



Entergy Operations, Inc.
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Stephenie L. Pyle
Manager, Regulatory Assurance
Arkansas Nuclear One

2CAN101701

October 6, 2017

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

SUBJECT: Inservice Inspection Summary Report for the Twenty-Fifth
Refueling Outage (2R25)
Arkansas Nuclear One, Unit 2
Docket No. 50-368
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 to be submitted to the regulatory and enforcement authorities having jurisdiction at the plant site. The summary report is 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 (RG) 1.147, "Inservice Inspection Code Case Acceptability, ASME Section XI, Division 1," Revision 17, 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 associated with the twenty-fifth refueling outage for ANO-2 (2R25). This outage was completed on July 8, 2017.

Attached is the completed Form OAR-1 for 2R25 for your information. Included with the form are tables listing the "Items with Flaws or Relevant Conditions That Required Evaluation for Continued Service" and "Abstract of Repair / Replacement Activities Required for Continued Service" in accordance with Code Case N-532-5. The results that are provided in this submittal are for 2R25.

By means of this submittal, the reporting requirements of the ASME Code, Section XI, Article IWA-6000 are fulfilled for 2R25.

This letter contains no new commitments.

Should you have any questions regarding this submittal, please contact me.

Sincerely,

ORIGINAL SIGNED BY STEPHENIE L. PYLE

SLP/rwc

Attachment: Form OAR-1, Owner's Activity Report

cc: Mr. Kriss M. Kennedy
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-8B1
One White Flint North
11555 Rockville Pike
Rockville, MD 20852

ATTACHMENT TO

2CAN101701

**Form OAR-1
Owner's Activity Report**

FORM OAR-1 OWNERS ACTIVITY REPORT

Report Number: OAR-2423

Plant: Arkansas Nuclear One / 1448 S.R. 333, Russellville, AR. 72802

Unit No: 2 Commercial Service Date: March 26, 1980 Refueling Outage No.: 2R25
(if applicable)

Current Inspection Interval: Fourth (4th) Inspection Interval
(1st, 2nd, 3rd, 4th, Other)

Current Inspection Period: Second (2nd) Inspection Period
(1st, 2nd, 3rd)

Edition and Addenda of Section XI applicable to the Inspection Plans: 2001 Edition with 2003 Addenda

Date and Revision of Inspection Plans: July 18, 2013 / Revision 0 (SEP-ISI-ANO2-105) and February 14, 2014 / Revision 1 (SEP-ISI-ANO2-105), May 5, 2016 Revision 2 (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
(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 2R25 conform to the requirements of Section XI.
(refueling outage number)

*The NIS-2A form for R&R Plan number 427455-02 could not be signed as documented in CR-ANO-2-2017-4689
The NIS-2A form for R&R Plan number 440713-03 could not be signed as documented in CR-ANO-2-2017-4667
The NIS-2A form for R&R Plan number 440713-04 could not be signed as documented in CR-ANO-2-2017-4892
The NIS-2A form for R&R Plan number 453805-27 could not be signed as documented in CR-ANO-2-2017-5133
The NIS-2A form for R&R Plan number 430530-01 could not be signed as documented in CR-ANO-2-2017-5320
The NIS-2A form for R&R Plan number 402241-01 could not be signed as documented in CR-ANO-2-2017-5278
The NIS-2A form for R&R Plan number 458342-01 could not be signed as documented in CR-ANO-2-2017-5319

Signed: *David Warren* ^{REPAIR} REPLACEMENT ENGINEER Date: 10/04/17
Owner or Owner's Designee, 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 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.

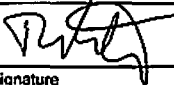
	Commissions: <u> #14374 I, N, R </u>
Inspector's Signature	(National Board Number and Endorsement)
Date: <u> 10/04/17 </u>	

TABLE 1

ITEMS WITH FLAWS OR RELEVANT CONDITIONS THAT REQUIRED EVALUATION FOR CONTINUED SERVICE

Examination Category and Item Number	Item Description	Evaluation Description
D-B D2.10	2VUC-1A Shutdown Cooling Heat Exchanger Room Cooler. (Copper Cooling coil) small 'pin hole' leak.	See Operability evaluation CR-ANO-2-2015-05263
D-B D2.10	2F-6C C Service Water (SW) Strainer 1 drop per minute leak on connecting piping.	See Operability evaluation CR-ANO-2-2017-03766
D-B D2.10	A branch connection at FW-135 on 2HCC-319 2K-4A SW supply line did not receive the Code required surface examination. CR-ANO-2-2015-5154.	See Operability tab of CR-ANO-2-2015-05154 and see also CR-ANO-2-2015-05154. Component was classified as Operable-DNC.
E-A E1.10	Containment liner plate flaws (arc strikes)	CR-ANO-2-2016-00632 / EC-70969
E-A E1.10	Containment liner degradation (adjacent to moisture barrier flaws) CR-ANO-2-2016-764,801,815	See action documented in CR-ANO-2-2016-794 / EC-63218
D-B D2.10	Microbial Induced Corrosion (MIC) pit in SW 2HBC-76-1	See Operability tab of CR-ANO-2-2017-3388
E-A E1.10	2P-66 and 2P-68 Containment sump penetration degradation.	See Operability tab of CR-ANO-2-2017-3138 and EC 65304.
* Item was Repaired / Replaced during 2R25 refueling outage.		

