



UNITED STATES
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20545-0001

April 25, 1996

Mr. D. N. Morey
Vice President - Farley Project
Southern Nuclear Operating
Company, Inc
Post Office Box 1295
Birmingham, Alabama 35201-1295

SUBJECT: NOTICE OF ENFORCEMENT DISCRETION (NOED 96-6-002) FOR SOUTHERN
NUCLEAR OPERATING COMPANY, JOSEPH M. FARLEY NUCLEAR PLANT, UNIT 2
(TAC NO. M95226)

Dear Mr. Morey:

By letter dated April 23, 1996 you requested that the NRC exercise discretion not to enforce compliance with the actions required in Technical Specification (TS) Surveillance Requirement 4.4.6.4, "F* Distance," which requires the plant to enter TS 3.0.3 if this F* distance is not satisfied. This LCO requires the plant to take action within one hour to be in at least hot standby within the next 6 hours. This letter documented information previously discussed with the NRC staff in a telephone conversation on April 22, 1996, that started at approximately 10:30 p.m. EDT, in which you stated that on April 23, 1996, at 2:22 a.m. EDT, Farley 2 would be required to be in hot standby as per the requirements of TS 3.0.3. Your letter also requested that an NOED be issued and be effective for the time period from 2:22 a.m. EDT, April 23, 1996, until a TS change, which you submitted by letter dated April 23, 1996, can be approved. This proposed TS change, when issued, will be in effect until the Farley Unit 2 fall 1996 refueling outage.

A recent INPO pilot steam generator inspection audit included an examination of the implementation of the F* tube repair criteria at Farley Unit 2. As a result of this audit, it was determined that Farley's F* eddy current inspection procedures were inconsistent with the definition of the F* distance given in TS 4.4.6.4, which defines the F* distance as equal to 1.79 inches as measured from of the tubesheet or the bottom of the roll transition whichever is lower in elevation. The Farley Unit 2 Specific Guidelines, contained as part of the Westinghouse Data Analysis Guidelines, specify that the F* region has been designated as top of the tubesheet minus 1.79 inches and does not account for the fact that the distance from the bottom of the roll transition may result in a smaller F* value. At the time this issue was identified, it was unclear as to whether any tubes were actually in violation of the TS. As stated during a phone call on April 18, 1996, nondestructive evaluation analysts familiar with the Farley Unit 2 inspection procedures initiated a review of previously obtained eddy current data to determine if any in-service F* tubes were outside the requirements of TS 4.4.6.4. At 7:22 p.m. EDT on April 22, 1996, Farley Unit 2 entered the action statement for TS 3.0.3 after six tubes were declared inoperable in accordance with the requirements of the F* repair criteria. Specifically, the six tubes were identified as having degradation within the 1.79-inch F* length of tube hardroll immediately below the bottom of the roll transition region.

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The F* tube repair criteria allow steam generator tube degradation with depths in excess of the 40-percent depth plugging or repair criteria to remain in service provided a sufficient length of hardroll exists above any identified tube defects. F* is based on analytical calculations and testing which demonstrated that the structural and leakage integrity margins for F* tubes are consistent with the guidance in Regulatory Guide 1.121 and Appendix A to 10 CFR Part 50. These margins are based on the assumption that a length of hardroll, as defined in TS 4.4.6.4, located below the bottom of the roll transition is free from any indications of degradation. The presence of degradation in the F* distance could potentially create an effective primary-to-secondary leak path. In addition, these tubes may also have reduced structural loading capability. Thus, the residual strength and resistance to leakage provided by the six tubes identified as being inoperable per the requirements of F* may be less than the margins evaluated in the bases for the repair criteria.

