



Order No. EA-12-051

RS-16-203  
RA-16-088

December 1, 2016

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

Oyster Creek Nuclear Generating Station  
Renewed Facility Operating License No. DPR-16  
NRC Docket No. 50-219

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. Exelon Generation Company, 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 25, 2012
5. Exelon Generation Company, LLC 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 (RS-13-033)
6. NRC letter to Exelon Generation Company, LLC, Request for Additional Information Regarding Overall Integrated Plan for Reliable Spent Fuel Pool Instrumentation, dated August 28, 2013
7. Exelon Generation Company, 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 September 18, 2013 (RS-13-212)
8. Exelon Generation Company, 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 28, 2013 (RS-13-124)
9. Exelon Generation Company, 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 28, 2014 (RS-14-023)

10. Exelon Generation Company, 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 28, 2014 (RS-14-201)
11. Exelon Generation Company, 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 27, 2015 (RS-15-031)
12. Exelon Generation Company, LLC Fifth 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 28, 2015 (RS-15-203)
13. Exelon Generation Company, LLC Sixth 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 26, 2016 (RS-16-031)
14. Exelon Generation Company, LLC Seventh 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, 2016 (RS-16-151)
15. NRC letter to Exelon Generation Company, LLC, Oyster Creek Nuclear Generating Station – 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. MF0823), dated November 8, 2013
16. NRC letter to Exelon Generation Company, LLC, Oyster Creek Nuclear Generating Station – Report for the Onsite Audit Regarding Implementation of Mitigating Strategies and Reliable Spent Fuel Pool Instrumentation Related to Orders EA-12-049 and EA-12-051, dated August 29, 2016

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). 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 (SFPI). Reference 5 provided the Oyster Creek Nuclear Generating Station OIP.

Reference 1 required submission of a status report at six-month intervals following submittal of the OIP. References 8, 9, 10, 11, 12, 13, and 14 provided the first, second, third, fourth, fifth, sixth, and seventh six-month status reports, respectively, pursuant to Section IV, Condition C.2, of Reference 1 for Oyster Creek Nuclear Generating Station.

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 Oyster Creek Nuclear Generating Station.

Oyster Creek Nuclear Generating Station has installed two independent full scale level monitors for the Spent Fuel Pool (SFP) in response to Order EA-12-051. Oyster Creek Nuclear Generating Station OIP Open Items have been addressed and closed as documented in References 8, 9, 10, 11, 12, 13, and 14, and are considered complete pending NRC closure. The information provided herein documents full compliance for Oyster Creek Nuclear Generating Station with Reference 1.

EGC's response to the NRC OIP Requests for Additional Information (OIP RAIs), and the NRC Interim Staff Evaluation (ISE) Open Items (ISE RAIs) identified in References 6 and 15 have been addressed and closed as documented in References 7, 8, 9, 10, 11, 12, 13, 14 and below, and are considered complete pending NRC closure. EGC's response to the NRC audit questions and additional audit open items have been addressed as documented in the NRC Site Audit Report (Reference 16). Reference 16 contains no remaining audit open items regarding Oyster Creek Nuclear Generating Station compliance with NRC Order EA-12-051.

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

OIP Open Item No. 1	Reference 8
OIP RAI No. 1 (Open Item No. 2, Ref. 7)	Reference 14
OIP RAI No. 2 (Open Item No. 3, Ref. 7)	Reference 14
OIP RAI No. 3 (Open Item No. 4, Ref. 7)	Reference 14
OIP RAI No. 4 (Open Item No. 5, Ref. 7)	Reference 14
OIP RAI No. 5 (Open Item No. 6, Ref. 7)	Reference 14
OIP RAI No. 6 (Open Item No. 7, Ref. 7)	Replaced by ISE RAI No. 9
OIP RAI No. 7 (Open Item No. 8, Ref. 7)	Reference 14
OIP RAI No. 8 (Open Item No. 9, Ref. 7)	Reference 14
OIP RAI No. 9 (Open Item No. 10, Ref. 7)	Reference 14
OIP RAI No. 10 (Open Item No. 11, Ref. 7)	Replaced by ISE RAI No. 13
OIP RAI No. 11 (Open Item No. 12, Ref. 7)	Reference 14
ISE RAI No. 2 (Open Item No. 1, Ref. 15)	Reference 14
ISE RAI No. 4 (Open Item No. 2, Ref. 15)	Reference 14
ISE RAI No. 5 (Open Item No. 3, Ref. 15)	Reference 14
ISE RAI No. 7 (Open Item No. 4, Ref. 15)	Reference 14
ISE RAI No. 9 (Open Item No. 5, Ref. 15)	Reference 14
ISE RAI No. 12 (Open Item No. 6, Ref. 15)	Reference 14
ISE RAI No. 13 (Open Item No. 7, Ref. 15)	Reference 14 and updated with this submittal as provided below

Table Notes:

- ISE RAIs are not duplicated in the table above if previously issued as OIP RAIs in Reference 6.

