



Northeast  
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November 7, 1995

Docket No. 50-336  
B15257

Re: Regulatory Guide 1.97

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

Millstone Nuclear Power Station, Unit No. 2  
Regulatory Guide 1.97, Revision 2 - Conformance Update

Purpose

The purpose of this letter is to update the conformance status for Regulatory Guide (RG) 1.97 for Millstone Unit No. 2. The variables for Reactor Coolant System (RCS) Temperature, Neutron Flux, RCS Boron Concentration, and Pressurizer Level are discussed herein.

Summary

Northeast Nuclear Energy Company (NNECO) has added RCS Cold Leg Temperature as a Type A variable for Millstone Unit No. 2. With respect to the Neutron Flux variable, NNECO is reducing the number of channels credited. For RCS Boron Concentration, the conformance status is corrected to properly reflect that the Boronometer is not credited in satisfying this variable. Lastly, for the Pressurizer Level variable, NNECO provides information to correct errors in the most recent Regulatory Guide (RG) 1.97 conformance matrix submittal.

Background

In a letter dated June 15, 1987,<sup>(1)</sup> NNECO submitted on behalf of Millstone Unit No. 2 a matrix fully describing the unit's conformance with RG 1.97. This matrix included all unit specific Type A variables, a complete listing of all recommended pressurized

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(1) E. J. Mroczka letter to U.S. Nuclear Regulatory Commission, "Supplement 1 to NUREG-0737, Revision 2 to Regulatory Guide 1.97," dated June 15, 1987.

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water reactor variables, and comprehensive definitions and explanatory notes. This submittal updated and superseded other previously docketed matrices.

In a more recent letter dated March 2, 1992,<sup>(2)</sup> NNECO submitted a new, revised format matrix which presented a summary of the conformance status of the Millstone Unit No. 2 instrumentation credited for RG 1.97. This latter matrix was intended only to describe NNECO's understanding of the then current status for each of the listed variables, therefore, the definitions and detailed notes were not included.

In letters dated February 5, 1991,<sup>(3)</sup> and August 15, 1994,<sup>(4)</sup> the NRC Staff issued Safety Evaluation Reports (SERs) for Millstone Unit No. 2 for RG 1.97. These SERs were based, in part, on the information provided by NNECO in the June 15, 1987, matrix. Since NNECO has recently added a new Type A variable, and implemented changes in the method by which Millstone Unit No. 2 conforms to some variables addressed in the SERs, an update is necessary. Furthermore, as addressed in a response to a Notice of Deviation (NOD) dated January 30, 1995,<sup>(5)</sup> errors exist in the information provided for the Pressurizer Level variable in the most recent conformance matrix submittal.<sup>(2)</sup> Although a NNECO commitment made in the response to the NOD will ultimately affect these same criteria, the errors are corrected herein to ensure that the current status of this variable is properly docketed for the interim.

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- (2) J. F. Opeka letter to U.S. Nuclear Regulatory Commission, "Compliance With Regulatory Guide 1.97, Revision 2," dated March 2, 1992.
- (3) G. S. Vissing letter to E. J. Mroczka, "Emergency Response Capability - Conformance to Open Issues Regarding Regulatory Guide 1.97, Revision 2 (TAC No. 75776)," dated February 5, 1991.
- (4) G. S. Vissing letter to J. F. Opeka, "Millstone 2 Conformance to Regulatory Guide 1.97, Revision 2 (TAC M82746)," dated August 15, 1994.
- (5) J. F. Opeka letter to U.S. Nuclear Regulatory Commission, "Millstone Nuclear Power Station, Unit Nos. 1 and 2 - Reply to a Notice of Violation, Inspection Reports 50-245/94-201, 50-336/94-201, 50-423/94-201, 50-336/94-24 and 50-423/94-23," dated January 30, 1995.

### Discussion

#### RCS Cold Leg Temperature (Variable A-9)

RG 1.97 describes Type A variables as those variables that provide primary information needed to permit the control room operating personnel to take specific manually controlled actions that are required for safety systems to accomplish their safety functions for design basis accident events. These variables are plant specific and are classified as such by the licensee. In support of recent changes to the plant Emergency Operating Procedures (EOPs), NNECO has classified RCS Cold Leg Temperature as a Type A variable for Millstone Unit No. 2. The instrumentation provided for this variable conforms to the RG 1.97 Category 1 design and qualification criteria, and has previously been identified as such to satisfy Millstone Unit No. 2 variable number B-04.

#### Neutron Flux (Variable B-01)

The Neutron Flux variable is currently identified as a Type B, Category 1 variable for Millstone Unit No. 2. Among the Category 1 design and qualification criteria is a requirement to provide a minimum of two redundant channels of instrumentation. Millstone Unit No. 2 has previously credited four redundant channels. However, to reduce environmental qualification maintenance requirements, the minimum required two redundant channels will be credited effective with Cycle 13 operation.

