



Entergy Operations, Inc.
1340 Echelon Parkway
Jackson, Mississippi 39213-8298
Tel 601-368-5755

F. G. Burford
Acting Director
Nuclear Safety & Licensing

CNRO-2007-00009

March 8, 2007

U. S. Nuclear Regulatory Commission
Attn.: Document Control Desk
Washington, DC 20555-0001

SUBJECT: Request for Alternative ANO1-ISI-008
Request to Extend the Current ASME Inservice Inspection Interval in
accordance with NRC Information Notice 98-44

Arkansas Nuclear One, Unit 1
Docket No. 50-313
License No. DPR-51

- REFERENCES:**
1. Entergy letter 1CNA089904, *Risk-Informed Alternative to certain Requirements of ASME Code Section XI, Table IWB-2500-1 at Arkansas Nuclear One, Unit 1 (TAC MA2023)*, dated August 25, 1999
 2. NRC letter, *Grand Gulf Nuclear Station, Unit 1 – Request for Alternative GG-ISI-003 RE: Extending the Current Inservice Inspection Interval in accordance with U. S. Nuclear Regulatory Commission Information Notice 98-44 (TAC No. MD3167)*, dated February 13, 2007

Dear Sir or Madam:

Pursuant to 10 CFR 50.55a(a)(3)(i), Entergy Operations, Inc. (Entergy) requests approval to extend the third Inservice Inspection (ISI) interval for piping at Arkansas Nuclear One, Unit 1 (ANO-1) to the end of its twenty-first refueling outage, currently scheduled for fall 2008. This request is enclosed as Request for Alternative ANO1-ISI-008. ANO-1 currently has a Class 1 risk-informed ISI program based on ASME Code Case N-560, which was approved by the NRC via Reference #1. Entergy will complete Class 1 piping examinations per our current program during the current ISI interval. Request ANO1-ISI-008 applies to Class 2 piping welds in Examination Categories C-F-1 and C-F-2. The requested extension is approximately six months beyond the one-year extension allowed by ASME Section XI IWB-2412(b).

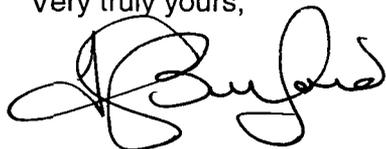
NRC approved a similar request for Grand Gulf Nuclear Station (GGNS) via Reference #2. Request for Alternative ANO1-ISI-008 contains information pertaining to ANO-1 that addresses the request for additional information for the GGNS submittal.

A047

Entergy requests that the NRC approve ANO1-ISI-008 by March 1, 2008. Should you have any questions regarding this submittal, please contact Guy Davant at (601) 368-5756.

This letter contains no commitments.

Very truly yours,



FGB/GHD/ghd

Enclosure: Request for Alternative ANO1-ISI-008

cc: Mr. W. A. Eaton (ECH)
Mr. J. S. Forbes (ECH)
Mr. T. G. Mitchell (ANO)

Dr. Bruce S. Mallett
U. S. Nuclear Regulatory Commission
Region IV
611 Ryan Plaza Drive, Suite 400
Arlington, TX 76011

U. S. Nuclear Regulatory Commission
Attn: Ms. F. E. Saba
MS O-8B1
Washington, DC 20555-0001

NRC Senior Resident Inspector
Arkansas Nuclear One
P. O. Box 310
London, AR 72847

✓

ENCLOSURE

CNRO-2007-00009

**REQUEST FOR ALTERNATIVE
ANO1-ISI-008**

**ENTERGY OPERATIONS, INC.
ARKANSAS NUCLEAR ONE, UNIT 1**

**REQUEST FOR ALTERNATIVE
ANO1-ISI-008**

Components/Numbers: Piping Welds

Code Class: 2

References: 1. ASME Section XI, 1992 Edition

2. NRC Information Notice 98-44, *Ten-Year Inservice Inspection Program Update for Licensees that Intend to Implement RI-ISI of Piping*

Examination Category: C-F-1 and C-F-2

Item Numbers: All

Description: Piping Welds

Unit / Inspection Interval Applicability: Arkansas Nuclear One, Unit 1 (ANO-1) / Third (3rd) 10-year interval

I. CODE REQUIREMENT(S)

The ISI code of record for ANO-1 is ASME Section XI 1992 Edition with portions of the 1993 Addenda applicable to pressure testing [see the NRC's safety evaluation report dated December 12, 1996 (TAC No. M94488)].

ASME Section XI Table IWB-2412-1 defines an inservice inspection (ISI) interval to be 10 years in duration. IWB-2412(b) allows extending the interval for one year to coincide with a plant outage.

II. REQUESTED ALTERNATIVE

Pursuant to 10 CFR 50.55a(a)(3)(i), Entergy Operations, Inc. (Entergy) requests authorization to extend the current ISI interval to include an additional refueling outage, which will be the twenty-first refueling outage (1R21) currently scheduled for the fall 2008 for items in Examination Categories C-F-1 and C-F-2. This alternative will not affect the fourth interval start date.

