

U.S. NUCLEAR REGULATORY COMMISSION
REGION I

Docket No. 50-423 Report No. 50-423/85-12

License No. CPPR-113 Category B

Licensee: Northeast Nuclear Energy Company
P. O. Box 270
Hartford, Connecticut 06101

Facility: Millstone Nuclear Power Station, Unit 3

Inspection at: Waterford, Connecticut

Inspection conducted: March 18 - April 22, 1985

Inspectors:

T. A. Rebelowski, Senior Resident Inspector

5/22/85
Date

D. R. Lipinski, Resident Inspector

5/22/85
Date

W. H. Baunack, Project Engineer

5/22/85
Date

Approved by:

E. C. McCabe, Chief, Reactor Projects Section 3B

5/23/85
Date

Inspection Summary: Inspection 50-423/85-12 (March 18 - April 22, 1985)

Areas Inspected: Routine resident (177 hours) and region-based (45 hours) inspection. The initial parts of the primary system cold hydrostatic test were witnessed. Preparations for and performance of the Chemical Addition Tank Drawdown Test were observed. Flooding in the Engineered Safety Features Building, previously identified items, potential significant deficiencies, IE Bulletins and Information Notices, steam generator "J" tube inspection, and preparation for initial fuel receipt were inspected. A meeting with the Waterford town official was held.

Results: A violation for inappropriate procedural control of testing and flushing was identified after these evolutions caused flooding in part of the Engineered Safety Features Building. Otherwise, no unacceptable conditions were found.

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DETAILS

1. Licensee Action on Previous Inspection Findings

(Closed) Inspector Follow Item (84-14-03, Subitem C.3), High Strength Bolt Adequacy. At the Subcommittee meeting on August 28-29, 1984, the ACRS expressed concern about the use of high strength bolts for reactor vessel internals bolting, pressure boundary bolting, primary component supports, and anchor and embedment bolting. On September 5, 1984, the licensee made a submittal to the ACRS, with tables listing specifications and size of all primary boundary and component support bolting. In addition, steam generator hold-down bolt and manway closure bolt information was presented to the ACRS in October 1984. Based on a review of associated documentation, phone memoranda, and discussions with the NRR licensee project manager, no additional NRC field inspection needs have been identified. This item is therefore closed.

(Closed) Inspector Follow Item (84-20-04), Valve support H005-CP396738 was welded with uncontrolled electrodes. The licensee has modified the electrode control system, removed the welds in question, and rewelded the valve support. Licensee QA Inspection Report I-4A03153 documents the repair. The NRC resident inspector examined the weld and found no deficiencies.

(Closed) Violation (84-20-01), Failure to control low hydrogen welding electrodes. The resident inspector witnessed and reviewed licensee surveillance which included weld electrode check sheets for the period from March 7 thru April 6, 1985. In addition, during inspection tours, observations at various levels of the containment were made of weld rod control with no adverse findings. The licensee has color-coded the weld rods for easier identification. The welder who was involved in the welding violation was dismissed. Reindoc-trination of craft personnel in the "Control of Welding Material" was documented by the licensee. Inspection of the weld control station identified no deficiencies. The licensee has completed adequate corrective and preventive actions.

2. Potential Significant Deficiencies in Construction

The inspector reviewed the following reports of potentially significant construction deficiencies.

a. Potential Feedwater Check Valve Failure (SD-77) 85-00-10

(Open) On March 26, 1985, the licensee reported a Main Feedwater Check Valve deficiency which could result in failure of the check valves to seat. During restoration from the steam generator secondary side hydrostatic test, the tack welds holding the disk pivot bushing to the disk were found broken. If the bushing were forced out of its position on the disk, the disk could wobble loosely on its pivot pins and fail to seat. These check valves are provided on each feedwater line to limit blowdown of the steam generators in the event of a feed line rupture.

The applicant is evaluating replacement of the existing cylindrical bushings with a bushing which incorporates an integral retaining lip. This item is open pending resolution and implementation of corrective actions (85-00-10).

b. Failures of Diesel Generator Injector Pumps (SD-78) 85-00-11

(Open) On April 1, 1985, the licensee reported potentially significant failures of fuel injector pumps on the "B" Colt-Pielstick Emergency Diesel Generator (EDG). The cause is as yet unknown. The problem is under evaluation by Colt Industries. This item is open pending resolution of the cause of the failures (85-00-11).

c. Violation of Cable Separation Criteria (SD-79) 85-00-12

(Open) On April 8, 1985, the applicant reported the violation of electrical cable separation criteria in the Reactor Protective System (RPS). Cables carrying 24 volt direct current from RPS cabinets 1, 2, 3, and 4 to panels 5 and 6 had been routed via the same cable tray. The cable installation is being redesigned to meet the appropriate separation criteria. This item is open pending installation of RPS cables with appropriate separation (85-00-12).

d. Weld Control Deficiency (SD-80) 85-00-13

(Open) On April 15, 1985, the applicant reported that weld fitup inspections had not been specified for skewed geometry weld joints. This matter was initially identified by the NRC Construction Appraisal Team (CAT). The applicant is evaluating weld designs to determine the scope of the condition. This item is open pending resolution, determination of safety significance, and review for enforcement action after the CAT inspection report is issued.

e. Weld Inspection Deficiencies (SD-81) 85-00-14

(Open) On April 15, 1985, the applicant reported a potentially significant deficiency regarding the Quality Control inspection of structural steel installations. The NRC Construction Appraisal Team (CAT) identified undersized welds joining 3W14 beams to embedment plates in the Main Steam Valve Building (MSVB). Further inspection revealed 96 connections which were installed, inspected, and accepted in accordance with the wrong weld detail. The drawing detail used required a 5/16 inch fillet weld along one side of an angle. The drawing detail which was to have been used required a 7/16 inch fillet weld along 3 sides of an angle. Rework is being accomplished under N&D 11973. This item is open pending completion of rework, determination of safety significance, and review for enforcement action after the CAT inspection report is issued.

3. IE Bulletins

The following IE Bulletins have been received and reviewed by the licensee. The licensee has found that the bulletins were not applicable in that they applied to BWR facilities or Special Material licenses.

