



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

October 22, 2019

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

SUBJECT: ARKANSAS NUCLEAR ONE, UNITS 1 AND 2 - ISSUANCE OF AMENDMENT NOS. 267 AND 317 TO EXTEND IMPLEMENTATION DATES FOR AMENDMENT NOS. 263 AND 314 – REVISION TO EMERGENCY ACTION LEVEL SCHEME (EPID L-2019-LLA-0192)

Dear Sir or Madam:

The U.S. Nuclear Regulatory Commission (the Commission) has issued the enclosed Amendment Nos. 267 and 317 to Renewed Facility Operating License Nos. DPR-51 and NPF-6, respectively, for Arkansas Nuclear One (ANO), Units 1 and 2. These amendments are in response to your application dated September 5, 2019.

The amendments extend the implementation dates for Amendment Nos. 263 and 314, "Revision to the Emergency Action Level Scheme," which were issued on January 17, 2019, for Arkansas Nuclear One, Units 1 and 2, respectively. Amendment Nos. 263 and 314 were effective on the date of issuance (i.e., January 17, 2019) and were required to be implemented on or before October 30, 2019. As discussed in your application, the implementation dates for Amendment Nos. 263 and 314 could not be met due to unforeseen circumstances associated with the recent unexpected extended outage of ANO, Unit 2. Amendment Nos. 267 and 317, for ANO, Units 1 and 2, respectively, extend the implementation dates from October 30, 2019, to January 14, 2020.

A copy of the related safety evaluation is also enclosed. Notice of Issuance will be included in the Commission's biweekly *Federal Register* notice.

Sincerely,

/RA/

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

Docket Nos. 50-313, 50-368, and 72-13

Enclosures:

1. Amendment No. 267 to DPR-51
2. Amendment No. 317 to NPF-6
3. Safety Evaluation

cc: Listserv

SUBJECT: ARKANSAS NUCLEAR ONE, UNITS 1 AND 2 - ISSUANCE OF AMENDMENT NOS. 267 AND 317 TO EXTEND IMPLEMENTATION DATES FOR AMENDMENT NOS. 263 AND 314 – REVISION TO EMERGENCY ACTION LEVEL SCHEME (EPID L-2019-LLA-0192) DATED: OCTOBER 22, 2019

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ADAMS Accession No. ML19269B672

*by e-mail

OFFICE	NRR/DORL/LPL4/PM (concur)	NRR/DORL/LPL4/LA	NSIR/DPR/RLB/BC(A)	OGC - NLO
NAME	TWengert	PBlechman	AMarshall*	STurk*
DATE	10/2/19	10/2/19	10/2/19	10/15/19
OFFICE	NRR/DORL/LPL4/BC	NRR/DORL/D	NRR/D	NRR/DORL/LPL4/PM (sign)
NAME	JDixon-Herrity	CErlanger	HNieh (EBenner for)	TWengert
DATE	10/15/19	10/16/19	10/18/19	10/22/19

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

ENTERGY OPERATIONS, INC.

DOCKET NO. 50-313

ARKANSAS NUCLEAR ONE, UNIT 1

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 267
Renewed License No. DPR-51

1. The U.S. Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Entergy Operations, Inc. (the licensee), dated September 5, 2019, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, by Amendment No. 267, Renewed Facility Operating License No. DPR-51 is hereby amended to extend the implementation date of Amendment No. 263, dated January 17, 2019, from October 30, 2019, to January 14, 2020, as set forth in the licensee's application dated September 5, 2019, and evaluated in the NRC staff's safety evaluation with this amendment.
3. This amendment is effective as of its date of issuance and shall be implemented on or before January 14, 2020.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA by Eric Benner for/

Ho K. Nieh, Director
Office of Nuclear Reactor Regulation

Date of Issuance: October 22, 2019



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

ENTERGY OPERATIONS, INC.

