UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

April 28, 2014

Mr. Lawrence J. Weber
Senior Vice President and
Chief Nuclear Officer
Indiana Michigan Power Company
Nuclear Generation Group
One Cook Place
Bridgman, MI 49106

SUBJECT: DONALD. C. COOK NUCLEAR PLANT, UNITS 1 AND 2 - PLAN FOR THE ONSITE AUDIT OF MOHR REGARDING IMPLEMENTATION OF RELIABLE SPENT FUEL POOL INSTRUMENTATION RELATED TO ORDER EA-12-051 (TAC NOS. MF0761 AND MF0762)

Dear Mr. Weber:

On March 12, 2012, the U.S. Nuclear Regulatory Commission (NRC) issued Order EA-12-051, "Issuance of Order to Modify Licenses with Regard to Reliable Spent Fuel Pool Instrumentation" (Agencywide Documents Access and Management System (ADAMS) Accession No. ML12054A679), to all power reactor licensees and holders of construction permits in active or deferred status. The order requires, in part, that all operating reactor sites have a reliable means of remotely monitoring wide-range Spent Fuel Pool (SFP) levels to support effective prioritization of event mitigation and recovery actions in the event of a beyond-design-basis external event. The order required all holders of operating licenses issued under Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50, "Domestic Licensing of Production and Utilization Facilities," to submit to the NRC an Overall Integrated Plan (OIP) by February 28, 2013.

By letter dated February 27, 2013 (ADAMS Accession No. ML13071A323), as supplemented by letters dated July 11, 2013 (ADAMS Accession No. ML13196A250), August 26, 2013 (ADAMS Accession No. ML13247A050) and February 27, 2014 (ADAMS Accession No. ML14063A041), Indiana Michigan Power Company submitted its OIP for Donald C. Cook Nuclear Power Plant, Units 1 and 2 (D.C. Cook).

The NRC staff's review led to the issuance of the D.C. Cook interim staff evaluation (ISE) and request for additional information (RAI) dated November 13, 2013 (ADAMS Accession No. ML13310B499). By eportal document dated March 27, 2014, Indiana Michigan Power Company submitted their response to the RAIs.

By letter dated March 26, 2014 (ADAMS Accession No. ML14083A620), the NRC notified all licensees and construction permit holders that the staff is conducting audits of their responses to Order EA-12-051 in accordance with NRC Office of Nuclear Reactor Regulation Office Instruction LIC-111, "Regulatory Audits" (ADAMS Accession No. ML082900195). The purpose of the staff's audit is to determine the extent to which the licensees are proceeding on a path towards successful implementation of the actions needed to achieve full compliance with the order.

The ongoing audit process, to include in-office and onsite portions, allows the staff to assess whether it has enough information to make an Integrated Plan safety evaluation. The audit allows the staff to review additional information provided following issuance of the ISE, supplements to the licensee's integrated plan, implementation design aspects and feasibility, and other audit questions. Additionally, the staff gains a better understanding of submitted information, identifies additional information necessary for the licensee to supplement its plan, and identifies any staff potential concerns.

This document outlines the onsite, licensee audit process that will provide the NRC staff more detailed understanding of the licensee's implementation strategy and determine if further information is needed to make a safety determination. The staff plans to conduct an onsite audit of specific aspects of the D.C. Cook OIP, as supplemented, at the licensee's vendor facility in accordance with the enclosed audit plan from May 28-29, 2014.

If you have any questions, please contact me at 301-415-2901 or by e-mail at john.boska@nrc.gov.

