

February 25, 2015

AEP-NRC-2015-13
10 CFR 50.54(f)

Docket No.: 50-316

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

Donald C. Cook Nuclear Plant Unit 2
Fourth Six-Month Status Report in Response to March 12, 2012, Commission Order Modifying
Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External
Events (Order Number EA-12-049)

References:

1. Letter from E. J. Leeds and M. R. Johnson, U. S. Nuclear Regulatory Commission (NRC), to All Power Reactor Licensees and Holders of Construction Permits in Active or Deferred Status, "Issuance of Order to Modify Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events," dated March 12, 2012, Agencywide Documents Access Management System (ADAMS) Accession No. ML12054A736.
2. Letter from J. P. Gebbie, Indiana Michigan Power Company (I&M), to NRC, "Donald C. Cook Nuclear Plant, Unit 1 and Unit 2, Overall Integrated Plan in Response to March 12, 2012, Commission Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events (Order Number EA-12-049)," AEP-NRC-2013-13, dated February 27, 2013, ADAMS Accession No. ML13101A381.
3. Letter from J. P. Gebbie, I&M, to NRC, "Donald C. Cook Nuclear Plant, Unit 1 and Unit 2, First Six Month Status Report in Response to March 12, 2012, Commission Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events (Order Number EA-12-049)," AEP-NRC-2013-71, dated August 26, 2013, ADAMS Accession No. ML13240A308.
4. Letter from J. P. Gebbie, I&M, to NRC, "Donald C. Cook Nuclear Plant, Unit 1 and Unit 2, Second Six Month Status Report in Response to March 12, 2012, Commission Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond Design-Basis External Events (Order Number EA-12-049)," AEP-NRC-2014-17, dated February 27, 2014, ADAMS Accession No. ML14063A042.

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5. Letter from J. P. Gebbie, I&M, to NRC, "Donald C. Cook Nuclear Plant, Unit 1 and Unit 2, Third Six Month Status Report in Response to March 12, 2012, Commission Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond Design-Basis External Events (Order Number EA-12-049)," AEP-NRC-2014-17, dated August 27, 2014, ADAMS Accession No. ML14241A235.
6. Letter from J. P. Gebbie, I&M, to NRC, Donald C. Cook Nuclear Plant Units 1, "Compliance with March 12, 2012, NRC Order Regarding Mitigation Strategies for Beyond-Design-Basis External Events (Order Number EA-12-049)," dated December 16, 2014, ADAMS Accession No. ML14353A004.
7. Letter from J. S. Bowen, NRC, to L. J. Weber, I&M, "Donald C. Cook Nuclear Plant, Units 1 and 2 - Interim Staff Evaluation Relating to Overall Integrated Plan in Response to Order EA-12-049 (Mitigation Strategies) (TAC NOS. MF0766 AND MF0767)," dated January 24, 2014, ADAMS Accession No. ML13337A325.

On March 12, 2012, the U. S. Nuclear Regulatory Commission (NRC) issued Order EA-12-049 (Reference 1) to all power reactor licensees, including Indiana Michigan Power Company, the licensee for the Donald C. Cook Nuclear Plant (CNP) Units 1 and 2. Reference 1 was immediately effective and directed licensees to develop, implement, and maintain guidance and strategies to restore or maintain core cooling, containment, and spent fuel pool cooling capabilities in the event of a beyond-design-basis external event.

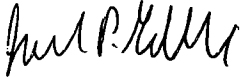
Order EA-12-049 required submission of an Overall Integrated Plan (OIP), including a description of how compliance with requirements in the order would be achieved. Reference 2 provided the OIP for CNP. The order also required submission of status reports at six-month intervals following submittal of the OIP. References 3, 4, and 5 provided the first, second, and third six-month status reports, respectively. The purpose of this letter is to provide the fourth six-month status report delineating progress made in implementing the requirements of the order.