- IEB 74-02, Truck Strike Notification
- IEB 74-04, Target Rock Safety/Relief Valves
- IEB 74-05, Shipment of Improperly Shielded Source
- IEB 74-07, Personnel Overexposure-Irradiation Facility
- IEB 74-10, Failures in 4 inch Bypass Piping - Dresden 2
- IEB 74-14, BWR Relief Valve Discharge to Suppression Pool
- IEB 75-01, -01A, Through-Wall Cracks in Core Spray Piping at Dresden 2
- IEB 75-02, Defective Radiographic Exposure Devices and Source Changers
- IEB 76-01, Isolation Condenser Tube Failure

The above Bulletins are closed.

4. IE Information Notices

The inspectors reviewed one hundred ten (110) Information Notices for 1979, 1980, and 1981. A summary of the licensee's findings is appended as Attachment A. Certain of these notices remain open (IFI 423/85-12-06).

5. Steam Generator J-Tube Material

The licensee noted that J-Tube wall thinning has been found in a number of plants during refueling outages. One study indicated that the chromium (Cr) content in the alloy steel has a significant effect on resistance to wall thinning. Tube wall thinning occurred with 0.01% (by weight) of Cr. With 0.08% Cr, no J-Tube thinning degradation was evident.

Samples taken from "C" Steam Generator J-Tubes 3, 9, 16, 23, 28, and 30 per Westinghouse Procedure SSS 2.7.2 Gen 41, Rev. 1, showed less than 0.03% Cr. The licensee decided to replace all the of J-Tubes. Westinghouse procedures are available (SSS 2.7.2 Gen 33, Rev. 2) and the replacement of J-Tubes is tentatively scheduled in June 1985 (estimated as a 2-week task).

The inspector will review this area during a subsequent inspection (IFI 423/85-12-01).

6. Reactor Coolant System (RCS) Hydrostatic Test Review

a. Drain Line Leak

The licensee's approach to pressurization of the Reactor Coolant System began after the RCS pumps were run for mechanical and electrical check-outs. On April 20, 1985 at 11:00 a.m., with the RCS at 350 psig, a leak was found at a socket joint on a 3/8" drain line from the Steam Generator

1A shell. The RCS loop was isolated, pressure was reduced, and the line was repaired. The inspector examined similar welds on all four Steam Generator drain lines, and found no similar problems. One drain line is bent approximately 3 degrees off center. This was evaluated by the licensee and found acceptable. The inspector asked the licensee about the adequacy of pipe supports for drains. Support adequacy will be re-inspected (IFI 423/85-12-04).

b. Solenoid-Operated Reactor Head Vent Valves

During licensee preparations for the RCS Hydrostatic Test, the Reactor Head Vent Valves were operated. Although an open signal is given to only one valve, the normal sequence of operating the in-line series valves had to be modified to prevent both valves in series from opening because the system pressure tends to bring the second valve off its seat. This failure to remain closed when an upstream valve is opened appears to be similar to previously identified outstanding item 50-423/85-05-07. Such spontaneous opening of the reactor system boundary is an unresolved item (50-423/85-12-02).

7. Flooding in the Engineered Safety Features (ESF) Building

a. Background Information

On March 20, 1985, Millstone Unit 3 experienced flooding in the ESF building via an open temporary flush pipe from the Refueling Water Storage Tank (RWST). A portion of the lower level (4'-6" elevation) was flooded to a depth of approximately 3 feet. The middle level (21'-6" elevation) received a heavy spray of water. Other cubicles of the ESF building experienced varying degrees of floor wetting. The NRC Senior Resident Inspector as well as the Project Section Chief and Branch Chief toured the area shortly after the event.

The initiating event for this incident did not involve a component failure. Rather, inadequate control and coordination of test evolutions is indicated. Two evolutions using the same piping and valves were in progress. One was a flush of Emergency Core Cooling System (ECCS) piping from the High Head Safety Injection and Charging pumps back to the Refueling Water Storage Tank. The second was a Charging pump flow balance. The following describes the event sequence and the inspector's analysis.

b. Event Description

After several incidents of fouling and subsequent seizing of Quench Spray (containment spray) pumps due to foreign objects, the applicant determined that the Refueling Water Storage Tank (RWST) had become contaminated with dirt and debris. The RWST provides a water source to the ECCS

and Quench Spray pumps. Following draining and cleaning of the RWST, a program of back-flushing from the ECCS and Quench Spray pump suction was implemented to clear the suction piping.

On the afternoon of March 20, 1985, a flush had been completed from the High Head Safety Injection pump suction via charging system piping and a length of temporary piping to the Demineralized Water Storage Tank (DWST). As part of the flush, the High Head Safety Injection (SIH) pump suction strainers had been removed. The strainer removal and reinstallation was to be accomplished in accordance with an Automated Work Order (AWO). The work order tagged the High Head Safety Injection combined suction stop valve from the RWST (3SIH*V8806) as being required to be positioned under the Flushing Engineer's cognizance. Valve 3SIH*V8806 and the RWST master stop valve (3SIL*V1) had been shut to provide isolation for the removal of the suction strainers and the installation of temporary flush piping. Following those pre-flush modifications, valve 3SIH*V8806 was opened to establish the flush path. The flush was completed satisfactorily and restoration had begun. Temporary flush piping had been disassembled but valve 3SIH*V8806 had been left open. Since the RWST master stop valve (3SIL*V1) was shut, the work area and open piping were still isolated from the RWST. Post-flushing restoration was interrupted to pump water from the DWST to the RWST via the temporary piping. That pumping was for the purpose of reducing the water level in the DWST to permit additional flushing from other paths.

While the restoration from the flush was halted to reduce DWST water level, the Startup Engineer responsible for balancing flows between the Charging pumps attempted to begin his test. The Startup Engineer initiated the action which should have resulted in the SIH pump suction stop valves (3SIH*V8923A, 3SIH*V8923B) being shut. The associated communication path was from the Startup Engineer to the Flushing Director to the Flushing Engineer to the Supervisory Control Operator (SCO) in the control room. Also, the Startup Engineer presented his flow balance test valve lineup to the Startup Coordinator, who passed it to the SCO. The SCO received the request to shut the SIH pump suction stop valves at about the same time as he received the flow balance test valve lineup. An operator was dispatched to establish the flow balance test valve lineup and opened the RWST Master Stop Valve (3SIL*V1). Doing so established a flow path from the RWST through the RWST Master Stop Valve, then through the Combined SIH Stop Valve (3SIH*V8806), then through the "A" SIH Suction Stop Valve, and out the open piping at the SIH pump strainers. When the consequent flooding in the ESF building was encountered, the Master RWST Stop Valve was shut. The flooding stopped.

c. Potential Contributing Factors

- The Startup Coordinator did not identify the conflicting conditions (open temporary piping) between two evolutions on ECCS suction piping. No program or tool (such as an interrelated system "road-map"

drawing marked to show changes and valve positions) existed to aid the Startup Coordinator in resolving possible conflicts in test evolutions. Had the Startup Coordinator had current knowledge of valve positions and temporary piping status, valve positioning for the two tests may have been coordinated to avoid the flooding event.

