NORTHEAST UTILITIES

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

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March 22, 1984

Docket No. 50-423
B11027

Director of Nuclear Reactor Regulation
Mr. B. J. Youngblood, Chief
Licensing Branch No. 1
Division of Licensing
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

References: (1) D. G. Eisenhut letter to W. G. Counsil, Acceptance Review of the Application for an Operating License for Millstone 3, dated January 31, 1983.

(2) W. G. Counsil letter to B. J. Youngblood, Response to the Requests for Additional Information that Resulted from the Acceptance Review, dated, March 31, 1983.

(3) W. G. Counsil letter to B. J. Youngblood, Deferral of Responses to two (2) Acceptance Review Questions and an Enclosure, dated September 1, 1983.

(4) B. J. Youngblood letter to W. G. Counsil, Draft SER for Millstone 3, dated, December 20, 1983.

(5) W. G. Counsil letter to B. J. Youngblood, Transmittal of Amendment 7, dated March 9, 1984.

Dear Mr. Youngblood:

Millstone Nuclear Power Station, Unit No. 3
Response to Enclosure 4, item 1 and Draft SER open item: Q-List

In our response (Reference 2) to Enclosure 4, item 1 contained in Reference (1), we committed to providing a more complete response by August of 1983. In Reference (3) we stated that we would provide the required information at a later date as we were still unable to respond to the request for additional information at that time. Enclosed is a response to Enclosure 4, item 1 (See Attachment 1). Please note that this information also responds to the Draft Safety Evaluation Report (SER) open item (#146) listed in Reference (4). FSAR Table 3.2-1 addressed in the response to Enclosure 4, item 1 was provided in Amendment 7 to the FSAR (Reference 5).

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If you have any concerns related to information contained herein or any questions related to our responses, please contact our Licensing representatives directly.

Very truly yours,

NORTHEAST NUCLEAR ENERGY COMPANY ET AL
BY NORTHEAST NUCLEAR ENERGY COMPANY,
Their Agent

W. G. Counsil
Senior Vice President

STATE OF CONNECTICUT)
) ss Berlin
COUNTY OF HARTFORD)

Then personally appeared before me W. G. Counsil, who being duly sworn, did state that he is Senior Vice President of Northeast Nuclear Energy Company, Licensee herein, that he is authorized to execute and file the foregoing information in the name and on behalf of the Licensees herein and that the statements contained in said information are true and correct to the best of his knowledge and belief.

Notary Public

My Commission Expires March 31, 1988

Attachment I

The response to Enclosure 4, item 1

NRC Letter: January 31, 1983

Enclosure 4, Item 1 Safety-Related Structures, Systems, and Components (Q-list) Controlled by the QA Program - Staff requests for additional information regarding this issue have been sent to a number of OL Applicants. A sample request from the Diablo Canyon review is provided as Enclosure 5.

Enclosure 5

Section 17.1.2.2 of the standard format (Regulatory Guide 1.70) requires the identification of safety-related structures, systems, and components (Q-list) controlled by the QA program. You are requested to supplement and clarify the Diablo Canyon Q-list in Table 3.2-4 of the FSAR in accordance with the following:

A. The following items do not appear on the Q-list (FSAR Table 3.2-4). Add the appropriate items to the Q-list and provide a commitment that the remaining items are subject to the pertinent requirements of the FSAR operational quality assurance program or justify not doing so.

1. Safety-related masonry walls (see IE Bulletin No. 80-11)

2. Breakwaters

3. Leak detection system (see FSAR Section 3.5)

4. Missile barriers which protect safety-related items

5. Onsite power system (Class 1E)

   - Electrical penetrations of containment - Non-vital, including primary and backup fault current protective devices

   - Raceway fire stops and seals

   - Emergency light battery packs

6. Radiation monitoring (fixed and portable)

7. Radioactivity monitoring (fixed and portable)

8. Radioactivity sampling (air, surfaces, liquids)

9. Radioactive contamination measurement and analysis

10. Personnel monitoring internal (e.g., whole body counter) and external (e.g., TLD system)

11. Instrument storage, calibration, and maintenance

12. Decontamination (facilities, personnel, and equipment)

13. Respiratory protection, including testing

14. Contamination control

15. Radiation shielding

16. Meteorological data collection programs

17. Expendable and consumable items necessary for the functional performance of safety-related structures, systems, and components (i.e., weld rod, fuel oil, boric acid, snubber oil, etc.)