Enclosure 1 to this letter provides an affirmation. Enclosure 2 to this letter provides the fourth six-month update regarding the implementation of Order EA-12-049 at CNP Unit 2, including an update of milestone accomplishments. The information in Enclosure 2 applies only to CNP Unit 2, because Unit 1 compliance with Order EA-12-049 was achieved in October 2014, as documented in Reference 6. Updates for Unit 1 are therefore no longer required.

There have been no changes to the compliance method as documented in the NRC Interim Staff Evaluation (Reference 7). However, some specific methods of implementation have changed, as summarized in Enclosure 2. There is no change to the final implementation schedule, or need for relief.

This letter contains no new or revised regulatory commitments. Should you have any questions, please contact Mr. Michael K. Scarpello, Regulatory Affairs Manager, at (269) 466-2649.

Sincerely,



Joel P. Gebbie
Site Vice President

JRW/mhs

Enclosures:

1. Affirmation
2. Indiana Michigan Power Company's Fourth Six-Month Status Report for the Implementation of Order EA-12-049, Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events.

c: J. P. Boska, NRC Washington, DC
M. L. Chawla, NRC Washington, DC
J. T. King, MPSC
MDEQ – RMD/RPS
NRC Resident Inspector
C. D. Pederson, NRC Region III
A. J. Williamson, AEP Ft. Wayne, w/o enclosures

AFFIRMATION

I, Joel P. Gebbie, being duly sworn, state that I am Site Vice President of Indiana Michigan Power Company (I&M), that I am authorized to sign and file this request with the U. S. Nuclear Regulatory Commission on behalf of I&M, and that the statements made and the matters set forth herein pertaining to I&M are true and correct to the best of my knowledge, information, and belief.

Indiana Michigan Power Company



Joel P. Gebbie
Site Vice President

SWORN TO AND SUBSCRIBED BEFORE ME

THIS 25th DAY OF February, 2015



Notary Public

My Commission Expires 11-5-2018



PATRICIA ANN EDDIE
Notary Public, State of Michigan
County of Berrien
My Commission Expires Nov. 05, 2018
Acting in the County of Berrien

Enclosure 2 to AEP-NRC-2015-13

Indiana Michigan Power Company's Fourth Six-Month Status Report for the Implementation of Order EA-12-049, Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events

References for this enclosure are identified in Section 7.

1. Introduction

In response to Reference 1, Indiana Michigan Power Company (I&M), the licensee for Donald C. Cook Nuclear Plant (CNP) Unit 2, developed an Overall Integrated Plan (OIP) documenting the diverse and flexible mitigation strategies (FLEX) for beyond-design-basis external events. The OIP was submitted to the U. S. Nuclear Regulatory Commission (NRC) by Reference 2. This enclosure provides an update of milestones (Table 1) and OIP Open Items (Table 2). The information in Table 1 and Table 2 applies only to CNP Unit 2, because Unit 1 compliance with Order EA-12-049 was achieved in October 2014, as documented in Reference 4. Updates for Unit 1 are, therefore, no longer required. Although there have been no changes to the CNP compliance method as documented in the Interim Staff Evaluation (ISE) (Reference 3), some specific methods of implementation have changed as summarized in Section 4 below. There is no change to the final implementation schedule, or need for relief/relaxation at this time. The information in this Enclosure is current as of February 6, 2015.

2. Milestone Accomplishments

Table 1 below identifies the milestone(s) completed since the development of the OIP (Reference 2).

3. Milestone Schedule Status

The following table provides an update to Attachment 2 of the OIP. The table provides the activity status of each item, and whether the expected completion date has changed. These dates are planning dates subject to change as design and implementation details are finalized.

