



Order No. EA-12-051

RS-15-097

June 8, 2015

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
NRC Docket No. 50-220

Subject: Report of Full Compliance with March 12, 2012 Commission Order Modifying Licenses with Regard to Reliable Spent Fuel Pool Instrumentation (Order Number EA-12-051)

References:

1. NRC Order Number EA-12-051, "Issuance of Order to Modify Licenses with Regard to Reliable Spent Fuel Pool Instrumentation," dated March 12, 2012
2. NRC Interim Staff Guidance JLD-ISG-2012-03, "Compliance with Order EA-12-051, Reliable Spent Fuel Pool Instrumentation," Revision 0, dated August 29, 2012
3. NEI 12-02, Industry Guidance for Compliance with NRC Order EA-12-051, "To Modify Licenses with Regard to Reliable Spent Fuel Pool Instrumentation," Revision 1, dated August 2012
4. Constellation Energy Nuclear Group, LLC's Initial Status Report in Response to March 12, 2012 Commission Order Modifying Licenses with Regard to Requirements for Reliable Spent Fuel Pool Instrumentation (Order Number EA-12-051), dated October 26, 2012
5. Constellation Energy Nuclear Group, LLC letter to NRC, Overall Integrated Plan in Response to March 12, 2012 Commission Order Modifying Licenses with Regard to Reliable Spent Fuel Pool Instrumentation (Order Number EA-12-051), dated February 28, 2013
6. Constellation Energy Nuclear Group, LLC letter to NRC, Supplement to Overall Integrated Plan in Response to March 12, 2012 Commission Order Modifying Licenses with Regard to Reliable Spent Fuel Pool Instrumentation (Order Number EA-12-051), dated March 8, 2013
7. NRC letter to Constellation Energy Nuclear Group, LLC, Request for Additional Information Regarding Overall Integrated Plan for Reliable Spent Fuel Pool Instrumentation, dated June 5, 2013
8. Constellation Energy Nuclear Group, LLC letter to NRC, Response to Request For Additional Information - Overall Integrated Plan in Response to Commission Order Modifying License Requirements for Reliable Spent Fuel Pool Instrumentation (Order EA-12-051), dated July 5, 2013

9. Constellation Energy Nuclear Group, LLC First Six-Month Status Report in Response to March 12, 2012 Commission Order Modifying Licenses with Regard to Reliable Spent Fuel Pool Instrumentation (Order Number EA-12-051), dated August 27, 2013 (Nine Mile Point Nuclear Station, Unit 1)
10. Constellation Energy Nuclear Group, LLC Second Six-Month Status Report in Response to March 12, 2012 Commission Order Modifying Licenses with Regard to Reliable Spent Fuel Pool Instrumentation (Order Number EA-12-051), dated February 24, 2014 (Nine Mile Point Nuclear Station, Unit 1)
11. Constellation Energy Nuclear Group, LLC Third Six-Month Status Report in Response to March 12, 2012 Commission Order Modifying Licenses with Regard to Reliable Spent Fuel Pool Instrumentation (Order Number EA-12-051), dated August 26, 2014 (Nine Mile Point Nuclear Station, Unit 1)
12. Constellation Energy Nuclear Group, LLC Fourth Six-Month Status Report in Response to March 12, 2012 Commission Order Modifying Licenses with Regard to Reliable Spent Fuel Pool Instrumentation (Order Number EA-12-051), dated February 19, 2015 (Nine Mile Point Nuclear Station, Unit 1) (RS-15-058)
13. NRC letter to Constellation Energy Nuclear Group, LLC, Nine Mile Point Nuclear Station, Unit 1 – Interim Staff Evaluation and Request for Additional Information Regarding the Overall Integrated Plan for Implementation of Order EA-12-051, Reliable Spent Fuel Pool Instrumentation (TAC No. MF1140), dated November 15, 2013

On March 12, 2012, the Nuclear Regulatory Commission (“NRC” or “Commission”) issued Order EA-12-051, “Order Modifying Licenses with Regard to Reliable Spent Fuel Pool Instrumentation,” (Reference 1) to Exelon Generation Company, LLC (EGC), known previously as Constellation Energy Nuclear Group, LLC (Exelon, the licensee). Reference 1 was immediately effective and directed EGC to install reliable spent fuel pool level instrumentation. Specific requirements are outlined in Attachment 2 of Reference 1.