- The Piping and Instrument Diagrams (P&IDs) used in the control room depict individual systems and show interfaces with other systems by arrows and notes referring the user to other drawings. No method existed to graphically illustrate inter-system status, particularly the position of key manual valves and temporary modifications, for quick and ready reference in the control room. Had a display shown that the High Head Safety Injection suction piping could be open to the atmosphere and that valves which should have isolated the opening could also be open, the SCO may have been alerted to the potential for water from the Refueling Water Storage Tank to be introduced into the piping.
- The Supervisory Control Operator had granted blanket authority to position manual valves and to install and remove temporary equipment and piping as necessary to conduct testing. Had the SCO retained supervisory control over the evolutions in progress, the sequence of valve manipulations may have been controlled enough to avoid the flooding event.
- The component tagging program permitted the hanging of a BLUE tag specifying an indefinite valve position controlled by the Flushing Engineer on a valve (3SIH*V8806) required to isolate a portion of a fluid system so that the system could be opened and temporary piping removed. That valve was left open while the system was open. Had a valve tag clearly specifying the required valve position (e.g., SHUT) been used, the flooding event may have been avoided.
- While Nomenclature such as 3SIH*V8806 is well suited to purchase orders and installation procedures, such nomenclature can complicate valve operating evolutions. Had the valves also been identified by descriptive titles such as "Combined SIH Suction Stop Valve," better correlation of valve position plans and their implications could have resulted.

d. Similarity to a Previous Event

In this event, there was flooding in a building housing safety-related equipment due to interaction between two related activities. In an earlier event on October 22, 1984, salt water was introduced into the auxiliary feedwater system from the service water system (see Inspection Report 50-423/84-22, Paragraph 10). The October 1984 event involved operations in two related systems and a flow path through a temporary piping spool piece which is not normally installed.

e. Licensee Conclusion

The Plant Operations Review Committee (PORC) synopsis of this event states "...PORC review of this AWO (Automated Work Order) identified adequate startup/operation/administrative controls for completion of the above task. PORC noted the root cause was the inadvertent failure to follow the AWO which would have restored the integrity of the system..."

f. Inspector Findings

Had procedural controls over the flushing and testing activities in progress been sufficient and adhered to, the activity interaction which caused flooding in the Engineered Safety Features Building would have been prevented. The fact that flooding occurred demonstrates that the procedures, as applied, were not appropriate to the circumstances. This is a violation (50-423/85-12-03).

8. Preparations for Initial Fuel Receipt

Prior to receipt of initial fuel onsite, a number of mechanical and electrical operability checks of fuel cranes and elevators as documented in Phase I testing must be acceptable. The inspector reviewed the test results to verify that adequate testing was accomplished per regulation guidance and material licensee commitments. The following test results were reviewed:

- Spent Fuel Bridge Crane, T3303-1E10, Revision 0, approved August 10, 1984. Test results approved April 18, 1985.
- New Fuel Elevator, T3303-1E07, Revision 0, approved October 12, 1984. Test results approved April 22, 1985.
- Reactor Fuel Handling Tools, T3303-1M05, Revision 0, approved March 20, 1985. Partial test results approved April 19, 1985.

Items identified as requiring resolution included the speed of the new fuel elevator and full completion of T3303-1M05, which requires continued testing of movement of test elements into the core prior to completion of testing. All test concerns were documented as test unsats by the licensee and are to be cleared prior to fuel loading into the core. Licensee actions on these items will be reviewed incident to normal inspection.

9. Meeting with Town of Waterford Official

On April 10, 1985, the senior resident inspectors and the resident inspector for Units 1, 2, and 3 met with Mr. L. Bettencourt, First Selectman of Waterford, Connecticut. Subjects discussed included status of the plants, inspections planned, allegations, emergency preparedness plans, and testing status. A request for an onsite visit to Unit 3 was discussed.

10. Chemical Addition Tank (CAT) Drawdown Test

The Chemical Addition Tank is used to maintain containment sump and spray nozzle pH within design limits. The maximum spray pH is limited to less than or equal to 10.5 under accident conditions. In order to assure a balanced drawdown of the CAT and the Refueling Water Storage Tank (RWST), two tests are performed.

The inspector's initial review of test Procedure T3309-P002, Quench Spray System Chemical Addition Tank Drawdown Test, is documented in NRC Report 50-423/85-05. The licensee has submitted a proposed change to the FSAR that reflects the changes to system testing. The inspector witnessed one phase of the CAT Drawdown Test on March 26. The test simulated a single failure of one quench spray pump to operate. Both trains of ECCS injection were aligned (2 charging pumps, 2 safety injection pumps, and 2 residual heat removal pumps) to draw water from the RWST. One quench spray pump was aligned with both of the CAT parallel block valves open.

The test was observed from the initiation of the Safety Injection Signal at 8:57 p.m. The inspector observed the start of all the required ECCS pumps and the computer data output of CAT and RWST levels, pressures, and key parameters. A balanced level was maintained with minor variations (± 1 foot). Evaluation of test results has not been completed by the licensee (IFI 50-423/85-12-05).

The test crew was briefed prior to the test. Stations at the Control Board and at the various pump cubicles were maintained by the licensee. Data collection as observed by the inspector was satisfactory. One area of concern was the number of observers and standby personnel occupying the control room. At one point the inspector noted 48 people in attendance. The inspector had no further questions on the performance of this test. The stationing of standby personnel in areas other than the control room was discussed with the licensee. Control room access will be further reviewed by the resident inspector incident to routine facility tours.

11. Unresolved Items

Unresolved items are matters about which more information is required in order to ascertain whether they are acceptable or not. An unresolved item identified during this inspection is discussed in Detail 6.b.

