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

January 3, 2018

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

SUBJECT: ARKANSAS NUCLEAR ONE, UNIT 2 – PUBLIC NOTICE OF APPLICATION FOR AMENDMENT TO FACILITY OPERATING LICENSE (EPID L-2017-LLA-0431)

Dear Sir or Madam:

The enclosed notice was forwarded to the Arkansas Democrat-Gazette newspaper for publication. Due to the time constraint associated with this amendment request, there was not enough time to publish the notice in the *Federal Register*. The announcement was forwarded to the local newspaper for publication in accordance with the requirements of Title 10 of the *Code of Federal Regulations*, Part 50, paragraph 50.91(a)(6)(i)(B).

This announcement relates to your application dated December 28, 2017, for amendment to Renewed Facility Operating License No. NPF-6 for Arkansas Nuclear One, Unit 2 (ANO-2). The license amendment request is publicly available in the Agencywide Documents Access and Management System (ADAMS) at Accession No. ML17362A550. The proposed amendment would add a Note to Technical Specification Surveillance Requirement (SR) 4.1.3.1.2, such that the ANO-2 Control Element Assembly 4 would be excluded from the three remaining quarterly performances of the SRs, for the remainder of ANO-2 operating Cycle 26 due to a degraded upper gripper coil.

If you have any questions, please contact me at (301) 415-1906 or by e-mail at Lisa.Regner@nrc.gov, or Tom Wengert at (301) 415-4037 or by e-mail at Thomas.Wengert@nrc.gov.

Sincerely,

Lisa M. Regner, Senior Project Manager
Plant Licensing Branch IV
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-368

Enclosure:
Public Notice

cc: Listserv

ENCLOSURE

PUBLIC NOTICE

(ADAMS Accession No. ML18002A236)

PUBLIC NOTICE

NRC STAFF PROPOSES TO AMEND OPERATING LICENSE AT

ARKANSAS NUCLEAR ONE, UNIT 2

The U.S. Nuclear Regulatory Commission (NRC) staff has received an application dated December 28, 2017 (available in the Agencywide Documents Access and Management System (ADAMS) at Accession No. ML17362A550), from Entergy Operations, Inc. (Entergy, the licensee), for an exigent amendment to the operating license for Arkansas Nuclear One, Unit 2 (ANO-2), located in Russellville, Arkansas.

The proposed amendment would modify a Note to ANO-2 Technical Specification (TS) Surveillance Requirement (SR) 4.1.3.1.2, such that Control Element Assembly (CEA) 4 may be excluded from SR performance for the remainder of operating Cycle 26, currently scheduled to end in September 2018. The licensee stated that the amendment is necessary due to a degrading upper gripper coil (UGC), located on top of the reactor vessel head, which normally holds the CEA in place. The licensee further stated that should the UGC fail during CEA movement, the CEA will drop into the core, resulting in a reactivity transient and subsequent power reduction, and could result in a plant shutdown if the CEA is deemed to be unrecoverable.

The licensee requested that the proposed amendment be processed on an exigent basis, in accordance with the provisions in Title 10 of the *Code of Federal Regulations* (10 CFR) Section 50.91(a)(6). Under 10 CFR 50.91(a)(6)(i), where the Commission finds that exigent circumstances exist, in that a licensee and the Commission must act quickly and that time does not permit the Commission to publish a *Federal Register* notice allowing 30 days for prior public comment, and it also determines that the amendment involves no significant hazards considerations, the Commission will either (A) issue a *Federal Register* notice providing notice of an opportunity for hearing and allowing at least two weeks from the date of the notice for prior

public comment; or (B) use local media to provide reasonable notice to the public in the area surrounding a licensee's facility of the licensee's amendment and of its proposed determination that no significant hazards consideration is involved, consulting with the licensee on the proposed media release and on the geographical area of its coverage. Due to the timitng of the amendment request, the NRC staff is providing this notice in local media pursuant to 10 CFR 50.91(a)(6)(i)(B), and has consulted with the licensee and the NRC regional office on the proposed media release.

Entergy's claim of exigent circumstances is based on the considerations below. On September 29, 2017, the licensee discovered that CEA 4 UGC had degraded; however, the primary safety function of the CEAs is to insert into the core upon a reactor trip signal, and this function is not impacted by the UGC degradation. The licensee planned to exercise the CEA on the next scheduled test in January 2018, and assess any change in degradation during that test. In December 2017, the licensee identified additional degradation of the CEA 4 UGC and determined that the potential of a CEA drop would be substantial during performance of the January 2018 exercise test. The licensee concluded that should the UGC fail during CEA movement, the CEA will drop into the core, resulting in a reactivity transient and subsequent power reduction, and could result in a plant shutdown, if the CEA is determined to be unrecoverable. Based on this information, the NRC staff finds that exigent circumstances exist, in that the licensee and the NRC must act quickly and that time does not permit the NRC staff to publish a *Federal Register* notice allowing 30 days for prior public comment.

As required by 10 CFR 50.91(a), the licensee has provided its analysis of the issue of no significant hazards consideration using the standards in 10 CFR 50.92. The NRC staff has (preliminarily) evaluated this proposed change with regard to the determination of whether or not a significant hazards consideration is involved.

