Docket file

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

June 3, 1994

Docket No. 50-336
NOED No. 94-06-09

Mr. John F. Opeka
Executive Vice President, Nuclear
Connecticut Yankee Atomic Power Company
Northeast Nuclear Energy Company
Post Office Box 270
Hartford, Connecticut 06141-0270

Dear Mr. Opeka:

SUBJECT: NOTICE OF ENFORCEMENT DISCRETION RELATED TO THE AUTOMATIC INITIATION OF THE AUXILIARY FEEDWATER SYSTEM - TECHNICAL SPECIFICATION 3.3.2 (TAC M89528)

This letter confirms that on May 31, 1994, the Nuclear Regulatory Commission (NRC) granted orally Northeast Nuclear Energy Company's (NNECO's) request for enforcement discretion regarding Technical Specification 3.3.2.1 Actions applicable to certain Engineered Safety Features Actuation System (ESFAS) instrumentation channels at Millstone Unit 2.

By letter dated May 27, 1994, NNECO requested the NRC to exercise its discretion not to enforce compliance with Millstone Unit 2 Technical Specification 3.3.2.1, Action Statement b as applied to Functional Unit 9 b of Table 3.3-3, AUXILIARY FEEDWATER, Steam Generator Level - Low. At the time of the request for enforcement discretion, Millstone Unit 2 was preparing for restart from an unscheduled maintenance outage that started on April 22, 1994.

On May 19, 1994, NNECO determined, during the course of a design review, that the automatic initiation system for the auxiliary feedwater (AFW) system does not conform with prior requirements. Specifically, NNECO discovered that the common control system automatic initiation logic of the AFW system does not conform to the provisions of the Institute of Electrical and Electronics Engineers (IEEE) Standard 279-1971 in that a single short circuit can prevent automatic initiation of the motor-driven AFW pumps and opening of both AFW regulating valves. NNECO has declared the AFW automatic initiation system inoperable. However, NNECO has determined that manual initiation of the motor-driven pumps and the turbine-driven pump is not affected.

Since discovery of the single-failure concern, NNECO has been evaluating options to resolve the operability problem. NNECO asserts that there are no plant modifications that could reasonably be made in the short-term that could eliminate the single-failure vulnerability of the automatic initiation system as presently installed. NNECO has committed to installing a plant modification to resolve the issue during the next refueling outage which is scheduled for mid-summer of 1994.

Action b of Limiting Condition for Operation of Technical Specification 3.3.2.1 requires that with an ESFAS instrumentation system inoperable, the ACTION specified in Table 3.3-3 is to be taken. The ACTION specified in Table 3.3-3 for Functional Unit 9 b has the effect of prohibiting operation of the reactor in Modes 1, 2, and 3. NNECO desires to proceed with restarting Millstone Unit 2 and continue power operation until the mid-Summer of 1994 when the unit is scheduled to shutdown for refueling. Millstone Unit 2 would not be restarted from that outage until the deficiencies in the design of the AFW automatic initiation system are resolved.

NNECO's letter of May 27, 1994, proposed an amendment to the Millstone Unit 2 Technical Specifications that would add a footnote to Tables 3.3-3, 3.3-4, and 3.3-5 that would indicate that for the remainder of Cycle 12, initiation of the AFW system will rely upon manual operator action. The footnote also would indicate that prior to Cycle 13 operation, modifications to the automatic initiation logic will have been implemented to eliminate the reliance on operator action.

As justification for the requested enforcement discretion, NNECO provided the following rationale:

1. The postulated single failure is a short circuit which could defeat the common automatic initiation logic control circuit thereby preventing deenergizing two normally-energized relays required for AFW initiation. Shorts can be either line-to-line cable shorts or short circuits in the control cabinets. Certain installation features make the failure probability very low as follows:

    a. The control cable is enclosed in a metal casing minimizing the susceptibility to external damage,

    b. The control cable ampacity far exceeds the low (150 ma) control current,

    c. The only other cable in the metal casing is an IEEE-qualified low-current carrying cable,

    d. The cable has been in operation for several years with no indication of failure,

    e. The control cabinets are in the control room, are seismically qualified, and are provided with active fire detection and manual fire suppression, and

    f. Monthly surveillance testing of the automatic initiation circuit will detect the presence of any short circuits.

2. The loss of main feedwater event analyzed in the Final Safety Analysis Report (FSAR) assumes that AFW is started manually at 10 minutes after the start of the event. No credit is taken in the FSAR accident analyses for automatic AFW initiation.

3. The postulated short circuits do not have any effect upon manual AFW initiation or upon anticipated transients without scram (ATWS) mitigation system actuation circuits.

4. Emergency Operating Procedures specify operator confirmation of proper feedwater response. Standard post-trip actions direct that AFW be initiated and the steam generators be fed if feedwater is lost. These actions have been addressed in operator training and routinely practiced on the simulator.

Based upon our review of your justifications identified above, and the remaining supporting material provided in your submittals of May 27 and June 1, 1994, the staff has concluded that this course of action involves minimum safety impact, and we are satisfied that the exercise of enforcement discretion is warranted from a public health and safety perspective and will not involve adverse consequences to the environment. Therefore, it is our intention to exercise discretion not to enforce compliance with Technical Specification Surveillance Requirement 3.3.2.1 with respect to, Table 3.3-3, Functional Unit 9 b, AUXILIARY FEEDWATER, Steam Generator Level - Low commencing on May 31, 1994, until a decision by the staff regarding the proposed amendment is issued. However, we will consider enforcement action, as appropriate, for the circumstances that led to the need for this exercise of enforcement discretion.

Sincerely,

Original signed by:

Jose A. Calvo, Assistant Director
for Region I Reactors
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

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