18. Measuring and test equipment used for safety-related structures, systems, and components

19. Ground slope east of building complex

20. Firewater storage reservoir ponds

21. Hydrogen recombiner, including piping and valves

22. Containment pressure indication system

23. Containment water level indication systems

24. Containment hydrogen indication system

25. Valve operators for safety-related valves

26. Motors for safety-related pumps

B. The following items from the Q-list (FSAR Table 3.2-4) need expansion and/or clarification as noted. Revise the list as indicated or justify not doing so.

1. Portions of the turbine generator building (Sheet 4) which enclose the emergency diesel-generator units and ancillary systems as well as other safety-related components should be under the controls of the operational QA program

2. New fuel storage racks (Sheet 3) should be under the controls of the operational QA program

3. Intake structure and conduit (Sheet 5) should be under the controls of the operational QA program

4. Containment structure sump, sump screen, and vortex suppression should be under the controls of the operational QA program

5. Reactor cavity sump pump (Sheet 18) should be under the controls of the operational QA program

6. Clarify that the primary system PORV, safety valves, and PORV block valves and their actuators are included under reactor coolant system valves, (Sheet 25)

7. Clarify that the main steamline safety valves and steamline PORVs and their actuators are included under valves for the above (Main Steam Piping-SE to MSIV) portion of system (Sheet 23)

8. Identify the safety-related instrumentation and control systems to the same scope and level of detail as provided in Chapter 7 of the FSAR

9. The 250 V dc Motor Control Center SD 121 (Sheet 35) should be under the controls of the operational QA program

10. Circulating water conduits (Sheet 5) should be under the controls of the operational QA program

C. Enclosure 2 of NUREG-0737, Clarification of TMI Action Plan Requirements (November 1980) identified numerous items that are safety-related and appropriate for OL application and therefore should be on the Q-list and provide a commitment that the remaining items are subject to the pertinent requirements of the FSAR operational quality assurance program or justify not doing so.

		NUREG-0737 (Enclosure 2) Clarification Item
1.	Plant-safety-parameter display console	I.D.2
2.	Reactor coolant system vents	II.5.1
3.	Plant shielding	II.B.2
4.	Post-accident sampling capabilities	II.B.2
5.	Valve position indication	II.D.3
6.	Auxiliary feedwater system	II.E.1.1
7.	Auxiliary feedwater system initiation and flow	II.E.1.2
8.	Emergency power for pressurizer heaters	II.E.3.1
9.	Dedicated hydrogen penetrations	II.E.4.1
10.	Containment isolation dependability	II.E.4.2
11.	Accident monitoring instrumentation	II.F.1

		NUREG-0737 (Enclosure 2) Clarification Item
12.	Instrumentation for detection of inadequate core-cooling	II.F.2
13.	Power supplies for pressurizer relief valves, block valves, and level indicators	II.G.I
14.	Automatic PORV isolation	II.K.3(1)
15.	Automatic trip of reactor coolant pumps	II.K.3(5)
16.	PID controller	II.K.3(9)
17.	Anticipatory reactor trip on turbine trip	II.I.3(12)
18.	Power on pump seals	II.K.3(25)
19.	Emergency plans	III.A.1.1/III.A.2
20.	Emergency support facilities	III.A.1.2
21.	Inplant I_2 radiation monitoring	III.D.3.3
22.	Control-Room habitability	III.D.3.4

Response:

Structures, systems, and components which have been designed, procured, and constructed with QA control are identified in FSAR Section 3, Table 3.2-1 (QA Category I Structures, Systems, and Components). Table 3.2-1 will serve as input to the Category I material, equipment, and parts list (MEPL) for Millstone 3. The MEPL will be generated and controlled in accordance with the Operational Quality Assurance Program as described in FSAR Section 17.2.

Items added to Table 3.2-1 will be included in the MEPL when that document is generated.

A.1 Safety-Related Masonry Walls

Masonry walls are not used for a safety-related function at Millstone 3. Those masonry walls which are located in safety-related areas of the control building are designed to comply with the requirements of SRP 3.8.4, Appendix A, and are described in FSAR Section 3.8.4 and identified on FSAR Figure 3.8-64.

A.2 Breakwaters

There are no breakwaters at Millstone 3.

A.3 Leak Detection System

FSAR Table 3.2-1 will be revised to include instrumentation (level indicators) in the reactor plant aerated drain system.

A.4 Missile Barriers

Missile barriers are constructed integrally with the structures and are considered part of the safety-related structures as listed in FSAR Table 3.2-1.

