



Entergy Operations, Inc.  
1448 S R 333  
Russellville, AR 72802  
Tel 501 858 5000

2CAN030302

March 13, 2003

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

SUBJECT: Arkansas Nuclear One, Unit 2  
Docket No. 50-368  
Response to Request for Additional Information on License  
Amendment for Steam Generator Tube Inspection Frequency

REFERENCE:

- 1 Entergy Letter dated November 22, 2002, Operating License Amendment Request to Modify Steam Generator Tube Inspection Frequency (2CAN110204)

Dear Sir or Madam:

Pursuant to 10CFR50.90, Entergy Operations, Inc (Entergy) requested an operating license amendment for Arkansas Nuclear One, Unit 2 (ANO-2) to Technical Specification (TS) 4.4.5.3 a (Reference 1). The proposed amendment requested a one-time change to revise the steam generator (SG) inservice inspection frequency requirements in TS 4.4.5.3.a to allow a 40-month inspection interval after one inspection given a C-1 classification rather than after two consecutive inspections

The NRC Staff reviewed the amendment request and provided a request for additional information (RAI). The Attachment to this letter provides Entergy's response to the NRC RAI. A review of the 2R15 outage inspection data has determined that the special interest numbers reported in Table 1 of Entergy's November 22, 2002 submittal were in error. The revised Table 1 in the Attachment provides the corrected numbers.

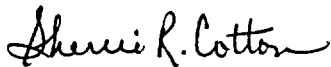
The response to the NRC RAI does not affect the proposed ANO-2 technical specifications nor does it impact the no significant hazards considerations previously provided in Reference 1. There are no commitments being made in this submittal

A001

If you have any questions or require additional information, please contact Steve Bennett at 479-858-4626.

I declare under penalty of perjury that the foregoing is true and correct. Executed on March 13, 2003.

Sincerely,



Sherrie R. Cotton  
Director, Nuclear Assurance

SRC/sab

Attachment: Response to Request for Additional Information on License Amendment for Steam Generator Tube Inspection Frequency

cc: Mr. Ellis W. Merschhoff  
Regional Administrator  
U. S. Nuclear Regulatory Commission  
Region IV  
611 Ryan Plaza Drive, Suite 400  
Arlington, TX 76011-8064

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

U. S. Nuclear Regulatory Commission  
Attn: Mr. Thomas W. Alexion MS O-7D1  
Washington, DC 20555-0001

Mr. Bernard R. Bevill  
Director Division of Radiation  
Control and Emergency Management  
Arkansas Department of Health  
4815 West Markham Street  
Little Rock, AR 72205

**Attachment**

**2CAN030302**

**Response to Request for Additional Information on License Amendment for Steam  
Generator Tube Inspection Frequency**

**Response to Request for Additional Information on License Amendment for Steam  
Generator Tube Inspection Frequency**

**NRC RAI 1**

The licensee located and removed a loose part approximately 12 inches above the cold leg tubesheet in the "B" SG. Were any loose parts left in service? If so, summarize the basis, including any analysis performed, for the conclusion that these loose parts will not cause unacceptable wear before the next scheduled inspection (2R17)?

**ANO Response:**

There were no other loose parts identified. A 100 % bobbin inspection was performed in both steam generators. The only loose part identified was the one mentioned in Reference 1 which was removed. Visual inspections were also performed in both generators along the annulus and the tube lanes. No other foreign material was identified.

**NRC RAI 2**

Table 1 of the November 22, 2002, letter indicates that 271 special interest inspections were conducted. Please describe the results of these inspections. (The staff assumes that some of the results in Table 2 arose from the special interest inspections; however, a one-to-one comparison cannot be made.)

**ANO Response:**

Upon review of the 2R15 tube inspection database, it was determined that the *Special Interest* numbers provided in Table 1 of Entergy's November 22, 2002 license amendment request were incorrect. The numbers provided were improperly transcribed from the preservice inspection data. There were no tests performed during 2R15 that resulted in confirmed indications other than those associated with the loose part and wear at the anti-vibration bar (AVB). The correct special interest inspections requested in RAI 2 are properly discussed below in the replacement Table 1. However, instead of *Special Interest*, the more appropriate description is *Bobbin I-Codes*, which are indications identified by bobbin probe that require further disposition. These Bobbin I-Code indications could result in a potential for tube degradation and are further inspected with the plus point probe.

**Table 1**  
**2R15 Eddy Current (ECT) Inspection Scope**

ECT Examination Type	Inspections Conducted		% Scope
	A	B	
Bobbin	10637	10636 <sup>Note 1</sup>	100
U-bend Plus Point 1&2	181	181	100
Bobbin I-Codes (Total)	15	11	
Non-Quantifiable Indication (NQI)	9	5	
Distorted Support Indication (DSI)	2	0	
Distorted Freespan Indication (DFI)	4	6	

Note 1 One tube was plugged during fabrication due to an equipment failure. An inconel-690 welded plug was installed in both ends of the tube.

### NRC RAI 3

The licensee indicates that SGs such as those at DC Cook, Farley, and South Texas have not experienced large amounts of wear. The licensee also indicates that these SGs are similar in design to the ANO-2 SGs.

a. Provide details explaining the similarities and differences between the ANO-2 SGs and the SGs at the referenced plants.

#### ANO Response:

The new DC Cook 2, Farley 1 & 2, South Texas 1, and ANO- 2 steam generators are all Westinghouse designed. All contain Alloy 690 thermally treated (TT) tubing with true U-bends and AVBs for support in the upper bundle. All tubes were hydraulically expanded to full depth in the tubesheet. The following is a summary of the plant information:

<u>Plant</u>	<u>Model Mat'l</u>	<u>Tube Material</u>	<u>Tube Dimension</u>	<u>Support plate</u>	<u>Support</u>
Cook2	W54F	690TT	0.875 x 0.050	Broached	SS405
Farley1	W54F	690TT	0.875 x 0.050	Broached	SS405
Farley2	W54F	690TT	0.875 x 0.050	Broached	SS405
S Texas	WD94	690TT	0.687 x 0.040	Broached	SS508
ANO2	WD109	690TT	0.687 x 0.040	Broached	SS405

b. What process is in place to gain relevant industry operating experience that may affect the operational assessment of ANO-2 during the proposed extended inspection interval?

#### ANO Response:

All of the plants mentioned above are members of the EPRI Technical Advisory Group (TAG). The TAG meets about three times a year whereby industry relevant information is discussed. Additionally, ANO's industry events department tracks and communicates relevant steam generator information to the appropriate departments.