NORTHEAST UTILITIES

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May 8, 1991

Docket No. 50-336
B13813
Re: 10CFR50.63

Dr. T. E. Murley, Director
Office of Nuclear Reactor Regulation
Mail Stop 12 G18
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Dear Dr. Murley:

Millstone Nuclear Power Station, Unit No. 2
Station Blackout Rule
Response to Request for Additional Information (TAC 68567)

By letter dated April 4, 1991,(1) the NRC Staff transmitted a supplemental Safety Evaluation Report (SER) to Northeast Nuclear Energy Company (NNECO) requesting additional information concerning the Millstone Unit No. 2 response(2) to the original SER from the Staff dated September 27, 1990.(3)

On April 17, 1989,(4) NNECO submitted the response to the station blackout (SBO) rule for Millstone Unit No. 2. By letter dated May 30, 1989,(5) NNECO provided the Staff with the results of the 8-hour ventilation coping

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(1) G. S. Vissing letter to E. J. Mroczka, "Supplement to Safety Evaluation--Millstone Unit 2 Station Blackout (TAC No. 68567)," dated April 4, 1991.

(2) E. J. Mroczka letter to T. E. Murley, "Millstone Nuclear Power Station, Unit No. 2, Response to Safety Evaluation for Station Blackout (TAC No. 68567)," dated November 1, 1990.

(3) G. S. Vissing letter to E. J. Mroczka, "Safety Evaluation of Station Blackout Analysis for Millstone Unit No. 2 (TAC 68567)," dated September 27, 1990.

(4) E. J. Mroczka letter to T. E. Murley, "Millstone Nuclear Power Station, Unit Nos. 1, 2, and 3, Response to Station Blackout Rule," dated April 17, 1989.

(5) E. J. Mroczka letter to T. E. Murley, "Millstone Nuclear Power Station, Unit Nos. 1, 2, and 3, Response to Station Blackout Rule Additional Information," dated May 30, 1989.

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assessment for Millstone Unit No. 2. On March 30, 1990,[6] NNECO provided additional information to the Staff as requested by the Nuclear Management and Resources Council, Inc. (NUMARC), in a letter dated January 4, 1990.[7] The NUMARC letter requested that utilities provide a supplemental SBO submittal to the NRC Staff based on clarifications to the NUMARC 87-00 guidelines. These clarifications were provided in two documents dated December 27, 1989, "NUMARC 87-00 Supplemental Questions/ Answers" and "NUMARC 87-00 Major Assumptions."

The original SER was received by NNECO on October 4, 1990, and subsequently reviewed by NNECO. Our response contained detailed discussion on the "weatherization" issue for the Millstone Unit Nos. 1 and 2 crosstie, the modifications to the control and protective circuitry associated with the circuit breakers that will be utilized for the SBO crosstie, and loss of ventilation in the east and west safety valve enclosure area and east and west DC switchgear/battery rooms. These areas were addressed in detail due to our interpretation of the Staff's level of concern as stated in the original SER and the supporting statements by Science Applications International Corporation (SAIC) in their Technical Evaluation Report (TER).

The three other recommendations that were contained in the original SER and identified in the Staff's supplemental SER were evaluated as such, with internal commitments created. NNECO thoroughly reviewed the three recommendations and determined the actions required to address the NRC Staff's comments. Any supporting documentation generated by addressing these recommendations was to be maintained in the SBO files as requested by the Staff in the original SER. NNECO believes that our plans were adequate and responsive to the Staff's recommendations contained in the original SER. However, we question the appropriateness of the NRC's request for additional information contained in the April 4, 1991, letter regarding the three recommendations mentioned above. Irrespective of this concern, NNECO is hereby providing a response to the Staff's request to implement the three recommendations identified in the supplemental SER. This information is provided as Attachment No. 1 to this letter.

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(6) E. J. Mroczka letter to T. E. Murley, "Haddam Neck Plant, Millstone Nuclear Power Station, Unit Nos. 1, 2, and 3, Response to Station Blackout, Additional Information," dated March 30, 1990.

(7) Byron Lee Jr. letter to NUMARC Board of Directors, "Station Blackout (SBO) Implementation: Request for Supplemental SBO submittal to NRC," dated January 4, 1990.

If you have any questions, please contact us.