The following table documents the completion of the final remaining open action as identified in Reference 14. As stated above, EGC provides the response for the following item and considers this item to be complete for Oyster Creek Nuclear Generating Station.

Item	Description	Reference
<b>ISE Open Item No. 7 (RAI- 13, Ref. 15)</b>  <b>Please provide a list of the procedures addressing operation (both normal and abnormal response), calibration, test, maintenance, and inspection procedures that will be developed for use of the SFP instrumentation. The licensee is requested to include a brief description of the specific technical objectives to be achieved within each procedure.</b>	<p>Oyster Creek developed the following procedures/documents addressing the use of SFP Instrumentation:</p> <ol style="list-style-type: none"> <li>1. Operator Rounds to perform channel verifications against each other and against physical pool level.</li> <li>2. Operator Rounds to check SFPI is operating on AC power source.</li> <li>3. CC-OC-118, Rev. 00 incorporated compensatory actions. Compensatory actions have been incorporated into eSOMS as a method to log and track unavailability.</li> <li>4. SFPI vendor manual VM-OC-6652. This document provides instructions for calibration, maintenance, testing and inspection of SFPI.</li> <li>5. FSG-09, "Makeup to The Fuel Pool", was developed to provide guidance to fill the SFP, when required, based on SFP level indication.</li> </ol>	<u>Complete</u>

#### MILESTONE SCHEDULE – ITEMS COMPLETE

Milestone	Completion Date
Submit 60 Day Status Report	October 25, 2012
Submit Overall Integrated Plan	February 28, 2013
Submit Responses to RAIs	September 18, 2013
<b>Submit 6 Month Updates:</b>	
Update 1	August 28, 2013
Update 2	February 28, 2014
Update 3	August 28, 2014
Update 4	February 27, 2015
Update 5	August 28, 2015
Update 6	February 26, 2016
Update 7	August 26, 2016
<b>Modifications:</b>	
Conceptual Design	3Q2012
Issue Exelon Fleet contract to procure SFPI	2Q2013

Milestone	Completion Date
<b>Equipment:</b>	
Begin Detailed Design Engineering	1Q2015
Complete and Issue SFPI Modification Package	3Q2015
Begin Installation	2Q2016
Complete SFPI Installation and Put Into Service	August 04, 2016

### **ORDER EA-12-051 COMPLIANCE ELEMENTS SUMMARY**

The elements identified below for Oyster Creek Nuclear Generating Station, as well as the site overall integrated plan response submittal (Reference 5), and the 6-Month Status Reports (References 8, 9, 10, 11, 12, 13, and 14), demonstrate compliance with Order EA-12-051.

#### **IDENTIFICATION OF LEVELS OF REQUIRED MONITORING - COMPLETE**

Oyster Creek Nuclear Generating Station 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 Oyster Creek Nuclear Generating Station 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 Oyster Creek Nuclear Generating Station has been completed in accordance with an accepted training process as recommended in NEI 12-02, Section 4.1.

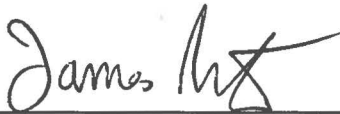
Operating and maintenance procedures for Oyster Creek Nuclear Generating Station have been developed and integrated with existing procedures. Procedures have been verified and are available for use in accordance with the site procedure control program.

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 1<sup>st</sup> day of December 2016.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "James Barstow", written over a horizontal line.

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

cc: Director, Office of Nuclear Reactor Regulation  
NRC Regional Administrator - Region I  
NRC Senior Resident Inspector – Oyster Creek Nuclear Generating Station  
NRC Project Manager, NRR – Oyster Creek Nuclear Generating Station  
Mr. John D. Hughey, NRR/JLD/JOMB, NRC  
Manager, Bureau of Nuclear Engineering – New Jersey Department of Environmental Protection  
Mayor of Lacey Township, Forked River, NJ