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10 CFR 50.4

August 26, 2015  
Serial: MNS-15-061

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

Duke Energy Carolinas, LLC (Duke Energy)  
McGuire Nuclear Station (MNS), Units 1 and 2  
Docket Numbers 50-369, 50-370  
Renewed License Numbers NPF-9 and NPF-17

**Subject:** Fifth Six-Month Status Reports in Response to March 12, 2012, Commission Order Modifying Licenses with Regard to Reliable Spent Fuel Pool Instrumentation (SFPI) (Order Number EA-12-051)

**References:**

1. NRC Order Number EA-12-051, Order Modifying Licenses with Regard to Reliable Spent Fuel Pool Instrumentation, dated March 12, 2012, (Agencywide Documents Access and Management System (ADAMS) Accession No. ML12054A679).
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 (ADAMS Accession No. ML12221A339).
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 (ADAMS Accession No. ML12240A307).
4. Duke Energy Letter, Duke Energy Carolinas, LLC, (Duke Energy) 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 29, 2012 (ADAMS Accession No. ML12307A022).
5. Duke Energy Letter, Duke Energy Carolinas, LLC, (Duke Energy) Overall Integrated Plans 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 February 28, 2013 (ADAMS Accession No. ML13086A095).
6. McGuire Nuclear Station, 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, dated October 28, 2013 (ADAMS Accession No. ML13281A791).

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7. NRC Letter, Nuclear Regulatory Commission Audits of Licensee Responses to Reliable Spent Fuel Pool Instrumentation Order EA-12-051, dated March 26, 2014 (ADAMS Accession No. ML14083A620).
8. Duke Energy Letter, Duke Energy Carolinas, LLC, (Duke Energy), First Six-month Status Reports 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. ML13242A009).
9. Duke Energy Letter, Duke Energy Carolinas, LLC, (Duke Energy), 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 27, 2014 (ADAMS Accession No. ML14073A467).
10. Duke Energy Letter, Duke Energy Carolinas, LLC, (Duke Energy), 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 27, 2014 (ADAMS Accession No. ML14253A187).
11. Duke Energy Letter, Duke Energy Carolinas, LLC, (Duke Energy), 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 26, 2015 (ADAMS Accession No. ML15075A017).

On March 12, 2012, the Nuclear Regulatory Commission (NRC) issued Order EA-12-051 (Reference 1) to Duke Energy. Reference 1 was immediately effective and directs Duke Energy to have a reliable indication of water level in associated spent fuel storage pools. 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 endorses industry guidance document NEI 12-02, Revision 1 (Reference 3) with clarifications and exceptions identified in Reference 2. Reference 4 provided the Duke Energy initial status report regarding spent fuel pool instrumentation. Reference 5 provided the Duke Energy OIP.

Reference 1 required submission of a status report at six-month intervals following submittal of the OIP. Reference 3 provides direction regarding the content of the status reports. References 8, 9, 10 and 11 provided the first, second, third, and fourth six-month status reports, respectively, for MNS.

By Letter dated October 28, 2013 (Reference 6), the NRC provided an Interim Staff Evaluation (ISE) which included a Request for Additional Information (RAI) to MNS. A response to the RAI was provided in the third six month status report, dated August 27, 2014 (Reference 10).

The purpose of this letter is to provide the fifth six-month status report pursuant to Section IV, Condition C.2, of Reference 1. Enclosure 1 provides the fifth six-month status report and delineates progress made in implementing the requirements of Reference 1, including an update of milestone accomplishments since the last status report, any changes to the compliance method, schedule, or need for relief and the basis, if any.

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This letter contains no new Regulatory Commitments and no revision to existing Regulatory Commitments.

Should you have any questions regarding this submittal, please contact George Murphy, at 980-875-5715.

I declare under penalty of perjury that the foregoing is true and correct. Executed on August 26, 2015.

Sincerely,



Steven D Capps

Enclosure:

MNS Fifth SFPI Six Month Status Report in Response to Order EA 12-051

xc:

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ENCLOSURE

MNS Fifth SFPI Six Month Status Report  
in Response to Order EA 12-051

# MNS Fifth SFPI Six Month Status Report in Response to Order EA 12-051

## **1. Introduction**

McGuire Nuclear Station (MNS) developed an Overall Integrated Plan (Reference 1 in Section 7 of this Enclosure) documenting the requirements to install reliable spent fuel pool level instrumentation in response to NRC Order EA-12-051. References 2, 3, 4 and 9 in Section 7 of this Enclosure provided the first, second, third, and fourth six-month status reports, respectively, for MNS. This Enclosure provides an update of milestone accomplishments since submittal of the fourth six-month update, including any changes to the compliance method, schedule, or need for relief/relaxation and the basis, if any, that occurred during the period from February 1, 2015, to July 31, 2015 (hereafter referred to as "the update period").

## **2. Milestone Accomplishments**

All activities associated with implementation of reliable SFP level instrumentation on Unit 1 have been completed. Unit 1 is considered to be in compliance with NRC Order EA-12-051 as of November 15, 2014 (Reference 8 in Section 7).

## **3. Milestone Schedule Status**

There are no changes to the schedule as reported in Reference 1 of Section 7 of this Enclosure.

## **4. Changes to Compliance Method**

No changes were made during the update period.

## **5. Need for Relief/Relaxation and Basis for the Relief/Relaxation**

MNS expects to comply with the order implementation date and no relief/relaxation is required at this time for Unit 2 to be in compliance with the Order.

## **6. Open Items from Overall Integrated Plan and Interim Staff Evaluation**

The Interim Staff Evaluation (Reference 5 and 6 in Section 7 of this Enclosure) included a Request for Additional Information (RAI). The responses to the RAI were provided via Reference 3 in Section 7 of this Enclosure. MNS responses to the NRC's SFP level instrument vendor audit questions have been placed on the MNS E-Portal.

MNS Fifth SFPI Six Month Status Report in  
Response to Order EA 12-051

**7. References**

The following references support the updates to the Overall Integrated Plan described in this enclosure.

1. Duke Energy Letter, Duke Energy Carolinas, LLC, (Duke Energy) Overall Integrated Plans 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 February 28, 2013, (Agency wide Documents Access and Management System (ADAMS) No. ML13086A095).
2. Duke Energy Letter, Duke Energy Carolinas, LLC, (Duke Energy), First Six-month Status Reports 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. ML13242A009).
3. Duke Energy Letter, Duke Energy Carolinas, LLC, (Duke Energy), 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 27, 2014 (ADAMS Accession No. ML14073A467).
4. Duke Energy Letter, Duke Energy Carolinas, LLC, (Duke Energy), 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 27, 2014 (ADAMS Accession No. ML14253A187).
5. McGuire Nuclear Station, 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, dated October 28, 2013 (ADAMS Accession No. ML13281A791).
6. McGuire Nuclear Station, Units 1 and 2 – Correction Letter to 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. MF1062 and MF1063), dated December 20, 2013 (ADAMS Accession No. ML13353A142).
7. McGuire Nuclear Station, Units 1 and 2 - 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, dated October 9, 2014 (ADAMS Accession No. ML14241A454).
8. Notification of Full Compliance with Order EA-12-049, “Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond Design Basis External Events” and with Order EA-12-051, “Order to Modify Licenses with Regard to Reliable Spent Fuel Pool Instrumentation” - McGuire Nuclear Station Unit 1, dated November 18, 2014 (ADAMS Accession No. ML14335A322).
9. Duke Energy Letter, Duke Energy Carolinas, LLC, (Duke Energy), 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 26, 2015 (ADAMS Accession No. ML15075A017).