Very truly yours,

NORTHEAST NUCLEAR ENERGY COMPANY

FOR: E. J. Mroczka
Senior Vice President

BY: W D R
W. D. Romberg
Vice President

cc: T. T. Martin, Region I Administrator
G. S. Vissing, NRC Project Manager, Millstone Unit No. 2
W. J. Raymond, Senior Resident Inspector, Millstone Unit Nos. 1, 2, and 3

U.S. Nuclear Regulatory Commission
Attention: Document Control Desk
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Attachment No. 1

Millstone Nuclear Power Station, Unit No. 2

Response to Station Blackout Rule
Additional Information

May 1991

Millstone Nuclear Power Station, Unit No. 2
Response to Station Blackout Rule
Additional Information

Class 1E Battery Capacity--Original Safety Evaluation Report (SER) Section 2.3.2

"The licensee has performed calculations and determined that there is sufficient battery capacity for 1 hour at which time the AAC source will be available to power the charger for the 'B' battery. However, the licensee's calculations of the Class 1E battery capacities indicate that the batteries have sufficient capacities to meet the SBO loads for 8 hours. The licensee's calculations are based on actual load current instead of nameplate rating of equipment.

"After reviewing the available information and SAIC's TER, the staff agrees with the licensee's assessment contingent on confirmation of the following:

"1) Since the calculations used actual current values (ammeter readings) instead of nameplate ratings, any change to the present plant dc loading will require a reevaluation of battery capacity (refer to SAIC TER).

"2) The actual ammeter readings are acceptable provided that they are maximum values taken over a period of testing and not from a one time test.

"3) The normal battery-backed plant monitoring and electrical system controls in the control room for at least one safety train will remain operational during an SBO. These are considered to be essential for successful coping with the recovery from an SBO.

"Recommendations: The documentation supporting the SBO submittals that is to be maintained by the licensee should include confirmation of the items identified above."

Response

1. It is part of the normal design process to review battery capacity if there is any change to DC loading. Nuclear Engineering and Operations Procedure NEO 3.03, "Preparation, Review, and Disposition of Plant Design Change Records (PDCR)," has provided the basis for NNECO's design control program for years and ensures that the appropriate calculation is reviewed for any impact to battery capacity when revising, adding, or deleting a battery-supplied load.

2. The ammeter readings used in the battery loading calculation were to provide the continuous control current during normal operation. This

value was based on the maximum charger output current readings taken on frequent occasions during normal operations, not on testing results.

3. Both battery safety trains will remain operational during the SBO coping and recovery durations.

Compressed Air--Original SER Section 2.3.3

"The licensee has stated that no air operated valves will be relied upon to cope with the SBO. The valves that will be necessary for decay heat removal will be operated manually.

"After reviewing the licensee's proposal and the SAIC TER, the staff agrees with SAIC assessment that the manual operation of the emergency feedwater (EFW) control bypass valves (turbine building) and atmospheric dump valves (east and west enclosure building) necessary for decay heat removal will require close coordination. The operators will need to monitor both steam generator levels and reactor coolant temperatures while modulating the valves in the turbine building and east and west enclosure building.

"Recommendation: The licensee should simulate the proposed procedure and provide the appropriate operator training to ensure that decay heat removal can be adequately maintained."

Response

The SBO procedure for Millstone Unit No. 2, EOP 2530, "Unit 2 Station Blackout," is presently undergoing review and will be implemented by October 4, 1991. The procedure will contain the steps necessary for the operators to adequately maintain decay heat removal in the event of an SBO. NNECO also intends to include "cautions" in the EOP that will facilitate operator access for intermittent manual atmospheric dump valve operation. The proposed cautions are:

- Determine if area is accessible for manual atmospheric dump valve operation by brief entry into area. (Measure temperature if possible.)

- If accessibility is feasible, enter and adjust valve as needed. Enter area with an assistant, if possible, for personnel safety.

- If temperature is determined to be too high for safe entry (greater than about 120°F), don fire-fighting breathing apparatus (Scott Air Pak) and gloves from nearby locker. Enter area with assistant to position atmospheric dump valves as required.

Essential operator training to ensure coordination of manual operation of the EFW control bypass valves (turbine building) and atmospheric dump valves (east and west enclosure building) and monitoring of control room parameters will be completed by October 4, 1991. The proposed plan is that this training will be

conducted using the appropriate combination of the unit and the Millstone Unit No. 2 simulator and will consist of a walkthrough of the associated steps contained in EOP 2530.