DOCKET NO. 50-368

ARKANSAS NUCLEAR ONE, UNIT 2

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 317
Renewed License No. NPF-6

1. The U.S. Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Entergy Operations, Inc. (the licensee), dated September 5, 2019, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, by Amendment No. 317, Renewed Facility Operating License No. NPF-6 is hereby amended to extend the implementation date of Amendment No. 314, dated January 17, 2019, from October 30, 2019, to January 14, 2020, as set forth in the licensee's application dated September 5, 2019, and evaluated in the NRC staff's safety evaluation with this amendment.
3. This amendment is effective as of its date of issuance and shall be implemented on or before January 14, 2020.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA by Eric Benner for/

Ho K. Nieh, Director
Office of Nuclear Reactor Regulation

Date of Issuance: October 22, 2019



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NOS. 267 AND 317, RESPECTIVELY, TO

RENEWED FACILITY OPERATING LICENSE NOS. DPR-51 AND NPF-6

ENTERGY OPERATIONS, INC.

ARKANSAS NUCLEAR ONE, UNITS 1 AND 2

DOCKET NOS. 50-313, 50-368, AND 72-13

1.0 INTRODUCTION

By application dated September 5, 2019 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML19248C601), Entergy Operations, Inc. (Entergy, the licensee), submitted a license amendment request for Arkansas Nuclear One (ANO), Units 1 and 2.

The proposed amendments would extend the implementation dates for Amendment Nos. 263 and 314, "Revision to the Emergency Action Level Scheme," which were issued by the U.S. Nuclear Regulatory Commission (NRC or the Commission) on January 17, 2019 (ADAMS Accession No. ML18337A247). Amendment Nos. 263 and 314, issued for ANO, Units 1 and 2, respectively, were effective on the date of issuance (i.e., January 17, 2019) and were required to be implemented by October 30, 2019. Due to unforeseen circumstances associated with the recent unexpected extended outage of ANO, Unit 2, Entergy requested that implementation of these amendments not be required until January 14, 2020.

Amendment Nos. 263 and 314, for ANO, Units 1 and 2, respectively, approved an update to the ANO Emergency Plan to adopt the Nuclear Energy Institute (NEI) revised emergency action level (EAL) scheme described in NEI 99-01, Revision 6, "Development of Emergency Action Level for Non-Passive Reactors."

2.0 REGULATORY EVALUATION

2.1 Regulations

Title 10 of the *Code of Federal Regulations* (10 CFR) Section 50.47, "Emergency plans," sets forth emergency plan requirements for nuclear power reactors. Section 50.47(b) of 10 CFR establishes the planning standards that the onsite and offsite emergency response plans must meet for the NRC to make a finding that there is reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency. Planning Standard (4) of this section requires that onsite and offsite emergency response plans meet the following standard:

A standard emergency classification and action level scheme, the bases of which include facility system and effluent parameters, is in use by the nuclear facility licensee, and State and local response plans call for reliance on information provided by facility licensees for determinations of minimum initial offsite response measures.

Section 50.47(b)(4) of 10 CFR requires the use of a standard emergency classification and action level scheme, ensuring that implementation methods are relatively consistent throughout the industry for a given reactor and containment design, but permits site-specific design considerations and preferences.

Section IV.B.1 of Appendix E, "Emergency Planning and Preparedness for Production and Utilization Facilities," to 10 CFR Part 50, states:

The means to be used for determining the magnitude of, and for continually assessing the impact of, the release of radioactive materials shall be described, including emergency action levels that are to be used as criteria for determining the need for notification and participation of local and State agencies, the Commission, and other Federal agencies, and the emergency action levels that are to be used for determining when and what type of protective measures should be considered within and outside the plant boundary to protect health and safety. The emergency action levels shall be based on in-plant conditions and instrumentation in addition to onsite and offsite monitoring. By June 20, 2012, for nuclear power reactor licensees, these action levels must include hostile action that may adversely affect the nuclear power plant. The initial emergency action levels shall be discussed and agreed on by the applicant or licensee and state and local governmental authorities, and approved by the NRC. Thereafter, emergency action levels shall be reviewed with the State and local governmental authorities on an annual basis.

