

NMP1L3544
July 14, 2023

U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555-0001

Nine Mile Point Nuclear Station, Unit 1
Renewed Facility Operating License No. DPR-63
Docket No. 50-220

Subject: Fifth Inservice Inspection Interval, First Inservice Inspection Period
2023 Owner's Activity Report for RFO-27 Inservice Examinations

Pursuant to 10 CFR 50.55a, Nine Mile Point Nuclear Station, LLC (NMPNS) hereby submits the attached Fifth Inservice Inspection Interval, First Inservice Inspection Period, 2023 Owner's Activity Report for RFO-27 Inservice Examinations, for Nine Mile Point Unit 1 (NMP1).

This activity report meets the requirements of the American Society of Mechanical Engineers (ASME), Code Case N-532-5, "Alternative Requirements to Repair and Replacement Documentation Requirements and Inservice Summary Report Preparation and Submission as Required by IWA-4000 and IWA-6000, Section XI, Division 1," as approved for use by Regulatory Guide 1.147, "Inservice Inspection Code Case Acceptability, ASME Section XI, Division 1."

There are no regulatory commitments contained in this letter.

Should you have any questions regarding the information in this submittal, please contact Brandon Shultz, Mgr. Site Regulatory Assurance at (315) 349-7012.

Sincerely,



For

Kevin A. Mattessich
Engineering Director, Nine Mile Point Nuclear Station

KM/MR


Attachment: Fifth Inservice Inspection Interval, First Inservice Inspection Period
2023 Owner's Activity Report for RFO-27 Inservice Examinations

cc: Regional Administrator, Region I, USNRC
Project Manager, USNRC
Resident Inspector, USNRC

AD48
NRR

Attachment

Fifth Inservice Inspection Interval, First Inservice Inspection Period
2023 Owner's Activity Report for RFO-27 Inservice Examinations

	Nine Mile Point Nuclear Station Unit 1	NMP1-OAR-005-27
	FIFTH INSERVICE INSPECTION INTERVAL 2023 OWNER'S ACTIVITY REPORT FOR INSERVICE EXAMINATIONS	Rev. 00 Date: July 14 th , 2023 Page 1 of 4

**FORM OAR-1
OWNER'S ACTIVITY REPORT**

As required by the provisions of the ASME Code Case N-532-5

Report Number: NMP1-OAR-005-27

Plant Nine Mile Point Nuclear Station, P. O. Box 63, Lycoming, New York 13093
(Name and Address of Plant)

Plant Unit 1 Commercial Service Date December 01, 1969 Refueling Outage Number RFO-27

Current Inspection Interval 5th Interval for ISI & PT, 3rd Interval for C/ISI August 23, 2019, to August 22, 2029
(1st, 2nd, 3rd, 4th, Other)

Current Inspection Period First In-service Inspection Period August 23, 2019, to August 22, 2023
(1st, 2nd, 3rd)

Edition and Addenda of Section XI applicable to the Inspection Plans 2013 Edition, No Addenda

Date and Revision of Inspection Plans ER-NM-330-1001, Revision 00 (02/22/19), 01 (09/15/2021), 02 (12/13/2021, 03 (08/04/2022), 04 (2-10-2023)

Edition and Addenda of ASME Section XI applicable to Repair/Replacement activities, if different than the Inspection Plan N/A (same Code Edition/Addenda)

Code Cases used: N-532-5, N-613-2, N-638-10, N-648-2, N-653-2, N-702, N-716-1
(if applicable)

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 RFO-27 conform to the requirements of Section XI.

(Refueling outage number)

Signed Moreno, Daniel Eduardo Digitally signed by Moreno, Daniel Eduardo
Date: 2023.07.14 13:03:19 -04'00' Date _____
(Owner of Owner's Designee, Title: Engineer)

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of NY and employed by The Hartford Steam Boiler Inspection & Insurance Co. of Hartford, CT. 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 a loss of any kind arising from or connected with this inspection.