A.5a Electrical Penetrations of Containment - Non-vital, including Primary and Backup Fault Current Protection Devices

All electrical penetrations of the containment are Class 1E and are listed in FSAR Table 3.2-1 under Structural Containment.

Safety-related circuits passing through containment penetrations have a single safety-related protection device which is listed in FSAR Table 3.2-1 under Electrical Systems. Nonsafety-related (non-vital) circuits passing through containment penetrations have two protection devices (primary and backup) which are not safety-related and are not listed in FSAR Table 3.2-1. A complete description of protection devices can be found in FSAR Section 8.3.1.1.4.

A.5b Raceway Firestops and Seals

All raceway fire stops/seals will have the equivalent fire rating of the floor or wall in which they are used. Fire barrier penetration seal work will be performed/reviewed in accordance with the applicable NUSCo Fire Protection QA requirements. Since these items are integral to the structure to which they are associated, there is no need to list as a separate line entry under structures in FSAR Table 3.2-1.

A.5c Emergency Light Battery Packs

The emergency light battery packs are not Class 1E, but are seismically supported to prevent damage to safety-related equipment.

A.6 Radiation Monitors (Fixed and Portable)

Safety-related radiation monitors (fixed) and radioactivity monitoring (fixed) are included with the safety-related instrumentation of systems listed in FSAR Table 3.2-1. Specific safety-related monitors are identified with asterisks (*) in the mark numbers in FSAR Table 11.5-1, Process and Effluent monitors; Table 11.5-2, Liquid Monitors; and Table 12.3-2, Area Monitors.

Items A.6 (portable radiation monitoring), A.7 (portable radioactivity monitoring), A.8, A.9, A.10, A.12, A.13, and A.14 are required for an effective Health Physics Program to ensure the radiological safety of personnel. As discussed in Chapter 12, the Millstone 3 Health Physics Program, including the necessary facilities and equipment, will be of high quality and meet the applicable Regulatory Guides and NUREGs. The program will be subject to its own quality controls, including an extensive internal audit program. However, the Health Physics Program is not safety-related and hence, none of the items above should be included in Table 3.2-1 or be subject to the requirements of the operational QA program.

A.7 Radioactivity Monitoring (Fixed and Portable)

See response to A.6.

A.8 Radioactivity Sampling (Air, Surfaces, and Liquids)

See response to A.6.

A.9 Radioactive Contamination Measurement and Analysis

See response to A.6.

A.10 Personnel Monitoring Internal (e.g., Whole Body Counter) and External (e.g., TLD System)

See response to A.6.

A.11 Instrument Storage, Calibration, and Maintenance

Procedures used for storage, calibration, and maintenance of safety-related instruments are controlled by the QA program.

A.12 Decontamination (Facilities, Personnel, and Equipment)

See response to A.6.

A.13 Respiratory Protection, including Testing

See response to A.6.

A.14 Contamination Control

See response to A.6.

A.15 Radiation Shielding

Those structures or portion of structures which are QA Category I for the purposes of radiation shielding are discussed in FSAR Section 12.3.1.3.

A.16 Meteorological Data Collection Equipment

Calibration and inspection of meteorological instrumentation is being performed in accordance with the pertinent requirements of 10CFR50 Appendix B, Quality Assurance Criteria.

Meteorological instruments are calibrated to ensure the validity of data.

A.17 Expendable and Consumable Items Necessary for the Functional Performance of Safety-Related Structures, Systems, and Components (i.e., Weld Rod, Fuel Oil, Boric Acid, Snubber Oil, etc)

The specific consumable listed below, when utilized in the safety-related systems, shall be included in those portions of NUSCo Quality Assurance Program, NUQAP, as applicable:

1. Emergency generator diesel fuels
2. Hydraulic snubber fluids
3. Reagents
4. Resins
5. Boric Acid

Procurement of expendable and consumable items will be accomplished and controlled by Millstone 3 procedures.

A.18 Measuring and Test Equipment Used for Safety-Related Structures, Systems, and Components

The procedures used for measuring and test equipment used for safety-related structures, systems, and components are controlled by the QA program.

Millstone stations' measuring and test equipment, when used, is furnished under the control of Millstone procedures in accordance with policies described in NUSCo procedures. Refer to NU-QA-1, Section 12.0, Control of Measuring and Test Equipment.

A.19 Ground Slopes East of Building Complex

This item is not applicable to Millstone 3.

A.20 Firewater Storage Reservoir Ponds

This item is not applicable to Millstone 3. For the Millstone 3 fire protection water supply, refer to the description provided in FSAR Section 9.5.1.

