

**This letter contains proprietary information.
Withhold Enclosure 1 from public disclosure in accordance with 10 CFR 2.390.**



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2CAN012302

10 CFR 50.55a

January 20, 2023

ATTN: Document Control Desk
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Subject: Relief Request ANO2-RR-23-001, Half-Nozzle Repair of
Reactor Vessel Closure Head Penetration #46

Arkansas Nuclear One, Unit 2
NRC Docket No. 50-368
Renewed Facility Operating License No. NPF-6

- References:**
1. Entergy Operations, Inc. (Entergy) letter to the U. S. Nuclear Regulatory Commission (NRC), "Relief Request ANO2-RR-21-002 Half-Nozzle Repair of Reactor Vessel Closure Head Penetration #46," (2CAN112103), ML21309A007, dated November 5, 2021.
 2. NRC letter to Entergy, "Arkansas Nuclear One, Unit 2 – Approval of Request for Alternative from Certain Requirements of the American Society of Mechanical Engineers Boiler and Pressure Vessel Code (EPID L-2021-LLR-0084)," (2CNA042201), ML22073A095, dated April 7, 2022.

Entergy Operations, Inc. (Entergy) performed ultrasonic (UT) examinations of Arkansas Nuclear One, Unit 2 (ANO-2) Reactor Vessel Closure Head (RVCH) penetration nozzles in Refueling Outage 2R28 (Fall 2021), in accordance with American Society of Mechanical Engineers (ASME) Code Case N-729-6 (Item No. B4.20), and detected an axial, planar indication in Control Element Drive Mechanism (CEDM) Nozzle #46. The repair technique, sometimes referred to as the half-nozzle repair, was performed during 2R28 to correct the identified condition on CEDM Nozzle #46. The half-nozzle repair involved machining away the lower section of the nozzle containing the flaw, then welding the remaining portion of the nozzle to the RVCH to form the new pressure boundary. The new weld also attached a replacement lower nozzle that provided a means for re-attaching the guide cone. This technique required relief from certain aspects of the ASME Boiler and Pressure Vessel (B&PV) Code.

Entergy Operations, Inc., 1340 Echelon Parkway, Jackson, MS 39213

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Entergy submitted a relief request for one cycle of operation beginning after 2R28 (Reference 1). This submittal also committed to submit a revised relief request to extend design life of the repair for at least one-interval. The NRC Safety Evaluation approving the one cycle relief request was issued on April 7, 2022 (Reference 2).

This relief request contains the analyses and justification through the remainder of the current plant life (July 17, 2038). Entergy has determined that modification of CEDM Nozzle 46 utilizing the alternatives specified in this request will provide an acceptable level of quality and safety for the remainder of the current plant life.

Pursuant to 10 CFR 50.55a(z)(1), Entergy requests NRC approval of the proposed alternative to the ASME Code repair/replacement requirements, on the basis that the proposed alternative provides an acceptable level of quality and safety.

Entergy requests NRC approval no later than May 1, 2023. This will allow ANO-2 to restart from the Spring 2023 refueling outage.

Some information provided in Enclosure 1, including the attachments in Enclosure 1, is considered proprietary to Framatome and request it to be withheld from public disclosure in accordance with 10 CFR 2.390 of the Commission's regulations. The proprietary information is identified by text enclosed within bolded brackets [Example]. The non-proprietary version is provided in Enclosure 2, including the attachments to Enclosure 2. It should be noted that the calculation numbers between the proprietary and non-proprietary versions may be different, they are the same calculations.

This information is supported by an affidavit, signed by Gayle Elliott, Deputy Director, Licensing and Regulatory Affairs, for Framatome Inc. (Framatome 3315 Old Forest Road, Lynchburg, VA 24501), the owner of the information. The affidavit sets forth the basis by which the information may be withheld from public disclosure by the Commission and addresses with specificity the considerations listed in paragraph (b)(4) of 10 CFR 2.390 of the Commission's regulations. The affidavit is included in Enclosure 3.

There are no new regulatory commitments established in this submittal.

If there are any questions or if additional information is needed, please contact Riley Keele, Manager, Regulatory Assurance, Arkansas Nuclear One, at 479-858-7826.


Respectfully,

Philip

Couture

Phil Couture

PC/rwc

 Digitally signed by Philip Couture
Date: 2023.01.20 07:33:39 -06'00'

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Enclosures: 1. Relief Request ANO2-RR-23-001 (**PROPRIETARY**)
2. Relief Request ANO2-RR-23-001 (**NON-PROPRIETARY**)
3. Affidavit

cc: NRC Region IV Regional Administrator
NRC Senior Resident Inspector – Arkansas Nuclear One
NRC Project Manager – Arkansas Nuclear One

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