Sincerely,

John P. Boska

John Boska, Senior Project Manager
Project Management Branch
Mitigating Strategies Directorate
Office of Nuclear Reactor Regulation

Docket Nos.: 50-315 and 50-316

Enclosures:
1. Audit plan
2. Generic Design Information Template

cc w/encl: Distribution via Listserv

Audit Plan
Donald C. Cook Nuclear Power Plant, Units 1 and 2

BACKGROUND AND AUDIT BASIS

On March 12, 2012, the U.S. Nuclear Regulatory Commission (NRC) issued Order EA-12-051, "Issuance of Order to Modify Licenses with Regard to Reliable Spent Fuel Pool Instrumentation" (Agencywide Documents Access and Management System (ADAMS) Accession No. ML12054A679), to all power reactor licensees and holders of construction permits in active or deferred status. The order requires, in part, that all operating reactor sites have a reliable means of remotely monitoring wide-range Spent Fuel Pool (SFP) levels to support effective prioritization of event mitigation and recovery actions in the event of a beyond-design-basis external event. The order required all holders of operating licenses issued under Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50, "Domestic Licensing of Production and Utilization Facilities," to submit to the NRC an Overall Integrated Plan (OIP) by February 28, 2013.

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The ongoing audit process, to include in-office and onsite portions, allows the staff to assess whether it has enough information to make an Integrated Plan safety evaluation. The audit allows the staff to review additional information provided following issuance of the ISE, supplements to the licensee's integrated plan, implementation design aspects and feasibility, and other audit questions. Additionally, the staff gains a better understanding of submitted information, identifies additional information necessary for the licensee to supplement its plan, and identifies any staff potential concerns.

This document outlines the onsite, licensee audit process that will provide the NRC staff more detailed understanding of specific aspects of the D.C. Cook OIP, as supplemented, at the licensee's vendor facility and determine if further information is needed to make a safety determination.

During the review of the D.C. Cook OIP, the licensee identified that Mohr Test and Measurement LLC (Mohr) was selected as the vendor providing the SFP level instrumentation. As part of the NRC staff's ongoing audit and review of the D.C. Cook OIP, the NRC staff will conduct this audit at the licensee's vendor facility, per the audit process described above, to review information concerning the design features of the Mohr SFP level instrumentation as it pertains to the D.C. Cook plant with an awareness that the Mohr SFP instrumentation (SFPI) design may have generic applicability and be utilized in other licensees' site specific SFP instrumentation implementation.

Following the licensee's declaration of order compliance, the NRC staff will evaluate the OIP as supplemented, and, as appropriate, other licensee submittals based on the requirements in Order EA-12-051. The staff will make a safety determination regarding order compliance using the Nuclear Energy Institute (NEI) developed guidance document NEI 12-02, "Industry Guidance for Compliance with NRC Order EA-12-051, "To Modify Licenses with Regard to Reliable Spent Fuel Pool Instrumentation" (ADAMS Accession No. ML12240A307), as endorsed, with exceptions and clarifications, by NRC interim staff guidance (ISG) JLD-ISG-2012-03 "Compliance with Order EA-12-051, 'Reliable Spent Fuel Pool Instrumentation'" (ADAMS Accession No. ML12221A339) as providing one acceptable means of meeting the order requirements. Other methods that deviate from the guidance may be found acceptable, but will require additional staff review and attention.

AUDIT SCOPE

As discussed, onsite audits will be performed per NRR Office Instruction LIC-111, "Regulatory Audits," to support the development of safety evaluations.

The purpose of the NRC audit is to provide the NRC staff a more detailed understanding of specific aspects of the D.C. Cook OIP, as supplemented, at the licensee's vendor facility, review the licensee's vendor design information concerning the Mohr SFP level instrumentation, and determine if further information is needed to make a safety determination.

This onsite audit has two primary purposes:

(1) Review the licensee's Mohr SFP level instrumentation design specification and test results information that are anticipated to be provided in response to the NRC staff's RAIs, and

(2) Confirm NRC staff understanding of the installation requirements, operation, and required maintenance of the licensee's Mohr SFP level instrumentation.

The NRC staff will conduct an evaluation of the licensee's vendor and design information that addresses the topics in the enclosed generic design information template. The NRC audit team requests for the licensee to arrange for a presentation on the vendor's SFP level instrumentation design per the proposed schedule at the end of this plan.

