NORTHEAST UTILITIES

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WESTERN MASSACHUSETTS ELECTRIC COMPANY
HOLYOKE WATER POWER COMPANY
NORTHEAST UTILITIES SERVICE COMPANY
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September 22, 1982

Docket No. 50-245
A02637

Director of Nuclear Reactor Regulation
Attn: Mr. Dennis M. Crutchfield, Chief
Operating Reactors Branch #5
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Reference: (1) J. J. Shea letter to W. G. Counsil, dated June 30, 1982.

Gentlemen:

Millstone Nuclear Power Station, Unit No. 1
Systematic Evaluation Program Integrated Assessment

Via Reference (1), the Staff forwarded the summary of differences from current licensing criteria generated through the evaluation of the 86 SEP Topics applicable to Millstone Unit No. 1. This list of differences was discussed by Northeast Nuclear Energy Company (NNECO) and NRC representatives in meetings on July 13 - 15, 1982 at the Northeast Utilities Service Company (NUSCO) offices and at the Millstone site. The purpose of those meetings was to ensure that NNECO and the NRC had a mutual understanding of the issues to be addressed and to attempt to establish a plan for resolving those issues. The purpose of this submittal is to document NNECO's intended actions to address these issues during the Integrated Assessment for Millstone Unit No. 1.

Attachment 1 contains a brief summary of the differences for each topic reviewed and a description of NNECO's intended actions to resolve each item. For those topics where additional information is required from NNECO to resolve open items, a schedule is provided for submittal of this information. NNECO intends to address these topics in detail in topic-specific correspondence.

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In accordance with the request of the Millstone Integrated Assessment Project Manager, NNECO representatives plan to meet with the Staff to discuss these issues during the latter part of September.

Very truly yours,

NORTHEAST NUCLEAR ENERGY COMPANY

W. G. Counsil
W. G. Counsil
Senior Vice President

TOPIC NO.	TITLE
II-1.C	Potential Hazards or Changes in Potential Hazards Due to Transportation, Institutional and Military Facilities.

DIFFERENCE SUMMARY

10CFR Part 50 Appendix A (GDC 4) as implemented by SRP Section 2.2.1-2.2.2 requires that nuclear power plant structures, systems and components important to safety be appropriately protected against events and conditions that may occur outside the nuclear power plant.

Propane gas is shipped on the track which crosses the Millstone 1 site approximately 0.5 miles upgrade from the plant; the licensee has not shown that the potential explosion due to a drifting cloud of propane does not pose a hazard to the plant, or that the plant safety structures, systems and components can withstand the effects of a propane explosion.

NNECO Response

NNECO responded to the Staff's Safety Evaluation Report by letter dated May 10, 1982. Based on the terrain at the Millstone site, NNECO concluded that a drifting cloud of propane could not endanger the plant. By letter dated August 4, 1982, the Staff concurred in NNECO's determination and concluded that the plant meets the intent of current criteria.

TOPIC NO.	TITLE
II-3.B	Flooding Potential and Protection Requirements

DIFFERENCE SUMMARY

10CFR50 (GDC 2) as interpreted by SRP Section 2.4.2, 2.4.5 and Regulatory Guide 1.59 require that structures, systems and components important to safety be designed to withstand the effects of natural phenomena such as flooding.

At Millstone 1, it was found that:

1. Some structures fail to meet the required roof loading caused by ponding of water on roofs.

2. Some structures are subject to flooding from local PMP rainfall.

3. Some structures and systems may not be adequately designed for wave effects.

NNECO Response

In response to the concern on roof loading caused by ponding of water on roofs, NNECO intends to analyze the roofs of safety-related structures to determine their capacity in relation to the postulated loading caused by ponding up to the height of parapets. Should this analysis show that the roofs are unable to support these loads, NNECO will initiate corrective action to assure that unacceptable ponding does not occur. NNECO intends to conduct this analysis in accordance with the outline described under Topic III-7.B.

In regard to postulated flooding of structures from local PMP rainfall, NNECO maintains that the plant is presently adequately designed to accommodate the effects of this event. The topography of the site is such that rainfall would be expected to run off into Niantic Bay or into the discharge quarry before ponding, and thus substantial inleakage, could not occur. Additionally, the existing flood gates provide assurance that gross inleakage could not occur. The amount of water that could enter any structures before the flood gates were closed is insignificant, since all safety-related equipment is mounted at a sufficient height above the floors to prevent wetting or submergence.

One specific concern noted in the Staff's SER related to flooding from the PMP is inleakage through the flood gate on the east side of the turbine building. The Staff was concerned since there is no lower sill on this doorway to provide a positive seal for the flood gate. NNECO concludes, however, that inleakage at this door would pose no problem since there is no safety-related equipment located in that area. The door leads into a corridor between the Unit 1 and Unit 2 turbine buildings. Any water leaking through the flood gate would have to leak past at least 2 additional doors to enter the areas of the turbine building which house safety-related equipment. This equipment is elevated above the floor and thus would not be susceptible to flooding. This was noted and walked through with members of the Integrated Assessment team at the site on July 15, 1982.

The Staff also concluded that some structures and systems may not be adequately designed for the effects of the PMH surge and wind wave activity. Since this is partially redundant with SEP Topic III-3.A, Effects of High Water Level on Structures, NNECO intends to address only the effects of inleakage caused by wave action under this topic. NNECO intends to submit the results of this portion by December 31, 1982.

TOPIC NO.	TITLE
II.3.B.1	Capability of Operating Plant to Cope With Design Basis Flood Conditions

DIFFERENCE SUMMARY

10CFR50 (GDC 2) as interpreted by SRP Section 2.4.10 require that structures, systems and components important to safety be designed to withstand the effects of natural phenomena such as flooding.

The review of the licensee's flood emergency plan resulted in some deficiencies. They are:

1. Procedures are not designed to protect against local PMP.

2. The water level at which the emergency procedures are to begin is too high.

3. The time rquired to perform the procedures is not specified.

4. Communications relied upon may be damaged.

5. The specific personnel required to perform actions is not specified.

6. Actions for gross leakage at a flood gate are not given.

NNECO Response

NNECO is reviewing the existing flood emergency procedure relative to the concerns noted above. NNECO intends to revise the existing procedure to address the above concerns where action is warranted. For those concerns not resolved by the procedure revision, NNECO will provide justification or additional information. Should it be necessary, NNECO will perform a test run of the procedure in order to establish the length of time required. The revised procedure will be implemented by December 1, 1982.

TOPIC NO.	TITLE
II.3.C	Safety-Related Water Supply

DIFFERENCE SUMMARY

10CFR50 (GDC 2) as interpreted by SRP Section 2.4.11 and Regulatory Guide 1.27 require that structures, systems and components important to safety be designed to withstand the effects of natural phenomena such as flooding.

NNECO Response

NNECO will determine if the service water pumps could successfully continue to operate when subjected to surging inside the intake structure resulting from the postulated PMH clapotis. NNECO will inform the Staff of the results of this determination and corrective actions to be initiated, if any, by December 31, 1982.

TOPIC NO. TITLE

II-4.F Settlement of Foundations and Buried Equipment

DIFFERENCE SUMMARY

10CFR50 (GDC 2, 44) and 10CFR100 Appendix A as implemented by Regulatory Guide 1.132 and SRP 2.5.4 require that foundations and buried equipment important to safety be adequately designed to perform their intended function.