12. Exit Meeting

At periodic intervals during the course of this inspection, meetings were held with senior plant management to discuss the scope and findings of this inspection. No proprietary information was identified as being in the inspection coverage. At no time during the inspection was written material provided to the licensee by the inspector.

ATTACHMENT ASTATUS OF INFORMATION NOTICES

<u>IE No.</u>	<u>Discussion</u>
79-02	This notice provides information concerning an alleged theft of low-enriched uranium from a General Electric plant. This notice does not apply to Millstone 3. When fuel is received onsite, routine NRC inspections review associated security measures. This notice is closed.
79-04	This notice describes a degradation of engineered safety features. The licensee reviewed the Millstone 3 power supplies and determined that a similar design deficiency does not exist. This notice is closed.
79-06	This notice describes a nonconservative calculational technique within a computer program for seismic analysis of safety-related piping. Subsequently, IE Bulletin 79-07 was issued on the same subject. The licensee's response to this IE Bulletin closes this notice.
79-07	This notice describes the rupture of a radwaste tank. Two problems led to the tank failure (the tank vent had become plugged and corrosion had weakened the tank). The licensee has reviewed this notice and determined that their tank material (Incoloy 825) should prevent corrosion. Also, overflow lines are heat traced to keep the overflow path clear. A clear overflow line will prevent borated water from reaching and subsequently plugging the vent. This notice is closed.
79-08	This notice describes interconnection of contaminated systems with service air systems used as the source of breathing air. Licensee review determined the problem was not applicable. At Millstone 3, breathing air is provided by the instrument air system, which is not used for backflushing of filters or resin beds. This notice is closed.
79-09	This notice describes a contaminated resin slurry spill which occurred while transferring resin from a holdup tank to a shipping container. A number of factors contributed to this event. The licensee has reviewed this notice and, to verify the adequacy of the operating waste transfer procedure, has devised a Phase II Startup Test which will include verification of the waste transfer procedure. This notice remains open pending test completion.
79-10	This notice describes circumstances where certain Bergen-Paterson Corporation Pipe-Support Part 2000 rigid rod struts do not meet design criteria. The licensee conducted a review and determined no struts of the type described are used or planned for use on Millstone 3. This notice is closed.

<u>IE No.</u>	<u>Discussion</u>
79-12 and 12A	This notice describes attempted damage to new fuel assemblies. The licensee has concluded that existing security measures are adequate to protect new fuel onsite when it is received. This notice is closed.
79-13	This notice describes a low water level condition in the core shroud area of a BWR as a result of closing all five recirculation pump discharge valves. The licensee reviewed this notice and determined it is only applicable to BWR facilities. This notice is closed.
79-14	This notice describes quality assurance requirements which are required to be applied to Class 1E electrical cable trays and their support systems. The licensee reviewed this notice and determined that their cable tray specifications 3413.800-978 and 2413.700-979 require a Quality Assurance Program which complies with 10 CFR 50 Appendix B. This notice is closed.
79-15	This notice describes an operational deficiency that could have resulted in the emergency feedwater system remaining isolated during power operation. The licensee initiated a commitment (Commitment No. 003144) which requires procedures to be reviewed to ensure that all bypasses are currently documented and operators to be trained not to bypass a safety system under routine conditions without proper procedural controls. This notice remains open pending completion of licensee actions.
79-16	This notice forwarded the TMI-1 Bulletins to research and test reactors. It is not applicable to Millstone 3. This notice is closed.
79-17	This notice describes source holder assembly damage from misfit between the assembly and the reactor upper grid plate. The licensee contacted Westinghouse, the core designer, on this matter and concluded that the condition does not occur at Millstone 3. This notice is closed.
79-18	This notice pertained to Skylab Reentry and notified the utility that licensed nuclear power plants in the reentry corridor will be notified within 1 to 2 hours before reentry occurs. No licensee action is required. This notice is closed.
79-19	This notice describes pipe cracks in stagnant borated water systems at PWR plants. Subsequently, Bulletin 79-17 was issued on the same issue. This notice is closed by the licensee response to the Bulletin.
79-20	This notice describes the NRC enforcement policy as it relates to NRC licensed individuals. The licensee management issued a memorandum which requires that each licensed operator receive a copy of this IE Information Notice. This notice remains open pending notification by the licensee that the operators are aware of the policy.

<u>IE No.</u>	<u>Discussion</u>
79-21	This notice identifies the regulatory requirements for packaging, transportation, and disposal of radioactive material. Bulletin 79-19 was later issued on the same subject. This notice is closed based on the licensee's reply to the bulletin.
79-22	This notice discussed the possibility of non-safety-grade equipment subject to an adverse environment impacting the performance of protective functions by safety-grade equipment. Stone and Webster performed a study of control systems referred to in the information notice and concluded the current design and controls will enable control room operators to adjust for malfunctions that are the concern of this notice. This notice is closed.
79-23	This notice describes emergency diesel generator lube oil cooler failures. The licensee contacted their emergency diesel generator manufacturer and determined the lube oil coolers supplied to Millstone 3 are not susceptible to the failures described in the notice. This notice is closed.
79-24	This notice describes a potential overpressurization of the containment of a PWR plant after a main steam line break if the auxiliary feedwater system continued to supply feedwater at runout conditions. Licensee analysis showed the Millstone 3 design was such that such containment overpressurization would not occur following a main steam line break. This notice is closed.
79-25	This notice describes a reactor trip (at Turkey Point 3 and 4) which resulted from inadequacies in administrative controls over temporary procedures for plant changes and modifications. The licensee concluded that adequate procedures are in place to control temporary changes and modifications at Millstone 3. Procedure adequacy is also covered by routine NRC inspection. This notice is closed.
79-26	This notice describes a containment integrity breach which resulted from the inadequacy of the procedures addressing proper use and positioning of valves. The licensee has an administrative control procedure ACP-QA-2.12, "System Valve Alignment Control," which they feel contains sufficient independent control measures to preclude valve mispositioning. This procedure has been in use at both Millstone 1 and 2 and is a procedure which includes numerous improvements which have resulted from experience in its use. Other valve mispositioning concerns will be addressed in review of the licensee's reply to Violation 50-423/85-12-03. This Information Notice is closed.

