

Entergy Operations, Inc. 1448 S.R. 333 Russellville, AR 72802 Tel 479-858-7826

Timothy L. Arnold Manager, Regulatory Assurance Arkansas Nuclear One

2CAN011903

10 CFR 50.55a

January 23, 2019

U. S. Nuclear Regulatory Commission

Attn: Document Control Desk Washington, DC 20555-0001

Subject:

Inservice Inspection Summary Report for the

Twenty-Sixth Refueling Outage Arkansas Nuclear One – Unit 2

Docket No. 50-368

Renewed Facility Operating License No. NPF-6

Dear Sir or Madam:

Article IWA-6000 of Section XI of the 2001 Edition with the 2003 Addenda of the American Society of Mechanical Engineers (ASME) Code requires an inservice inspection summary report be submitted to the regulatory and enforcement authorities having jurisdiction at the plant site. The summary report is required to contain the completed Form NIS-1, "Owner's Report for Inservice Inspection," and Form NIS-2, "Owner's Report for Repair or Replacement Activity." This 2001 Edition with the 2003 Addenda of the ASME Code is the code of record for the fourth 10-year interval at Arkansas Nuclear One, Unit 2 (ANO-2).

ASME Code Case N-532 allows Entergy Operations, Inc., to prepare an Owner's Activity Report Form OAR-1 in place of the code-required NIS-1 and NIS-2 forms. The latest revision of this code case used in this report, N-532-5, is listed in Regulatory Guide 1.147, "Inservice Inspection Code Case Acceptability, ASME Section XI, Division 1," Revision 18, Table 1, "Acceptable Section XI Code Cases." Therefore, prior NRC approval to implement this code case is not required.

This report is to be prepared at the completion of a refueling outage and submitted within 90 calendar days of the completion of the refueling outage. In this case the report is for the twenty-sixth refueling outage for ANO-2 (2R26). This outage was completed on November 21, 2018.

Attached is the completed Form OAR-1 for 2R26 for your information. Included with the form are tables listing the "Items with Flaw or Relevant Conditions Required Evaluation for

AD47 NRR 2CAN011903 Page 2 of 2

Continued Service" and "Abstract of Repair / Replacement Activities Required for Continued Service" in accordance with Code Case N-532-5.

There are no new commitments contained in this submittal.

By means of this submittal, the reporting requirements of the ASME Code, Section XI, Article IWA-6000 are fulfilled for 2R26.

Should you have any questions regarding this submittal, please contact Timothy L. Arnold at (479) 858-7826.

Sincerely,

TI A/rwc

Attachment Form OAR-1, Owner's Activity Report

cc: Mr. Scott A. Morris
Regional Administrator
U. S. Nuclear Regulatory Commission
Region IV
1600 East Lamar Boulevard
Arlington, TX 76011-4511

NRC Senior Resident Inspector Arkansas Nuclear One P.O. Box 310 London, AR 72847

U. S. Nuclear Regulatory Commission Attn: Mr. Thomas Wengert MS O-08B1A One White Flint North 11555 Rockville Pike Rockville, MD 20852