Reference 1 required submission of an initial status report 60 days following issuance of the final interim staff guidance (Reference 2) and an overall integrated plan (OIP) pursuant to Section IV, Condition C. Reference 2 endorsed industry guidance document NEI 12-02, Revision 1 (Reference 3) with clarifications and exceptions identified in Reference 2. Reference 4 provided the EGC initial status report regarding reliable spent fuel pool instrumentation. References 5 and 6 provided the Nine Mile Point Nuclear Station, Unit 1 OIP.

Reference 1 required submission of a status report at six-month intervals following submittal of the OIP. References 9, 10, 11, and 12 provided the first, second, third, and fourth six-month status reports, respectively, pursuant to Section IV, Condition C.2, of Reference 1 for Nine Mile Point Nuclear Station, Unit 1.

The purpose of this letter is to provide the report of full compliance with the March 12, 2012 Commission Order Modifying Licenses with Regard to Reliable Spent Fuel Pool Instrumentation (Order Number EA-12-051) (Reference 1) pursuant to Section IV, Condition C.3 of the Order for Nine Mile Point Nuclear Station, Unit 1.

Nine Mile Point Nuclear Station, Unit 1 has installed two independent full scale level monitors for the Spent Fuel Pool (SFP) in response to Order EA-12-051. Nine Mile Point Nuclear Station,

Unit 1 OIP Open Items were superseded by the NRC Interim Staff Evaluation Requests for Additional Information (RAIs) contained in Reference 13, as documented in Reference 12.

EGC's response to the NRC OIP Request for Additional Information (OIP RAI), and the NRC Interim Staff Evaluation (ISE) Open Items (ISE RAIs) identified in References 7 and 13 have been addressed and closed as documented in References 8, 9, 10, 11, 12 and below, and are considered complete pending NRC Closure. The information provided herein documents full compliance for Nine Mile Point Nuclear Station, Unit 1 with Reference 1.

The following table provides completion references for each NRC OIP RAI and ISE RAI.

OIP RAI Nos. 1, 2, 3, 4, 6, 7, 8, 9, 10, 11 (Note: NRC did not provide NMPNS with an RAI-5.)	References 8 and 12
ISE RAI Nos. 1, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15, 16, 17, 18	Reference 12
ISE RAI Nos. 2, 13	Reference 12 and updated with this submittal as provided below

NRC Audit Questions/Audit Report open items are considered complete pending NRC closure. It is EGC's understanding that the NRC Site Audit Report contains no remaining audit open items regarding Nine Mile Point Nuclear Station, Unit 1 compliance with NRC Order EA-12-051.

The table below documents the completion of the final remaining open actions as identified in Reference 12. As stated above, EGC provides the response for the following items and considers them to be complete for Nine Mile Point Nuclear Station, Unit 1.

Item	Description	Reference
ISE RAI No. 2 – Provide a final labeled sketch or marked-up plant drawing of the plan view of the SFP, depicting the SFP inside dimensions, the planned locations/placement of the primary and back-up SFP level sensor, and the proposed routing of the cables that will extend from these sensors toward the location of the read-out/display device.	Refer to enclosed drawings (Figures 1-4) for the SFP and associated SFP Level Sensors and waveguide tubing route. The NMP1 Spent Fuel Pool is 33'-2" wide by 37'-5.5" long and 39'-2" deep. The primary level sensor will be mounted on the east side of the southeast corner of the spent fuel pool on elevation 340' in the Reactor Building. The back-up sensor (redundant) will be mounted on the east side of the north east corner of the spent fuel pool on elevation 340' in the Reactor Building. Both Primary	Complete