The differences noted from the evaluation are:

1. Turbine building: The lateral load capacity of the piles has not been demonstrated; the pile embedment into the foundation mat may not be adequate; the steel piles may be subject to corrosion and loss of long term capacity.

2. Gas turbine generator building: Since the building is supported on friction piles, excessive settlement may occur during dynamic loadings; the above comments on the turbine bulding also apply.

3. The buried, safety-related service water and emergency service water pipelines may not be adequately supported should a portion of the line be underlain by peat as suggested in the records reviewed.

NNECO Response

To address the Staff's concerns related to the turbine building and gas turbine building piles, NNECO will investigate the adequacy of the pile embedment, the lateral load capacity of the piles and the effects of corrosion on the piles. NNECO will also analyze the ability of the friction piles for the gas turbine building to resist settlement during dynamic loadings. This analysis effort will be conducted in accordance with the outline provided under Topic III-7.B.

To address the Staff's concern related to support of the service water and emergency service water lines, NNECO will conduct an evaluation of the subsurface soil conditions in the area of question. This will include a more detailed search of original construction records and, if necessary, additional field studies. NNECO intends to submit the results of this evaluation by December 31, 1982.

Topic No	TITLE
III-1	Quality Group Classification of Components and Systems

DIFFERENCE SUMMARY

10CFR50 (GDC 1) as implemented by Regulatory Guide 1.26 requires that structures, systems and components important to safety be designed, fabricated, erected, and tested to quality standards commensurate with the importance of the safety functions to be performed.

The following areas are considered to have differences because sufficient information was not available to conclude adequacy as discussed in the Staff's evaluation dated May 5, 1982:

1. Fracture Toughness
2. Radiography Requirements
3. Valves
4. Pumps
5. Storage Tanks
6. Codes and Standards

NNECO RESPONSE

NNECO is presently formulating a course of action to address the open issues identified in the Staff's Safety Evaluation Report. The details of this effort and schedule for completion will be provided by October 1, 1982.

TOPIC NO.	TITLE
III-2	Wind and Tornado Loadings

DIFFERENCE SUMMARY

10CFR (GDC 2) as implemented by SRP 3.3.1 and 3.3.2 and Regulatory Guides 1.76 and 1.117 requires that the facility be designed to withstand the effects of natural phenomena.

The existing design and contruction of some structures and portions of others that are important to safety do not meet current licensing criteria of remaining within acceptable stress limits for the design basis tornado loadings. Specifically those structures are:

1. Vent stack
2. Reactor building above the operating floor
3. Gas turbine generator building

It should be determined whether snow loads, operating pipe reaction loads and thermal loads were considered with wind in the original design. The adequacy of systems and components not housed within safety-related structures and the determination of whether there are structures at the site that are similar in construction to the gas turbine building need to be addressed by the licensee.

NNECO Response

NNECO's response dated June 29, 1982 to the Staff's SER on this topic provided information to confirm the capability of the gas turbine generator building to withstand the postulated wind and tornado loading. Based on this response, NNECO considers this item resolved and no further action is required.

NNECO intends to analyze the consequences of failure of the vent stack to demonstrate that failure of the stack will not prevent the plant from achieving and maintaining a safe shutdown condition. NNECO intends to submit the results of this analysis by November 30, 1982.

To address the loads and load combinations considered in the original design and the effects of the postulated failure of the reactor building walls above the operating floor, NNECO is proposing to conduct an integrated structural analysis to address these and other open items related to structures at Millstone Unit 1. The details and schedule for this analysis are included in the discussion of Topic III-7.B.

TOPIC NO.	TITLE
III-3.A.	Effects of High Water Level on Structures

DIFFERENCE SUMMARY

10CFR Part 50 (GDC 2) as implemented by SRP Section 3.4 and Regulatory Guide 1.59, require that plant structures be designed to withstand the effects of flooding.

The structures have not been shown able to withstand dynamic flood loading based on a stillwater level of 18.1 ft. msl from SEP Topic II-3.B.

NNECO RESPONSE

NNECO intends to address this issue as part of the integrated structural analysis program described in response to Topic III-7.B.

TOPIC NO.	TITLE
III-3.C	Inservice Inspection of Water Control Structures

DIFFERENCE SUMMARY

10CFR50 (GDC 2, 44 & 45) as interpreted by Regulatory Guide 1.127 requires that structures, systems and components important to safety be designed to withstand natural phenomena such as floods, and that a system to transfer heat to an ultimate heat sink be provided. The inspection is intended for water control structures used for flood protection (on or off site) and emergency cooling water systems.

As a result of a site visit, the evaluation notes five deficencies associated with flood control. These are:

1. Flood gates on the south side of the plant are unable to close,
2. Some flood door gaskets were not in place,
3. Two of the turbine building roof drains do not function,
4. Rainwater does not drain properly in the area of the gas turbine building; and
5. Electrical cables in the gas turbine building were not flood prote:ted.

The list of structures to be inspected should include flood walls, flood gates, storm and roof drains. The inspection should be formalized as it is currently performed informally during routine maintenance.

NNECO RESPONSE

NNECO disputes the deficiency noted above that flood gates on the south side of the plant were unable to close. As indicated to the NRC's contractor during a site visit on March 5, 1982, closing these gates required the removal of a temporary handrail around the warehouse loading dock. It was clear that the design of the railing facilitated removal for this purpose. Although this action could not likely be accomplished quickly enough to provide total protection from the effects of PMP it could easily be accomplished before flooding from the PMH. Thus, the gates are entirely adequate for the function for which they were designed. Regardless, this item is no longer relevant since the handrails have since been permanently removed.

Another Staff concern was that some flood door gaskets were not in place. It was clearly noted to the reviewer during the March 5, 1982 site visit that this was due to the fact that the plant Maintenance Department was currently replacing the old seals with new seals as part of routine maintenance. During a subsequent site visit by NRC Staff personnel on May 12, 1982, it was noted that all flood gate seals were in place. However, the results of this site visit were apparently not factored into the Staff's SER on this topic.

In regard to roof drains on the turbine building, it was indicated during the site visits that two of the four drains on one area of the turbine building roof (Southwest Area) were inoperable as they had been identified as a potential radiological release path. Also, this should not be of concern since the Staff's SER for Topic II-3.B concluded that this roof area could not be subject to ponding that would exceed the design live load since the parapets are sufficiently low.

The Staff also noted that rainwater does not drain properly in the area of the gas turbine building. It is NNECO's position, as stated under Topic II-3.B, that the topogaphy of the site is sufficient to divert rainwater into the Long Island Sound before ponding could be a concern.

Aside from the above issues, NNECO intends to formalize the current inspection program and to include the existing flood gates and walls. Pending its completion of analyzing safety-related roofs for maximum possible ponding and of taking corrective action, if required, it is NNECO's position that the site storm and roof drains need not be included in the inspection program. The details of the inspection program will be forwarded to the Staff by December 30, 1982.

TOPIC NO. | TITLE

III-4.A Tornado Missiles

DIFFERENCE SUMMARY

10CFR50 (GDC 2), as implemented by Regulatory Guide 1.117, and SRP 3.5.1.4, prescribe missiles and structures, systems and components that should be designed to withstand the effects of a tornado, including tornado missiles, without loss of capability to perform their intended function.