<u>IE No.</u>	<u>Discussion</u>
79-27	This notice describes steam generator tube rupture events at two PWR plants. The licensee reviewed this notice and wrote a commitment to use the information provided in the preparation of emergency procedures and in the training of operators. A subsequent event at Ginna led to additional emphasis on tube rupture procedures. Millstone 3 emergency procedures have been prepared in accordance with current guidelines. This notice is closed.
79-28	This notice describes overloading of structural elements due to pipe support loads. Subsequent to this notice, IE Bulletin No. 80-11, "Masonry Wall Design," was issued. This notice is closed based on the licensee's response to the bulletin.
79-29	This notice describes a loss of reactor coolant system instrumentation as a consequence of a failure of a static transfer switch to transfer to an alternate supply. The licensee has reviewed the notice and has determined Millstone 3 can achieve a cold shutdown condition without the use of any non-Class 1E power. All the equipment required to achieve a cold shutdown is redundant and is powered from redundant Class 1E buses. This notice is closed.
79-30	This notice concerns reporting information to the NRC in accordance with 10 CFR 50.55(e) and Part 21 requirements. The licensee reviewed this notice and determined that both NUSCO and Stone and Webster procedures adequately address the concerns of this notice. This notice is closed.
79-31	This notice describes instances in which incorrect amplified response spectra had been used as input to the analyses of some piping. The licensee reviewed this matter and determined all Seismic Category I piping systems designed to date have been analyzed using the latest applicable amplified response spectra. This notice is closed.
79-32	This notice describes a possible generic problem for BWR-4 plants and possibly some earlier designs. The problem concerns the routing of high pressure coolant injection system and automatic depressurization systems cables in the same cable tray. The licensee determined this was not applicable to Millstone 3. This notice is closed.
79-33	This notice discusses improper closure of primary containment equipment access hatches. The licensee has issued a commitment (No. 3251) which officially enters information provided in this notice into the established commitment follow program. This notice remains open pending licensee implementation of the commitment.

<u>IE No.</u>	<u>Discussion</u>
79-35	This notice informs the licensee about an enforcement action which resulted from a weakness in the control of maintenance and essential equipment. The licensee reviewed this notice and concluded that their requirements for identifying LCO's in the Work Orders Procedure and the Log Book Requirements are sufficient to control maintenance and essential equipment. This notice is closed.
79-36	This notice describes a computer code defect which could result in incorrect stress analysis for one end of piping elbows. The licensee reviewed this notice and determined the error can only occur in calculations by the NUPIPE code where the B31.1 Code prior to Summer 1973 addenda is applicable. B31.1 analysis performed for Millstone 3 were for post-Summer 1973 addenda. Therefore, pipe stress work performed for Millstone 3 was not effected. This notice is closed.
79-37	This notice describes circumstances related to recently discovered stress corrosion cracking in Westinghouse 1800 RPM low pressure turbine discs. Millstone 3 uses a General Electric turbine and this notice is not applicable. This notice is closed.
80-01	This notice describes two recent fuel handling events. The licensee reviewed this notice and determined the physical differences between Millstone 3 and the facility described make it impossible for these types of events to occur at Millstone 3. This notice is closed.
80-02	This notice describes 8 x 8 R water rod lower end plug wear in GE fuel assemblies. This notice is BWR specific and does not apply to Millstone 3. This notice is closed.
80-03	This notice describes main turbine electrohydraulic control (EHC) system problems with a MK 1 EHC system. The licensee reviewed this notice and determined it was not applicable to Millstone 3. Millstone 3 has an EHC Mark II system with a standby operating mode. The standby mode will allow maintenance of the EHC control circuits without encountering the problem described in the notice. This notice is closed.
80-04	This notice describes BWR fuel burnup in excess of limits. It is BWR specific and does not apply to Millstone 3. This notice is closed.
80-05	This notice describes chloride contamination of safety-related piping and components during the application of "Duraspray," a fire retardant coating. The licensee reviewed this notice and determined that the use of "Duraspray" is permitted at Millstone 3 under Specification 2199.090-937, Fireproof Coating. Requirements for masking or protective covering of stainless steel, aluminum, and copper during fireproofing and cleaning in case of accidental overspray of any fireproofing material were added to the specification. This notice remains open pending licensee determination of whether any safety-related component was adversely affected by Duraspray before the revised measures were applied.

<u>IE No.</u>	<u>Discussion</u>
80-06	This notice informs the licensee of the reporting requirements of the new Section 50.72 "Notification of Significant Events," to 10 CFR Part 50. The licensee has prepared administrative procedures which reflect the current reporting requirements. This notice is closed.
80-07	This notice describes fatigue cracks which had been found in various Pacific Pumps. The licensee investigated this matter and will proceed with the Westinghouse recommendations in the operation of these pumps. Included in the licensee's program is a comprehensive vibration monitoring program. This notice is closed.
80-08	This notice describes a problem identified in States Company sliding link electrical terminal blocks. The licensee determined that States sliding link terminal blocks are not used at Millstone 3. This notice is closed.
80-09	This notice describes a possible health hazard from certain amoeba found in closed cooling systems. Millstone 3 uses an open seawater cooling cycle. This notice is not applicable and is closed.
80-10	This notice describes an event which occurred at Crystal River as a result of a partial loss of a non-nuclear instrument system power supply during operation. The licensee reviewed this notice in conjunction with NRC Bulletin 79-27. The results of the review show Millstone 3 can achieve a cold shutdown condition without the use of any non-Class 1E power. The station design incorporates Regulatory Guides 1.139 and 1.53. Since all the equipment required to achieve a cold shutdown is redundant and is powered from redundant Class 1E buses, the single failure criterion is satisfied. This notice is closed.
80-12	This notice describes an event in which both the pressurizer power operated relief valve and block valve opened due to failure of a light source in a Sigma Bistable at Haddam Neck. The licensee determined this type of bistable is not used at Millstone 3. This notice is closed.
80-13	This notice describes a potential defect in the cam followers of General Electric Type SBM control switches. The defect is limited to switches manufactured prior to 1976. This notice was also the subject of a Stone and Webster Problem Report, issued prior to the notice, in response to a General Electric Service Advisory Letter. This Problem Report provided for preparing an inventory list of all date codes for relays and switches in QA Category I and selected QA Category II Panels, MCC's, and load centers. This data base was established to facilitate current and future corrective actions to identified problems. This notice remains open pending licensee determination of whether defective cam followers are used or kept as spares at Millstone 3.