	<p>and Backup sensor tubing will proceed east for a short distance before each enter a new core bore through the refuel floor concrete slab. The sensor tubing will travel further east and vertically downward where the sensor electronics are mounted on the east wall of the Reactor Building (north and south for the respective level sensor) on the elevation 318' one level below the Refueling Floor. Local level indication is provided next to the sensor electronics at this location. From this point, the instrument cables are routed in separate dedicated conduit within the Reactor Building down to elevation 261' and 250'. From there the cables are routed in separate cable tray through the Turbine Building and into the Auxiliary Control Room for primary and backup SFP level readout capability. The Auxiliary Control Room is located one elevation below and is accessible from the Main Control Room.</p>	
<p>ISE RAI No. 13 – Provide the final configuration of the power supply source for each channel so that the staff may conclude that the two channels are independent from a power supply assignment perspective.</p>	<p>The power control panel for the primary level instrument, PNL-54-65A, is fed from Reactor Protection System (RPS) cabinet 1S53, which in turn is provided power by 120V RPS Bus #11, Circuit #19. RPS Bus #11 is fed from either UPS 162A or 162B. Both UPS receive power from Battery Board #11.</p> <p>The power control panel for the backup level instrument, PNL-54-65B, is fed from RPS cabinet 1S55, which in turn is provided power by 120V RPS Bus #12, Circuit #30. RPS Bus #12 is fed from either UPS 172A or 172B. Both UPS receive power from Battery Board #12.</p> <p>Each power control panel has its own independent battery supply contained within.</p>	Complete

MILESTONE SCHEDULE – ITEMS COMPLETE

Milestone	Completion Date
Submit 60 Day Status Report	October 26, 2012
Submit Overall Integrated Plan	February 28, 2013
Submit Response to RAIs	July 5, 2013
Submit 6 Month Updates:	
Update 1	August 27, 2013
Update 2	February 24, 2014
Update 3	August 26, 2014
Update 4	February 19, 2015
Modifications:	
Commence Engineering and Design	2Q2013
Complete Engineering and Design	1Q2014
Respond to NRC ISE RAIs	1Q2015
Receipt of SFP Instruments	3Q2014
Commence Installation of SFP Instruments	4Q2014
Complete SFPI Installation and Place Into Service	April 2, 2015

ORDER EA-12-051 COMPLIANCE ELEMENTS SUMMARY

The elements identified below for Nine Mile Point Nuclear Station, Unit 1, as well as the site overall integrated plan response submittal (References 5 and 6), the 6-Month Status Reports (References 9, 10, 11, and 12), and any additional docketed correspondence, demonstrate compliance with Order EA-12-051.

IDENTIFICATION OF LEVELS OF REQUIRED MONITORING - COMPLETE

Nine Mile Point Nuclear Station, Unit 1 has identified the three required levels for monitoring SFP level in compliance with Order EA-12-051. These levels have been integrated into the site processes for monitoring level during events and responding to loss of SFP inventory.

INSTRUMENT DESIGN FEATURES - COMPLETE

The design of the instruments installed at Nine Mile Point Nuclear Station, Unit 1 complies with the requirements specified in the Order and described in NEI 12-02 "Industry Guidance for Compliance with NRC Order EA-12-051". The instruments have been installed in accordance with the station design control process.

The instruments have been arranged to provide reasonable protection against missiles. The instruments have been mounted to retain design configuration during and following the maximum expected ground motion. The instruments will be reliable during expected environmental and radiological conditions when the SFP is at saturation for extended periods. The instruments are independent of each other and have separate and diverse power supplies. The instruments will maintain their design accuracy following a power interruption and are designed to allow for routine testing and calibration.

The instrument display is readily accessible during postulated events and allows for SFP level information to be promptly available to decision makers.

PROGRAM FEATURES - COMPLETE

Training for Nine Mile Point Nuclear Station, Unit 1 has been completed in accordance with an accepted training process as recommended in NEI 12-02, Section 4.1.

Operating and maintenance procedures for Nine Mile Point Nuclear Station, Unit 1 have been developed and integrated with existing procedures. Procedures have been verified and are available for use in accordance with the site procedure control program.

Site processes have been established to ensure the instruments are maintained at their design accuracy.

This letter contains no new regulatory commitments. If you have any questions regarding this report, please contact David P. Helker at 610-765-5525.

I declare under penalty of perjury that the foregoing is true and correct. Executed on the 8th day of June 2015.