Powers, Brandon Digitally signed by Powers, Brandon
Date: 2023.07.14 13:04:34 -04'00' Commissions NY 5570 NB 16158 A, N, I, R
Inspector's Signature National Board, State, Province, and Endorsements

Date _____


 Constellation.	Nine Mile Point Nuclear Station Unit 1	NMP1-OAR-005-27
	FIFTH INSERVICE INSPECTION INTERVAL 2023 OWNER'S ACTIVITY REPORT FOR INSERVICE EXAMINATIONS	Rev. 00 Date: July 14th, 2023 Page 2 of 4

TABLE 1

ITEMS WITH FLAWS OR RELEVANT CONDITIONS THAT REQUIRED EVALUATION FOR CONTINUED SERVICE
As required by the provisions of the ASME Code Case N-532-5

EXAMINATION CATEGORY	ITEM NUMBER	ITEM DESCRIPTION	EVALUATION DESCRIPTION
R-A	R1.16	Reactor Vessel Nozzle N1A Nozzle Safe End	<p>While performing Ultrasonic Examination on weld 32-WD-002 Nozzle to safe end weld on N1A, two (2) axial indications were recorded with measurable through-wall dimensions. Both axial indications were unacceptable indications. Indications are not indicative of Stress Corrosion Cracking.</p> <p>This condition was documented in the site Corrective Action Program (IR# 04564804) and accepted by ECP-23-000156.</p>
R-A	R1.16	Reactor Vessel Nozzle N1B Nozzle Safe End	<p>While performing Ultrasonic Examination on weld 32-WD-045 Nozzle to safe end weld on N1B, three (3) axial indications were recorded with measurable through-wall dimensions. Two of these indications were unacceptable. Indications are not indicative of Stress Corrosion Cracking.</p> <p>This condition was documented in the site Corrective Action Program (IR# 04564804) and accepted by ECP-23-000156.</p>
R-A	R1.16	Reactor Vessel Nozzle N2E Nozzle Safe End	<p>While performing Ultrasonic Examination on weld 32-WD-208 Nozzle to safe end weld on N2E, one axial indication was recorded. NMP1 installed leaked barrier weld overlay per ECP-23-000149 for one cycle on the one axial indication. (IR# 04563178).</p> <p>Evaluated for single cycle acceptance. Evaluation provided per 60-Day Commitment Response (ML23160A292).</p>
E-C	E4.12	Torus Exterior Shell Plate	<p>Augmented examination of torus exterior plate was performed. No areas were identified exceeding minimum required design thickness. Evaluation of results evaluated per ECP-23-000142.</p>
E-A	E1.11 E1.30	Containment Liner and Moisture Barrier	<p>General visual examination of the containment liner and moisture barrier identified several areas exceeding the acceptance standards (IR #4562537, #04562991). Areas were subsequently cleaned, and VT-1/UT examined (IR #4565491). All areas except one remain above nominal liner plate thickness. The one area below nominal wall thickness was evaluated and determined acceptable for continued service. Due to moisture barrier degradation an inaccessible area evaluation was performed as required by IWE-2500(d) and 10 CFR 50.55a(b)(2)(ix)(A)(2) and is attached (Attachment 1).</p>



	Nine Mile Point Nuclear Station Unit 1	NMP1-OAR-005-27
	FIFTH INSERVICE INSPECTION INTERVAL 2023 OWNER'S ACTIVITY REPORT FOR INSERVICE EXAMINATIONS	Rev. 00 Date: July 14 th , 2023 Page 3 of 4

TABLE 2
ABSTRACT OF REPAIR/REPLACEMENT ACTIVITIES REQUIRED FOR CONTINUED SERVICE
As required by the provisions of the ASME Code Case N-532-5