<u>IE No.</u>	<u>Discussion</u>
80-14	This notice deals with "Safety Suggestions from Employees," and provides information regarding the practices followed by NRC inspectors when they receive expressions of concern related to safety from plant employees. The licensee posted this notice on the employee bulletin boards. This notice is closed.
80-16	This notice describes two events in which main steam swing disc check and isolation valves failed to close due to excessively tight shaft packing. Millstone 3 does not use main steam check valves but has main steam isolation trip valves which will stop flow from either direction. This notice is closed.
80-17	This notice describes potential hazards associated with interchangeable parts on Spec 2-T and Gamma Pipeliner Locking mechanisms. The licensee evaluated this notice and determined that use of this equipment is not authorized at Millstone 3. This notice is closed.
80-18	This notice provides information concerning a smuggling device that can preclude detection of weapons by security X-ray machines. The licensee routed this notice to station services for incorporation into security procedures. Also, security measures are routinely inspected at operating facilities, including Millstone 1 and 2. This notice is closed.
80-19	This notice provides information related to the recall of BioPak 30P and 60P Respirators. The licensee determined this equipment is not used onsite. This notice is closed.
80-20	This notice describes a loss of decay heat removal capability at Davis-Besse 1 while in a refueling mode. The licensee has reviewed this event. Included in the review are various decay heat removal methods, diversity of power supplies, instrument train separation, and logic channel power supplies, and also, the recommendations for Technical Specifications requiring two heat removal methods while in the refueling mode. This notice remains open pending completion of licensee actions.
80-22	This notice describes a contamination control breakdown which resulted in releases of radioactive materials to unrestricted areas. The licensee reviewed this notice and determined station administrative control procedures and waste removal practices will be reviewed for adequacy by Station Services. Radiation control procedures are scheduled for NRC review prior to startup. This notice remains open pending licensee and NRC review of the procedures and practices.

<u>IE No.</u>	<u>Discussion</u>
80-23	This notice describes a loss of suction on the emergency feedwater pumps due to flashing in the suction line during a loss of offsite power. Millstone 3 auxiliary feedwater system does not have any direct connections to the main feedwater system. The primary source of steam generator feedwater during a loss of power event is the demineralized water storage tank which is exclusively used for the auxiliary feedwater system. Therefore, the event described in the notice does not apply to Millstone 3. This notice is closed.
80-24	This notice provides an edited and updated version of the low-level radioactive waste burial criteria which were provided in Information Notice 79-21. The licensee's actions relative to packaging, transportation, and disposal of radioactive material is described in their response to Bulletin 79-19. This notice is closed.
80-25	This notice describes certain transportation incidents which occurred during the transportation of Pyrophoric Uranium. This notice does not apply to Millstone 3. This notice is closed.
80-26	This notice describes the licensee's responsibility for the review and evaluation of contractor and subcontractor QA programs. At Millstone 3, Quality Assurance Directive 4.3 and Quality Standard 18.1 require review of contractor QA programs. Following system turnover, contractor QA program review is transferred to NUSCO. The NUSCO program has been reviewed and found to be acceptable. This notice is closed.
80-27	This notice describes severe corrosion damage which was found on a number of reactor coolant pump closure studs. The licensee performed a detailed review of this occurrence. The following actions have been taken: (1) closure stud and nut materials have been verified; (2) use of lubricants is controlled; (3) maintenance and inspection has been procedurally addressed; and, (4) removable insulation has been installed for ease in inspection. This notice is closed.
80-28	This notice clarifies 10 CFR 50.55(e) reporting requirements. The licensee determined that a NUSCO Generation Construction Procedure and a Stone and Webster Engineering Assurance Procedure adequately address the concerns of the notice. This notice is closed.
80-29	This notice describes failed Terry Turbine steam inlet flange studs. The licensee performed a detailed evaluation which included contacting the turbine vendor. The flange studs were verified to be adequate (ASTM A 193, Grade B7, not AISI C-1117). In addition, precautions were taken with the layout of the steam supply piping to the turbine to prevent water slugs which may contribute to stud failures. This notice is closed.

<u>IE No.</u>	<u>Discussion</u>
80-30	This notice describes a potential for unacceptable interaction between the control rod drive scram function and non-essential control air at certain GE BWR facilities. The notice is applicable only to BWRs. This notice is closed.
80-31	This notice describes maloperation of Gould-Brown Boveri 480 volt circuit breakers. The Millstone 3 circuit breakers had not been manufactured at the time the notice was written. The required modification was made by the manufacturer on the circuit breakers supplied to the facility. This notice is closed.
80-32	This notice provides clarification of certain requirements for exclusive use shipments of radioactive materials. The licensee's action relative to packaging, transportation, and disposal of radioactive material is described in their response to Bulletin 79-19. This notice is closed.
80-33	This notice deals with the determination of teletherapy timer accuracy and does not apply to Millstone 3. This notice is closed.
80-34	This notice describes two instances of Boron dilution of the reactor coolant system as a result of high pressure washing of the steam generator tube sheets. The licensee reviewed this notice and issued a commitment (No. 003056) to prepare a washdown procedure. This notice remains open pending procedure issuance.
80-35	This notice deals with dislodged Iodine-125 implant seeds used in the treatment of cancer. It is not applicable to Millstone 3 and is closed.
80-36	This notice describes the failure of Vascomax 250 steam generator support bolting. Vascomax 250 bolting is not used at Millstone 3. This notice is closed.
80-37	This notice describes containment cooler leaks and reactor cavity flooding at Indian Point 2. The licensee reviewed this event and determined that Millstone 3 has no open cooling water system inside containment. Millstone 3 has three containment building sump pumps, each having (1) control room annunciation when power is not available; (2) automatic startup on a high level signal from sump level transmitters; (3) indication on the main plant computer as to operating mode; and, (4) indicating lights showing pump operating mode. The licensee concluded that there is no such problem at Millstone 3. This notice is closed.
80-39	This notice describes the malfunctioning of solenoid valves manufactured by Valcor Engineering Corporation. The licensee determined that the valves identified have not been used and are not planned for use in any Millstone 3 equipment. This notice is closed.