NRC AUDIT TEAM

Title	Team Member	Organization	Telephone number
Team Lead	Carla Roque-Cruz	NRC/NRR/MSD/MRSB	301-415-1455
Technical Support	Steve Wyman	NRC/NRR/MSD/MRSB	301-415-3041
Technical Support	Gursharan Singh	NRC/NRR/MSD/MESB	301-415-2962
Technical Support	Khoi Nguyen	NRC/NRR/MSD/MESB	301-415-6839
Branch Chief	Sheena Whaley	NRC/NRR/MSD/MRSB	301-415-0213

LOGISTICS

The audit will be conducted onsite at the licensee's vendor's Mohr facility, Richland, WA on May 28-29, 2014. Entrance and exit briefings will be held with the licensee at the beginning and end of the audit, respectively, as well as daily briefings of team activities. Additional details will be addressed over the phone. A more detailed schedule is provided below.

A private conference room is requested for NRC audit team use with access to audit documentation upon arrival and as needed.

DELIVERABLES

An audit report/summary will be issued to the licensee within 45 days from the end of the audit.

INFORMATION NEEDS

The NRC staff will review the vendor design information, test results, and analysis supporting the D.C. Cook reliable SFP level instrumentation OIP submittal. The NRC staff requests that the licensee provide the applicable information contained in the attached generic design information template for discussion while onsite. In further preparation for this onsite audit in the coming weeks, the NRC staff may request further information be posted to the eportal prior to the audit following continuing licensee vendor design document review.

Below is the preliminary list of documents the staff plans to review during the audit.

MOHR Test and Measurement Drawings 1-0430-19.1A

MOHR Test and Measurement Drawings 1-0430-19.1B

1-0410-1 MOHR EFP-IL SFPI System Temperature and Humidity Test Report

1-0410-2 MOHR SFP-1 Level Probe Assembly Materials Qualification Report

1-0410-3 MOHR EFP-IL System Proof of Concept Report

1-0410-4 MOHR EFP-IL SFPI System EMC Test Report

1-0410-5 MOHR EFP-IL SFPI System Shock and Vibration Test Report

1-0410-6 MOHR EFP-IL SFPI System Seismic Test Report

1-0410-7 MOHR EFP-IL SFPI System Battery Life Report

1-0410-8 MOHR EFP-IL SFPI System Boric Acid Deposition Report

1-0410-9 MOHR SFP-1 Level Probe Assembly Seismic Analysis Report

1-0410-9.1 MOHR SFP-1 Site-Specific Seismic Analysis Report: D. C. Cook Nuclear Plant (D.C Cook)

1-0410-10 MOHR EFP-IL SFPI System Power Interruption Report

Mohr Vendor Operator's Manual

Proposed Schedule

Onsite Day 1, Wednesday, May 28, 2014

0800 Check in at site; Badging

0900 Entrance meeting

0930 Vendor (Mohr) Design Presentation

1230 Lunch

1330 NRC Audit Team Activities commence:

- Review test results and analysis per the generic design information template
- Review vendor documents

1600 Audit Team meeting

1630 Team lead daily debrief with licensee

Onsite Day 2, Thursday, May 29, 2014

0800 NRC Audit Team Activities continue:

- Review test results and analysis per the generic design information template
- Review vendor documents

1200 Lunch

1300 Continue NRC Audit Team Activities

1500 Audit Team meeting

1600 NRC/Licensee pre-exit meeting

1630 NRC/Licensee formal exit meeting

1700 Audit closeout/departure

REFERENCES

1. NRC Order Number EA-12-051, "Issuance of Order to Modify Licenses with Regard to Reliable Spent Fuel Instrumentation," dated March 12, 2012 (ADAMS Accession No. ML12054A679)

2. Nuclear Energy Institute (NEI) guidance document NEI 12 02, Revision 1, "Industry Guidance for Compliance with NRC Order EA-12-051, 'to Modify Licenses with Regard to Reliable Spent Fuel Pool Instrumentation," dated August 2012 (ADAMS Accession No. ML12240A307)

3. NRC Final Interim Staff Guidance JLD-ISG-2012-03, "Compliance with Order EA-12-051, Reliable Spent Fuel Pool Instrumentation," dated August 29, 2012 (ADAMS Accession No. ML12221A339)

