. 8	24D	AB	54.50		A406	Acceptable per SWGR GERS (per M2-EV-97-0032)
42	50/51A-A407	GE-IAC	12IAC66K8A	NO	NO	30044 SH. 8	24D	AB	54.50		A407	Acceptable per SWGR GERS (per M2-EV-97-0032)
43	50/51A-A409	GE-IAC	12IAC53B104A	NO	NO	30044 SH. 9	24D	AB	54.50		A409	Acceptable per SWGR GERS (per M2-EV-97-0032)
44	50/51B-A406	GE-IAC	12IAC66K8A	NO	NO	30044 SH. 8	24D	AB	54.50		A406	Acceptable per SWGR GERS (per M2-EV-97-0032)
45	50/51B-A407	GE-IAC	12IAC66K8A	NO	NO	30044 SH. 8	24D	AB	54.50		A407	Acceptable per SWGR GERS (per M2-EV-97-0032)
46	50/51B-A409	GE-IAC	12IAC53B104A	NO	NO	30044 SH. 9	24D	AB	54.50		A409	Acceptable per SWGR GERS (per M2-EV-97-0032)
47	50/51C-A406	GE-IAC	12IAC66K8A	NO	NO	30044 SH. 8	24D	AB	54.50		A406	Acceptable per SWGR GERS (per M2-EV-97-0032)
48	50/51C-A407	GE-IAC	12IAC66K8A	NO	NO	30044 SH. 8	24D	AB	54.50		A407	Acceptable per SWGR GERS (per M2-EV-97-0032)
49	50/51C-A409	GE-IAC	12IAC53B104A	NO	NO	30044 SH. 9	24D	AB	54.50		A409	Acceptable per SWGR GERS (per M2-EV-97-0032)
50	51-A401	GE-IAC	12IAC53A101A	NO	NO	32002 SH. 2	24D	AB	54.50	Y	A411	Acceptable per SWGR GERS (per M2-EV-97-0032)
51	51A-A406	GE-IAC	12IAC53A101A	NO	NO	32002 SH. 14	24D	AB	54.50		A406	Acceptable per SWGR GERS (per M2-EV-97-0032)
52	51A-A408	GE-IAC	12IAC53A101A	NO	NO	32002 SH. 12	24D	AB	54.50		A410	Acceptable per SWGR GERS (per M2-EV-97-0032)
53	51B-A408	GE-IAC	12IAC53A101A	NO	NO	32002 SH. 14	24D	AB	54.50		A408	Acceptable per SWGR GERS (per M2-EV-97-0032)
54	51B-A408	GE-IAC	12IAC53A101A	NO	NO	32002 SH. 12	24D	AB	54.50		A410	Acceptable per SWGR GERS (per M2-EV-97-0032)
55	51C-A408	GE-IAC	12IAC53A101A	NO	NC	32002 SH. 14	24D	AB	54.50		A408	Acceptable per SWGR GERS (per M2-EV-97-0032)
56	51C-A408	GE-IAC	12IAC53A101A	NO	NO	32002 SH. 12	24D	AB	54.50		A410	Acceptable per SWGR GERS (per M2-EV-97-0032)
57	51GS-A401	GE-IAC	IAC53A	NO	NO	32002 SH. 2	24D	AB	54.50	Y	A411	Acceptable per SWGR GERS (per M2-EV-97-0032)

Relay Outliers Table (continued)