Respectfully submitted,



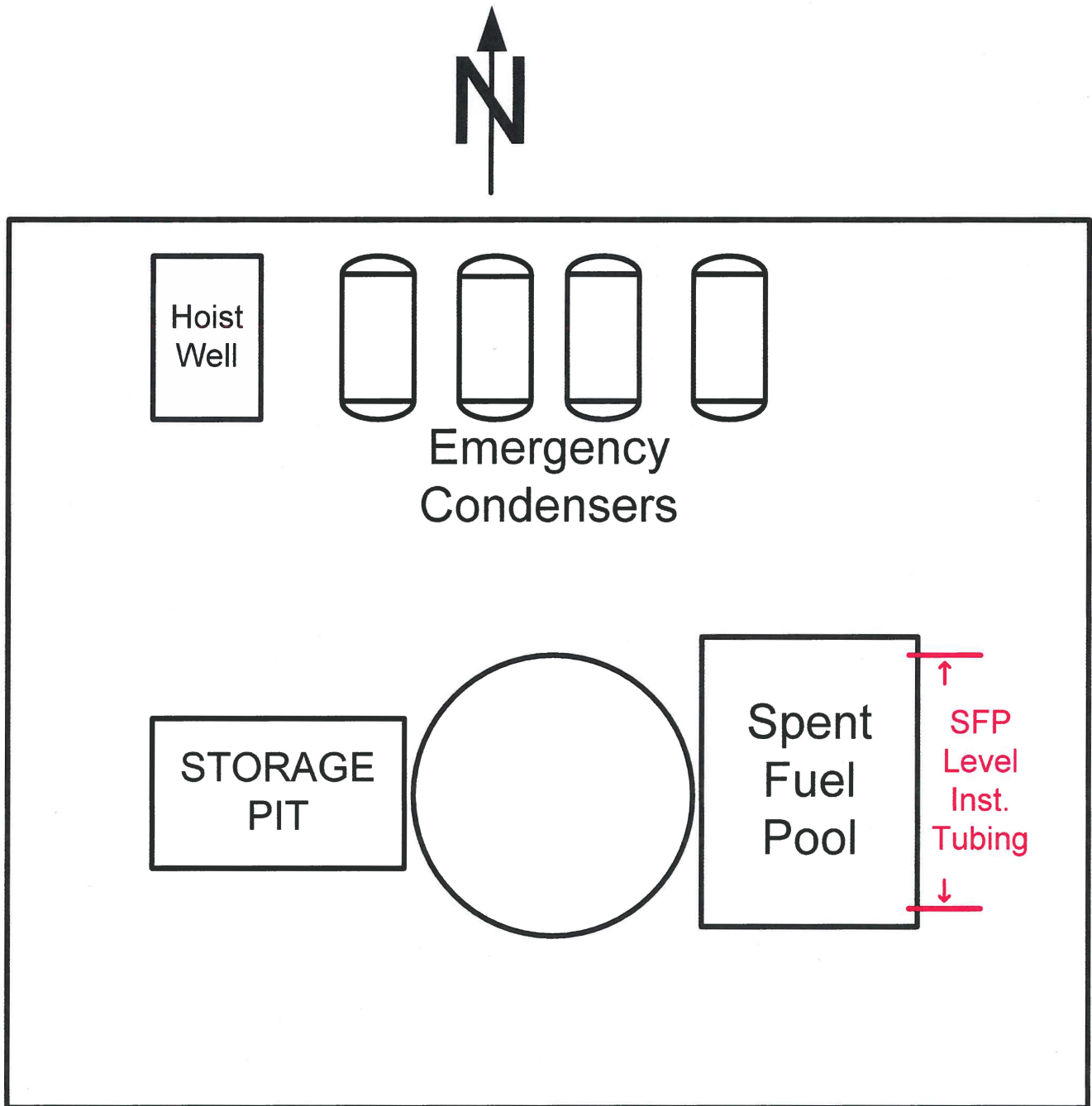
James Barstow
Director - Licensing & Regulatory Affairs
Exelon Generation Company, LLC