4. Letter from Indiana Michigan Power Company 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 27, 2013 (ADAMS Accession No. ML13071A323)

5. Letter from NRC to Indiana Michigan Power Company, "Donald C. Cook Nuclear Power Plant, Units 1 and 2- Request for Additional Information on the Overall Integrated Plan in Response to Order EA-12-051 Concerning Reliable Spent Fuel Pool Instrumentation (TAC Nos. MF0761 and MF0762)," dated June 19, 2013 (ADAMS Accession No. ML13164A381)

6. Letter from Indiana Michigan Power Company to NRC, "Donald C. Cook Nuclear Plant Units 1 and 2 Response to Request for Additional Information Regarding the Overall Integrated Plan in Response to Order EA-12-051, "Issuance of Order to Modify Licenses with Regard to Reliable Spent Fuel Pool Instrumentation"," dated July 11, 2013 (ADAMS Accession No. ML13196A250)

7. Letter from Indiana Michigan Power Company to NRC, "Donald C. Cook Nuclear Plant Units 1 and 2 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, 2013 (ADAMS Accession No. ML13247A050)

8. Letter from NRC to Indiana Michigan Power Company, "Donald C. Cook Nuclear Plant, Units 1 and 2 – 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 Nos. MF0761 and MF0762)," dated November 13, 2013 (ADAMS Accession No. ML13310B499)

9. Letter from Indiana Michigan Power Company to NRC, "Donald C. Cook Nuclear Plant Units 1 and 2 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, 2014 (ADAMS Accession No. ML14063A041)

10. Eportal document from Indiana Michigan Power Company to NRC, "Donald C. Cook Nuclear Power Plant Units 1 and 2 Response to Request for Additional Information," dated March 27, 2014.

Generic Design Information Template

#	Topic	Parameter Summary	Vendor Design Reference Document #	Additional Comments	Test or Analysis Results	Licensee Evaluation
1	Design Specification					
2	Test Strategy					
3	Environmental qualification for electronics enclosure with display					
4	Environmental testing for level sensor components in SFP area – Saturated steam & Radiation					
5	Environmental testing for level sensor electronics housing- outside SFP					
6	Thermal & Radiation Aging – organic components in SFP area					
7	Basis for Dose Requirements					
8	Seismic Qualification					
9	Sloshing					
10	Spent Fuel Pool instrumentation system functionality test procedure					

11	Boron Build-Up					
12	Pool-side Bracket Seismic Analysis					
13	Additional Brackets (Sensor Electronics and Electronics Enclosure)					
14	Shock & Vibration					
15	Requirements Traceability Matrix					
16	Factory Acceptance Test					
17	Channel Accuracy					
18	Power Consumption					
19	Technical Manual					
20	Calibration					
21	Failure Modes and Effects Analysis (FMEA)					
22	EMI Testing					

References:

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If you have any questions, please contact me at 301-415-2901 or by e-mail at john.boska@nrc.gov.

Sincerely,
/RA/

John Boska, Senior Project Manager
Project Management Branch
Mitigating Strategies Directorate
Office of Nuclear Reactor Regulation

Docket Nos.: 50-315 and 50-316

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2. Generic Design Information Template

cc w/encl: Distribution via Listserv

DISTRIBUTION:
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JBoska, NRR/MSD
CRoqueCruz, NRR/MSD
JBowen, NRR/MSD

ADAMS Accession No. ML14115A315

OFFICE	NRR/MSD/MRSB	NRR/MSD/LA	NRR/MSD/MESB/BC	NRR/MSD/MRSB/BC
NAME	CRoque-Cruz	SLent	SBailey	SWhaley
DATE	04/28/14	04/25/14	04/28/14	04/28/14
OFFICE	NRR/MSD/MSPB/BC	NRR/MSD/MSPB/PM		
NAME	JBowen	JBoska		
DATE	04/28/14	04/28/14		

OFFICIAL AGENCY RECORD