A.21 Hydrogen Recombiner, including Piping and Valves

The hydrogen recombiner system, including piping and valves, is included in FSAR Table 3.2-1.

A.22 Containment Pressure Indication System

Instrumentation for containment monitoring of safety-related functions is part of the engineered safety features actuation system (ESFAS) which is listed in FSAR Table 3.2-1.

A.23 Containment Water Level Indication System

Two redundant wide-range water level indication systems are safety-related and will be included in FSAR Table 3.2-1.

A.24 Containment Hydrogen Indication System

FSAR Table 3.2-1 has been revised to include the containment hydrogen indication system.

A.25 Valves Operators for Safety-Related Valves

Those valve operators that are required to perform a safety function are qualified to Class 1E requirements and are listed under instrumentation and control in FSAR Table 3.2-1 and shown in their respective system P&ID.

A.26 Motors for Safety-Related Pumps

FSAR Table 3.2-1 identifies safety-related pumps for a given safety-related system. Unless otherwise indicated, motors for safety-related pumps are also safety-related and included under the same safety class.

B.1 Portions of the turbine generator building (Sheet 4) which enclose the emergency diesel-generator units and ancillary systems as well as other safety-related components should be under the control of the the operational QA program.

This item is not applicable to Millstone 3.

B.2 New fuel storage racks (Sheet 3) should be under the control of the operational QA program

Millstone 3 does not utilize new fuel storage racks. New fuel is stored in the spent fuel storage racks. The spent fuel storage racks are already listed in FSAR Table 3.2-1.

B.3 Intake structure and conduit should be under the control of the operational QA program

Only the service water pump room and its supporting elements of the circulating and service water pumphouse are Seismic Category I and are listed in Table 3.2-1

B.4 Containment structure sump, sump screen, and vortex suppression should be under the control of the operational QA program

The containment recirculation sump and sump screen are already included in FSAR Table 3.2-1. The vortex suppression is an integral part of the Millstone 3 sump design.

B.5 Reactor cavity sump pump (Sheet 12) should be under the control of the operational QA program

Millstone 3 does not utilize a reactor cavity sump pump.

B.6 PORVs, Safety Valves, and PORV Block Valves

Primary system PORVs, safety valves, and PORV block valves and their actuators will be added to FSAR Table 3.2-1 as separate line entries to clarify inclusion under reactor coolant system valves.

B.7 Main Steam Line Safety Valves and PORVs

Main steam line safety valves and PORVs and their actuators will be added to FSAR Table 3.2-1 as separate line items to clarify they are part of the main steam system.

B.8 Instrumentation and Control identification to the same level as in Chapter 7

Regulatory Guide 1.70, Revision 3, provides guidance on the format and contents of the safety analysis report and as such, specific details for a given portion of the plant are found within the chapter as dictated by the Regulatory Guide. The purpose of FSAR Table 3.2-1 is to identify all safety-related portions of the systems listed. Details for each safety-related portion are found within other chapters of the FSAR.

B.9 250 V dc Motor Control Center

Millstone 3 does not have 250 V dc motor control centers.

B.10 Circulating Water Conduits

The safety-related portion of the circulating water system, is the discharge tunnel which is identified as a QA item in FSAR Table 3.2-1.

C. Enclosure 2 of NUREG-0737, Clarification of TMI Action Plan Requirements.

TMI items that are part of NUREG-0737 are addressed in FSAR Section 1.10, Clarification of TMI Action Plan Requirements. As noted herein, specific safety-related TMI items are included within their respective systems in FSAR Table 3.2-1.

C.1 Plant-Safety-Parameter Display Console

The plant-safety-parameter display console is not safety-related in accordance with Supplement 1 to NUREG-0737 and, therefore, will not be included in FSAR Table 3.2-1.

C.2 Reactor Coolent System Vents

Safety grade reactor vessel and pressurizer venting capability is provided in the Millstone 3 design and is listed in FSAR Table 3.2-1 under reactor coolant system.

C.3 Plant Shielding

See response to Item A.15.

C.4 Post-Accident Sampling Capabilities

Millstone 3 has a post-accident sampling system which meets the requirements of this item. This system is included in FSAR Table 3.2-1 under reactor plant sampling systems.

C.5 Relief and Safety Valve Position Indication

The pressurizer PORVs have a reliable, direct position indication in the control room as described in FSAR Sections 5.4.13 and 7.5. Instrumentation and controls for these items are listed in FSAR Table 3.2-1 under reactor coolant system.

