From: "BENNETT, STEVE A" <SBENNE2@entergy.com>
To: Tom Alexion <twa@nrc.gov>
Date: 2/21/03 10:33AM
Subject: Draft Response to NRC RAI on the November 22, 2002 ANO-2 SG ISI submittal

Tom,

See attached information on the Draft RAI Response

steve

CC: "MEATHEANY, DANIEL J" <DMEATHE@entergy.com>

DRAFT

Request for Additional Information
Request to Modify Steam Generator (SG) Tube Inspection Frequency
Arkansas Nuclear One, Unit 2 (ANO-2)

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 generators. The only loose part identified was the one mentioned above 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

Table 1
2R15 Eddy Current (ECT) Inspection Scope

ECT Examination Type	Inspections Conducted		% Scope
	A	B	
Bobbin	10637	10636 [Note 1]	100
U-bend Plus Point 1&2	181	181	100
Special Interest	128	143	

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.

Upon review of the database, it was determined that the numbers specified in Table 1 were incorrect in Entergy's November 22, 2002 submittal [The information was improperly transcribed from the preservice inspection and what was significantly higher than the actual 2R15 data]. There were no tests performed that resulted in confirmed indications other than those associated with the loose part and wear at the AVB. The actual special interest inpsections requested in RAI- 2 are properly detailed below in Table 2. Instead of "special interest", the more appropriate subject would be bobbin I-codes, which could result in degradation based on confirmation with the plus point.

Table 2
2R15 Eddy Current Special Interest

ECT Examination Type	Inspections Conducted	
	A	B
Non-Quantifiable Indication (NQI)	9	5
Distorted Support Indication (DSI)	2	0
Distorted Freespan Indication (DFI)	4	6
Bobbin I-Codes (Total)	**15**	**11**

NRC RAI 2

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 TT tubing with true U-bends and anti-vibration bars for support in the upper bundle. The original ANO-2 generators were CE designed with square bends and 3/4th inch diameter Alloy 600 mill annealed tubes. All plants were hydraulically expanded full depth in the tubesheet. The following is a summary of the plant information:

Plant	Model	Tube Material	Tube Demension	Support plate	Support Material
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?

Response:

All of the plants mentioned above are members of the EPRI Technical Advisory Group (TAG). The TAG meets about 3 times a year where industry relevant information is discussed. Additionally,

ANO's industry events department tracks and communicates relevant information to the appropriate departments.

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