The following did not meet current licensing criteria regarding protection:

1. Condensate and condensate booster pumps
2. Reactor feedwater pump M2-10C
3. Service water and emergency service water pumps
4. Emergency switchgear
5. Emergency batteries and battery chargers.
6. Emergency diesel generator and fuel oil day tank
7. Gas turbine
8. Safe shutdown cables (turbine building, yard cable trenches, intake structure, gas turbine building)
9. Condensate storage tank
10. Control room HVAC
11. Space coolers (condensate and condensate booster pump, diesel generator)
12. Turbine building secondary closed cooling water system

NNECO RESPONSE

During the Integrated Assessment Meetings held at the Millstone site on July 14, and 15, 1982, the above listed items were inspected by NNECO representatives and the Integrated Assesment team. Based on this inspection, it is NNECO's understanding that Items 1, 2, 3, 9 and 11 (except diesel generator space cooler) were judged by the Staff to be sufficiently protected from the effects of tornado missiles that their safety-related functions would not be impaired.

By letter dated June 29, 1982, NNECO responded to the Staff's SER on this topic. Based on this submittal and the results of the above noted site visit, NNECO concludes that sufficient power and water source redundancy exists to ensure the capability to safely shutdown the plant following postulated tornado missile strikes. Therefore, no further action on this topic is planned.

TOPIC NO.	TITLE
III-4.B	Turbine Missiles

DIFFERENCE SUMMARY

10CFR50 (GDC 4) as implemented by Regulatory Guide 1.115 and SRP 3.5.1.3 requires that structures, systems and components important to safety be appropriately protected against dynamic effects including missiles.

The evaluation concludes that inspections as described in the evaluation be performed on the steam turbine assembly and on the main steam stop, and control valves and reheat stop and intercept valves. The licensee has not shown that these inspections are performed at Millstone 1.

NNECO RESPONSE

The Staff's SER for this topic included recommendations concerning inspections on the turbines and the main steam stop and control valves and reheat stop and intercept valves. Based on a preliminary review of the SER, NNECO concludes that compliance with the Staff's recommendations is not feasible. Further details on this issue will be provided in NNECO's response to the NRC SER. This response is scheduled for submittal before September 31, 1982.

TOPIC NO.	TITLE
III.5.A	Effects of Pipe Break on Structures, Systems and Components Inside Containment

DIFFERENCE SUMMARY

10CFR50 (GDC 4), as interpreted by SRP 3.6.2 requires in part that structures, systems and components important to safety be appropriately protected against dynamic effects such as pipe whip and discharging fluids.

The differences from current criteria to be considered in the integrated assessment are as follows:

I. Jet impingement

1. The jet impingement model utilized by the licensee was based on a jet expansion due to longitudinal breaks; current criteria requires the consideration of both circumferential and longitudinal breaks.

2. In the case of circumferential breaks, jets in conjunction with pipe whip have not been considered to sweep the arc traveled by the whip.

3. The assumption used by the licensee appears to refer only to steam jets rather than all high energy lines.

4. From the information presented, it is uncertain whether the jet impingement effects on the impinged target piping system conform with the staff position outlined in the letter transmitted to the licensee on January 4, 1980.

II. Pipe Whip Interaction with Drywell Liner and Containment Wall

1. The licensee has not justified the use of the particular test referenced to actual conditions.

III. Piping Interactions

1. From the information presented, it is uncertain whether cascading failures have been considered.

NNECO Response

The above open issues were identified in the Staff's SER dated June 24, 1982, to which NNECO has not yet responded. NNECO's response, which should resolve the open issues, is scheduled for submittal by October 15, 1982.

TOPIC NO.	TITLE
III-5.B	Pipe Break Outside Containment

DIFFERENCE SUMMARY

10CFR50 (GDC 4) as implemented by SRP 3.6.1 BTP ASB 3-1, requires in part that structures, systems and components important to safety be designed to accommodate the dynamic effects of postulated pipe ruptures.

The following are differences from review guidelines that have been identified:

1. The affects of cracks in moderate-energy piping (both Category I and non-Category I) has not been adequately considered.

2. The jet expansion model utilized by the licensee for the isolation condenser system results in non-conservative loads for some locations and for the remainder of the systems, criteria used to calculate the impingement forces have not been given.

3. Pipe breaks in the primary containment penetration areas in combination with a valve failure could result in an unisolable break: this has not been compared to current staff technical positions.

NNECO Response

NNECO's response dated June 28, 1982 to the Staff's SER on this topic provided additional information concerning the effects of cracks in moderate energy piping. Based on this information, NNECO considers item (1) above to be resolved.

In the June 28, 1982 response to the Staff's SER, NNECO indicated that the Staff's concerns identified in (2) and (3) above would be addressed in a future submittal. This is currently scheduled for submittal on or about October 15, 1982.

TOPIC NO.	TITLE
III-6	Seismic Design Considerations

DIFFERENCE SUMMARY

10CFR50 (GDC 2) and 10CFR100, Appendix A require that structures, systems and components important to safety be designed to withstand the effects of natural phenomena such as earthquakes, without loss of capability to perform their safety functions. Seismic requirements are described in Regulatory Guides 1.26, 1.29, 1.60, 1.61, 1.92, 1.122, and SRP 2.5, 3.7, 3.8, 3.9 and 3.10.

The evaluation results where there are differences are summarized below:

1. The adequacy of the pile foundation under the turbine building has not been demonstrated (the resolution will be handled in SEP Topic II-4.F.)

2. Motor operated valves. The structural integrity of motor operated valves attached to small piping (4" or smaller) has not been demonstrated. The concern is to verify that the motor operated valves will not cause overstress to the attached small piping and the valves will remain functional as a result of the postulated seismic event.

3. LPCI/Containment Spray Heat Exchangers. The support of the heat exchangers may not be adequately designed and overstress of pull-out of anchor bolts might be expected.

4. Transformers and Control Room Pannels. The design adequacy of the anchorage system of these two electrical equipment items has not been demonstrated.

5. Programs undertaken by the SEP Owners Group are intended to provide a set of general analytical methodologies for the seismic qualification of cable trays and for assessing similarity of other safety-related electrical equipment to facilitate qualification for operability; these programs have not been completed.

NNECO RESPONSE

Based on conversations with the NRC Staff, it is NNECO's understanding that the concern related to the LPCI/Containment Spray Heat Exchangers has been resolved. As such, no action on this item is planned.

To demonstrate the adequacy of the anchorage systems for transformers and control room panels, NNECO will provide the Staff with additional information on anchorage design. This information will be submitted by September 30, 1982.

To address the Staff's concern related to motor operated valves on small lines, NNECO intends to provide the Staff with additional information and/or justification by September 30, 1982.

NNECO is participating in the SEP Owners Group Programs on seismic qualification of electrical cable trays and qualification of electrical equipment. These programs are not yet completed; NNECO will keep the Staff informed of the status of these qualification efforts.

TOPIC NO.	TITLE
III-7.B	Design Codes, Design Criteria and Loading Combinations

DIFFERENCE SUMMARY

10CFR50 (GDC 1, 2 and 4) as implemented by SRP 3.8 requires the plant to be designed and constructed to various design codes, criteria, loads, and load combinations.

The following differences have been identified in the evaluation:

1. Code changes considered significant that have occurred as a result of comparing structural design codes used in the original design to those currently in use.