Attachment to

2CAN011903

Form OAR-1, Owner's Activity Report

FORM OAR-1 OWNERS ACTIVITY REPORT

Current Inspection Interval: Fourth (4th Inspection Interval (14, 2nd. 3nd. 4nd. 4nd. 4nd. 4nd. 4nd. 4nd. 4nd. 4	
Current Inspection Interval: Fourth (4th Inspection Interval (1st. 2nd. 3rd. 4n. Other) Current Inspection Period: Third. (3rd. Inspection Period (1st. 2nd. 3rd. 4n. Other) Current Inspection Period: Third. (3rd. Inspection Period (1st. 2nd. 3rd. 4n. Other) Current Inspection Period: Third. (3rd. Inspection Period (1st. 2nd. 3rd. 4n. Other) Current Inspection Plans: July 25, 2018/ Revision 5 (SEP ISI ANOZ 105) Edition and Addenda of Section XI applicable to repair/replacement activities, if different than the Inspection Plans: Same Code Cases used for inspection and evaluation: N-513-3, N-532-5 (if applicable, including cases modified by Case N-532 and later revisions) CERTIFICATE OF CONFORMANCE I certify that (a) the statements made in this report are correct; (b) the examinations and tests meet the inspection Plan as required by the ASME Code, Section XI, and (c) the repair/replacement activities and evaluations supporting the completion of 2r2e conform to the requirements of Section XI. (refueling outage number) CERTIFICATE OF INSERVICE INSPECTION I, the undersigned, holding a valid commission issued by the National Board of Boiller and Pressure Vessel Inspectors and employed by The Hartford Steam Boiler. Inspection and Insurance Company. of Connecticut have inspected the items described in this Owner's Activity Report, and state that, to the best of my knowledge and belief, the Owner has performed all activities represented by this report in accordance with the requirements of Section XI. By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or mpiled, concerning the repair/replacement activities and evaluation described in this report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or loss of any kind arising from or connected with this inspection. Lower of Description of the Propriet of the Propriet of the Inspection of the Propriet of the Inspection of the Propriet of the	
Current Inspection Period: Third (3rd) Inspection Period (1st. 2nd. 3nd, 4nc, 0hear) Current Inspection Period: Third (3rd) Inspection Period (1st. 2nd. 3nd, 4nc) Inspection Period (1st. 2nd. 3nd, 4nc) Cate and Revision of Inspection Plans: July 25, 2018/ Revision 5 (SEP ISI ANO2 105) Edition and Addenda of Section XI applicable to repair/replacement activities, if different than the Inspection Plans: Same Code Cases used for inspection and evaluation: N-513-3, N-532-5 (Id applicable, Including cases modified by Case N-532 and later revisions) CERTIFICATE OF CONFORMANCE I certify that (a) the statements made in this report are correct; (b) the examinations and tests meet the inspection Plan as required by the ASME Code, Section XI, and (c) the repair/replacement activities and evaluations supporting the completion of 2n2s conform to the requirements of Section XI. (refueling outage number) CERTIFICATE OF INSERVICE INSPECTION I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and employed by The Hartford Steam Boiler Inspection and Insurance Company of Connecticut have inspected the Items described in this Owner's Activity Report, and state that, to the best of my knowledge and belief, the Owner has performed all activities represented by this report in accordance with the requirements of Section XI. By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or mplied, concerning the repair/replacement activities and evaluation described in this report. Furthermore, neither the Inspector or his employer shall be liable in any manner for any personal injury or property damage or loss of any kind arising from or connected with this inspection. Later 14.17. Revisions: 14374 I.N.R. National Secretificate meliter the Activity Report and Engineering Placement activities and evaluation described in this report.	(if applicable)
CERTIFICATE OF INSERVICE INSPECTION I, the undersigned, holding a valid complete to Telesignee, Title CERTIFICATE OF INSERVICE INSPECTION I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and employed by The Harford Steam Boiler Inspection and Insurance Company of Connecticut have inspected the items described in this Owner's Activity Report, and state that, to the best of my knowledge and belief, the Owner has performed all activities represented by this report in accordance with the requirements of Section XI. By signing this certificate neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or loss of any kind arising from or connected with this inspection. Commissions: 14374 I,N,R National Board on Engineers.	Current Inspection Interval: Fourth (4 th) Inspection Interval (1st, 2nd, 3rd, 4th, Other)
Date and Revision of Inspection Plans: July 25, 2018/ Revision 5 (SEP ISI ANO2 105) Edition and Addends of Section XI applicable to repair/replacement activities, if different than the Inspection Plans: Same Code Cases used for inspection and evaluation: N-513-3, N-532-5 (If applicable, including cases modified by Case N-532 and later revisions) CERTIFICATE OF CONFORMANCE I. certify that (a) the statements made in this report are correct; (b) the examinations and tests meet the inspection Plan as required by the ASME Code, Section XI; and (c) the repair/replacement activities and evaluations supporting the completion of 2R2s conform to the requirements of Section XI. (refuelling outage number) CERTIFICATE OF INSERVICE INSPECTION I., the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and employed by The Hartford Steam Boiler Inspection and Insurance Company of Connecticut have inspected the items described in this Owner's Activity Report, and state that, to the best of my knowledge and belief, the Owner has performed all activities represented by this report in accordance with the requirements of Section XI. By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or mpilled, concerning the repair/replacement activities and evaluation described in this report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or loss of any kind arising from or connected with this inspection. Late 14374 I.N.R. National Board and Endorsement	Current Inspection Period: Third (3rd) Inspection Period (1st, 2nd, 3rd)
Code Cases used for inspection and evaluation: N-513-3, N-532-5 Code Cases used for inspection and evaluation: N-513-3, N-532-5 CERTIFICATE OF CONFORMANCE Certify that (a) the statements made in this report are correct; (b) the examinations and tests meet the inspection Plan as required by the ASME Code, Section XI; and (c) the repair/replacement activities and evaluations supporting the completion of 2R26 conform to the requirements of Section XI. (refueling outage number) CERTIFICATE OF INSERVICE INSPECTION I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and employed by The Hartford Steam Boiler Inspection and Insurance Company of Connecticut have inspected the items described in this Owner's Activity Report, and state that, to the best of my knowledge and belief, the Owner has performed all activities represented by this report in accordance with the requirements of Section XI. By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or mplied, concerning the repair/replacement activities and evaluation described in this report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or loss of any kind arising from or connected with this inspection. Commissions: 14374 I.N.R	Edition and Addenda of Section XI applicable to the Inspection Plans:
