

September 26, 2006

Mr. Jeffrey S. Forbes  
Site Vice President  
Arkansas Nuclear One  
Entergy Operations, Inc.  
1448 S. R. 333  
Russellville, AR 72801

SUBJECT: BULLETIN 2004-01, "INSPECTIONS OF ALLOY 82/182/600 MATERIALS USED IN THE FABRICATION OF PRESSURIZER PENETRATIONS AND STEAM SPACE PIPING CONNECTIONS AT PRESSURIZED-WATER REACTORS," RESPONSE FOR ARKANSAS NUCLEAR ONE, UNITS 1 AND 2 (TAC NOS. MC3457 AND MC3458, RESPECTIVELY)

Dear Mr. Forbes:

On May 28, 2004, the U.S. Nuclear Regulatory Commission (NRC) issued Bulletin 2004-01, "Inspections of Alloy 82/182/600 Materials Used in the Fabrication of Pressurizer Penetrations and Steam Space Piping Connections at Pressurized-Water Reactors," to the industry. This bulletin informed addressees that current methods of inspecting the pressurizer penetrations and steam space piping connections fabricated from Alloy 82/182/600 materials may need to be supplemented with additional measures (e.g., bare-metal visual inspections) to detect flaws or leakage in these components. The bulletin requested that addressees provide the NRC with information related to the materials of construction, the inspections that have been performed, and the inspections that will be performed to verify the integrity of the pressurizer penetrations and steam space piping connections.

By letter dated July 27, 2004 (and by a supplemental letter dated September 21, 2005), Entergy Operations, Incorporated (EOI) provided its responses to items 1a, 1b, 1c, and 1d of Bulletin 2004-01 for Arkansas Nuclear One, Units 1 and 2 (ANO-1 and ANO-2, respectively). EOI's responses described its materials of fabrication and past, current, and future pressurizer penetrations and steam space piping inspection programs at ANO-1 and ANO-2.

EOI's response to item 1a reported that some of the materials used in the fabrication of the pressurizer penetrations and steam space piping connections were Alloy 82/182/600 materials. This response to item 1a required that you provide further responses to the remaining items in the bulletin.

In response to item 1b, EOI described prior inspections and inspection results of pressurizer penetrations and steam space piping connections that had been performed at ANO-1 and ANO-2. EOI's response included the basis for concluding that ANO-1 and ANO-2 satisfy the applicable regulatory requirements related to the integrity of pressurizer penetrations and steam space piping connections.

In response to item 1c in the bulletin, EOI provided a description of the Alloy 82/182/600 pressurizer penetration and steam space piping connection inspection program that will be implemented at your plants during the next and subsequent refueling outages. In response to item 1d in the bulletin, EOI explained why the inspection program identified in the response to item 1c in the bulletin is adequate for the purpose of maintaining the integrity of the ANO-1 and ANO-2 reactor coolant pressure boundaries and for meeting all applicable regulatory requirements which pertain to your facilities.

By letters dated June 7, 2005, and January 27, 2006, you provided responses to item 2a in Bulletin 2004-01 for ANO-1 and ANO-2, respectively. These letters provided statements to the NRC indicating that the inspections described in response to item 1c of the bulletin were completed during recent outages at ANO-1 and ANO-2 and descriptions of the as-found condition of the locations inspected were provided. EOI also described any findings of relevant indications of through-wall leakage and follow-up nondestructive examination (NDE) performed to characterize flaws in leaking penetrations or steam space piping connections. A summary of all relevant indications found by NDE, a summary of the disposition of any findings of boric acid, and a description of any corrective actions taken and/or repairs made as a result of the indications found were also provided in these letters.

The NRC staff has completed its activities associated with the review of EOI's responses to Bulletin 2004-01 and finds EOI's responses to be acceptable. It should be noted that industry commitments or staff regulatory actions may result in the need for you to modify your plans for the inspection and repair of items discussed in Bulletin 2004-01. It is the staff's expectation that you will revise your plan for the inspection and repair of items discussed in Bulletin 2004-01 consistent with other industry commitments or staff regulatory actions.

This closes the staff's efforts with regard to the review of the Bulletin 2004-01 response for ANO-1 and ANO-2. Please contact me at (301) 415-1436 if you have any questions on this issue.

Sincerely,

Drew Holland, Project Manager  
Plant Licensing Branch IV  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket Nos. 50-313 and 50-368

cc: See next page

In response to item 1c in the bulletin, EOI provided a description of the Alloy 82/182/600 pressurizer penetration and steam space piping connection inspection program that will be implemented at your plants during the next and subsequent refueling outages. In response to item 1d in the bulletin, EOI explained why the inspection program identified in the response to item 1c in the bulletin is adequate for the purpose of maintaining the integrity of the ANO-1 and ANO-2 reactor coolant pressure boundaries and for meeting all applicable regulatory requirements which pertain to your facilities.

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**/RA/**  
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Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket Nos. 50-313 and 50-368

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J. Forbes

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Arkansas Nuclear One

cc:

Senior Vice President  
& Chief Operating Officer  
Entergy Operations, Inc.  
P. O. Box 31995  
Jackson, MS 39286-1995

Director, Division of Radiation  
Control and Emergency Management  
Arkansas Department of Health  
4815 West Markham Street, Slot 30  
Little Rock, AR 72205-3867

Winston & Strawn  
1700 K Street, N.W.  
Washington, DC 20006-3817

Senior Resident Inspector  
U.S. Nuclear Regulatory Commission  
P. O. Box 310  
London, AR 72847

Regional Administrator, Region IV  
U.S. Nuclear Regulatory Commission  
611 Ryan Plaza Drive, Suite 400  
Arlington, TX 76011-8064

County Judge of Pope County  
Pope County Courthouse  
Russellville, AR 72801

Vice President, Operations Support  
Entergy Operations, Inc.  
P. O. Box 31995  
Jackson, MS 39286-1995

Wise, Carter, Child & Caraway  
P. O. Box 651  
Jackson, MS 39205