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May 20, 2004
JAFP-04-0071

United States Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555

SUBJECT: James A. FitzPatrick Nuclear Power Plant
Docket No. 50-333

Response to Request for Information Regarding Proposed One Time Deferral of Integrated Containment Leak Rate Testing (TAC No. MC0247)

References: 1) JAFP-03-0108, Proposed Relief Request to the JAFNPP ISI Program (TAC MC0247), dated July 28, 2003

Dear Sir:

On March 17, 2004, the NRC notified Entergy Nuclear Operations, Inc. (ENO) by phone of its request for information to support technical review of our ISI Program Relief Request TAC MC0247, One Time Deferral of Integrated Containment Leak Rate Testing (Ref. 1).

This letter provides our response to the subject request for information in Attachment 1.

Very Truly Yours,

T. A. Sullivan
Site Vice President

TAS:dd

Cc: (see next page)

A017

Cc: Hubert J. Miller
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Since the inservice inspection (ISI) requirements mandated by 10 CFR 50.55a and the leak rate testing requirements of Option B of 10 CFR Part 50, Appendix J complement each other to ensure the leak-tight and structural integrity of the containment, the staff requested the following information to complete its review of the license amendment request:

Request 1: "Since there is no description (or summarization) regarding the containment ISI program being implemented at the plant included in the submittal (reference), provide a description of the ISI methods that provide assurance that in the absence of a containment integrated leak rate testing (ILRT) for 15 to 20 years, the containment structural and leak-tight integrity will be maintained."

Response:

JAFP-03-0108, Attachment 5, "Containment Inservice Inspection Program Summary," included in the original submittal, contains the description of the containment ISI program. This summary details the description of the ISI methods and scheduled implementation that will be applied to ensure structural integrity and leak-tightness is maintained.

Inspections are ongoing and will continue in the future as required by the ASME code, the Maintenance Rule, and other periodic walkdowns and inspections (coatings, post maintenance tests, etc.). These inspections provide a high degree of assurance of continued containment structural integrity.

Request 2: "IWE-1240 requires licensees to identify the containment surface areas requiring augmented examinations. Provide the locations of the steep containment (or concrete containment liner) surfaces that have been identified as requiring augmented examination and a summary of the findings of the examinations performed."

Response:

Evaluations of possible suspect surfaces were performed to identify areas that would require augmented examinations. Currently there are no identified/scheduled augmented inspections.

No conditions exist in the accessible areas that could indicate the presence of, or result in, degradation to such inaccessible areas.

Please see Attachment 5, "Containment Inservice Inspection Program Summary", page 5 of 7 of the proposed associated relief request for further details.

Request 3: "For the examination of penetration seals and gaskets, and examination and testing of bolted connections associated with the primary containment pressure boundary (Examination Categories E-D and E-G), relief for the requirements of the code had been requested. As an alternative, it was proposed to examine them during the leak-rate testing of the primary containment. However, Option B of Appendix J for Type B and Type C testing (as per NEI 94-01 and RG 1.163), and the ILRT extension requested in this amendment for Type A testing provide flexibility in the scheduling of these inspections. Provide your schedule for examination and testing of seals, gaskets, and bolted connections that provide assurance regarding the integrity of the containment pressure boundary."

Response:

In accordance with the NRC's safety evaluation, dated May 1, 2002, "James A. FitzPatrick Nuclear Power Plant - Alternative to the American Society of Mechanical Engineers Boiler and Pressure Vessel Code (ASME Code) to use the 1998 Edition of Subsections IWE of the ASME Code, Section XI for Containment" (TAC No. MB2946), if a bolted connection within the IWE boundary is disassembled, a detailed visual examination will be performed once per inspection interval (10 years), consistent with the requirements of the 1992 Addenda of the ASME Code, Section XI. The detailed visual examination (VT-1) will be performed on all accessible surface areas of the bolts, studs, nuts, bushings, washers, threads in base material, and flange ligaments between the fastener holes. In addition, a VT-1 examination will be performed if a bolted connection is disassembled at the time of a scheduled general visual examination, or at times other than a scheduled visual examination (e.g., a maintenance activity). All accessible surface areas of the connection (bushings, threads, ligaments in the base material of flanges) will be included in the examination.

