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(Peter Bamford  
NRC PM)



**Nebraska Public Power District**

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NLS2016066  
December 20, 2016

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

Subject: Completion of Required Action by NRC Order EA-12-051 - Reliable Spent Fuel Pool  
Instrumentation  
Cooper Nuclear Station, Docket No. 50-298, DPR-46

Dear Sir or Madam:

On March 12, 2012, the Nuclear Regulatory Commission (NRC) issued Order EA-12-051, Order Modifying Licenses with Regard to Reliable Spent Fuel Pool Instrumentation, to Nebraska Public Power District (NPPD). This Order was effective immediately and directed NPPD to install reliable spent fuel pool instrumentation as outlined in Attachment 2 of the Order at Cooper Nuclear Station (CNS). This letter, along with its attachment, provides the notification required by Section IV.C.3 of the Order that full compliance with the requirements described in Attachment 2 of the Order has been achieved for CNS.

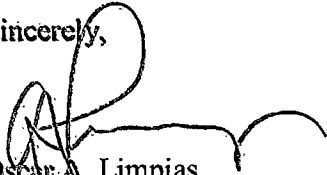
This letter contains no new NRC commitments.

If you have any questions, please contact Jim Shaw, Licensing Manager, at (402) 825-2788.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on: 12/20/16

Sincerely,

  
Oscar A. Limpas  
Vice President - Nuclear and  
Chief Nuclear Officer

/bk

Attachment: Compliance Report for Order EA-12-051, Reliable Spent Fuel Pool  
Instrumentation

ADD  
NRR

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cc: Regional Administrator, w/attachment  
USNRC - Region IV

Director, w/attachment  
USNRC - Office of Nuclear Reactor Regulation

Cooper Project Manager, w/attachment  
USNRC - NRR Plant Licensing Branch IV

Senior Resident Inspector, w/attachment  
USNRC - CNS

NPG Distribution, w/attachment

CNS Records, w/attachment

## ATTACHMENT

### Compliance Report for Order EA-12-051, Reliable Spent Fuel Pool Instrumentation

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#### BACKGROUND

On March 12, 2012, the Nuclear Regulatory Commission (NRC) issued Order EA-12-051, Order Modifying Licenses with Regard to Reliable Spent Fuel Pool Instrumentation (Reference 1), to Nebraska Public Power District (NPPD). This Order was effective immediately and directed NPPD to install reliable spent fuel pool instrumentation (SFPI) at Cooper Nuclear Station (CNS) as outlined in Attachment 2 of the Order.

The Order required compliance prior to plant startup from the second refueling outage following submittal of the Overall Integrated Plan (OIP), or by December 31, 2016, whichever comes first. NPPD is hereby reporting that full compliance with the Order was achieved prior to CNS entering Mode 2 (Startup) on November 6, 2016.

The information provided herein, and referenced docketed correspondence, documents full compliance for NPPD in response to the Order.

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#### COMPLIANCE

NPPD has installed two independent full scale level monitors in the CNS spent fuel pool (SFP) in response to Reference 1. CNS is a single unit site with one SFP.

NPPD submitted the CNS OIP by Reference 3. By Reference 5, the NRC provided its interim staff evaluation (ISE) and requested additional information (RAI) necessary for completion of the NRC staff's review. NPPD responded to the RAI in the final six-month status report (Reference 11).

In References 2, 4, 6, 7, 8, 9, 10, and 11, NPPD provided status reports to the NRC with regard to implementation of Order EA-12-051 at CNS.

In Reference 12, the NRC issued a report for an audit conducted at CNS from May 23 through May 26, 2016, regarding implementation of mitigating strategies and reliable SFPI related to Orders EA-12-049, Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design Basis External Events, and EA-12-051. The audit activities included a review of installation details for SFPI equipment and NPPD responses to the ISE RAI questions. There were no open or pending items related to SFPI implementation identified in the audit report.

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## ORDER EA-12-051 COMPLIANCE ELEMENTS SUMMARY

### Identification of Levels of Required Monitoring – Complete

NPPD has identified the three required levels for monitoring CNS SFP level in accordance with Order EA-12-051. These levels have been integrated into CNS site processes for monitoring level during beyond-design-basis events, including response to a loss of SFP inventory.

### Instrument Designed Features – Complete

The modification to install the SFPI has been fully implemented at CNS in accordance with the station's design control process. The design of the instruments complies with the requirements specified in the Order and as described in Nuclear Energy Institute (NEI) 12-02, Industry Guidance for Compliance with NRC Order EA-12-051, Revision 1 (Reference 13).

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

Operating and maintenance procedures for the SFPI channels have been developed and integrated with existing procedures. These procedures have been verified and are available for use in accordance with the station's procedure control program.

The manufacturer's, MOHR Test & Measurement, LLC, guidelines are currently available for use in conducting maintenance, calibration, and testing of the SFPI channels. Site-specific maintenance, calibration, and testing procedures have been developed in accordance with the design control program, based on these guidelines.

Training of personnel performing maintenance functions, including calibration and surveillance associated with the SFP level instrumentation channels, has been completed in accordance with an accepted training process as recommended in NEI 12-02, Section 4.1.

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

Milestone Schedule – Items Complete

CNS Milestones	Status
<b>Submittals:</b>	
60 Day Status Report	Complete (Reference 2)
Overall Integrated Plan	Complete (Reference 3)
6 Month Status Updates	Complete (References 4, 6, 7, 8, 9, 10, 11)
Compliance Report	Complete with this submittal
<b>Modification:</b>	
Scoping Study/Detailed Design	Complete
Refueling Outage 28 Walkdowns	Complete
Procurement of Parts	Complete
Final Detailed Design	Complete
Installation/Testing	Complete
Modification In-service	Complete
<b>Procedures:</b>	
Develop/Implement Procedures	Complete
<b>Training:</b>	
Develop/Implement Training	Complete

Based on the above, the requirements of Order EA-12-051 have been implemented at CNS.

**REFERENCES**

The following references support this compliance report for Order EA-12-051:

1. NRC Order Number EA-12-051, "Order Modifying Licenses with Regard to Reliable SFP Instrumentation," dated March 12, 2012 (ML12054A679)
2. NPPD Letter to NRC "Initial 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 October 26, 2012 (NLS2012111)
3. NPPD 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 (NLS2013026)
4. NPPD Letter to NRC, "Nebraska Public Power District's 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 (NLS2013078)

5. NRC Letter to NPPD, "Cooper Nuclear 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. MF0971)," dated December 4, 2013
6. NPPD Letter to NRC, "Nebraska Public Power District's 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 26, 2014 (NLS2014018)
7. NPPD Letter to NRC, "Nebraska Public Power District's 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 (NLS2014081)
8. NPPD Letter to NRC, "Nebraska Public Power District's 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 23, 2015 (NLS2015020)
9. NPPD Letter to NRC, "Nebraska Public Power District's 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 27, 2015 (NLS2015101)
10. NPPD Letter to NRC, "Nebraska Public Power District's 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 16, 2016 (NLS2016006)
11. NPPD Letter to NRC, "Nebraska Public Power District's Final Six-Month Status Report and Response to Request for Additional Information 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 22, 2016 (NLS2016045)
12. NRC Letter to NPPD, "Cooper Nuclear Station - Report for the Audit Regarding Implementation of Mitigating Strategies and Reliable Spent Fuel Pool Instrumentation Related to Orders EA-12-049 and EA-12-051 (CAC NOS. MF0971 and MF0972)," dated August 29, 2016 (ML16217A475)
13. NEI 12-02, "Industry Guidance for Compliance with NRC Order EA-12-051," Revision 1, dated August 2012