Enclosure: ISE RAI No. 2 - Figures 1-4

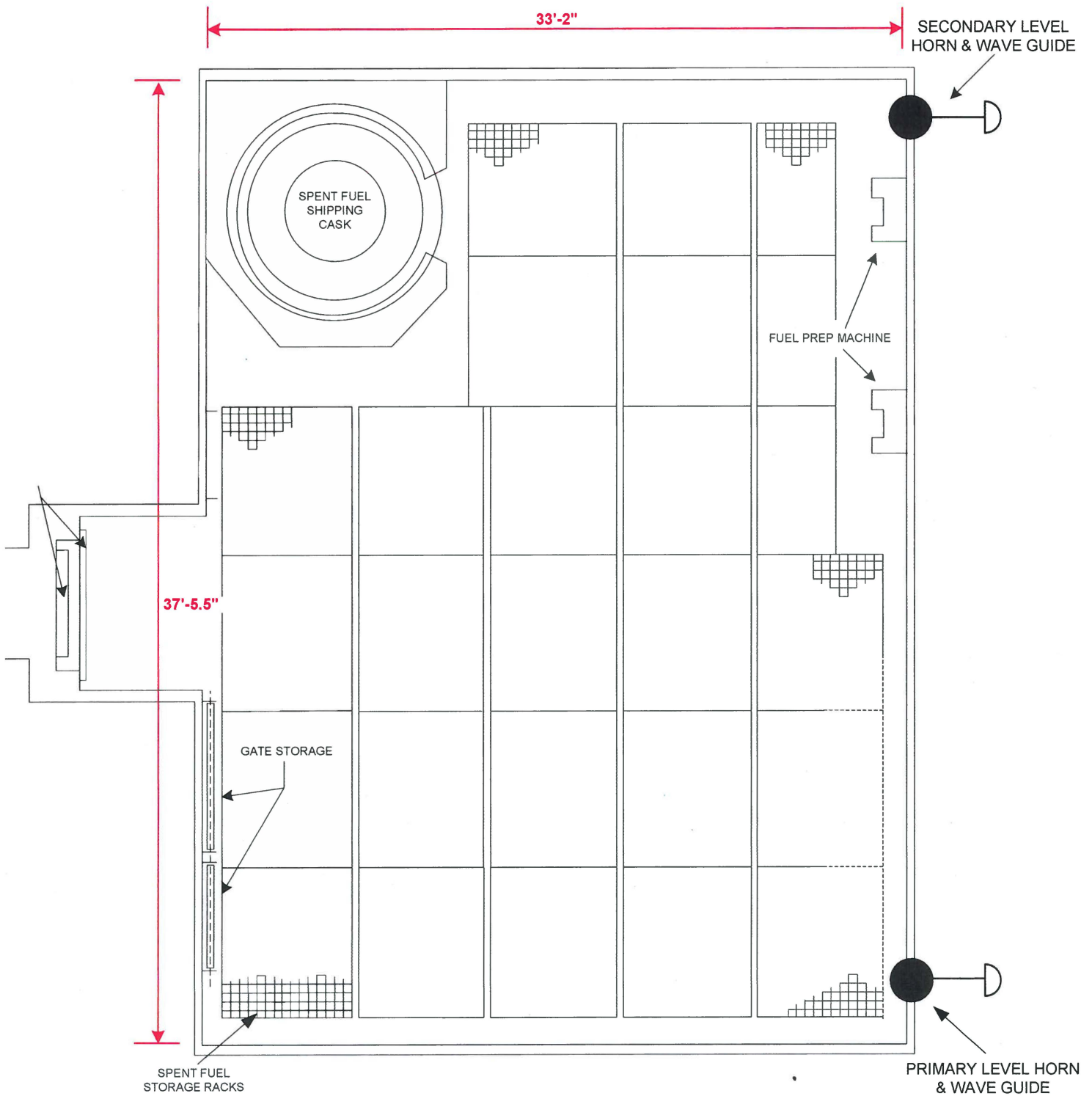
cc: Director, Office of Nuclear Reactor Regulation
NRC Regional Administrator - Region I
NRC Senior Resident Inspector – Nine Mile Point Nuclear Station
NRC Project Manager, NRR – Nine Mile Point Nuclear Station
Mr. Jeremy S. Bowen, NRR/JLD/JOMB, NRC
Ms. Jessica A. Kratchman, NRR/JLD/JPSB, NRC
Mr. Jason C. Paige, NRR/JLD/JOMB, NRC

Enclosure

ISE RAI No. 2 - Figures 1 - 4



NMP1 SPENT FUEL POOL PLAN VIEW



ISE RAI No. 2 – Figure 3