Code Cases used for inspection and evaluation: N-513-3, N-532-5 (If applicable, including cases modified by Case N-532 and later revisions) CERTIFICATE OF CONFORMANCE I certify that (a) the statements made in this report are correct; (b) the examinations and tests meet the inspection Plan as required by the ASME Code, Section XI; and (c) the repair/replacement activities and evaluations supporting the completion of 2R26 conform to the requirements of Section XI. (refueling outage number) CERTIFICATE OF INSERVICE INSPECTION I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and employed by The Hartford Steam Boiler Inspection and Insurance Company of Connecticut have inspected the items described in this Owner's Activity Report, and state that, to the best of my knowledge and belief, the Owner has performed all activities represented by this report in accordance with the requirements of Section XI. By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or mplied, concerning the repair/replacement activities and evaluation described in this report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or loss of any kind arising from or connected with this inspection. Commissions: 14374 I,N,R Inspectors Signature National Board and Endorsement	Date and Revision of Inspection Plans: July 25, 2018/ Revision 5 (SEP ISI ANO2 105)
CERTIFICATE OF CONFORMANCE I certify that (a) the statements made in this report are correct; (b) the examinations and tests meet the inspection Plan as required by the ASME Code, Section XI; and (c) the repair/replacement activities and evaluations supporting the completion of 2R26 conform to the requirements of Section XI. (refuelling outage number) CERTIFICATE OF INSERVICE INSPECTION I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and employed by The Hartford Steam Boiler Inspection and Insurance Company of Connecticut have inspected the items described in this Owner's Activity Report, and state that, to the best of my knowledge and belief, the Owner has performed all activities represented by this report in accordance with the requirements of Section XI. By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or mplied, concerning the repair/replacement activities and evaluation described in this report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or loss of any kind arising from or connected with this inspection. Commissions: 14374 I.N.R National Board and Endorsement	Edition and Addenda of Section XI applicable to repair/replacement activities, if different than the Inspection Plans: Same
Certify that (a) the statements made in this report are correct; (b) the examinations and tests meet the inspection Plan as required by the ASME Code, Section XI; and (c) the repair/replacement activities and evaluations supporting the completion of 2R26 conform to the requirements of Section XI. (refueling outage number) CERTIFICATE OF INSERVICE INSPECTION I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and employed by The Hartford Steam Boiler Inspection and Insurance Company of Connecticut have inspected the items described in this Owner's Activity Report, and state that, to the best of my knowledge and belief, the Owner has performed all activities represented by this report in accordance with the requirements of Section XI. By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or mplied, concerning the repair/replacement activities and evaluation described in this report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or loss of any kind arising from or connected with this inspection. Commissions: 14374 I,N,R National Board and Endorsement	Code Cases used for inspection and evaluation: N-513-3, N-532-5 (If applicable, including cases modified by Case N-532 and later revisions)
Inspection Plan as required by the ASME Code, Section XI; and (c) the repair/replacement activities and evaluations supporting the completion of 2R26 conform to the requirements of Section XI. (refueling outage number) Signed: R+R FNCTNEER Date: 13-19-18 CERTIFICATE OF INSERVICE INSPECTION It, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and employed by The Hartford Steam Boiler Inspection and Insurance Company of Connecticut have inspected the items described in this Owner's Activity Report, and state that, to the best of my knowledge and belief, the Owner has performed all activities represented by this report in accordance with the requirements of Section XI. By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or mplied, concerning the repair/replacement activities and evaluation described in this report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or loss of any kind arising from or connected with this inspection. Commissions: 14374 I.N.R National Board and Endorsement	CERTIFICATE OF CONFORMANCE
CERTIFICATE OF INSERVICE INSPECTION I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and employed by The Hartford Steam Boiler Inspection and Insurance Company of Connecticut have inspected the items described in this Owner's Activity Report, and state that, to the best of my knowledge and belief, the Owner has performed all activities represented by this report in accordance with the requirements of Section XI. By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or mplied, concerning the repair/replacement activities and evaluation described in this report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or loss of any kind arising from or connected with this inspection. Commissions: 14374 I.N.R Inspectors Signature National Board and Endorsement	I certify that (a) the statements made in this report are correct; (b) the examinations and tests meet the Inspection Plan as required by the ASME Code, Section XI; and (c) the repair/replacement activities and evaluations supporting the completion of 2R26 conform to the requirements of Section XI. (refueling outage number)
I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and employed by The Hartford Steam Boiler Inspection and Insurance Company of Connecticut have inspected the items described in this Owner's Activity Report, and state that, to the best of my knowledge and belief, the Owner has performed all activities represented by this report in accordance with the requirements of Section XI. By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the repair/replacement activities and evaluation described in this report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or loss of any kind arising from or connected with this inspection. Commissions: 14374 I,N,R Inspectors Signature National Board and Endorsement	Signed: Je We Vault R+R INCINER Date: 12-19-18 Owner or Owner's Designee, Title
Vessel Inspectors and employed by The Hartford Steam Boiler Inspection and Insurance Company of Connecticut have inspected the items described in this Owner's Activity Report, and state that, to the best of my knowledge and belief, the Owner has performed all activities represented by this report in accordance with the requirements of Section XI. By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or mplied, concerning the repair/replacement activities and evaluation described in this report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or loss of any kind arising from or connected with this inspection. Commissions: 14374 I.N.R National Board and Endorsement	CERTIFICATE OF INSERVICE INSPECTION