Section IV.B.2 of Appendix E to 10 CFR Part 50 states, in part:

A licensee desiring to change its entire emergency action level scheme shall submit an application for an amendment to its license and receive NRC approval before implementing the change.

2.2 License Amendment Implementation Dates

In issuing an amendment to an operating license, the NRC staff specifies when the amendment is effective and when the amendment must be implemented. Enclosures 1 and 2 to the NRC's letter dated January 17, 2019, contained Amendment Nos. 263 and 314, for ANO, Units 1 and 2. The amendments each stated, in part, that:

This license amendment is effective as of its date of issuance and shall be implemented on or before October 30, 2019.

There are no specific regulatory requirements regarding the time period for amendment implementation. The NRC staff generally specifies an implementation period consistent with that requested in the licensee's application. For ANO, Units 1 and 2, Amendment Nos. 263 and 314, the October 30, 2019, implementation dates were requested in Entergy's letter dated

March 29, 2018 (ADAMS Accession No. ML18094A154). The license amendment request dated September 5, 2019, requested that the NRC extend the revised EAL scheme implementation date to January 14, 2020.

Implementation periods or dates requested by licensees may vary based on the extent of the physical changes needed to the plant, the associated documentation that needs to be revised, and/or personnel training that is required. For example, sometimes licensees request that it be allowed to implement the amendment during the next refueling outage to support physical changes that the licensee wants to make when the plant is shut down.

Since the implementation period specified by the NRC in an amendment is considered part of the operating license, the licensee is required to fully implement the amendment by the date specified (i.e., by a date no later than that specified) or be in violation of its operating license. Any extension of the implementation period requires prior NRC approval as a license amendment pursuant to 10 CFR 50.90, "Application for amendment of license, construction permit, or early site permit."

3.0 TECHNICAL EVALUATION

By letter dated November 9, 2012 (ADAMS Accession No. ML12269A455), the NRC staff approved a revision to the ANO EAL scheme based on NEI 99-01, Revision 5, for use and implementation. As discussed in Section 1.0 of this safety evaluation, the NRC staff subsequently approved a revision to the ANO EAL scheme based on NEI 99-01, Revision 6, by license amendments, which were effective as of the date of issuance (i.e., January 17, 2019) and are required to be implemented by October 30, 2019. However, due to unforeseen circumstances associated with the recent unexpected extended outage of ANO, Unit 2, Entergy requested that implementation of these amendments not be required until January 14, 2020.

In its letter dated September 5, 2019, the licensee stated that the unforeseen circumstances caused a delay in the implementation process, which includes necessary training, procedure changes, and other administrative requirements. The licensee further stated that the delays in the implementation process caused by the aforementioned ANO, Unit 2 forced outage impacted its planned completion of the implementation prior to the ANO, Unit 1 refueling outage, which was scheduled to begin the first week of October 2019.

The licensee also stated that the execution of the ANO EAL scheme involves a significant number of station personnel, many of whom would need to complete training with respect to the new ANO EAL scheme revision. The licensee further stated that human factors concerns would be expected to challenge the implementation of the revised ANO EAL scheme during the upcoming ANO, Unit 1 refueling outage. Specifically, the licensee cited anticipated challenges to effective communications, updating of EAL scheme documents in the ANO, Unit 1 control room considering the number of plant personnel that are likely to be present in the control room during a refueling outage, and the increased potential for an event to occur due to the high number of ongoing activities associated with a refueling outage. Because of these expected challenges during the Unit 1 refueling outage, the licensee does not expect to be able to fully implement the EAL scheme change amendments until mid-January of 2020.

