

April 13, 2004

Mr. Jeff Forbes  
Vice President, Operations ANO  
Entergy Operations, Inc.  
1448 S. R. 333  
Russellville, AR 72801

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION FOR THE REVIEW OF THE  
ARKANSAS NUCLEAR ONE, UNIT 2, LICENSE RENEWAL APPLICATION  
(TAC NO. MB8402)

Dear Mr. Forbes:

The U.S. Nuclear Regulatory Commission (NRC) is reviewing a license renewal application (LRA) submitted by Entergy Operators Inc. (Entergy or the applicant) dated October 14, 2003 for the renewal of the operating licenses for Arkansas Nuclear One, Unit 2, pursuant to Title 10 *Code of Federal Regulations* Part 54 (10 CFR Part 54). The NRC staff has identified, in the enclosure, areas where additional information is needed to complete the review. Specifically, the enclosed requests for additional information (RAIs) are from the scoping and screening audit perform the week of January 19<sup>th</sup> by the Division of Inspection Program Management, Quality and Maintenance Section. These RAIs have been discussed with your staff.

Your responses to these RAI's are requested within 30 days from the receipt of this letter. If you have any questions, please contact me at (301) 415-1124 or e-mail [gxs@nrc.gov](mailto:gxs@nrc.gov).

Sincerely,

**/RA/**

Gregory F. Suber, Project Manager  
License Renewal Section A  
License Renewal and Environmental Impacts Program  
Division of Regulatory Improvement Programs  
Office of Nuclear Reactor Regulation

Docket No.: 50-368

Enclosure: As stated

cc w/encl: See next page

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DISTRIBUTION: Ltr to Mr. Jeff Forbes, VP, Re: ANO-2, Dated: April 13, 2004

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**REQUEST FOR ADDITIONAL INFORMATION  
PERTAINING TO THE SCOPING AND SCREENING METHODOLOGY REVIEW FOR  
ARKANSAS NUCLEAR ONE - UNIT 2  
LICENSE RENEWAL APPLICATION (TAC NO. MB8402)**

**Division of Inspection Programs Management (DIPM)**

RAI 2.1-3: 10 CFR 54.4(a)(1) Scoping of Safety-Related SSCs

10 CFR 54.4(a)(1)(iii) requires, in part, that the applicant consider within the scope of license renewal those systems, structures, and components that ensure the capability to prevent or mitigate the consequences of accidents which could result in potential off-site exposures comparable to those referred to in §50.34(a)(1), §50.67(b)(2), or §100.11. In Section 2.1.1.1, "Application of Safety-Related Scoping Criteria," of the LRA, the applicant stated that, because of plant-unique considerations or preferences, some components that do not perform any of the functions meeting the requirements of 10 CFR 54.4(a)(1) were designated as safety-related, such that certain items classified as safety related in the facility database did not perform any of the safety-related intended functions of 10 CFR 54.4(a)(1). The staff requests a description of the process used during license renewal scoping activities to disposition components classified as safety-related that do not perform a safety-related intended function. In particular, the staff requests the following information:

- a. A description of any components or structures classified as safety-related in the facility safety-classification database that were not included within the scope of license renewal under the 10 CFR 54.4(a)(1) criteria. This description should include the basis for determining that these components do not perform a safety-related intended function. The response should also indicate if these components were included within the scope of license renewal under a different scoping criteria (e.g. §54.4(a)(2) or (a)(3).
- b. Describe the process used to reconcile the facility database safety classification information with scoping intended function determinations. In particular, the staff requests a description of the process including the scope of the review used to re-evaluate the safety-classification of SSCs to reconcile disparities with intended function determinations.

RAI 2.1-4: 10 CFR 54.4(a)(2) Scoping of Nonsafety-Related SSCs

By letters dated December 3, 2001 (ML013380013), and March 15, 2002 (ML020770026), the U. S. Nuclear Regulatory Commission (NRC) issued a staff position to the Nuclear Energy Institute (NEI) which described areas to be considered and options it expects licensees to use to determine what systems, structures, or components (SSCs) meet the 10 CFR 54.4(a)(2) criterion (i.e., all Nonsafety-Related SSCs whose failure could prevent satisfactory accomplishment of any safety-related functions identified in paragraphs (a)(1)(i),(ii),(iii) of this section).