2. Loads which have increased in magnitude; load combinations considered significant where individual loads in the combination have increased or where a load in the combination has not been considered.

NNECO Response

To address the Staff's concerns, NNECO proposes to perform an integrated analysis of safety-related structures to address the following concerns indentified under Topics III-7.B, II-3.B, II-4.F, III-2 and III-3.A;

- o Loads and load combinations delineated in Topic III-7.B and denoted by Ax. (sampling basis)
- o Impact of code changes for the structural elements listed in section 13 of the TER for Topic III-7.B applicable to Millstone Unit I Category I structures on the inherent margins of safety.
- o Effects of combining snow loads, operating pipe loads, thermal loads, and wind loads as addressed in Topic III-2 (sampling basis).
- o PMP loads on safety-related roofs where parapets will cause ponding above the design criteria as addressed in Topic II-3.B.
- o Hydrostatic and dynamic wave loads on structures resulting from the revised PMH as addressed in Topic III-3.A.
- o External tornado wind loads on the north wall of the reactor building as addressed in Topic III-2.
- o Tornado loads on tanks and outside equipment (sampling basis).
- o Analysis of the Turbine Building and Gas Turbine Building piles as addressed in Topic II-4F.

NNECO is presently developing the detailed scope of work required to address the above issues. It is presently envisioned that a final report on these issues and a schedule for implementation of any proposed modifications will be submitted to the NRC on or about October 31, 1983.

TOPIC NO.	TITLE
III-8.A	Loose Parts Monitoring and Core Barrel Vibration Program

DIFFERENCE SUMMARY

10CFR Part 50.36 and Part 50 (GDC 13) as implemented by SRP 4.4 and Regulatory Guide 1.133, reuire a program for the monitoring of loose parts within the Reactor Coolant Pressure Boundary.

Millstone 1 does not have such a program.

NNECO Response

It is NNECO's position that a program for the monitoring of loose parts within the reactor coolant pressure boundary is not required to ensure safe operation of the plant. Therefore, no action on this topic is planned.

TOPIC NO.	TITLE
III.10.A	Thermal-Overload Protection for Motors of Motor-Operated Valves (MOVs)

DIFFERENCE SUMMARY

10CFR Part 50 (GDC 13) as implemented by Regulatory Guide 1.106 requires that the Thermal-Overload Protection Devices for MOVs should be bypassed or have their trip setpoints conservatively set.

In Millstone 1, of 59 safety-related MOVs, 12 are not normally in their emergency position, and have thermal-overload protection devices that are not bypassed by an emergency signal nor has it been shown that their trip setpoints were conservatively set.

NNECO Response

For each of the 12 safety-related MOVs that is not normally in the accident position, NNECO intends to demonstrate that the proper thermal overload devices have been selected and that their trip setpoints have been conservatively set. The actual calculations will be performed after the Integrated Assessment assuming the NRC approves this approach.

TOPIC NO.	TITLE
IV-2	Reactivity Control System Including Functional Design and Protection Against Single Failures

DIFFERENCE SUMMARY

10CFR50 (GDC 25) as interpreted by SRP 7.7, requires that the reactor protection system be designed to assure that specified acceptable fuel design limits are not exceeded for any single malfunction of the reactivity control systems.

The evaluation concludes that the submittals provided by the licensee did not describe single failures within the control rod drive system, but only identified the consequences of single failures. Information provided by the licensee was inadequate for the staff to confirm the analysis or that the consequences considered by the licensee envelope all possible consequences.

NNECO RESPONSE

In a letter dated August 2, 1982, in response to the Staff's Safety Evaluation Report on this topic, NNECO stated that there is no single failure in the rod manual control system which could cause more than one control rod to move (other than the reactor SCRAM function). Subsequent discussions with the Staff have indicated that this may not be entirely correct, or is subject to misinterpretation. It is conceivable that a single relay failure could cause more than one control rod to move, however, this would require a concurrent procedural violation and operator error. Thus, NNECO's conclusion remains valid in that there is no single failure which, by itself, could cause more than one control rod to move. NNECO will provide further information on this topic by October 15, 1982.

TOPIC NO.	TITLE
V-5	Reactor Coolant Pressure Boundary Leakage Detection

DIFFERENCE SUMMARY

10CFR (GDC 30) as implemented by SRP 5.2.5 and Regulatory Guide 1.45 requires the measurement of leakage from the reactor coolant pressure boundary (RCPB) to the containment and interfacing systems and states design criteria for the systems employed to do so.

For systems employed for measurement of leakage from the RCPB to the containment, Regulatory Guide 1.45 states that: 1) one system should be an airborne particulate radioactivity monitor that is SSE qualified, 2) a minimum of two others should be present which are OBE qualified, and 3) all systems should have a sensitivity to detect leakage of 1 gpm within 1 hour. Those employed for measurement of intersystem leakage should include sensors for parameters such as radioactivity, flow, level, presssure, temperature, etc. and be OBE qualified. All the above systems should 1) have alarms and indicators in the main control room, 2) be readily testable and calibrated during normal operation, and have their availability in the Technical Specifications. The Technical Specifications should include limiting conditions for identified and unidentified leakage.

The systems employed for the detection of leakage from the reactor pressure boundary to containment at the Millstone Unit No. 1 do not meet the criteria in the following ways: 1) the instruments are not testable during normal operation, 2) the systems required to be present do not have the required sensitivity, 3) Millstone Unit No. 1 Technical Specifications do not impose requirements concerning the operability of the leakage detection systems; and 4) some of the required systems do not have the required seismic qualifications. All systems which interface with the reactor coolant pressure boundary have not been identified nor are the instruments which monitor intersystem leakage testable during normal operation or seismically qualified up to an OBE.

NNECO RESPONSE

The existing method for determining reactor coolant pressure boundary leakage consists of monitoring of the drywell sump and measurement of flow transferred out of the sump via the sump pumps. The capacity of the sump and the high level alarm setpoint are adequate to ensure that leakage of 1 gpm can be detected over the course of a shift. The sump is routinely pumped once per shift unless a high level alarm necessitates prompt action. The volume of liquid pumped from the sump is then averaged over the time elapsed since the last pumping to determine leakage rate. Past experience has shown that this system is capable of detecting leaks of 1 gpm. Additionally, the sump is equipped with an alarm which is set to activate when flow into the sump is equal to the Technical Specification Limiting Condition for Operation for unidentified leakage of 2.5 gpm.

It is NNECO's postion that the existing leakage detection system is adequate to ensure that progressively increasing leakage will be detected before the Limiting Condition for Operation of 2.5 gpm is reached. As such, no further action is planned.

TOPIC NO.	TITLE
V-6	Reactor Vessel Integrity

DIFFERENCE SUMMARY

10CFR50, Appendix H, requires a material surveillance program for reactor vessels.

Millstone Unit No. 1 does not meet this requirement because the technical specifications do not contain a material surveillance program which contains a capsule withdrawal schedule.

NNECO RESPONSE

Amendment 62 to DPR-21, dated June 1, 1979, established Technical Specifications for material surveillance. Since the surveillance program complies with the requirements of 10CFR50 Appendix H, no further SEP review is required and the issue is resolved.