Table 1 – Milestone Schedule			
Milestone	Previous Target Completion Date	Activity Status	Revised Target Completion Date
Submit 60-Day Status Report	October 2012	Complete	
Submit OIP	February 2013	Complete	
Submit Six-Month Updates:			
Update 1	August 2013	Complete	
Update 2	February 2014	Complete	
Update 3	August 2014	Complete	

Table 1 – Milestone Schedule			
Milestone	Previous Target Completion Date	Activity Status	Revised Target Completion Date
Update 4	February 2015	Complete with this submittal	
Walk-throughs or Demonstrations	June 2015	In Progress	April 2015
Perform Staffing Analysis	June 2014	Complete	
Modifications:			
Modifications Evaluation	December 2013	Complete	
Unit 2 Design Engineering	December 2014	Complete	
Unit 2 Implementation Outage	April 2015	Not Started	
Storage:			
Storage Design Engineering	March 2014	Complete	
Storage Implementation	November 2014	In Progress	April 2015 ^{Note 1, 2}
FLEX Equipment:			
Procure On-Site Equipment	October 2014	In Progress	April 2015 ^{Note 2}
Develop Strategies with Regional Response Center	September 2014	Complete	
Install Off-Site Delivery Station (No installation necessary)	NA	NA	
Procedures:			
Pressurized Water Reactor Owners Group (PWROG) issues nuclear steam system supply-specific guidelines. (Modes 1-4)	November 2014	Complete	
PWROG issues nuclear steam system supply-specific guidelines. (Modes 5 & 6)	December 2014	Complete	
Create Site-Specific FLEX Support Guidelines (FSG) – Unit 2	February 2015	In Progress	March 2015
Create Maintenance Procedures	October 2014	In Progress	March 2015 ^{Note 2}
Training:			
Develop Training Plan	March 2014	Complete	
Training Complete	September 2014	In Progress	March 2015 ^{Note 2}

Table 1 – Milestone Schedule			
Milestone	Previous Target Completion Date	Activity Status	Revised Target Completion Date
Unit 2 FLEX Implementation	April 2015	In Progress	
Full Site FLEX Implementation	April 2015	In Progress	
Submit Completion Report	June 2015	Not Started	

Note 1: This Milestone includes in-plant storage.

Note 2: The previous target completion date applied to Unit 1. The revised target completion date applies to Unit 2.

4. Changes to Compliance Method

Although there have been no changes to the compliance method as documented in the ISE (Reference 3), some specific methods of implementation have changed since the previous update. With the unit in Mode 5 with the Steam Generators (SGs) unavailable, or in Mode 6, the previously identified primary strategy for Reactor Coolant System (RCS) boration and inventory control relied on the borated water from the Boric Acid Storage Tanks (BASTs) and the Boric Acid Reserve Tank (BART) blended with raw water from the Circulating Water System intake forebay to provide RCS makeup. To provide the additional inventory that may be needed to supply RCS makeup for both units, I&M plans to use the Refueling Water Storage Tanks (RWSTs) as the primary source of borated makeup water. Undiluted RWST water would be used for the first four hours, followed by RWST water blended with water from the forebay. The BASTs and BART will continue to be available for additional blended boration. A description of the currently planned strategies is posted on the CNP Fukushima e-portal.

Need for Relief/Relaxation and Basis for the Relief/Relaxation

I&M expects to comply with the order implementation date and no relief or relaxation is requested.

5. Open Items from OIP and Draft Safety Evaluation

The following table provides a summary of the open items documented in the OIP and the status of each item for Unit 2.