The NRC staff reviewed the licensee's request and notes that the current ANO EAL scheme is based on the guidance of NEI 99-01, Revision 5, which was previously approved by the NRC staff on November 9, 2012. The staff also notes that the proposed amendments to extend the implementation dates of the new EAL scheme do not involve any physical changes to the facility

and do not involve any changes in the operation of ANO, Units 1 and 2. In addition, the licensee noted that its Emergency Plan procedures require that new EALs be reviewed with State and local officials prior to implementation (or on an annual basis when no changes have occurred); that this review was scheduled for September 20, 2019, and will be documented in accordance with procedure; and that the licensee maintains communication with all relevant offsite authorities with respect to EAL changes and associated dates of implementation. Accordingly, the staff concludes that the licensee's continued use of its existing EAL scheme until January 14, 2020, does not raise any safety concerns, is purely administrative in nature, and provides reasonable assurance that the licensee can and will take adequate protective measures in the event of a radiological emergency. Based on the foregoing, the NRC staff concludes that the proposed extensions of the implementation dates for ANO, Unit 1, Amendment No. 263 and ANO, Unit 2, Amendment No. 314 are acceptable.

4.0 FINAL NO SIGNIFICANT HAZARDS CONSIDERATION DETERMINATION

The NRC proposed to find that the requested amendment involves no significant hazards consideration in its FR notice of September 19, 2019 (84 FR 49350). The NRC's regulation in 10 CFR 50.92(c) states that the NRC may make a final determination, under the procedures in 10 CFR 50.91, that a license amendment involves no significant hazards consideration if operation of the facility, in accordance with the amendment, would not: (1) involve a significant increase in the probability or consequences of an accident previously evaluated; or (2) create the possibility of a new or different kind of accident from any accident previously evaluated; or (3) involve a significant reduction in a margin of safety.

An evaluation of the issue of no significant hazards consideration is presented below:

1. Does the proposed change involve a significant increase in the probability or consequences of an accident previously evaluated?

Response: No.

An [EAL scheme] provides mitigative and recovery efforts associated with certain station events that could impact the health and safety of the public. The ANO [EAL scheme] is unrelated to any accident or event initiator. The ANO [EAL scheme] currently in use is based on Revision 5 of the aforementioned NEI guidance, as previously approved by the NRC. An [EAL scheme] based on either Revision 5 or Revision 6 of the NEI guidance is effective and acceptable for establishing all necessary actions necessary to mitigate the consequences of an accident previously evaluated and have been previously endorsed by the NRC. Therefore, the proposed NEI 99-01, Revision 6 – based ANO [EAL scheme] implementation does not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. Does the proposed change create the possibility of a new or different kind of accident from any accident previously evaluated?

Response: No.

As stated previously, an [EAL scheme] is not associated with any accident initiator but acts only to limit the consequences of an accident.

The proposed amendment does not alter any plant equipment or otherwise affect the accident analyses of either ANO unit. Therefore, the proposed change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. Does the proposed change involve a significant reduction in a margin of safety?

Response: No.

As stated previously, an [EAL scheme] based on either Revision 5 or Revision 6 of the NEI guidance is effective and acceptable for establishing all necessary actions necessary to mitigate the consequences of an accident previously evaluated and have been previously endorsed by the NRC. ANO will continue to utilize the station [EAL scheme] based on NEI 99-01, Revision 5, until Revision 6 of the NEI guidance is fully implemented. Therefore, delaying implementation of the NEI 99-01, Revision 6 – based ANO [EAL scheme] does not involve a significant reduction in a margin of safety.

Based on the above evaluation, the NRC staff concludes that the three standards of 10 CFR 50.92(c) are satisfied. Therefore, the NRC staff has made a final determination that no significant hazards consideration is involved for the proposed amendment and that the amendment should be issued as allowed by the criteria contained in 10 CFR 50.91.

5.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Arkansas State official was notified of the proposed issuance of the amendments on October 2, 2019. The State official had no comments.

5.0 ENVIRONMENTAL CONSIDERATION

The amendments change requirements with respect to installation or use of facility components located within the restricted area as defined in 10 CFR Part 20. The NRC staff has determined that the amendments involve no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has made a final determination that no significant hazards consideration is involved for the proposed amendments as discussed in Section 4.0 of this safety evaluation. Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendments.

6.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) there is reasonable assurance that such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendments will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: T. Wengert, NRR

Date: October 22, 2019