



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

November 17, 2021

ANO Site Vice President
Arkansas Nuclear One
Entergy Operations, Inc.
N-TSB-58
1448 S.R. 333
Russellville, AR 72802

SUBJECT: ARKANSAS NUCLEAR ONE, UNIT 1 - SUPPLEMENTAL INFORMATION
NEEDED FOR ACCEPTANCE OF REQUESTED LICENSING ACTION
RE: LICENSE AMENDMENT REQUEST CONCERNING REVISED DOSE
CALCULATIONS (EPID L-2021-LLA-0181)

Dear Sir or Madam:

By letter dated September 30, 2021, Entergy Operations, Inc. (the licensee) submitted a license amendment request for Arkansas Nuclear One, Unit 1. The proposed amendment would revise the Dose Equivalent I-131 and the reactor coolant system (RCS) primary activity limits required by Technical Specification (TS) 3.4.12, "RCS Specific Activity." In addition, the primary-to-secondary leak rate limit provided in TS 3.4.13, "RCS Operational Leakage," would be revised. The purpose of this letter is to provide the results of the U.S. Nuclear Regulatory Commission (NRC) staff's acceptance review of this amendment request. The acceptance review was performed to determine if there is sufficient technical information in scope and depth to allow the NRC staff to complete its detailed technical review. The acceptance review is also intended to identify whether the application has any readily apparent information insufficiencies in its characterization of the regulatory requirements or the licensing basis of the plant.

Consistent with Section 50.90 of Title 10 of the *Code of Federal Regulations* (10 CFR), an application for an amendment to a license (including the TSs) must fully describe the changes requested, and following as far as applicable, the form prescribed for original applications. Section 50.34 of 10 CFR addresses the content of technical information required. This section stipulates that the submittal address the design and operating characteristics, unusual or novel design features, and principal safety considerations.

In order to make the application complete, the NRC staff requests that the licensee supplement the application to address the information requested in the enclosure by December 3, 2021. This will enable the NRC staff to begin its detailed technical review. If the information responsive to the NRC staff's request is not received by the above date, the application will not be accepted for review pursuant to 10 CFR 2.101, and the NRC will cease its activities associated with the application. If the application is subsequently accepted for review, you will be advised of any further information needed to support the staff's detailed technical review by separate correspondence.

The information requested and associated timeframe in this letter were discussed with Mr. Riley Keele of your staff on November 15, 2021.

If you have any questions, please contact me at (301) 415-4037 or by e-mail at Thomas.Wengert@nrc.gov.

Sincerely,

/RA/

Thomas J. Wengert, Senior Project Manager
Plant Licensing Branch IV
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-313

Enclosure:
Supplemental Information Request

cc: Listserv

SUPPLEMENTAL INFORMATION NEEDED
LICENSE AMENDMENT REQUEST TO
REVISE TECHNICAL SPECIFICATIONS 3.4.12 AND 3.4.13
BASED ON REVISED DOSE CALCULATIONS
ENTERGY OPERATIONS, INC.
ARKANSAS NUCLEAR ONE, UNIT 1
DOCKET NO. 50-313

By letter dated September 30, 2021 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML21274A874), Entergy Operations, Inc. (the licensee) submitted a license amendment request (LAR) for Arkansas Nuclear One, Unit 1. The proposed amendment would revise the Dose Equivalent I-131 and the reactor coolant system (RCS) primary activity limits required by Technical Specification (TS) 3.4.12, "RCS Specific Activity." In addition, the primary-to-secondary leak rate limit provided in TS 3.4.13, "RCS Operational Leakage," would be revised. These proposed changes are due to non-conservative inputs used in the steam generator tube rupture accident, the main steam line break accident, and the control rod ejection accident dose calculations.

The U.S. Nuclear Regulatory Commission (NRC) staff performed an acceptance review of the LAR in accordance with Office of Nuclear Reactor Regulation Office Instruction LIC-109, Revision 3, "Acceptance Review Procedures for Licensing Basis Changes," dated July 20, 2020 (ADAMS Accession No. ML20036C829), and determined that the application is unacceptable for review, with opportunity to supplement because it is missing sufficient information for the NRC staff to make an independent assessment regarding the acceptability of the proposed amendment in terms of regulatory requirements for the protection of public health and safety and the environment.

To make the application complete, the NRC staff requests that the licensee supplement the application to address the information requested, as described below.

REGULATORY BASIS FOR REQUEST

The regulations in Title 10 of the *Code of Federal Regulations* Section 50.67, "Accident source term," paragraph (b) require that:

- (1) A licensee who seeks to revise its current accident source term in design basis radiological consequence analyses shall apply for a license amendment under § 50.90. The application shall contain an evaluation of the consequences of applicable design basis accidents previously analyzed in the safety analysis report.

(2) The NRC may issue the amendment only if the applicant's analysis demonstrates with reasonable assurance that:

(i) An individual located at any point on the boundary of the exclusion area for any 2-hour period following the onset of the postulated fission product release, would not receive a radiation dose in excess of 0.25 Sv [sievert] (25 rem [roentgen equivalent man]) total effective dose equivalent (TEDE).

(ii) An individual located at any point on the outer boundary of the low population zone, who is exposed to the radioactive cloud resulting from the postulated fission product release (during the entire period of its passage), would not receive a radiation dose in excess of 0.25 Sv (25 rem) total effective dose equivalent (TEDE).

(iii) Adequate radiation protection is provided to permit access to and occupancy of the control room under accident conditions without personnel receiving radiation exposures in excess of 0.05 Sv (5 rem) total effective dose equivalent (TEDE) for the duration of the accident.

SUPPLEMENTAL INFORMATION NEEDED FOR THE AMENDMENT REQUEST

A preliminary review of the LAR has determined that additional information is needed for the NRC staff to begin performing a meaningful review. Although detailed information appears to be provided for other non-radiological analyses, the critical inputs to the dose analyses are not readily displayed in the amendment request. Therefore, the following information is needed:

1. Please provide additional information describing, for each design-basis accident affected by the proposed changes, all the basic parameters used in the dose consequence analyses. This information should include the current licensing basis (CLB) values, the revised values, where applicable, as well as the basis for any changes to the CLB values. For clarity, please provide the requested information in separate tables for each affected design-basis accident.
2. In addition, please provide additional information describing the models and assumptions used in the dose consequence analyses affected by the proposed changes. Alternatively, to support a timely NRC staff review, the calculation packages that typically contain this information may be provided for the affected design-basis accidents.
3. Due to the small margins to the acceptance criteria for several assessments, the NRC staff plans to perform confirmatory analyses. To increase the efficiency of the staff review, please provide the RADTRAD 3.03 input and output files, if available.

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RE: LICENSE AMENDMENT REQUEST CONCERNING REVISED DOSE
CALCULATIONS (EPID L-2021-LLA-0181) DATED NOVEMBER 17, 2021

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ADAMS Accession No. ML21320A212

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