TABLE 2

ABSTRACT OF REPAIR / REPLACEMENT ACTIVITIES REQUIRED FOR CONTINUED SERVICE

Code Class	Item Description	Description of Work	Date Completed	Repair / Replacement (R&R) Plan Numbers and Work Order (WO) Number
2	2E-29	Repair of cracked internal baffles of letdown cooler	08/29/17	52668568-11
3	2E-27	2E-27 internal inspection (plug tubes)	09/11/17	52318633-01
1	2CCA-27	2R-25 Repair of 5/64" cut on 2CCA-27, "B" CVCS pipe	05/25/17	207721-01
3	2CCW-39C	Replace 2CCW-39C	08/07/17	427110-01
1	2CVC-1187	2CVC-1187 cut out and replace	07/11/17	431119-01
2	2CVC-1A	2CVC-1A leaks by	08/29/17	390075-01
2	2DBB-1	Replace 2DBB-1 elbow due to high Flow Assisted Corrosion (FAC) wear rate	08/07/17	328843-01
2	2E-35A	2E-35A Shutdown cooling heat exchanger replacement	07/10/17	455652-01
2	2E-35B	2E-35B Shutdown cooling heat exchanger replacement	07/10/17	455681-01
3	2F-6A	Verify all bolts installed in strainer baskets	08/11/17	438842-02
3	2F-6B	Replace 2F-6B strainer basket seat plate	03/22/16	440325-01
3	2F-6C	2F-6C SW strainer weld documents	04/27/17	438839-02
2	2HBB-3-1	2HBB-3, 5 Supply and return lines	09/12/17	440713-24

**TABLE 2
(Continued)**

Code Class	Item Description	Description of Work	Date Completed	Repair / Replacement (R&R) Plan Numbers and Work Order (WO) Number
2	2HBB-3-12	2HBB-3,5 Supply and return line - supports	09/14/17	440713-52
3	2HBC-106-1	Replace SW supply and return line for 2VCC-2C/2D	09/12/17	440713-02
3	2HBC-33-20	Repair corrosion on FW-2	08/30/17	477845-01
3	2HBC-34-H20	Weld repair and Base Metal Repair (BMR)	08/15/17	477939-06
3	2HBC-50	Replace degraded portion of SW piping (2HBC-50-2)	09/06/17	468097-01
3	2HBC-50	Replace 18" SW piping	09/06/17	468097-05
3	2HBC-68-12	Replace degraded SW pipe on line 2HBC-68-12	06/13/17	471297-02
3	2HBC-69-12	Replace degraded SW pipe on line 2HBC-69-8-12	09/22/17	449642-02
3	2HBC-76	Replace deficient SW piping upstream of FW-47C1	09/08/17	449638-01
3	2HBC-76	2HBC-76 4" piping replacement	08/30/17	449638-12
3	2HCC-298	FW-4R1 BMR	06/28/17	473629-03
3	2HCC-313	Perform weld repair for through-wall leak	04/11/17	461547-01
2	2M-116A	Replace cooling coil	06/07/16	430298-04

**TABLE 2
(Continued)**

Code Class	Item Description	Description of Work	Date Completed	Repair / Replacement (R&R) Plan Numbers and Work Order (WO) Number
3	2MS-39A	Perform repair / replacement in accordance with (IAW) EC-71145	09/11/17	471540-07
3	2MS-39B	Perform repair / replacement IAW EC-71145	09/11/17	52671489-07
3	2P-4A	BMR pump discharge cone	CR-ANO-2-2017-05133	453805-27/ CR-ANO-2-2016-03146/3157
2	2P-55 Flued Head	Replace SW supply flued head for 2P-55 Reactor Building penetration	09/12/17	440713-25
2	2P-55 Flued Head	Replace SW supply flued head for 2P-63 Reactor Building penetration	09/12/17	440713-26
1	2SI-13D	Cut out and replace valve	03/14/16	437746-08
1	2SI-14A	Cut out and replace valve	08/23/17	432399-01
2	2SI-3B	Replace valve 2SI-3B	CR-ANO-2-2017-05278	402241-01
3	2SW-1002A	Through-wall leakage identified	11/11/16	452665-04
3	2SW-24B	Repair valve	08/11/17	474191-01
3	2SW-25A	Replace valve and associated piping to facilitate valve replacement	09/07/17	394570-01
3	2SW-25A	Repair of butt weld due to pinhole leak	05/26/17	473880-2

**TABLE 2
 (Continued)**

Code Class	Item Description	Description of Work	Date Completed	Repair / Replacement (R&R) Plan Numbers and Work Order (WO) Number
3	2SW-25B	Replace 2SW-25B with stainless steel equivalent	09/20/17	413383-01
3	2SW-69A	Replace valve and associated piping to facilitate valve replacement	09/07/17	394576-01
3	2SW-69B	Replace 2SW-69B with stainless steel equivalent	08/11/17	413382-01
3	2VCC-2C/2D	Replace SW supply and return line for 2VCC-2C/2D	09/12/17	440713-01
3	2VUC-11B	Replace cooling coil due to pinhole leak	03/14/16	427105-01
3	2VUC-1A	Replace leaking Cooling coil	07/30/16	434506-01
3	2VUC-2C	Replace switchgear cooling coil.	07/06/17	452684-07