<u>IE No.</u>	<u>Discussion</u>
80-40	This notice describes the spurious opening of a Target Rock Safety-Relief Valve on a BWR facility as a result of excessive nitrogen supply pressure. This notice is not applicable to Millstone 3 and is closed.
80-41	This notice describes the failure of a 14-inch Velan swing check valve on the heat removal system at Davis-Besse. Millstone 3 does not use Velan check valves. This notice is closed.
80-42	This notice describes the effect of radiation on hydraulic snubber fluid. Millstone 3 uses GE Fluid #SF-1154 which GE states is substantially better than the #F-50 fluid described in the notice. A commitment (#5059) was made for preventive maintenance procedures to change the hydraulic fluid in accordance with recommended time spans. This notice remains open pending implementation of the commitment.
80-43	This notice describes the failure of continuous water level monitors for the scram discharge volume at Dresden 2. This notice is specific to BWR's and is not applicable to Millstone 3. This notice is closed.
80-44	This notice describes events in which the ECCS system was inadvertently or prematurely aligned to the recirculation mode of operation. Millstone 3 does not have automatic switchover to the recirculation mode. The events described could not occur at this plant. This notice is closed.
80-45	This notice describes the potential failure of BWR backup manual scram capability and is not applicable to Millstone 3. This notice is closed.
81-01	This notice identifies failures of General Electric Type HFA Relays with Lexan coil spools. Millstone 3 HFA relays were changed to a different GE "Century Series" coil spool. This notice is closed.
81-02	This notice describes regulations associated with the transportation of radiography devices. The licensee determined that Stone and Webster complies with the transport requirements for radiography devices. No action relative to this notice was required. This notice is closed.
81-03	This notice forwards a checklist for notifications of significant events in accordance with 10 CFR 50.72. The licensee has included the information forwarded by this notice in Procedure EPIP 4212, Incident Communications. This notice is closed.
81-04	This notice describes cracking in the main steam lines at Surry Unit 1. The licensee reviewed this notice and initiated a commitment (No. 3083) to incorporate ISI inspections of the suspect areas into the ISI program. This notice remains open pending implementation of that commitment.

<u>IE No.</u>	<u>Discussion</u>
81-05	This notice describes a degraded DC system (at Palisades) which resulted from personnel opening the breakers from both station batteries to their 125 volt DC buses. The licensee reviewed this event and issued a commitment (No. I06013) to annunciate battery breakers. Also, a commitment was issued (No. 003149) to address this concern in the 125 VDC alarm response procedure. This notice remains open pending implementation of the licensee's commitments.
81-06	This notice describes ITE circuit breakers failures due to a tripping coil wire having slipped out of its terminal. The licensee reviewed this notice and contacted the breaker manufacturer to verify the problem did not exist at Millstone 3. The breaker manufacturer noted the breaker in question had been in service for 10 years and that no similar problems had been identified. The current method of wire termination is considered satisfactory by the licensee. This notice is closed.
81-07	This notice describes a problem identified with soluble purge dam materials used during inert gas welding. Specifically, dam material containing Polyvinyl Alcohol film was identified as becoming insoluble in water when heated above 300 degrees F. The licensee reviewed this notice and determined that water-soluble dams receive little use at Millstone 3, that when they have been used, "Dissolvo" WLD-35 and WLD-60 were used and these do not contain Polyvinyl Alcohol film. In addition, welding procedures have been changed to specify the use of acceptable dams and to ensure dams do not reach 300 degrees F. This notice is closed.
81-08	This notice describes the failure of motor-to-shaft keys on Limitorque SMB-4 valve operators. In addition, the licensee was notified by Westinghouse that the same problem may exist in other Limitorque models. Also, on September 3, 1982, the licensee reported a significant deficiency on this same subject. In response to Information Notice 81-08, the licensee determined no safety-related valves had been installed, all affected non-safety-related motor operators were identified and replacement keys ordered, and other motor operators which will be shipped will have replacement keys. Final resolution of the significant deficiency was addressed in a letter to the NRC dated June 10, 1983. This notice is closed.
81-09	This notice describes a degradation of the residual heat removal system (at Beaver Valley) which occurred as a result of the water level dropping below the hot leg midpoint during an outage. Millstone 3 will have an improved level detector for use when the vessel head is removed. Additional information is provided in the closeout for Information Notice 80-20. This notice is closed.

<u>IE No.</u>	<u>Discussion</u>
81-10	This notice describes an event in which a single valve in the RHR system was mistakenly opened. This resulted in a rapid primary system repressurization. A total of 110,000 gallons of water sprayed into the containment. The licensee reviewed this event and determined that adding check valves in the containment recirculation system would provide added assurance against this type of occurrence. In addition, a commitment (No. 003002) was initiated to write an ECCS initiation procedure during RHR operation. This notice remains open pending implementation of licensee commitments.
81-11	This notice describes a condition in which the installation of an alternate rod insertion solenoid valve could cause insertion of control rods without associated closure of the scram discharge volume vent and drain valves. This notice is specific to BWR's and is not applicable to Millstone 3. This notice is closed.
81-12	This notice provides guidance on an order issued regarding automatic control and rod insertion on low control air pressure. This notice is specific to BWR's and is not applicable to Millstone 3. This notice is closed.
81-13	This notice pertained to a jammed source rack in a Gamma Irradiator and was not applicable to Millstone 3. This notice is closed.
81-14	This notice describes a potential overstress of shafts on Fisher Series 9200 Butterfly Valves with expandable T-rings. The licensee evaluated this notice and determined that this valve design is not used at Millstone 3. This notice is closed.
81-15	This notice describes a degradation of automatic ECCS actuation capability by isolation of instrument lines. The licensee's Administrative Procedure ACP-QA-212, System Valve Alignment Control, specifies double verification for associated instrument valves. This notice is closed.
81-16	This notice describes certain BWR control rod drive system malfunctions and does not apply to Millstone 3. This notice is closed.
81-17	Not promulgated.
81-18	This notice describes excessive radiation exposures to the fingers of three individuals during cleaning and wipe testing of radioactive sealed sources at a sealed-source manufacturing facility and does not apply to Millstone 3. This notice is closed.
81-19	This notice describes a loss of certain parts while floating a TV camera, suspended from a foam float, down the reactor coolant system hot legs. This notice was routed to all Millstone 3 department heads for information. This notice is closed.