Operation of ANO-2, in accordance with the proposed amendment, will not involve a significant increase in the probability or consequences of an accident evaluated previously. One function of the CEAs is to provide a means of rapid negative reactivity addition into the core. This occurs upon receipt of a signal from the reactor protection system. This function will continue to be accomplished with the approval of the proposed change. Typically, once every 92 days each CEA is moved at least five inches to ensure the CEA is free to move. CEA 4 remains trippable (free to move) as illustrated by the last performance of SR 4.1.3.1.2 in the fall of 2017. However, due to abnormally high coil voltage and current measured on the CEA 4 UGC, future exercising of the CEA could result in the CEA inadvertently inserting into the core, if the UGC were to fail during the exercise test. The mis-operation of a CEA, which includes a CEA drop event, is an abnormal occurrence and has been previously evaluated as part of the ANO-2 accident analysis. Inadvertent CEA insertion will result in a reactivity transient and power reduction, and could lead to a reactor shutdown if the CEA is deemed to be unrecoverable. The proposed change would minimize the potential for inadvertent insertion of CEA 4 into the core by maintaining the CEA in place using the Lower Gripper Coil (LGC), which is operating normally. The proposed change will not affect the CEA's ability to insert fully into the core upon receipt of a reactor trip signal. No modifications are proposed to the reactor protection system or associated control element drive mechanism control system logic with regard to the ability of CEA 4 to remain available for immediate insertion. The accident mitigation features of the plant are not affected by the proposed amendment. Because CEA 4 remains trippable, no additional reactivity considerations need to be taken into consideration. Nevertheless, Entergy has evaluated the reactivity consequences associated with failure of CEA 4 to insert upon a reactor trip in accordance with TS requirements for shutdown margin and has determined that shutdown margin requirements would be met should such an event occur at

any time during the remainder of Cycle 26 operation. Therefore, this change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

The proposed amendment will not create the possibility of a new or different kind of accident from any previously evaluated. CEA 4 remains trippable. The proposed change will not introduce any new design changes or systems that can prevent the CEA from performing its specified safety function. As discussed previously, CEA mis-operation has been previously evaluated in the ANO-2 accident analysis. Furthermore, shutdown margin has been shown to remain within limits should an event occur at any time during the remainder of operating Cycle 26 such that CEA 4 fails to insert into the core upon receipt of a reactor trip signal. Therefore, this change does not create the possibility of a new or different kind of accident from an accident previously evaluated.

The proposed amendment will not involve a significant reduction in a margin of safety. SR 4.1.3.1.2 is intended to verify CEAs are free to move (i.e., not mechanically bound). The physical and electrical design of the CEAs, and past operating experience, provides high confidence that CEAs remain trippable whether or not exercised during each SR interval. Excluding further exercising of CEA 4 for the remainder of Cycle 26 operation does not directly relate to the potential for CEA binding to occur. No mechanical binding has been previously experienced at ANO-2. CEA 4 is contained within a Shutdown CEA Bank and is not used for reactivity control during power maneuvers (the CEA must remain fully withdrawn at all times when the reactor is critical). In addition, the licensee has concluded that required shutdown margin will be maintained should CEA 4 fail to insert following a reactor trip at any point during the remainder of Cycle 26 operation. Therefore, this change does not involve a significant reduction in a margin of safety.

Following an initial review of this application, the requested amendment has been evaluated against the standards in 10 CFR 50.92 and the NRC staff has made a proposed

(preliminary) determination that the requested amendment involves no significant hazards considerations. The changes do not significantly increase the probability or consequences of any accident previously considered, nor create the possibility of an accident of a different kind, nor significantly decrease any margin of safety.

If the proposed determination that the requested license amendment involves no significant hazards consideration becomes final, the NRC staff will issue the amendment without first offering an opportunity for a public hearing. An opportunity for a hearing will be published in the *Federal Register* at a later date and any hearing request will not delay the effective date of the amendment.

If the NRC staff decides in its final determination that the amendment does involve a significant hazards consideration, a notice of opportunity for a prior hearing will be published in the *Federal Register* and, if a hearing is granted, it will be held before the amendment is issued.

Comments on the proposed determination of no significant hazards consideration may be (1) telephoned to Robert J. Pascarelli, Chief, Plant Licensing Branch 4, by collect call to 301-415-6603, or by facsimile to 301-415-2444, (2) e-mailed to Robert.Pascarelli@nrc.gov, or (3) submitted in writing to May Ma, Office of Administration, Mail Stop: OWFN-2-A13, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001. All comments received by 4:15 p.m. Eastern Time on January 12, 2018, will be considered in reaching a final determination. A copy of the application may be examined electronically through the NRC's (ADAMS) in the NRC Library at http://www.nrc.gov/reading-rm/adams.html and at the Commission's Public Document Room (PDR), located at One White Flint North, Public File Area O1 F21, 11555 Rockville Pike (first floor), Rockville, Maryland. Persons who do not have access to ADAMS or who encounter problems in accessing the documents located in ADAMS should contact the NRC PDR Reference staff by telephone at 1-800-397-4209, or 301-415-4737, or by e-mail to pdr.resource@nrc.gov.

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ADAMS Accession No. Letter ML18002A176; Public Notice ML18002A236 *by email

OFFICE	NRR/DORL/LPL4/PM	NRR/DORL/LPL4/LA	OGC (NLO)*
NAME	TWengert (LRegner for)	PBlechman (JBurkhardt for)	DRoth
DATE	01/2/2018	01/02/2018	01/3/2018
OFFICE	NRR/DORL/LPL4/BC	NRR/DORL/LPL4/PM	
NAME	RPascarelli	LRegner	
DATE	01/03/2018	01/03/2018	

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