#### RCS Boron Concentration (Variable B-03)

The RCS Boron Concentration variable is currently identified as a Type B, Category 3 variable for Millstone Unit No. 2. Although a Boronometer (instrument loop A-203) was provided as part of the original plant design, the installation of the Post Accident Sampling System for NUREG 0737, Topic II.B.3, superseded this instrument as the credited means of satisfying this variable. This position was accepted by the NRC Staff in a letter dated June 14, 1984.<sup>(6)</sup> The continued listing of the Boronometer instrument in subsequent matrices has been in error. During the last refueling outage, NNECO reassessed the need for the Boronometer, since it had become unreliable and difficult to maintain. NNECO determined that the Boronometer was no longer necessary for safe operation of the plant, and it has been permanently removed from the plant design.

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(6) J. R. Miller letter to W. G. Council, "NUREG-0737 Item II.B.3 - Evaluation of Post-accident Sampling Capabilities," dated June 14, 1984.



Pressurizer Level (Variable D-11)

The Pressurizer Level variable is currently identified as a Type D, Category 1 variable for RG 1.97 for Millstone Unit No. 2. This instrumentation was also listed as a Type A variable, but this classification was deleted as described in a letter dated May 22, 1991.<sup>(7)</sup> Certain details important to the RG 1.97 conformance status of the instrumentation power source were not correctly stated in the most recent conformance matrix submitted on March 2, 1992. A note regarding the power source for this instrumentation was inadvertently not carried forward from an earlier matrix, submitted on June 15, 1987, to this most recent matrix, and the associated "Power" attribute entry of "1E" is incorrect. Since this note described deviations from the RG 1.97 recommendations for this variable, NNECO is submitting this letter to correct the "Power" attribute and restore the missing information to ensure that the present conformance status of this variable is properly indicated on the docket.

The correct entry for the Pressurizer Level power supply should read "Reliable" with the following note duplicated from Note 40 of the June 15, 1987, submittal:

"The pressurizer level instruments were upgraded during the 1985 refueling outage to meet EEQ requirements. The instruments are part of the cabinets which were procured mainly for the feedwater control system. These cabinets are powered from an instrument power supply that is highly reliable but not category 1E. Although this power source is not classified as category 1E, the diesel generators provide backup power. The only difference between a category 1E power supply and this instrument power supply is that the category 1E supply is backed by the station batteries via the inverters which ensures that there is no momentary power interruption during transfers from "normal" to "emergency" power and vice versa. The design of the instrument power supply will result in a momentary interruption during transfers, however, the pressurizer level instruments are designed to tolerate these momentary interruptions.

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(7) E. J. Mroczka letter to U.S. Nuclear Regulatory Commission, "Conformance to Regulatory Guide 1.97, Rev. 2," dated May 22, 1991.

Based on the above, it is concluded that the pressurizer level instrumentation, as modified, is adequate for post-accident monitoring functions."

Both the most recent matrix and the previous matrix indicated the QA status as "1E". Although the non-Category 1E status of the power supply has been clearly indicated as noted above, the QA status of the remainder of the instrument loop has not been. With respect to the QA entry, only the environmentally qualified portions of the instrument loops are considered Category 1E. The power supply, signal conditioning, and indication elements of these loops have always been non-Category 1E.

#### Commitments

There are no new commitments contained within this letter.

With respect to RG 1.97, NNECO retains two commitments made in a NOD response dated January 30, 1995.<sup>(8)</sup> The current status of these commitments is reviewed as follows:

Commitment No. B15100-8 is a commitment to modify the instrument loops for the two pressurizer level channels credited for RG 1.97 variable D-11, Pressurizer Level. These modifications will eliminate deviations from Category 1 design and qualification criteria. This commitment is scheduled to be implemented prior to startup from the Cycle 13 refueling outage.

Commitment No. B15100-9 is a commitment to perform a detailed review of RG 1.97 for Millstone Unit No. 2, including a design basis review and verification of equipment installations. As stated in a subsequent letter dated August 30, 1995,<sup>(9)</sup> this review is currently scheduled to be complete by July 15, 1996.

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(8) J. F. Opeka letter to U.S. Nuclear Regulatory Commission, "Millstone Nuclear Power Station, Unit Nos. 1 and 2 - Reply to a Notice of Violation, Inspection Reports 50-245/94-201, 50-336/94-201, 50-423/94-201, 50-336/94-24 and 50-423/94-23," dated January 30, 1995.

(9) J. F. Opeka letter to U.S. Nuclear Regulatory Commission, "Millstone Nuclear Power Station, Unit No. 2 - Modification of Commitment," dated August 30, 1995.

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Conclusion

Updates and clarifications to the Millstone Unit No. 2 conformance to RG 1.97, Revision 2, are presented herein. Furthermore, NNECO remains committed to implement modifications to pressurizer level instrumentation which will bring the Pressurizer Level variable for Millstone unit No. 2 into full conformance with the recommendations of RG 1.97.

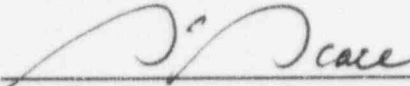
Should the Staff have any questions regarding this submittal, please contact Mr. Rod S. Peterson at (203) 440-2074.

Very truly yours,

NORTHEAST NUCLEAR ENERGY COMPANY

FOR: J. F. Opeka  
Executive Vice President

BY:

  
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S. E. Scace  
Vice President

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