Enclosure

The December 3<sup>rd</sup> letter provided specific examples of operating experience which identified pipe failure events (summarized in Information Notice (IN) 2001-09, "Main Feedwater System Degradation in safety related ASME Code Class 2 Piping Inside the Containment of a Pressurized Water Reactor)" and the approaches that the NRC considers acceptable to determine which piping systems should be included in scope based on the 54.4(a)(2) criterion.

The March 15<sup>th</sup> letter further described the staff's expectations for the evaluation of non-piping SSCs to determine which additional Nonsafety-Related SSCs are within scope. The position states that applicants should not consider hypothetical failures, but rather should base their evaluation on the plant's current licensing basis (CLB), engineering judgement and analyses, and relevant operating experience. The letter further describes operating experience as all documented plant-specific and industry-wide experience which can be used to determine the plausibility of a failure. Operating experience documentation sources would include NRC generic communications and event reports, plant-specific condition reports, industry reports such as SOERs, and engineering evaluations.

Based on a review of the license renewal application (LRA), the applicant's scoping and screening implementation procedures, and discussions with the applicant, the staff determined that additional information is required with respect to certain aspects of the applicant's evaluation of the 10 CFR 54.4(a)(2) scoping criteria. Please address the following issues:

- a. Section 2.1.1.2.2, "Spatial Failures of Nonsafety-Related SSCs," of the LRA states that the Nonsafety-Related piping and supports up to and including the first equivalent anchor beyond the safety/nonsafety interface were within the scope of license renewal and subject to aging management review. The staff requests additional information regarding the process used by the applicant to ensure that all nonsafety-components and structures between the safety/nonsafety interface and the first equivalent anchor point were adequately considered during scoping. In particular, the applicant should describe the method used to ensure that all material/environment combinations between the safety/nonsafety interface and the first equivalent anchor were considered during aging management review.
- b. Section 2.1.1.2.2, "Spatial Failures of Nonsafety-Related SSCs," of the LRA states that Nonsafety-Related systems and Nonsafety-Related portions of safety-related systems containing steam or liquid that are in the proximity of safety-related equipment are considered within the scope of license renewal per 10 CFR 54.4(a)(2). However, this section of the LRA also states that long-term exposure to conditions resulting from a failed Nonsafety-Related SSC (such as leakage or spray) is not considered credible. The staff requests that the applicant clarify its position and methodology relative to the consideration of spray and wetting of safety-related SSCs due to the failure of Nonsafety-Related equipment. Specifically, the applicant should address the following:
  1. Provide clarification on how the determination was reached, that longterm exposure to conditions resulting from a failed Nonsafety-Related SSC was not considered credible. Also, address if Nonsafety-Related SSCs were excluded from the scope of license renewal based on this determination.

2. Describe how the effects of short-term wetting and spray on passive and active safety-related SSCs were considered during 10 CFR 54.4(a)(2) scoping. During the methodology audit, the applicant indicated that the methodology for evaluating spatial interactions assumed that safety-related SSCs were capable of withstanding short-term duration spray and wetting without loss of intended function. The applicant should clarify how the effects of short term spray and wetting were considered during scoping. Furthermore, if it was assumed that safety-related SSCs could withstand short-term spray or wetting without loss of intended function, the applicant should describe the basis for this assumption.
3. Identify if the walkdown aging management program described in Section B.1.28, "System Walkdown," of the LRA was used as the sole aging management program for any Nonsafety-Related structures or components that could potentially spatially interact with safety related SSCs. If the effects of aging for any Nonsafety-Related SSC are managed solely by the system walkdown aging management program, the applicant should describe how the effects of short term spray and wetting were considered during scoping and aging management review evaluations.