EDG Reliability Program--Original SER Section 2.7

"The licensee's submittal on SBO did not specifically address a commitment to implement an EDG reliability program to conform to the guidance of RG 1.155, Position 1.2. However, during the site audit review, the licensee stated that their reliability program is sufficient to satisfy the guidelines of RG 1.115 and that, if needed, the program will be adjusted in accordance with regulatory guidance. The staff finds this commitment to be acceptable.

"Recommendation: The licensee should provide confirmation and include in the documentation supporting the SBO submittals that is to be maintained by the licensee that such a program is in place or will be implemented."

Response

As stated above by the NRC Staff in the original SER:

"The licensee's submittal on SBO did not specifically address a commitment to implement an EDG reliability program to conform to the guidance of RG 1.155, Position 1.2. However, during the site audit review, the licensee stated that their reliability program is sufficient to satisfy the guidelines of RG 1.155 and that, if needed, the program will be adjusted in accordance with regulatory guidance. The staff finds this commitment to be acceptable."

Based on this statement to the Staff, NNECO determined that no written response to the Staff was required for the recommendation contained in Section 2.7 of the original SER.

Nevertheless, NNECO implemented Nuclear Operations Policy NOP-R-2.20, "Emergency Generator Reliability," effective October 26, 1990. The source document for this procedure is Appendix D, "EDG Reliability Program," contained in Nuclear Management and Resources Council, Inc. (NUMARC), NUMARC 87-00, "Guidelines and Technical Bases for NUMARC Initiatives Addressing Station Blackout at Light Water Reactors." Using NOP-R-2.20 as the upper-tier document, Millstone Unit No. 2 implemented Engineering Department Instruction 2-ENG-10.10, "Diesel Generator Reliability Indicator Monitoring," effective September 15, 1990.

The NUMARC SBO Working Group developed Initiative 5A, Coping Assessment/EDG Performance, that was subsequently approved at the March 7, 1990, Board of Director's meeting. Additionally, the Working Group developed a revision to NUMARC 87-00 Appendix D that provides guidance in two areas: monitoring EDG reliability in accordance with the initiative, and remedial actions that may be considered upon exceeding the identified reliability trigger values.

Based upon NUMARC discussions with NRC management, it was their understanding that the NRC would issue Regulatory Guide 1.9, Revision 3 and a generic letter to provide acceptance of industry actions and Appendix D guidance, and ultimately closure of the B-56 issue. In July 1990, the NRC made available their proposed resolution package that contained drafts of the regulatory guide, a generic letter invoking 10CFR50.54(f), regulatory analysis, etc. NUMARC reviewed the resolution package and submitted extensive comments to the Committee to Review Generic Requirements (CRGR). The NRC Staff presented the proposed resolution package to CRGR on July 25, 1990. It was NUMARC's understanding that CRGR recommended certain positions on reliability program elements be moved from the body of the regulatory guide to an appendix. Additionally, it was recommended that the generic letter be revised to clarify the NRC request relative to implementation of available guidance or alternative actions for monitoring and maintaining EDG reliability.

The NRC Staff presented the modified package to the Advisory Committee on Reactor Safeguards (ACRS) on August 8, 1990. NUMARC had forwarded a copy of their comments on the Staff's resolution package to ACRS and also made a presentation at the August 8, 1990, meeting. The ACRS concluded that the current level of commitment and industry actions taken thus far are sufficient to ensure acceptable EDG reliability. Furthermore, ACRS recommended the prescriptive detail of certain positions in the draft regulatory guide be removed and that the Staff should not impose 10CFR50.54(f). The NRC indicated a formal response to NUMARC comments would be prepared and forwarded by the end of September 1990. Following that, the NRC planned to issue a generic letter by the end of October 1990, with a *Federal Register* notice identifying the revision to Regulatory Guide 1.9.

To date, the NRC has not issued Revision 3 to Regulatory Guide 1.9 or the proposed generic letter. Pending issuance by the Staff of these two documents, NNECO will continue to use the aforementioned procedures to monitor EDG reliability. NNECO will, upon issuance by the Staff, review the abovementioned documents and adjust our program, if appropriate.