TOPIC NO. TITLE

V-10.B RHR Reliability

DIFFERENCE SUMMARY

10CFR50 (GDC 19 and 34) as implemented by SRP 5.4.7, BTP 5-1 and Regulatory Guide 1.139, require that the plant can be taken from normal operating conditions to cold shutdown using only safety-grade systems, assuming a single failure and utilizing either onsite or offsite power through the use of suitable procedures. The Millstone plant has safety grade systems capable of safe shutdown under these conditions; however, there are no operating/emergency procedures for conducting the plant shutdown and cooldown using only these systems. There are also no operating/emergency procedures for conducting a plant cooldown to cold shutdown from outside the control room.

NNECO RESPONSE

NNECO disagrees with the necessity to have a procedure for plant shutdown and cooldown using only safety-grade systems. The use of a procedure limited to safety-grade systems could be counterproductive to safety in that the operator would lose the flexibility afforded to him by other non-safety-grade systems which can also be used in the shutdown and cooldown process. It is NNECO's position that existing plant procedures are adequate to perform the shutdown and cooldown functions under all credible accident and transient conditions.

It should be noted, however, that in response to NUREG-0737 Item I.C.1, NNECO is implementing the generic, sympton oriented, Emergency Procedure Guidelines developed through the BWR Owners Group. Implementation of the Emergency Procedure Guidelines combined with existing procedures should adequately addresss the Staff's concern related to shutdown and cooldown using only safety-grade systems.

In regard to procedures for conducting a plant cooldown to cold shutdown from outside the control room, NNECO intends to revise the existing procedures for shutdown from outside the control room to include steps to proceed to a cold shutdown condition.

TOPIC NO.	TITLE
V-11.A	Requirements for Isolation of High and Low Pressure Systems

DIFFERENCE SUMMARY

10CFR50 (GDC 15) as implemented by BTP ICSB-3, requires that low pressure systems connected to the high pressure reactor coolant system be properly isolated.

At Millstone 1, the interlocks for the isolation valves of the reactor water clean-up (RWCU) system are not independent. The requirement for isolation of the system would prevent the valves from opening unless the primary system pressure is below the RWCU system design pressure.

NNECO RESPONSE

Due to the potential for a single failure of the pressure interlock for the RWCU isolation valves, NNECO will install an independent pressure interlock for the inboard suction isolation valve. This will ensure the system is isolated when pressure increases above system design pressure.

TOPIC NO.	TITLE
V-12.A	Water Purity of BWR Primary Coolant

DIFFERENCE SUMMARY

10CFR50 (GDC 13, 14 and 31), as implemented by Regulatory Guide 1.56, establishes requirements for water chemistry for primary coolant water. Limits are set for conductivity, pH, and chlorides so that degradation of the reactor coolant pressure boundary does not occur.

Millstone Unit No. 1 does not meet the established limits for conductivity and chlorides of the reactor vessel water and conductivity of the feedwater system . The requirements of the plant operating procedures which: 1) govern the sampling of the RWCU demineralizer on service and subsequent shifting of flow if warranted and 2) govern the measurement of flow every four hours through each condensate demineralizer on service and the daily calculation of unused capacity of each bed should be incorporated into the plant Technical Specifications.

NNECO RESPONSE

NNECO intends to revise the Millstone 1 Technical Specifications to incorporate the water chemistry requirements of Regulatory Guide 1.56, to the extent feasible. The Regulatory Guide limits for pH and chlorides are acceptable to NNECO, however, it is necessary that the conductivity limits be slightly relaxed to accomodate certain plant-specific characteristics of Millstone Unit 1. The proposed resolution of this topic will be the subject of future correspondence.

It is NNECO's position that 10CFR50.59 provides adequate assurance that changes to the plant operating procedures which could decrease the safety of the system cannot be implemented without prior NRC approval. Therefore, these requirements need not be incorporated into the Technical Specifications.

TOPIC NO. TITLE

VI-4 Containment Isolation System

DIFFERENCE SUMMARY

10CFR Part 50 Appendix A (GDC 54, 55, 56, and 57) as implemented by SRP 6.2.4 and Regulatory Guides 1.11 and 1.144 requires isolation provisions for the lines penetrating the primary containment in order to maintain an essentially leak-tight barrier against the uncontrolled release of radioactivity to the environment.

At Millstone Unit No. 1, the penetrations X-9B, X-12, X-14, X-17, X-39, X-204, and X-211 have lines with two manual valves in series outside containment. They should be automatically closed or locked closed and administratively controlled to conform to the GDC.

The penetrations X-9, X-42 and X-210, which are part of the reactor coolant pressure boundary, have simple check valves located outside containment. A simple check valve outside containment is not considered an acceptable isolation valve according to GDC 55.

Penetration X-10 is not associated with an ESF-related system; therefore, the remote manual valve for this line represents a difference from the GDC.

Penetration X-23 has only a simple check valve inside containment; this is a difference from GDC 57 which permits a single isolation valve but is has to be outside containment and cannot be a simple check valve.

Penetration X-204 for containment and core spray suction leads to a ring header outside containment. The isolation valves for this penetration are on four lines outside the ring header. The isolation provisions for this system are governed by the criteria of SRP Section 6.2.4.II.6.b, e and f. The licensee has not demonstrated that these criteria are met.

Penetrations X-7, X-8, X-10A, X-1B, X-20, X-41, and X-42 have manual isolation valves locked closed. The valves are acceptable in accordance with SRP Section 6.2.4.II.6 contingent upon adequate administrative control of the valves. The licensee should address the provisions for the administrative control of these valves.

The penetrations X-27 through X-34, X-44, X-46, and X-49 for instrument lines have an excess flow check valve outside containment. The licensee should verify that the lines meet criteria for acceptability given in Regulatory Guide 1.11.

The penetrations X-16, X-24, X-43, X-45, X-204, and X-211 have remote-manual isolation valves. Since these penetrations are for ESF and ESF-related systems, remote manual valves are acceptable isolation valves, however, the licensee should verify that the leak detection provisions for these lines outside containment provide adequate indication for timely operator action to isolate these penetrations if necessary.

Penetrations X-25, X-26, X-210, and X-211 have both containment isolation valves outside containment. The licensee should confirm that the valves and piping for these lines meet the criteria of SRP Section 6.2.4.II.6.b.

NNECO RESPONSE

During the Integrated Assessment meetings held on July 13-15, 1982, it was agreed that the above summary was not clear and, in some cases, did not accurately reflect the as-built conditions at Millstone Unit 1. Also, the staff has not yet addressed NNECO's comments and corrections on the draft SER. These comments were provided by letter dated April 14, 1982.

Therefore, NNECO is deferring any further action on this topic pending receipt of a final SER which addresses NNECO's comments. It is suggested that a meeting be arranged to discuss this issue in the near future.

TOPIC NO.	TITLE
VI-6	Leak Testing

DIFFERENCE SUMMARY

10CFR50, Appendix J, requires periodic leak testing of the primary containment and specifies criteria for the performance of such tests. The review of this topic is being handled generically through multi-plant action A-04.

At Millstone 1, the licensee has requested to perform such tests (Type A) for a duration less than 24 hours. The Staff has not approved such tests on a generic basis, but has approved Bechtel Topical Report BN-TOP-1 which, when followed properly and completely, allows Type A tests of less than 24 hours duration. Current Technical Specifications do not conform to BN-TOP-1; therefore, Type A tests for durations less than 24 hours is not acceptable. Additionally, some of the exemption requests by the licensee have been denied. Any facility modification necessary as a result of this multi-plant review will be coordinated to the extent possible with other SEP topic reviews (e.g., Topic VI-4, "Containment Isolation system").