III. BASIS FOR RELIEF

NRC Information Notice (IN) 98-44, *Ten-Year Inservice Inspection Program Update for Licensees that Intend to Implement RI-ISI of Piping* (Reference 2), states that the probabilistic risk assessment technology in NRC regulatory activities should be increased to the extent supported by state-of-the-art methods and data and in a manner that complements the NRC's deterministic approach. Basically, this information combined with risk assessment techniques and associated data provides for developing an effective approach to the ISI program. This approach provides an acceptable level of quality and safety, as required by 10 CFR 50. 55a(a)(3)(i). IN 98-44 also states that the NRC staff will consider authorizing a delay of up to 2 years in implementing the next 10-year ISI program for piping only in order for the licensee to develop and obtain approval for the risk-informed ISI program for piping.

ANO-1 is currently in the third period of the third ISI interval as defined by ASME Section XI Code for Inspection Program B. The third 10-year ISI interval began June, 1997 and ends May 2007. Invoking the Code-allowed one-year extension extends the interval to May 2008.

Entergy is planning to submit to the NRC staff a request for alternative to implement a risk-informed / safety-based inservice inspection (RIS_B) program at ANO-1. Entergy plans to implement the RIS_B ISI program during 1R21 currently scheduled for the fall 2008. To accomplish this, Entergy requires approval of this request, which extends the third ISI interval to the end of 1R21 (approximately six months beyond the Code-allowed one-year extension).

The ANO-1 RIS_B process will be based upon ASME Code Case N-716, *Alternative Piping Classification and Examination Requirements, Section XI Division 1*, which is founded in large part on the RI-ISI process as described in Electric Power Research Institute (EPRI) Topical Report (TR) 112657 Rev. B-A, *Revised Risk-Informed Inservice Inspection Evaluation Procedure*. The associated request for alternative will demonstrate a reduction in risk (or maintains risk neutrality) while substantially reducing worker exposure and undue burden. Because risk-informed ISI programs focus inspections (and inspection methods) on locations potentially susceptible to degradation while considering the consequence of piping failure, a more robust targeted inspection program can be defined.

If the to-be-requested RI-ISI program, based on ASME Code Case N-716, is not accepted by the staff, Entergy plans to submit a different request for alternative to establish an RI-ISI program at ANO-1 based on ASME Code Case N-578, which the staff has approved for several licensees. With such a submittal, Entergy would also seek an additional extension of the third interval, if necessary. In the unlikely event the staff does not approve a RI-ISI program based on either code case, Entergy would then perform the necessary Code-required examinations for the third interval.

Table IWB-2412-1 requires that a minimum of 50% of the ASME Section XI examinations be completed by the end of the second period of an inspection interval. By the end of the eighteenth refueling outage (1R18), which was in the second period of the third interval, 60.5% of the piping weld examinations required by ASME Section XI had been

completed for Examination Categories C-F-1 and C-F-2.¹ Therefore, ANO-1 met the minimum requirement specified in Table IWB-2412-1. By the end of the last refueling outage (1R19), 66% of the required piping weld examinations have been completed.

During the time period needed for NRC review and approval of the RI-ISI program request, Entergy plans to perform required augmented inspection programs as committed to the staff in various correspondence. For example, augmented inspections of piping in stagnant borated water systems are scheduled to be performed during 1R20 in accordance with NRC Bulletin 79-17, *Pipe Cracks in Stagnant Borated Water Systems at PWR Plants*; no other piping weld inspections are currently planned prior to 1R21.

Due to the short time period remaining before the start of 1R20 (currently scheduled to begin during the spring 2007), Entergy will not be able to submit the request for the RIS_B Program prior to 1R20. Entergy intends to start implementing the RIS_B Program at ANO-1 during the plant's third period of the third inspection interval. As stated above, by the end of the previous refueling outage (1R19), 66% of the piping weld examinations required by ASME Section XI had been completed thus far in the third ISI interval for Examination Categories C F-1 and C-F-2. To ensure that 100% of the required examinations are performed during the current ISI interval, 34% of the Class 2 inspection locations selected for examination per the RIS_B process will be examined in the third period of the interval. The fourth ISI interval will implement 100% of the inspection locations selected for examination per the program approved by the staff. Examinations shall be performed such that the period percentage requirements of ASME Section XI are met.

IV. CONCLUSION

10CFR50.55a(a)(3) states:

"Proposed alternatives to the requirements of (c), (d), (e), (f), (g), and (h) of this section or portions thereof may be used when authorized by the Director of the Office of Nuclear Reactor Regulation. The applicant shall demonstrate that:

- (i) The proposed alternatives would provide an acceptable level of quality and safety, or
- (ii) Compliance with the specified requirements of this section would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety."

As discussed in Section III above, the extension to the end of 1R21 would allow time for the NRC to review ANO-1's risk-informed ISI submittal while not affecting future ISI intervals. Therefore, Entergy requests authorization to perform the requested alternative to the Code requirement pursuant to 10 CFR 50.55a(a)(3)(i).

¹ Entergy transmitted this information to the NRC via Entergy letter 1CAN080403, *Inservice Inspection (ISI) Summary Report*, dated August 11, 2004.