To ensure integrity of leak tightness for seals, gaskets and bolted connections (for testable components) the following applies:

All seals and gaskets are tested at least once every ten years (and inspected when disassembled) in accordance with Type B, Appendix J, Option B requirements (Local Leak Rate Testing).

The bolting, seal and gasket inspections are captured in the planning process and performed in accordance with approved plant procedures.

Request 4: "The stainless steel bellows have been found to be susceptible to trans-granular stress corrosion cracking, and the leakage through them is not readily detectable by the Type B testing (see information Notice 92-20). If applicable, provide information regarding inspection and testing of the bellows, and how such behavior has been factored into the risk assessment."

Response:

References

1. OR 92-211, Occurrence Report dated 6/17/92.
2. LER-92-033, Licensee Event Report dated 6/17/92.
3. JAF-RPT-PC-01211, Evaluation of Appendix J Type B Test Methodology for the Drywell to Torus Vent Pipe Bellows.
4. SFTOP-92-039, Short Form Temporary Operating Procedure for testing the Drywell to Torus Vent Pipe Expansion Bellows.
5. NRC IN 92-20, Inadequate Local Leak Rate Testing.

The only stainless steel expansion bellows associated with the Primary Containment at FitzPatrick are on the vent pipes that communicate between the Drywell and Torus. The Torus vent pipe expansion bellows are 2-ply stainless steel and are designed to be Type B leak rate tested in accordance with 10CFR50 Appendix J. On 6/17/92, in response to reference 5, it was determined that these bellows had never been subjected to local leak rate testing, and over the past 22 years of operation were only exposed to Type A testing. To document and address this deviation, references 1 through 4 were written. The bellows were leak rate tested between 8/25/92 and 8/27/92 with the test results showing no restriction to full flow, and leakage integrity was verified by measured leakage being no greater than 0.211 scfd for any individual bellows. An ILRT was subsequently performed in March of 1995 with measured leakage totaling 0.0629% wt./day against an allowable L_a of 0.5% wt./day (L_a has since been increased to 1.5% wt./day via Tech Spec amendment 261). Since initial testing, the bellows have passed consecutive LLRTs and qualify for testing on an extended interval of 120 months in accordance with 10CFR50 Appendix J Option B, and are being tested on a rotational basis of at least 2 per refuel outage.

These expansion bellows are located inside the Torus. A steel protective cover is installed that encases the bellows. The cover has cutouts where the leak rate test-taps protrude through. As stated in reference 3, the structural integrity of the bellows was verified by pressurizing them to accident pressure, and venting them from the test-tap on the opposite side. This test method ensured that the 2 plies were not in contact or restricting flow. The leak rate testing that has been performed to date provides a high level of confidence in the integrity of these expansion bellows.

As stated, the design of the FitzPatrick containment placed the vent pipe expansion bellows inside the Torus. Due to this design, in order for containment atmosphere to leak through these bellows to the Reactor Building (secondary Containment) atmosphere, it would have to pass through both plies of the bellows, which assumes a double failure occurs. These bellows are essentially static devices in that they are designed for thermal expansion between the Drywell and Torus during a DBA, and therefore have not experienced the inservice stresses that would propagate

Trangranular Stress Corrosion Cracking. Based on the design, service conditions and current testing applied to these expansion bellows, additional testing or inspection is not warranted, nor is it considered practical. Access for visual inspection would require construction of scaffolding inside the Torus as well as removal of the protective covers from the bellows. The potential for damage to the bellows during these activities does not provide a compensating level of improvement in quality and safety.

Request 5: "Inspections of some reinforced concrete and steel containment structures have found degradation on uninspectable (embedded) side of the drywell steel shell and steel liner of the primary containment. These degradations cannot be found by visual (ie., VT-1 of VT-3) examinations unless they are through the thickness of the shell or liner, or 100 percent of the uninspectable surfaces are periodically examined by ultrasonic testing. Provide information addressing how potential leakage under high pressure during core damage accidents is factored into the risk assessment related to the extension of the ILRT."

Response:

In accordance with more recent verbal communication from the NRC, it is not necessary to respond to this request as it was satisfactorily answered in the original submittal.