In addressing each of the above issues, if your review indicates that use of the scoping methodology screened out potential Nonsafety-Related SSCs that could spatially interact with safety related SSCs, describe any additional scoping evaluations performed to address the 10 CFR 54.4(a)(2) criteria. As part of your response, list any additional SSCs included within scope as a result of your efforts, and list those SCs for which aging management reviews were conducted, and for each SC describe the aging management programs, as applicable, to be credited for managing the identified aging effects.

#### RAI 2.1-5: Evaluation of Consumables

10 CFR 54.21(a)(1) requires that structures and components subject to an aging management review shall encompass those structures and components that:

- (a) Perform an intended function without moving parts or a change configuration or properties; and (2) that are not subject to replacement based on a qualified life or specified time period. NUREG-1800, Table 2.1-3, "Specific Staff Guidance on Screening," provides guidance for determining if consumable items should be subject to an aging management review. For consumables that are periodically replaced, Table 2.1-3 states that the applicant should identify the standards that are relied on for replacement as part of the methodology description. For consumable such as packing, gaskets, component seals, and o-rings, Table 2.1-3 states that these components may be excluded from an aging management review using a clear basis.
- (b) The team noted that Section 2.1.2., "Screening Methodology" of the LRA stated that the process for evaluating consumables is consistent with the NRC staff guidance on consumables provided in a letter from C. I. Grimes, NRC, to D. J. Walters, NEI, dated March 10, 2000. The staff requests that the applicant provide a more detailed description

of the actual method used to demonstrate that the criteria were adequately evaluated and the basis for that determination.

RAI 2.1-6: Quality Assurance Program Attributes in Appendix A, "Updated Safety Analysis Report (USAR) Supplement," and Appendix B, "Aging Management Activities"

The audit team evaluated the quality attributes of the applicant's Aging Management Program (AMP) activities described in Appendix B, "Aging Management Programs," of the LRA. Guidance for the staff review of this area is contained in NUREG-1800, Section A.2, "Quality Assurance for Aging Management Programs (Branch Technical Position IQMB-1)." As described in Branch Technical Position IQMB-1, the AMP quality attributes for Safety-Related components and structures are adequately addressed by the Quality Assurance requirements of 10 CFR 50, Appendix B. For Nonsafety-Related structures and components subject to an AMR, the applicant has the option to expand the scope of its 10 CFR Part 50 Appendix B program to include Nonsafety-Related structures and components to address corrective actions, the confirmation process, and administrative controls for aging management during the period of extended operation.

Based on the staff's evaluation, the quality attributes (corrective action, confirmation process, and administrative controls) described in Section B.0.3, "ANO-2 Corrective Actions, Confirmation Process, and Administrative Controls," are consistent with Branch Technical Position IQMB-1. However, the team determined that the applicant has not described the AMP quality attributes in Appendix A, "Updated Final Safety Analysis Report Supplement." Consistent with Branch Technical Position IQMB-1, the applicant should either document a commitment to expand the scope of its 10 CFR Part 50 Appendix B program to include Nonsafety-Related structures and components subject to an AMP to address the AMP quality attributes during the period of extended operation or propose an alternative means to address this issue. The staff requests that the applicant clarify their commitments related to addressing the quality attributes of AMPs applicable to Nonsafety-Related structures and components subject to aging management. The description in Appendix A should provide sufficient information for the staff to determine if the quality attributes for the Appendix A.1 AMPs are consistent with the review acceptance criteria contained in NUREG-1800, Section A.2, "Quality Assurance for Aging Management Programs (Branch Technical Position IQMB-1)."

RAI 2.1-7: Appendix B, "Aging Management Programs and Activities"

The audit team evaluated the discussions of corrective actions contained in Section B.0.3, "Corrective Actions, Confirmation Process and Administrative Controls," of Appendix B, "Aging Management Programs and Activities." The discussion stated that "in the case of significant conditions adverse to quality. . . corrective action is taken to lessen the likelihood of recurrence." This is not in agreement with the regulations contained in 10 CFR Part 50, Appendix B, Section XVI, "Corrective Actions," which states, in part, "in the case of significant conditions adverse to quality, the measures shall assure that the cause of the condition is determined and corrective actions taken to preclude repetition." The applicant is requested to address this discrepancy.

Arkansas Nuclear One, Unit 2

cc:

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