C.6 Auxiliary Feedwater System Evaluation

An auxiliary feedwater system has been evaluated as specified. The auxiliary feedwater system is listed in FSAR Table 3.2-1.

C.7 Auxiliary Feedwater Initiation and Flow

The auxiliary feedwater system initiation and flow is described in FSAR Section 5.4.7. As noted in C.6, the system is listed in FSAR Table 3.2-1.

C.8 Emergency Power for Pressurizer Heaters

The emergency power supply for pressurizer heaters is described in FSAR Section 8.3.1 and the Applicant's response to NRC Question 430.48. The pressurizer heaters (Groups A & B) are listed in FSAR Table 3.2-1.

C.9 Dedicated Hydrogen Penetrations

The Millstone 3 design includes redundant hydrogen recombiners which have dedicated penetrations for this equipment. The DBA hydrogen recombiner system is listed in FSAR Table 3.2-1.

C.10 Containment Isolation Dependability

The design of the containment isolation system is addressed in FSAR Section 6.2.4. This system is listed in FSAR Table 3.2-1.

C.11 Accident Monitoring Instrumentation

Safety-related radiation monitors are included within the safety-related instrumentation of systems listed in FSAR Table 3.2-1. Instrumentation for containment monitoring of safety-related functions is part of the ESFAS which is listed in FSAR Table 3.2-1.

C.12 Inadequate Core Cooling

Instrumentation for detection of inadequate core cooling is composed of a saturation monitor, incore thermocouple system, and an inventory tracking system. The instrumentation is safety-related and will be added to FSAR Table 3.2-1.

C.13 Power Supplies for Pressurizer Relief Valves, Block Valves, and Level Indicators

The power supplies for these items are safety-related as described in FSAR Section 8.3.1. The pressurizer relief valves, block valves, and level indicators are listed in FSAR Table 3.2-1 as part of the reactor coolant system. The level indicators for the pressurizer are listed as I&C required to perform a safety function.

C.14 Automatic PORV Isolation

The addition of an automatic isolation system for the PORVs will not be utilized in the Millstone 3 design. Modifications implemented under II.K.3.2 will reduce the probability of a LOCA caused by a stuck open PORV to an acceptably low level.

C.15 Automatic Trip of Reactor Coolant Pumps

Automatic trip of reactor coolant pumps is not provided in the Millstone 3 design. As described in FSAR Section 1.10, Westinghouse has performed an analysis to justify delayed reactor coolant pump trip.

C.16 PID Controller

The derivative action setting will be set to zero at Millstone 3. The changing of any such setting is covered by plant procedures which require that appropriate QA procedures are followed. The PID controller for the reactor coolant system is part of I&C for the system and as such, is on FSAR Table 3.2-1 under I&C for the system.

C.17 Anticipatory Reactor Trip on Turbine Trip

All I&C components from and including the turbine impulse pressure transmitter to the reactor protection system will be added to Table 3.2-1.

C.18 RCP Seals

For Millstone 3, the reactor coolant pump seals are considered nonnuclear safety-related. However, special requirements are included in the specifications by the NSSS supplier. This item will be added to Table 3.2-1.

C.19 Emergency Plans

This item is required for effective emergency response. The Emergency Plan and associated facilities, equipment, and procedures are subject to extensive control as well as internal and external audits and evaluations. However, emergency planning is not considered safety-related and, therefore, none of the above items should be included in Table 3.2-1 or be subject to the requirements of the operational QA program.

C.20 Emergency Support Facilities

See response to C.19.

C.21 Inplant I_2 Radiation Monitoring

See response to C.19.

C.22 Control Room Habitability

The requirements of this item have been addressed in FSAR Section 6.4. Habitability systems are listed in FSAR Table 3.2-1 under Air Conditioning, Heating, Cooling, and Ventilation Systems.

Attachment II

A Response to the Draft SER open items QAB-1

Open Items

Quality Assurance Branch

QAB-1 QA List (Draft SER Section 17.4)

The staff review of the list of items to which the QA program applies is incomplete and this is an open item. The list of items is being reviewed by the staff technical review branches to ensure that safety-related items within their scope of review are under the QA program controls. Differences between the staff and the applicant regarding the list will be resolved to the staff's satisfaction before closing this open item. The list includes safety-related items reflected in NUREG-0737.

Reference

Acceptance Review Question Enclosure 4, item 1.

Response

Refer to the response to Acceptance Review Question Enclosure 4, item 1.