No.	CONTACT ID	MAKE	DESC	RELAY ENER.	NO/NC	DRAWING No.	CAB ID	BLDG	ELEV	DUP RLY	LOC.	Outlier Resolution
58	51GS-A408	GE-IAC	12IAC53A3A	NO	NO	32002 SH. 12	24D	AB	54.50	Y	A410	Acceptable per SWGR GERS (per M2-EV-97-0032)
59	51GS-A408	GE-IAC	12IAC53A3A	NO	NO	30044 SH. 9	24D	AB	54.50		A408	Acceptable per SWGR GERS (per M2-EV-97-0032)
60	50-A401	GE-PJC	12PJC11X3A	NO	NO	32041 SH. 2	24D	AB	54.50		A401	Acceptable per SWGR GERS (per M2-EV-97-0032)
61	50GS-A401	GE-PJC	12PJC11AV1A	NO	NO	32041 SH. 2	24D	AB	54.50		A401	Acceptable per SWGR GERS (per M2-EV-97-0032)
62	50GS-A406	GE-PJC	12PJC11AV1A	NO	NO	32012 SH. 12, 30044 SH. 8	24D	AB	54.50		A406	Acceptable per SWGR GERS (per M2-EV-97-0032)
63	50GS-A407	GE-PJC	12PJC11AV1A	NO	NO	30044 SH. 8	24D	AB	54.50		A407	Acceptable per SWGR GERS (per M2-EV-97-0032)
64	50GS-A409	GE-PJC	12PJC11AV1A	NO	NO	30044 SH. 9	24D	AB	54.50		A409	Acceptable per SWGR GERS (per M2-EV-97-0032)
65	86-1/21S3-24E-2-A408	GE-HFA	HFA51A	NO	NO	32002 SH. 15	24E	AB	31.50	Y	A505	Acceptable per SWGR GERS (per M2-EV-97-0032)
66	86-2-A305	GE-HFA	HFA51A	NO	NO	32002 SH. 15	24E	AB	31.50	Y	A505	Chatter Determined Acceptable (per M2-EV-97-0032)
67	50/51A-A502	GE-IAC	12IAC66K8A	NO	NO	30044 SH. 11	24E	AB	31.50		A502	Acceptable per SWGR GERS (per M2-EV-97-0032)
68	50/51B-A502	GE-IAC	12IAC66K8A	NO	NO	30044 SH. 11	24E	AB	31.50		A502	Acceptable per SWGR GERS (per M2-EV-97-0032)
69	50/51C-A502	GE-IAC	12IAC66K8A	NO	NO	30044 SH. 11	24E	AB	31.50		A502	Acceptable per SWGR GERS (per M2-EV-97-0032)
70	51A-A408	GE-IAC	12IAC53A101A	NO	NO	32002 SH. 15	24E	AB	31.50		A505	Acceptable per SWGR GERS (per M2-EV-97-0032)
71	51B-A305	GE-IAC	12IAC53A101A	NO	NO	32002 SH. 15	24E	AB	31.50		A505	Acceptable per SWGR GERS (per M2-EV-97-0032)
72	51B-A408	GE-IAC	12IAC53A101A	NO	NO	32002 SH. 15	24E	AB	31.50		A505	Acceptable per SWGR GERS (per M2-EV-97-0032)
73	51C-A305	GE-IAC	12IAC53A101A	NO	NO	32002 SH. 15	24E	AB	31.50		A505	Acceptable per SWGR GERS (per M2-EV-97-0032)
74	51C-A408	GE-IAC	12IAC53A101A	NO	NO	32002 SH. 15	24E	AB	31.50		A505	Acceptable per SWGR GERS (per M2-EV-97-0032)
75	50GS-A305	GE-PJC	121PJC11AV1A	NO	NO	32002 SH. 15	24E	AB	31.50	Y	A505	Acceptable per SWGR GERS (per M2-EV-97-0032)
76	50GS-A408	GE-PJC	121PJC11AV1A	NO	NO	32002 SH. 15	24E	AB	31.50	Y	A505	Acceptable per SWGR GERS (per M2-EV-97-0032)
77	50GS-A502	GE-PJC	121PJC11AV1A	NO	NO	32013 SH. 6	24E	AB	31.50		A502	Acceptable per SWGR GERS (per M2-EV-97-0032)
1	32-A312	GE-ICW	12ICW51A2A	NO	NO	32041 SH. 1	24C	AB	31.50		A312	Acceptable per SWGR GERS (per M2-EV-97-0032)
2	51V-A312	GE-IJCV	12IJCV52A9A	NO	NO	32041 SH. 1	24C	AB	31.50		A312	Acceptable per SWGR GERS (per M2-EV-97-0032)
3	32-A401	GE-ICW	12ICW51A2A	NO	NO	32041 SH. 2	24D	AB	54.50		A401	Acceptable per SWGR GERS (per M2-EV-97-0032)
4	51V-A401	GE-IJCV	12IJCV52A9A	NO	NO	32041 SH. 2	24D	AB	54.50		A401	Acceptable per SWGR GERS (per M2-EV-97-0032)
5	59-A312	GE-NGV	12NGV22A1A	NO	NO	32041 SH. 1	C38	WH	14.50		C38	Acceptable per SWGR GERS (per M2-EV-97-0032)
6	59-A401	GE-NGV	12NGV22A1A	NO	NO	32041 SH. 2	C39	WH	14.50		C39	Acceptable per SWGR GERS (per M2-EV-97-0032)
1	CF4-RELAY SDR (A)	ITE/Gould	Class J			32041 SH. 6	C38	WH	14.50		C38	Cap > Dem based on seismic tests (per Calc 98-ENG-02415C2)
2	CR4-RELAY SDR (B)	ITE/Gould	Class J			32041 SH. 18	C39	WH	14.50		C39	Cap > Dem based on seismic tests (per Calc 98-ENG-02415C2)
3	2HCR-B0506			NO	NO	32003 SH. 31	DC1	AB	14.50		DC1	Removed from Service
4	2HCR-B0607			NO	NO	32003 SH. 41	DC2	AB	14.50		DC2	Removed from Service

