

July 1, 2003

Mr. Craig G. Anderson
Vice President, Operations ANO
Entergy Operations, Inc.
1448 S. R. 333
Russellville, AR 72801

SUBJECT: ARKANSAS NUCLEAR ONE, UNIT NO. 2 - 2003 ANNUAL REPORT OF
STEAM GENERATOR TUBING INSERVICE INSPECTIONS (TAC NO. MB8452)

Dear Mr. Anderson:

By letter dated April 11, 2003, Entergy Operations, Inc. (Entergy), submitted the steam generator (SG) tube inspection report for the April 2002 (2R15) refueling outage at Arkansas Nuclear One, Unit 2. The results of this inspection during the 2R15 outage are explained in greater detail in Entergy's license amendment request to modify the SG tube inspection frequency dated November 22, 2002.

The U.S. Nuclear Regulatory Commission staff has reviewed the subject report. Based on its review, the staff concludes that Entergy provided sufficient information and there are no issues that warrant additional follow-up at this time. The staff's review is enclosed.

Sincerely,

/RA/

Thomas W. Alexion, Project Manager, Section 1
Project Directorate IV
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket No. 50-368

Enclosure: Staff's review

cc w/encl: See next page

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*no substantive change from review input

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STAFF'S REVIEW OF STEAM GENERATOR TUBE INSPECTION REPORT

ENTERGY OPERATIONS, INC.

ARKANSAS NUCLEAR ONE, UNIT NO. 2

DOCKET NO. 50-368

By letter dated April 11, 2003, Entergy Operations, Inc. (Entergy or the licensee), submitted the steam generator (SG) tube inspection report for the April 2002 (2R15) refueling outage at Arkansas Nuclear One, Unit No. 2 (ANO-2). The results of this inspection during the 2R15 outage are explained in greater detail in the licensee's license amendment request to modify the SG tube inspection frequency dated November 22, 2002 (Agencywide Documents Access and Management System Accession Number ML023600429). A summary of the U.S. Nuclear Regulatory Commission's (NRC's) evaluation of the inspection results is provided below.

ANO-2 is a Combustion Engineering-designed plant that replaced their original SGs in Fall 2000 with SGs containing thermally treated Alloy 690 tubes. The licensee stated that during the Spring 2002 refueling outage, 100 percent of the tubes in both SGs were inspected full-length with an eddy current probe containing a bobbin coil. In addition, any indication that was given an I-Code during the bobbin inspection was further inspected with a +Point™ coil. An I-Code was given to any indication that could potentially be indicative of tube degradation. Inspections with a +Point™ coil were also performed on 100 percent of the row 1 and 2 tubes in the U-bend region.

A total of 26 bobbin I-Code indications were further investigated with a +Point™ coil. These inspections revealed that three of the indications were due to inservice degradation. Two of the indications were attributed to a loose part that was located and removed during the outage. The loose part was a corkscrew shaped piece of metal that was likely the result of SG replacement activities during the previous outage. The two tubes affected by the loose part were further analyzed, and it was determined that the depth of the wear was well below the limits for leakage and burst. The third indication attributed to inservice degradation was an anti-vibrational bar wear scar. This indication was also determined to be well below the limits for leakage and burst. The licensee determined that the depth of these three indications was less than or equal to 18 percent throughwall. These three tubes were left in service.

Based on our review of the information provided by the licensee, the NRC staff concludes that the information that the licensee provided was sufficient and that no additional follow-up is required at this time.

Arkansas Nuclear One

cc:

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& Chief Operating Officer
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March 2001