Although six in-service steam generator tubes do not satisfy the F* criteria, your submittal, dated April 23, 1996, states that these tubes would be acceptable using an L*-type tube repair criteria. L* is an extension of F* that allows tubes with degradation in the F* distance to remain in service provided certain criteria are met. To support the continued operation of Farley Unit 2 you have proposed to disposition the six tubes using L*-type repair criteria. The tubes to which the criteria are applied must meet all of the following restrictions:

1. Shall not be degraded within the L* length (1.45 inches) and may have degradation equal to or greater than 40% below the L* length.
2. The eddy current indication of degradation below the L* length must be determined to be the result of cracks with an orientation no greater than 15 degrees from the axial.
3. The L*-type criteria shall be limited to a maximum 600 tube ends per steam generator.
4. Tubes qualifying as F* tubes are not classified as L* tubes.
5. A minimum 3.1 inches of the tube into the tubesheet from the top of the tubesheet or bottom of the roll transition, whichever is lower, shall be inspected using the rotating pancake coil eddy current technique or an inspection method shown to give equivalent or better information on the orientation and length of the axial cracks.

6. A minimum aggregate of 2.07 inches of sound roll expansion.
7. A maximum crack length of .39 inch.
8. A maximum of 5 distinct indications within a single band of tube degradation.

In the safety analysis you provided to the NRC on April 23, 1996, you included the limiting characteristics for the six tubes identified as being outside the requirements of F*. The F* repair criteria assume a bounding leak rate through defects located at or below the F* distance for a large number of steam generator tubes. The location and characteristics of the identified degradation would limit the total primary-to-secondary leakage through these tubes to levels significantly below the maximum allowable leakage to limit the offsite doses under accident conditions to within a small fraction of the 10 CFR Part 100 guidelines. Thus, based on the limited number of affected tubes and the resistance to leakage provided by these tubes, the NRC staff concludes that these tubes have adequate leakage integrity margins for operation until the proposed license amendment can be reviewed and approved. In addition, the NRC staff has reviewed the essential variables associated with these tubes and concluded, based on reviews of similar steam generator tube repair criteria, that these tubes should have sufficient residual strength to resist potential axial tube loadings in a postulated design basis event.

The compensatory measures you committed to while the NOED is in effect, include review of procedural guidance for primary-to-secondary leakage with on-shift licensed crews and review of steamline and feedline break procedures with on-shift licensed operating personnel.

The staff has concluded that your request satisfies the criteria for issuance of an NOED as provided in the "NRC Inspection Manual Part 9900 10 CFR Part 2, Appendix C Enforcement Discretion." Specifically, the exercise of enforcement discretion is intended to avoid undesirable transients as a result of forcing compliance with the license condition and, thus, minimize potential consequences and operational risks.

On the basis of the staff's evaluation of your request described above, the staff has concluded that the exercise of enforcement discretion is warranted because we are clearly satisfied that this action involves minimal or no safety impact and has no adverse impact on public health and safety. It is our intention to exercise discretion not to enforce compliance with the LCO associated with the TS 4.4.6.4 F* distance requirement for the period from 2:22 a.m. EDT April 23, 1996, until issuance of a license amendment.

On April 23, 1996, you submitted a proposed change to the Farley Unit 2 TS to include the L*-type steam generator tube repair criteria as used to determine the acceptability of the six tubes in your NOED request. This submittal will be reviewed by the staff on an expedited basis. This letter documents our telephone conversation on April 22, 1996, during which we verbally approved your request for enforcement discretion.

Mr. D. N. Morey

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April 25, 1996

However, as stated in NUREG-1600, "General Policy and Procedures for Enforcement Actions," enforcement action will normally be taken, to the extent that violations were involved, for the root cause that led to the noncompliance for which this discretion was granted.

Sincerely,

A handwritten signature in cursive script that reads "Herbert N. Berkow". The signature is written in dark ink and is positioned above the typed name and title.

Herbert N. Berkow, Director
Project Directorate II-2
Division of Reactor Projects I/II
Office of Nuclear Reactor Regulation

Docket No. 50-364

cc: See next page

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Mr. D. N. Morey

April 25, 1996

However, as stated in NUREG-1600, "General Policy and Procedures for Enforcement Actions," enforcement action will normally be taken, to the extent that violations were involved, for the root cause that led to the noncompliance for which this discretion was granted.

Sincerely,

Original signed by:

Herbert N. Berkow, Director
Project Directorate II-2
Division of Reactor Projects I/II
Office of Nuclear Reactor Regulation

Docket No. 50-364

cc: See next page

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*E-mail concurrence
by RII (JJaudon)

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