



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

February 5, 2009

Mr. Bryan S. Ford
Senior Manager, Nuclear Safety & Licensing
Entergy Operations, Inc.
1340 Echelon Parkway
Jackson, MS 39213-8298

SUBJECT: ARKANSAS NUCLEAR ONE, UNIT 1, GRAND GULF NUCLEAR STATION,
UNIT 1, RIVER BEND STATION, UNIT 1, AND WATERFORD STEAM
ELECTRIC STATION, UNIT 3 - REQUEST FOR ADDITIONAL INFORMATION
RE: RELIEF REQUEST CEP-ISI-011 FOR THIRD 120-MONTH INSERVICE
TESTING INTERVAL (TAC NOS. MD8826, MD8827, MD8828, AND MD8829)

Dear Mr. Ford:

By letter dated May 20, 2008 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML081620369), Entergy Operations, Inc. (Entergy, the licensee), submitted an application for a request to utilize, pursuant to paragraph 50.55a(a)(3)(i) of Title 10 of the *Code of Federal Regulations* (10 CFR), the alternative requirements in American Society of Mechanical Engineers Boiler and Pressure Vessel Code (Code), Code Case N-747 in lieu of the requirements of Table IWB-2500-1, Examination Category B-A, Item Number B1.40.

The U.S. Nuclear Regulatory Commission (NRC) staff has reviewed the application and determined that additional information is required in order to complete the review. The enclosed request for additional information (RAI) was discussed with Mr. W. Brice of your staff. Mr. Brice agreed to provide a response within 30 days of the receipt of this letter. Please note that on January 28, 2009, this RAI (ADAMS Accession No. ML083390757) was sent to the Waterford 3 address.

If you have any questions, please contact me at (301) 415-1480.

Sincerely,

A handwritten signature in black ink, appearing to read "N. Kalyanam", with a horizontal line underneath.

N. Kalyanam, Project Manager
Plant Licensing Branch IV
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-313, 50-416,
50-458, and 50-382

Enclosure:
Request for Additional Information

cc: w/encl: Distribution via ListServ

REQUEST FOR ADDITIONAL INFORMATION
RELIEF REQUEST FOR ALTERNATIVE CEP-ISI-011 FOR
ARKANSAS NUCLEAR ONE, UNIT 1
GRAND GULF NUCLEAR STATION, UNIT 1
RIVER BEND STATION, AND
WATERFORD STEAM ELECTRIC STATION, UNIT 3
ENTERGY OPERATIONS, INC.

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The U.S. Nuclear Regulatory Commission (NRC) staff requests that the licensee provide additional analyses to support the elimination of the ASME Code, Section XI-required volumetric examination for the reactor vessel head-to-flange weld. This alternative, as established in Code Case N-747, may be rejected for endorsement by the staff in Regulatory Guide 1.147 for the reasons outlined below:

Alternatives to current inservice inspection (ISI) requirements that use a probabilistic risk assessment as a basis must initially be submitted as a risk-informed ISI program pursuant to 10 CFR 50.55a(a)(3)(i) (i.e., on a plant-specific basis and not on a generic basis).

The NRC staff requests that Entergy provide a more quantitative technical basis for the alternative proposed in Code Case N-747. First, no supporting neutron fluence assessment or documentation to establish a conservative neutron fluence estimate for these welds and a conservative reference temperature nil ductility (RT_{NDT}) value for the welds is provided. Thus, there is no data to support a conclusion that the fracture toughness is low. Second, the methods in ASME Code Appendix G to Section XI apply only to pressure-temperature limit methods and not to ISI inspection requirements.

The additional supporting analyses for the alternative proposed in CEP-ISI-011 must address the two technical issues outlined above, specifically:

- (1) Provide a determination (or conservative estimation) of the neutron fluence at the flange location and explain how a sufficiently high plant-specific fracture toughness is assured at the location of interest (i.e., show that the toughness of the limiting Waterford 3 material at the plant-specific boltup temperature is consistent with assumptions made in the technical basis).
- (2) Explain how the results of the Appendix G-related analysis directly support the requested ISI program relief.

Enclosure

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ADAMS Accession No. ML090350379

*No major change from Staff provided RAI dated

OFFICE	NRR/LPL4/PM	NRR/LPL4/LA	NRR/DCI/CVIB*	NRR/LPL4/BC	NRR/LPL4/PM
NAME	NKalyanam	JBurkhardt	MMitchell	MMarkley JRH for	NKalyanam
DATE	2/4/09	2/4/09	01/13/09	2/4/09	2/5/09

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