NNECO RESPONSE

Since this issue is being handled generically through multi-plant action A-04 outside of the SEP, no response is required here. NNECO understands that any modifications required as a result of A-04 will be coordinated with other SEP topic reviews to the extent possible.

TOPIC NO.	TITLE
VI-7.A.3	ECCS Actuation System

DIFFERENCE SUMMARY

10CFR50.55a(h) as implemented by IEEE Std. 279-1971, and 10CFR50 Appendix A (GDC 37) as implemented by Regulatory Guide 1.22, requires that equipment important to safety be tested periodically to assure the operability of the system as a whole and to under conditions as close to design as practical, the performance of the full operational sequence that brings the system into operation, including the operation of the associated cooling water system.

At Millstone Unit No. 1, the Core Spray System pump space coolers, which are part of the Turbine Building Secondary Closed Cooling Water System (cooled by the Service Water system), are not required to be tested by the Unit Technical Specifications. The test of the LPCI System does not demonstrate that the Station Emergency Service Water system, which provides cooling to the LPCI system heat exchangers, will start when the LPCI is initiated.

NNECO RESPONSE

During review of Topic IX-5, Ventilation Systems, NNECO determined that the space coolers, which cool the corner rooms in the reactor building, are non-essential. NNECO intends to provide the Staff with information to substantiate this conclusion. Therefore, it is NNECO's position that testing of the pump space coolers is not required.

The Staff's second concern was that the Emergency Service Water System does not start when LPCI is initiated. The Emergency Service Water system is not automatically initiated. The function of the Emergency Service Water system is to provide containment cooling following an accident, and the system is manually initiated by the operator when cooling is required. Thus, the LPCI test should not require that Emergency Service Water also be initiated.

TOPIC NO.	TITLE
VI-7.A.4	Core Spray Nozzle Effectiveness

DIFFERENCE SUMMARY

10CFR50.46 requires that an emergency core cooling system be provided and designed to provide adequate core cooling.

The evaluation concludes acceptability of the core spray distribution. This conclusion is partially based on GE analysis results. The licensee has been requested to submit the plant specific GE analysis which confirms GE's generic conclusion that peak cladding temperature will not exceed 2200oF even when no credit is taken for the core spray cooling.

NNECO RESPONSE

NNECO does not possess the plant-specific analysis requested by the Staff. Also, communications with General Electric have indicated that no plant-specific analysis has been performed by them for this issue. It is NNECO's opinion that this issue is generic in nature and NNECO should not be asked to perform a plant-specific analysis in the context of the SEP.

TOPIC NO.	TITLE
VI-7.C.1	Appendix K - Electrical Instrumentation and Control (EIC) Re-reviews

DIFFERENCE SUMMARY

10CFR50 Appendix A (GDC 2, 4, 17, 18),. as implemented by SRP 8.2, 8.3, and Regulatory Guide 1.6 requires that:

1. No provisions should exist for automatically connecting one load group to another load group.

2. No provisions should exist for automatically transferring loads between redundant power sources; and

3. If means exist for manually connecting redundant load groups together, at least one interlock should be provided to prevent an operator error that would parallel their standby power sources.

At Millstone Unit No. 1, buses 2-3NE, 22A-1 and the 120 VAC instrument bus are supplied from automatic transfer switches which can transfer loads between redundant sources. The dc system has three load centers which are manually transferred between redundant sources under administrative control; however, there are no interlocks to prevent an operator error that would parallel the dc buses with their emergency source.

NNECO RESPONSE

The above difference summary is not entirely accurate, and should be revised to read:

> "At Millstone Unit 1, buses 2A-3NE, 2-3NE, 22A-1, the 120 volt AC bus IAC-1, and 120 Volt AC bus VAC-1 are supplied from..."

NNECO intends to provide the Staff with additional information to justify the adequacy of the automatic and manual transfer switches. NNECO intends to submit this information by October 15, 1982.

TOPIC NO.	TITLE
VI-10.A	Testing of Reactor Trip System and Engineered Safety Features, Including Response Time Testing

DIFFERENCE SUMMARY

10CFR50 (GDC 21), as implemented by IEEE Stds. 279-1971 and 338-1977, Regulatory Guide 1.22 and Standard Technical Specifications, requires that the protection system be designed for high functional reliability and for periodic testing when the reactor is in operation.

For the Reactor Trip system at Millstone, three signals (APRM-flow biased high flux, APRM-reduced high flux, IRM) are not subjected to a channel check, one signal (High Steam Line Radiation) is not subjected to a channel functional test and one channel (APRM-reduced high flux) is not calibrated as frequently as required. For the following channels, a channel functional test is performed monthly by plant procedure; however, the Technical Specifications allow a quarterly test frequency.

High Reactor Pressure
High Drywell Pressure
Low Reactor Water Level
High Water Level in Scram Discharge
Main Steam Line Isolation Valve Closure
Turbine Stop Valves Closure
Manual Scram
Turbine Control Valves Fast Closure
APRM-flow biased high flux

Current licensing criteria require a monthly channel functional test. Additionally, the channel response time between trip and the de-energization of the scram relay is not required to be tested.

NNECO RESPONSE

The high steam line radiation signal is subjected to a channel functional test once per month by Technical Specifications. This meets current licensing criteria. The NRC SER erroneously indicated that the Standard Technical Specification (STS) require a weekly test. Table 4.3.1.1-1 of the STS (NUREG-0123, Rev 3) indicates that a monthly functional test is required.

The NRC SER also stated that the APRM-reduced high flux channel is not calibrated or subjected to a channel check as frequently as required. It should be noted that the STS do not include provisions for this channel since it is unique to Millstone Unit No. 1. The purpose of this channel is to reduce the high flux trip to 90% power following a turbine runback or turbine trip and select rod insert. This is unique to Millstone 1, which has the capability to withstand these transients without a reactor trip since the condenser is capable of handling 100% of rated steam flow. Thus, the basis for stating the plant does not meet current criteria is questionable.

For the 9 channels noted above which are functionally tested on a monthly basis although the Technical Specifications allow a quarterly test frequency, it is noted that the Technical Specifications, in fact, require a monthly test until a certain level of exposure hours is reached. NNECO has not deviated from the monthly test frequency for these channels in over 11 years of operation.

Although the channel response time between channel trip and de-energization of the scram relay is not required to be tested, there is assurance that this time would be within the Technical Specification limit. The time from initiation of any channel trip, which is the time a GE type HFA relay is de-energized, to the de-energization of the scram relay, which is the time the HFA relay contacts open, is given by the manufacturer as $\leq$ 14 msec. NNECO by letter dated September 9, 1980, submitted a Technical Specification change request to change the required response time from 100 msec to 50 msec. To support this change, NNECO conducted tests on a number of channels which determined the response times are well below 50 msec. This change was approved by the NRC by Amendment 78, dated September 8, 1981.

It is NNECO's position that there would be no gain in safety by changing test frequencies or implementing a response time test program. As such, no action on this issue is planned.