CODE CLASS	ITEM DESCRIPTION	DESCRIPTION OF WORK	DATE COMPLETED	REPAIR/REPLACEMENT PLAN NUMBER
1	32-WD-208 (N2E)	Leak Barrier Weld Overlay Repair per Relief Request I5R-11. (SER ML23156A682) (IR# 04563178)	04/14/2023	C93903029
1	36-HS-02	Broken reservoir found during as-found visual, snubber replaced with refurbished (IR# 04562047)	03/23/2023	C93801693
1	36-HS-04	Broken reservoir found during as-found visual, snubber replaced with refurbished (IR# 04562048)	03/27/2023	C93801694
1	36-HS-05	Broken reservoir found during as-found visual, snubber replaced with refurbished (IR# 04562055)	03/27/2023	C93902645
2	HTX-201-04	Replace cooling coil and welding rework supply and return lines due to leak (IR# 04413257)	03/26/2023	C93789167
2	HTX-201-06	Replace cooling coil and welding rework supply and return lines due to leak (IR# 04413293)	04/04/2023	C93806035
3	TCV-72-146	Through-wall leak repairs/replacement (IR #04464683 and IR #02475766)	02/28/2022	C93814655
		Repair of valve pipe stub	03/25/2023	C93013747
		Replacement of Piping and valve		

 Constellation.	Nine Mile Point Nuclear Station Unit 1	NMP1-OAR-005-27
	FIFTH INSERVICE INSPECTION INTERVAL 2023 OWNER'S ACTIVITY REPORT FOR INSERVICE EXAMINATIONS	Rev. 00 Date: July 14 th , 2023 Page 4 of 4

Attachment 1
10 CFR 50.55a(b)(2)(ix)(A)(2) Evaluation for degraded Moisture Barrier

Given the condition of the containment liner and moisture barrier (IR #4562537) an evaluation to determine the acceptability of the inaccessible areas is required by IWE-2500(d) and 10 CFR 50.55a(b)(2)(ix)(A)(2). 10 CFR 50.55a(b)(2)(ix)(A)(2) states

"(2) For each inaccessible area identified for evaluation, the applicant of licensee must provide the following in the ISI Summary Report as required per IWA-6000:

- i. A description of the type and estimated extent of degradation, and the conditions that lead to the degradation
- ii. An evaluation of each area, and the result of that evaluation; and
- iii. A description of necessary corrective actions."

Performance of the supplemental VT-1 and UT examinations and evaluation of the results have confirmed the structural integrity of the containment liner. The bottom portion of the drywell (below the moisture barrier) is considered "inaccessible" because it is adjacent to concrete on either side.

To specifically address items (i), (ii) and (iii) from 10 CFR 50.55a(b)(2)(ix)(A)(2) mentioned above:

i. The type of degradation being evaluated is the corrosion and pitting of 7 locations of the steel drywell liner at the 225'6" elevation of the drywell. The UT results document minor material loss as a result of the corrosion (only one location less than nominal thickness but greater than minimum required design thickness). The liner has exhibited signs of corrosion for multiple outages due to the absence of protective coating. Although the drywell is an inert environment during the operating cycle, it is exposed to oxygen during outages. Additionally, NMP1 typically operates with an unidentified drywell leakage of 0.17-0.20 gpm. This leakage resides on the DW floor prior to being removed by the drywell floor drain system.

ii. The chemistry of concrete is very basic (high pH), which protects steel in contact with it from rusting, much like rebar contained within the concrete is protected from rusting. The concrete at the 225'6" elevation was placed into the drywell during construction effectively coating all inaccessible surfaces making corrosion at these locations unlikely. Furthermore, the presence of the moisture barrier essentially seals the area beneath the concrete, creating an environment not conducive to corrosion. It is noted that intermittent degradation of the moisture barrier does occur but timely restoration ensures degradation beneath the moisture barrier is not significant as a result. In addition, oxygen must be present for the drywell steel to oxidize. The drywell is purged with nitrogen most of the time, limiting the presence of oxygen. The area of drywell steel that would have the highest exposure, and therefore vulnerability to moisture and oxygen, would be at the location where the liner and floor meet, where 7 locations of degraded moisture barrier have been observed. This location is exposed to oxygen during a refueling outage and is where water leakage in the drywell could collect. The inaccessible portion of the drywell below the floor's surface could also be exposed to moisture, but it would not have as much exposure to oxygen, therefore it can be concluded that the area beneath the 225'6" floor elevation is in better condition than the corroded areas at the liner interface.

iii. Repairs of the Moisture Barrier were performed in N1R27. Engineering recommended repair of pitted areas and recoating at the next available opportunity.