FORM OAR-1 OWNERS ACTIVITY REPORT

Report Number: OAR-2431	Page of
Plant: Arkansas Nuclear One / 1448 S.R. 333, Russellville, AR. 72802	
Unit No: 2 Commercial Service Date: March 26, 1980 Refueling Outage No.: 21	<u>R-26</u>

TABLE 1: ITEMS WITH FLAWS OR RELEVANT CONDITIONS THAT REQUIRED EVALUATION FOR CONTINUED SERVICE				
Examination Category and Item Number	Item Description	Evaluation Description		
DB/D2.10	Replace Degraded SW Piping 2HBC-69	See operability evaluation CR-ANO-2-2017-4493		
F-A/F1.20	Support 2DCB-1-H11	Loose mechanical connection. EC ¹ 80120 evaluation acceptable for continued service but restored to original configuration IAW IWF-3122.3(b).		
F-A/F1.10	Support 2CCA-27-3-H1	Wear at mechanical connection. EC-79843 evaluation acceptable for continued service but restored to original configuration IAW IWF-3122.3 (b).		

TABLE 2: Abstract of Repair/Replacement Activities Required for Continued Service				
Item Description	Description of Work	Date Completed	Repair/Replacement Plan Number	
2HBC-35	REPLACE DEFICIENT SW PIPING UPSTREAM OF FW-95	11-14-18	449639-01	
2HBC-69	Replace Degraded SW Piping	10-30-18	476842-01	
2HCB-164-2	Replace valve - 2"	11-13-18	463835-01	
CEDM-49	CEDM-49 Grind only repair	10-15-18	510280	
2CCA-15-H36	REPLACE U-BOLT AND COAT HANGER SUPPORT	10-31-18	430530-01	
2HBC-103-1	Replace service water piping	12-12-18	488630-01	
2HBC-105-1	Replace service water piping	12-12-18	488630-02	
2HBC-104/105	Perform VT-1 and VT-3 examinations per CR's ANO-2-2017-04667/04892 (Pre-service examinations not performed during previous refueling outage (2R25) as required by ASME Sec. XI R&R).	11/12/18	483095-02	
	Item Description 2HBC-35 2HBC-69 2HCB-164-2 CEDM-49 2CCA-15-H36 2HBC-103-1 2HBC-105-1	Item Description Description of Work 2HBC-35 REPLACE DEFICIENT SW PIPING UPSTREAM OF FW-95 2HBC-69 Replace Degraded SW Piping 2HCB-164-2 Replace valve - 2" CEDM-49 CEDM-49 Grind only repair 2CCA-15-H36 REPLACE U-BOLT AND COAT HANGER SUPPORT 2HBC-103-1 Replace service water piping 2HBC-105-1 Replace service water piping 2HBC-104/105 Perform VT-1 and VT-3 examinations per CR's ANO-2-2017-04667/04892 (Pre-service examinations not performed during previous refueling outage (2R25) as	Item Description Description of Work Date Completed	