TOPIC NO.	TITLE
VII-1.A	Isolation of Reactor Protection System from Non-Safety Sytems, Including Qualifications of Isolation Devices

DIFFERENCE SUMMARY

10CFR 50.55a (h), through IEEE std. 279-1971, requires that safety signals be isolated from non-safety signals and that no credible failure at the output of an isolation device shall prevent the associated protection system channel from meeting the minimum performance requirements specified in the design bases.

At Millstone Unit No. 1, there are no isolation devices between the nuclear flux monitoring systems and the process recorders and indicating instruments, nor are there any between the APRM system and process computer. Isolation between each reactor protection system channel and its respective power supply is inadequate because failures of the motor generator control system (abnormal voltage or frequency) could result in failure of an RPS channel to perform upon demand.

NNECO RESPONSE

NNECO intends to conduct tests to determine if adequate isolation exists between (1) the nuclear flux monitoring systems and the process recorders and indicating instruments, and (2) the APRM system and the process computer. NNECO will inform the Staff of the results of these tests and any required corrective action by November 30, 1982.

Inadequate isolation between each RPS channel and its respective power supply will be corrected during the Fall, 1982 refueling outage.

TOPIC NO.	TITLE
VII-3	Systems Required for Safe Shutdown

DIFFERENCE SUMMARY

10CFR Part 50 Appendix A (GDC 13) as implemented by SRP 7.4 and Regulatory Guide 1.53 requires that the instrumeration necessary for reaching and maintaining cold shutdown conditions meets the single failure criterion.

At Millstone 1, the loss of the IAC bus would result in loss of indication in the control room of flow, temperature, level and/or pressure of the systems required to shutdown the reactor and/or maintain the reactor in a shutdown condition.

NNECO RESPONSE

The effects of failure of the Instrument AC bus on the ability to achieve and maintain a safe shutdown condition have been addressed previously in NNECO's response to I & E Bulletin 79-27, Loss of non-class-IE Instrumentation and Control Power System Bus During Operation, dated February 29, 1980. Due to the presence of local, direct-reading indications of vital parameters such as reactor pressure and water level and isolation condenser shell side level, it was NNECO's determination that sufficient instrumentation would be available to achieve and maintain a safe shutdown condition following loss of the Instrument AC bus.

Based on the above information, NNECO considers this issue resolved and no further action is required.

TOPIC NO.	TITLE
VIII-1.A	Potential Equipment Failures Associated with Degraded Grid Voltage

DIFFERENCE SUMMARY

10CFR50 (GDC 17) requires an on-site and off-site electric power system to provide functioning of structures, systems and components important to safety. The topic is being evaluated generically through multi-plant actions B-23, "Degraded grid voltage Protection for Class 1E Power Systems" and B-48, "Adequacy of Station Electrical Distribution Voltages."

At Millstone Unti No. 1, during a degraded grid voltage and non-accident conditions, operator actions are required to protect Class IE systems. The operating procedures and an assessment of operator actions necessary to prevent damage to safety-related electrical equipment have not been provided. This aspect of multi-plant action B-23 will be coordinated to the extent possible with other SEP topics (e.g., Topic VII-3, "Safe-Shutdown Systems").

NNECO RESPONSE

NNECO's understanding of the status of this topic is that the only aspect of this issue to be addressed in the SEP is the adequacy of operating procedures in the event of a degraded grid voltage. Therefore, NNECO intends to develop operating procedures to prevent damage to safety-related equipment during a degraded voltage event. This will be the subject of future correspondence.

TOPIC NO.	TITLE
VIII-2	Onsite Emergency Power System - Diesel Generator

DIFFERENCE SUMMARY

10CFR Part 50 Appendix A (GDC 17) as implemented by SRP 8.3.1, ICSB-17 requires:

1. The design of standby diesel generator systems should retain only the engine overspeed and the generator differential trips and bypass all other trips under an accident condition.

2. If other trips, in addition to the engine overspeed and generator differential, are retained for accident conditions, an acceptable design should provide two or more independent measurements of each of these trip parameters. Trip logic should be such that diesel-generator trip would require specific coincident logic.

Additionally, GDC 17 as implemented by IEEE Std. 279-1971, requires that all the conditions which might render the emergency power generator incapable of automatic starting shall be unambiguously annunciated in the control room.

At Millstone Unit No. 1, the non-essential protective trips of the gas turbine generator are not bypassed under accident conditions and redundant sensors or coincident logic are not used. The gas turbine generator annunciators should be modified to meet the requirements of IEEE Std. 279-1971 (Section 4.20).

NNECO RESPONSE

As discussed during the Integrated Assessment meetings held at the Millstone site on July 13-15, 1982, the Staff's SER on this topic was not clear in that it did not explicitly state which trips should be retained or bypassed. Thus, NNECO had misinterpreted the Staff's position on this issue. The conclusions of the staff's SER have since been clarified to NNECO.

NNECO is currently evaluating the adequacy of the gas turbine annunciator and the gas turbine generator protective trips. NNECO will inform the Staff of the results of this review by September 30, 1982.

TOPIC NO.	TITLE
VIII-3.A	Station Battery Test Requirements

DIFFERENCE SUMMARY

10CFR50 (GDC 18) as implemented by Regulatory Guide 1.129 requires periodic testing for determining battery capacity and for demonstrating that the batteries will provide sufficient power under accident conditions.

A battery service test is required to verify that the battery capacity is adequate to supply and maintain in operable status all of the emergency loads for two hours. Currently, at Millstone Unit No. 1, the Technical Specifications do not require a station battery service test.

NNECO RESPONSE

NNECO tends to revise the battery testing program to require that battery service and performance tests be conducted in accordance with the guidance presented in the Staff's SER dated August 26, 1981. The proposed Technical Specifications will be the subject of future correspondence.

TOPIC NO.	TITLE
VIII-3.B	DC Power System Bus Voltage Monitoring and Annunciation

DIFFERENCE SUMMARY

10CFR 50.55a(h), through IEEE Std. 279-1971, and 10CFR50 Appendix A (GDC 2, 4, 5, 17, 18, 19) as implemented by SRP 8.3.2 Regulatory Guides 1.6, 1.32, 1.47, 1.75, 1.118, 1.29 and BTP ICSB21, require that the control room operator be given timely indication of the status of the batteries and their availability under accident conditions.

NNECO RESPONSE

NNECO is presently reviewing the adequacy of DC system status indications available in the control room. NNECO will inform the Staff of any planned modifications or additions to the control room indications by September 30, 1982.

TOPIC NO.	TITLE
IX-3	Station Service and Cooling Water Systems

DIFFERENCE SUMMARY

10CFR50 Appendix A (GDC 44) as implemented by SRP Section 9.2.1 & 9.2.2, requires a system to transfer heat from structures, systems and components important to safety, to an ultimate heat sink; this system shall have suitable detection and isolation capabilities to assure that for onsite or offsite power system operation the system safety function can be accomplished, assuming a single failure.

At Millstone Unit No. 1, a single failure in non-redundant pipe runs of the Service Water System and the Turbine Building Secondary Closed Cooling Water System could result in loss of system function. The licensee has not shown that such a failure will not result in loss of system function or that the system is non-essential.