Relay Outliers Table (continued)

No.	CONTACT ID	MAKE	DESC	RELAY ENER.	NO/NC	DRAWING No.	CAB ID	BLDG	ELEV	DUP RLY	LOC.	Outlier Resolution
<b>Added Relays</b>												
1	86-A305	GE-HFA	HFA51A	NO	NO	32002 SH. 13	24C	TB	31.50		A305	Acceptable per SWGR GERS (per M2-EV-97-0032)
2	3-A303	GE-HFA	HFA51A	NO	NO	32002 SH. 3	24C	TB	31.50		A303	Operator Action - AOP 2562 to be revised
3	3-A409	GE-HFA	HFA51A	YES	NO	32002 SH. 10	24D	TB	56.50		A409	Operator Action - AOP 2562 to be revised
4	3-A307	GE-HFA	HFA51A42	NO	NO	32002 SH. 11	24C	TB	31.50		A307	Operator Action - AOP 2562 to be revised
5	3-A406	GE-HFA	HFA51A42	NO	NO	32002 SH. 12	24D	TB	56.50		A406	Operator Action - AOP 2562 to be revised
6	3-A306	GE-HFA	HFA51A42	NO	NO	32002 SH. 5	24C	TB	31.50		A306	Operator Action - AOP 2562 to be revised
7	3-A502	GE-HFA	HFA51A	NO	NO	32002 SH. 6	24E	TB	31.50		A502	Operator Action - AOP 2562 to be revised
8	3-A407	GE-HFA	HFA51A42	NO	NO	32002 SH. 7	24D	TB	56.50		A407	Operator Action - AOP 2562 to be revised

Notes: 1. Concluded not to be low seismic ruggedness relay (per DE2-96-365)

Attachment 2

Millstone Nuclear Power Station, Unit No. 2  
Identification of The Resolutions For Unresolved USI A-46 Mechanical, Electrical, and  
Structural Outliers  
List of Regulatory Commitments

October 1998



**Identification of The Resolutions For Unresolved USI A-46 Mechanical, Electrical,  
and Structural Outliers  
List of Regulatory Commitments**

The following table identifies those actions committed to by NNECO in this document. Please notify the Manager - Regulatory Compliance at Millstone Unit No. 2 of any questions regarding this document, or any associated regulatory commitments.

Commitment	Committed Date or Outage
B17481-01 The hardware modifications and seismic shake table tests identified in the enclosed tables are either complete or presently on-going according to the planned GIP-2 implementation schedule.	Refueling Outage 14 (RFO14)