<u>IE No.</u>	<u>Discussion</u>
81-20	This notice describes D. G. O'Brien Company electrical penetration failures identified during simulated aging and LOCA testing sequences. The licensee determined that D. G. O'Brien Company electrical penetration assemblies are not used at Millstone 3. This notice is closed.
81-21	This notice provides followup information on IE Bulletin 81-03, "Flow Blockage of Cooling Water to Safety System Components by Corbicula (Asiatic Clam) and Mytilus (Mussel)." The licensee's response to this bulletin describes their actions on this matter. In addition, the licensee has (1) determined the same methods used to detect fouling by Asiatic Clams will detect fouling due to other shellfish; (2) Millstone 3 will be continuously chlorinating service water and does not expect the bio-fouling problems detailed in this notice; and, (3) a commitment (No. 3189) has been issued to inspect service water heat exchangers after a prolonged outage. This notice is closed.
81-22	This notice provides information on recent amendments to Chapter 18 of the Atomic Energy Act of 1954 that should be brought to the attention of all persons involved in NRC licensed activities. This notice was circulated to all Unit 3 staff. This notice is closed.
81-23	This notice describes fuel assembly damage which occurred when two air lines and an electric cable tangled and caught the gripper tube or switch. This allowed lateral movement of the manipulator crane before the fuel assembly was in the full up position. Millstone 3 refueling bridge has two "fuel hoist-up position" interlocks. A trip switch for full up positioning and a computer controlled interlock counts pulses corresponding to the number of turns the lift winch undergoes for the full up position to be reached. The licensee concluded that these two means of position indication are sufficient to prevent this type of occurrence at Millstone 3. This notice is closed.
81-24	This notice describes auxiliary feedpump turbine journal bearing damage resulting from a failure to maintain a proper oil level in the bearing reservoir. The licensee reviewed this notice and determined it applied to Millstone 3. A commitment (No. 3176) was issued to design a log sheet to monitor oil level. This notice remains open pending implementation of the commitment.
81-25	This notice describes a reactor scram and loss of redundant safety signals as a result of an open equalizing valve on a level transmitter. The licensee reviewed this event and determined that Administrative Procedure ACP-QA-2.12, System Valve Alignment Control, adequately addresses these concerns. This notice is closed.

<u>IE No.</u>	<u>Discussion</u>
81-26	This notice provides a compilation of health physics information items. The licensee reviewed these items and issued commitments for the following issues which applied to Millstone 3: (1) update Administrative Procedure ACP-2.09, Enclosed Volume Work Practices, to include Millstone 3 (commitment No. 3108); (2) develop a Millstone 3 containment entry procedure containing notice guidelines (commitment No. 3181); and, (3) minimize personnel exposure to DOP in filter testing (commitment No. 3182). This notice remains open pending completion of licensee actions.
81-27	This notice pertains to accumulation of flammable gas mixtures (hydrogen/oxygen) in waste gas decay tanks. This situation occurred at San Onofre 1 due to leakage of instrument air into the plant nitrogen system. This accumulation subsequently ignited. Millstone 3 does not have any cross-connect lines between the instrument air system and the nitrogen system, which is used for cover gas and purging for the hydrogenated tanks. Therefore, the accumulation of flammable mixtures could not occur in a manner similar to that which occurred at San Onofre. In addition, continuous monitoring of oxygen and hydrogen will be provided on the process gas receiver tank of the gaseous waste system and will alarm when unacceptable concentrations exist. This notice is closed.
81-28	This notice describes several recent mechanical failures of main steam isolation valves at some BWR facilities. The licensee reviewed this notice and determined the construction of the Sulzer valve used at Millstone 3 precludes the described mode of failure. This notice is closed.
81-29	This notice describes equipment failures during qualification testing. The licensee reviewed this notice and determined that five of the tests were on equipment not used at Millstone 3. For the remaining equipment, manufacturers were contacted and resolutions to the identified problems sought. Overall environmental qualification of equipment for Millstone 3 is governed by the requirements of 50.49. This notice remains open pending completion of licensee actions.
81-30	This notice describes recent occurrences with Velan Swing Check Valves. The licensee reviewed the notice and determined Velan Swing Check Valves are not used at Millstone 3. This notice is closed.
81-31	This notice describes the failure of safety injection valves to operate against a differential pressure. The licensee performed an investigation of the applicability of this notice to Millstone 3. Two valves were identified with similar applications or design. These valves are 4-inch SIS valves and 14-inch feedwater system valves. The SIS valves received a full differential pressure shop performance/operating test. The 14-inch feedwater system valves close against the differential pressure, use a different hydraulic operator, and had supporting tests done on a similar valve. For these reasons, the problem described in the notice does not exist at Millstone 3. This notice is closed.

<u>IE No.</u>	<u>Discussion</u>
81-32	This notice deals with the transfer and/or disposal of spent generators manufactured by a major supplier of radiopharmaceuticals. This notice does not apply to Millstone 3. This notice is closed.
81-33	This notice requested licensees with Atwood and Morrill valves to verify that the locking plates are bent sufficiently to perform their locking function. This notice is not applicable to Millstone 3 because locking plates or tabs are not used. This notice is closed.
81-34	This notice describes the inadvertent actuation of the Maine Yankee prompt notification system when routine State Police radio pager signals energized the fixed sirens. The Northeast Utilities system utilizes a coded FM digital signal as opposed to the coded AM signal used at Maine Yankee. The FM signal system is considered to be less susceptible to such problems. This notice is closed.
81-35	This notice describes certain check valve failures which occurred on Crane Company valves, Mission Manufacturing Company valves, and Anchor Darling swing check valves. The licensee evaluated this notice and determined: (1) no Crane Company valves are used or are planned to be used; (2) no Mission Manufacturing Company valves are used or are planned to be used; and, (3) no Anchor Darling swing check valves are used, only tilting disc check valves. The design of this valve precludes the problem reported. This notice is closed.
81-36	This notice describes problems experienced with a Robertshaw Diaphragm control valve installed in the Terry Turbine mechanical overspeed complex in the HPCI system at Hatch 1. The Millstone 3 Terry Turbine on the auxiliary feedwater system uses a mechanical overspeed trip, not a mechanical-hydraulic overspeed. Consequently, the problem described does not apply to Millstone 3. This notice is closed.
81-37	This notice describes unnecessary radiation exposures during events involving thickness and level measuring devices. The licensee reviewed this notice and determined it was not applicable to Millstone 3. This notice is closed.
81-39	This notice deals with the distribution of test samples of low levels of radioiodine in water to verify laboratory capabilities to quantify low levels of I-131 in water. This was a one time test and was not applicable to Millstone 3. This notice is closed.