Table 2 - OIP Open Items		
Pending Action	OIP Open Item	Status
1	Completion of FLEX equipment storage facilities	Complete outside Protected Area In Progress inside Protected Area
2	Perform final validation of timing requirement to route alternate suction source to Turbine Driven Auxiliary Feed Water (TDAFW) pump as Level B Time Sensitive Action per NRC approved guidance.	In Progress
3	Implement administrative controls program for FLEX related equipment.	In Progress
4	A systematic approach to training will be used to evaluate training requirements for station personnel based upon changes to plant equipment, implementation of FLEX portable equipment, and new or revised procedures that result from implementation of the FLEX strategies.	Complete
5	Complete detailed load shedding and battery duration analysis of Train A and Train B 250 Volt (V) direct current batteries to validate final FLEX implementation strategy, including required procedure changes.	Analysis: Complete Procedures: In Progress
6	Modification to TDAFW pump suction piping from Essential Service Water (ESW) system to provide connection point from alternate sources.	In Progress
7	Complete detailed load shedding and battery duration analysis of N-Train battery to validate final FLEX implementation strategy, including required procedure changes.	Analysis: Complete Procedures: In Progress
8	Develop FSGs and associated procedure revisions to implement FLEX mitigation strategies.	In Progress
9	Modification of fire protection not required. Condensate Storage Tanks are the credited Auxiliary Feedwater (AFW) supply until the infinite source (Lake Michigan) is made available.	NA
10	Proceduralize handwheel operation of SG Power Operated Relief Valve.	Complete
11	Modification to connect portable diesel generator (DG) to 600 Volt alternating current (Vac) bus 21D.	In Progress

Table 2 - OIP Open Items		
Pending Action	OIP Open Item	Status
12	Fabricate cables and procure E-Cart for powering each control room instrumentation 120 V isolimiter transformer from 350 kilowatt N+1 DG.	Complete
13	Modification to connect portable DG to motor control center (MCC) ABD-B to provide alternate power supply to N-Train battery charger.	In Progress
14	Modification to place a new hose connection in the motor driven AFW discharge line in the east main steam stop enclosure.	In Progress
15	Modification of bus T21A/D not needed. 4 kilovolt leads will be fabricated and stored to allow connection of an external 4160 Vac three-phase portable DG to the load side of breaker 2-2A2.	In Progress
16	Modification to replace Reactor Coolant Pump seals with Westinghouse SHIELD low leakage seals.	in Progress
17	Modification adding a portable boron addition pump powered by a dedicated portable DG.	In Progress
18	Monitor tanks modification and associated strategy not required.	N/A
19	Modification to provide power to middle boric acid evaporator feed pump.	Complete
20	Perform containment analysis to validate that containment integrity can be maintained until containment cooling can be restored during Phase 3.	Complete
21	Modify Chemical and Volume Control System charging header to allow connection of portable pump for boron addition and RCS makeup.	In Progress
22	Strategy changed to use existing hose connections on fire test header at the Fire Pump House. Modification of fire test header not needed.	N/A
23	Modify boric acid transfer pump (BATP) suction header to add connection points.	In Progress
24	Modify BATP discharge header to add connection points.	In Progress
25	Modification to install standpipe not required. Strategy revised to use hose connections.	N/A
26	Fuel consumption will be finalized when equipment has been procured and tested.	Complete

Table 2 - OIP Open Items		
Pending Action	OIP Open Item	Status
27	Perform calculation to verify time required to establish flow to the RCS in MODE 6 with the Reactor Cavity filled.	Complete
28	Modification of boron injection tank downstream vent not required. Strategy changed to use existing Safety Injection Pumps discharge header vents and drains.	N/A
29	Fabricate a tool to provide large volume Phase 3 raw water tie-in to ESW supporting component cooling water cooling for Residual Heat Removal.	In Progress
30	Modify 600 Vac MCC circuit breakers to provide Phase 2 electrical power connections to close Safety Injection accumulator discharge valves.	In Progress

6. Potential Draft Safety Evaluation Impacts

I&M has not received a draft Safety Evaluation. Therefore, no potential impacts can be determined. The changes identified in Section 4 above occurred subsequent to issuance of the Reference 3 ISE.

7. References

1. Letter from E. J. Leeds and M. R. Johnson, U. S. Nuclear Regulatory Commission (NRC), to All Power Reactor Licensees and Holders of Construction Permits in Active or Deferred Status, "Issuance of Order to Modify Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events," dated March 12, 2012, Agencywide Documents Access Management System (ADAMS) Accession No. ML12054A736.
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