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September 17, 1999

1CAN099905

U. S. Nuclear Regulatory Commission  
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Subject: Arkansas Nuclear One - Unit 1  
Docket No. 50-313  
License No. DPR-51  
Supplemental Information in Support of Steam Generator Outer Diameter  
Intergranular Attack Alternate Repair Criteria (TAC NO. MA4761)

Gentlemen:

By letter dated May 14, 1999 (1CAN059901), Entergy Operations submitted proposed Arkansas Nuclear One, Unit 1 (ANO-1) technical specification (TS) changes to revise once through steam generator tubing surveillance requirements to provide alternate repair criteria (ARC) for volumetric outer diameter intergranular attack (ODIGA). Much of the basis for the proposed TS changes is contained in topical report BAW-10235P, "Management Program for Volumetric Outer Diameter Intergranular Attack in the Tubesheets of Once-Through Steam Generators," Rev. 0. Based upon a review of the initial submittal, the NRC Staff transmitted a request for additional information (RAI) by letter dated August 31, 1999 (1CNA089905). Entergy Operations' responses to the RAI were submitted on September 7, 1999 (1CAN099901). The responses to the RAI also necessitated a revision to the initially submitted topical report. Revision 1 to BAW-10235P was submitted to the Staff for review on September 15, 1999 (1CAN099902).

NRC review status of the RAI response was discussed with the Staff on September 13 and 14, 1999. Based on these discussions, Entergy Operations agreed to revise the TS change request to permit the ARC to be utilized only for one operational cycle. The proposed TS revision and information related to use of the ARC are discussed in the attachments.

The TS revision does not affect the no significant hazards consideration or environmental impact evaluation included in the May 14, 1999, letter since the change provides additional conservatism above that initially proposed by limiting use of the ARC to one cycle. The revision to the proposed TS is included in the attachments.

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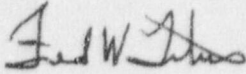
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Should you have any questions concerning this submittal, please contact me.

Very truly yours,



FWT/jjd  
attachments

To the best of my knowledge and belief, the statements contained in this submittal are true.

SUBSCRIBED AND SWORN TO before me, a Notary Public in and for Hinds  
County and the State of Mississippi, this 17<sup>th</sup> day of September, 1999.

Amy A. Blaylock  
Notary Public      Notary Public State of Mississippi At Large  
My Commission Expires      My Commission Expires June 17, 2001  
BONDED THRU HEIDEN-MARCHETTI, INC.

cc: Mr. Ellis W. Merschoff  
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## **Supplemental Information to Support Outer Diameter Intergranular Attack Alternate Repair Criteria**

Entergy Operations submitted proposed changes to the Arkansas Nuclear One, Unit 1 (ANO-1) Technical Specifications (TSs) to utilize alternate repair criteria (ARC) for outer diameter intergranular attack (ODIGA) affecting tubes within the upper tubesheet of the once through steam generators (OTSGs) by letters dated May 14, 1999 (1CAN059901), and September 7, 1999 (1CAN099901). Based upon discussions with the Staff concerning these submittals, Entergy Operations agreed to revise the proposed TSs to permit the ARC to be utilized only for one operational cycle.

Proposed TS 4.18.5.a.7 has been revised to include a one cycle limit for utilization of the ODIGA ARC. The revision to the proposed TS does not affect the no significant hazards consideration or environmental impact evaluation included in the May 14, 1999, letter since the change provides additional conservatism above that initially proposed by limiting use of the ARC to one cycle.

Amendment 201 to the ANO-1 TSs was approved by the Staff on September 14, 1999 (1CNA099903) to allow use of tube end cracking ARC. This amendment revised several of the TS pages which were proposed to be modified to reflect the ODIGA ARC. The proposed TS pages have been revised to reflect Amendment 201 and are attached. The changes made for the ODIGA ARC are now as follows:

- Part of TS 4.18.3.a.2 and all of TSs 4.18.3.a.3 and 4.18.3.a.4 are relocated from page 110k to page 110j1. No changes to the TS wording has been made.
- A new TS 4.18.3.a.5 is added to page 110j1 to address inspection and categorization requirements for ODIGA when utilizing the ARC. This new TS was included in the previous submittals as 4.18.3.a.4.
- Notes 1, 2, and 3 from TS page 110l are transferred to page 110k without any revision to the wording.
- Part of TS 4.18.4.c.1 and all of the remainder of TS 4.18.4 are relocated from page 110m to page 110l without modification.
- An editorial correction is made to the end of the 1<sup>st</sup> sentence of TS 4.18.4.c.1 on page 110l by adding a closing parenthesis.
- TS 4.18.5.a.4 on page 110m is editorially revised by correcting the "≤" to be a "≥".

- TS 4.18.5.a.7, the definition of plugging limit, on page 110m is revised to show the Amendment 201 revisions, the previously proposed ODIGA discussion, and the one cycle limitation for the ODIGA ARC.
- The last paragraph of TS 4.18.5.a.7 and the remainder of TS 4.18.5.a are relocated from page 110m1 to 110m without revision to the existing wording.
- TS 4.18.5.b on page 110m1 has been revised to reflect Amendment 201 and to delete the Cycle 15 ODIGA ARC wording.
- TS 4.18.6 is relocated from pages 110m2 and 110n to page 110m1. The TS wording is revised to reflect Amendment 201. Proposed TS 4.18.6.f is added to address reporting requirements when utilizing the ODIGA ARC (these reporting requirements were previously submitted as proposed TS 4.18.6.e).
- TS page 110m2 is deleted since all the requirements currently on that page are relocated to page 110m1.
- The Bases section on page 110n is revised to reflect Amendment 201 along with additional wording for the ODIGA ARC. Part of the proposed wording previously submitted for the ODIGA ARC was approved as part of Amendment 201 and therefore is no longer identified by a revision bar.

Several additional conservatisms beyond those included in the topical report will be utilized when applying the ODIGA ARC during the 1R15 inspection. Entergy Operations commits to perform the following actions:

1. An indicated population growth in Plus Point voltage will require in-situ pressure testing of a population of ODIGA sufficient to ensure a 95% confidence level of less than 1 gpm primary-to-secondary leakage during a main steam line break accident. Growth is defined to occur if the  $1\sigma$  lower confidence limit shifts above zero. If growth is concluded, no credit will be taken for previous in-situ pressure test results.
2. Occurrence of a tube leak due to ODIGA in the upper tubesheet during in-situ pressure testing will invalidate the ARC and result in repair/plugging of all tubes containing ODIGA.

These one time 1R15 actions do not conflict with the proposed TSs or require revision to topical report BAW-10235P, Rev. 1.

Additionally, growth data (from the 1R15 inspection) for the previously identified ODIGA will be forwarded for Staff review and concurrence that the ODIGA is not growing. The growth data will include the Plus Point voltages, axial extent, and circumferential extent for ODIGA patches. Entergy Operations' growth conclusions based on analysis of the data using the criteria of the topical report and commitment 1 above will also be submitted.