NNECO RESPONSE

The service water system is susceptible to a single passive failure in the pipe run from the intake structure to essential equipment located in the reactor and turbine buildings. The essential equipment serviced by the service water system is the diesel generator and the Turbine building Secondary Closed Cooling Water system heat exchangers. It should be noted, however, that a passive pipe failure is not a credible assumption in the short term following an accident. The equipment serviced by the Turbine Building Secondary Closed Cooling Water System consists primarily of components of the Feedwater Coolant Injection System. Since loss of this equipment in the long term will not inhibit safe shutdown of the plant, the Turbine Building Secondary Closed Cooling Water system can be considered non-essential for the purposes of this review.

A passive failure in the Service Water line would also result in loss of cooling to the diesel generator, however this would not pose a problem since the gas turbine generator, which is air cooled could provide emergency power. Should the gas turbine also be unavailable, the isolation condenser, which can be operated independent of AC power, could be used to maintain the plant in a safe shutdown condition.

In summary, since a passive pipe failure need not be postulated immediately following a Design Basis Accident, both the Service Water system and Turbine Building Secondary Closed Cooling Water System are adequately designed. In the event of a pipe break in either system without a concurrent accident the systems are considered non-essential.

TOPIC NO.	TITLE
IX-5	Ventilation Systems

DIFFERENCE SUMMARY

10CFR50 Appendix A (GDCs 4, 60 & 61) as implemented by SRP Sections 9.4.1, 9.4.2, 9.4.3, 9.4.4, and 9.4.5 requires that the ventilation systems shall have the capability to provide a safe environment for plant personnel and for engineered safety features.

Th licensee has not addessed the consequences of the inability of the Standby Gas Treatment System to direct ventilation air from areas of low radioactivity to areas of higher radioactivity due to its relatively low system design flow rate.

The Emergency Core Spray Subsystem and Low Pressure Coolant Injection Subsystem Ventilation System is subject to disabling single failures. The licensee has not shown that these systems are capable of performing their required functions assuming loss of ventilation.

Insufficient information has been provided by the licensee for the staff to conclude the ventilation system for the following safety-related equipment is adequate:

a) Feedwater Coolant Injection System
b) Station Service Water System
c) Emergency Station Service Water System
d) Turbine Building Secondary Closed Cooling Water System
e) Diesel Generator room
f) Auxiliary Electrical Equipment Room
g) Station Battery Rooms

NNECO RESPONSE

NNECO's response dated July 29, 1982 to the Staff's SER on this topic provided the information required by the Staff to evaluate the ventilation systems identified in a) through g) above.

The July 29, 1982 response to this topic also stated that as part of the review of NUREG-0737 Item II.B.2, Plant Shielding Review, NNECO determined that there would be no need for personnel access to the reactor building following an accident. Thus, the inability of the Standby Gas Treatment System to direct ventilation air from areas of low radioactivity to areas of higher radioactivity is of no concern, and no further action is planned to address this item.

To address ventilation for the core spray and LPCI subsystems, NNECO intends to provide the Staff with documentation which demonstrates that ventilation is not required in the corner rooms of the reactor building. NNECO will provide this information in a future submittal.

TOPIC NO.	TITLE
XV-1	Decrease in Feedwater Temperature, Increase in Feedwater Flow and Increase in Steam Flow.

DIFFERENCE SUMMARY

10CFR Part 50 Appendix A (GDCs 10 & 15) as implemented by SRP 15.1.2, requires that the plant should be able to respond to an increase in feedwater flow in such a way that the criteria regarding fuel damage and system pressure are met.

At Millstone Unit No. 1, the bypass system was assumed to operate in the analysis of this event; therefore, surveillance requirements for that system should be included in the plant's Technical Specifications. Limitations to either reactor power or minimum critical power ratio are also required in the Technical Specifications to assure acceptability for the case when the bypass system is inoperable.

NNECO RESPONSE

At Millstone Unit 1, the turbine control valves and bypass valves are controlled by a common system referred to as the Mechanical-Hydraulic Control (MHC) system. The system components, with the exception of the final valve actuators, are common to both the control and bypass valves. Thus it is improbable that a failure could occur in the bypass valve portion of the system without affecting the control valve portion of the system. A malfunction in the MHC system which renders the bypass system inoperable would also most likely affect operation of the turbine control valves, and would necessitate immediate repair in order to continue operation. The control valve final actuators and the common components of the MHC system are exercised continuously while performing the normal reactor pressure control function. Therefore, continuous operability of the MHC system is assured.

In addition, it is necessary on a boiling water reactor to utilize the bypass valve system extensively during startups, thus providing additional assurance of bypass valve operability.

The continuous operation of the MHC system , combined with the fact that it is unlikely that a failure which affects the bypass system would not affect and be sensed by the entire control system, provides assurance that the bypass system will be available to mitigate the consequences of this event. As such, NNECO concludes that no additional operating restrictions are necessary.

TOPIC NO.	TITLE
XV-3	Loss of External Load, Turbine Trip, Loss of Condenser Vacuum, Closure of Main Steam Isolation Valve (BWR), and Steam Pressure Regulator Failure (Closed)

DIFFERENCE SUMMARY

10CFR Part 50 (GDC 10, 15) as implemented by SRP 15.2.1, requires that the plant should be able to respond to a loss of external load in such a way that the criteria regarding fuel damage and system pressure are met.

At Millstone Unit No. 1, the maximum MCPR was calculated based upon an initial power level of 100%. Current criteria requires that the initial power level be taken as 100% power plus an allowance of 2% to account for power measurement uncertainties. The higher actual power level could lead to MCPR less than the safety limit.

NNECO RESPONSE

The loss of external load event, which is a limiting transient for Millstone Unit 1, was analyzed assuming an intitial power level of 100%. This is consistent with the assumptions used in GESTAR II, GE Standard Application for Reactor Fuel (NEDE-24011-P-A-US) which assumes that the transient is initiated at full power. This document has been approved by the NRC Staff for use by new plants.

The above notwithstanding, NNECO has analyzed this transient for reload 8 using the NRC - approved ODYN code. Although this analysis assumed an initial power level of 100%, an uncertainty factor of 1.044 ws used to determine the maximum reduction in the critical power ratio. This 4.4% overall uncertainty factor more than compensates for the difference in initial power level assumed. Reload 8, which establishes the operating limits for the upcoming fuel cycle, is scheduled for submittal during September, 1982. Since this analysis will resolve the Staff's concern, no further action is planned.

TOPIC NO.	TITLE
XV-18	Radiological Consequences of Main Steam Line Failure Outside Contaiment

DIFFERENCE SUMMARY

10CFR Part 100.11 as implemented by SRP Section 15.6.4 prescribes limits of doses for this accident.

In Millstone 1, when using the present Technical Specification limits for Iodine-131, the radiological consequence analysis of a main steam line failure outside containment results in a calculated thyroid dose at the exclusion area boundary of nearly four times larger than that allowed by the regulations mentioned above.

NNECO RESPONSE

NNECO's response, dated January 13, 1982, to the Staff's SER provided dose calculations for this event based on realistic isotopic mixes of iodine. The Staff had assumed that 100% of the total iodine allowed by Technical Specifications was I-131: This resulted in doses which exceed the guidelines of 10CFR100. It was agreed during the Integrated Assessment meeting held at the Millstone site on July 13-15, 1982, that NNECO would submit data from prior years of operation to support our contention that present Technical Specification limits are adequate. This was submitted by letter dated September 7, 1982.

Based on this information, NNECO has concluded that no changes to the Technical Specifications are required to protect the public health and safety.