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PNP 2013-064

August 28, 2013

U.S. Nuclear Regulatory Commission  
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**SUBJECT:** Palisades Nuclear Plant 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)

Palisades Nuclear Plant  
Docket No. 50-255  
License No. DPR-20

- REFERENCES:**
1. NRC Order Number EA-12-049, *Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events*, dated March 12, 2012 (ADAMS Accession No. 12054A736)
  2. NRC Interim Staff Guidance JLD-ISG-2012-01, *Compliance with Order EA-12-049, Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events*, Revision 0, dated August 29, 2012 (ADAMS Accession No. ML12229A174)
  3. NEI 12-06, *Diverse and Flexible Coping Strategies (FLEX) Implementation Guide*, Revision 0, dated August 2012 (ADAMS Accession No. ML12242A378)
  4. Entergy Nuclear Operations, Inc. (ENO) letter to NRC, PNP 2012-091, *Initial 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)*, dated October 25, 2012 (ADAMS Accession No. ML12300A065)
  5. Entergy Nuclear Operations, Inc. (ENO) letter to NRC, PNP 2013-010, *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)*, dated February 28, 2013

Dear Sir or Madam:

On March 12, 2012, the Nuclear Regulatory Commission (NRC) issued an order (Reference 1) to Entergy Nuclear Operations, Inc. (ENO). Reference 1 was immediately effective and directs ENO to develop, implement, and maintain guidance and strategies to maintain or restore core cooling, containment, and spent fuel pool cooling capabilities in the event of a beyond-design-basis external event.

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 pursuant to Section IV, Condition C. Reference 2 endorses industry guidance document NEI 12-06, Revision 1 (Reference 3) with clarifications and exceptions identified in Reference 2. Reference 4 provided the Palisades Nuclear Plant (PNP) initial status report regarding mitigation strategies. Reference 5 provided the PNP overall integrated plan.

Reference 1 requires submission of a status report at six-month intervals following submittal of the overall integrated plan. Reference 3 provides direction regarding the content of the status reports. The purpose of this letter is to provide the first six-month status report pursuant to Section IV, Condition C.2, of Reference 1, that delineates progress made in implementing the requirements of Reference 1. The attachment provides an update of milestone accomplishments, including any changes to the compliance method, schedule, or need for relief and the basis, if any.

This letter contains no new commitments and no revised commitments.

I declare under penalty of perjury that the foregoing is true and correct; executed on August 28, 2013.

Sincerely,



ajv/jse

Attachment: Palisades Nuclear Plant 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)

cc: Office Director, NRR, USNRC  
Administrator, Region III, USNRC  
Project Manager, Palisades, USNRC  
Resident Inspector, Palisades, USNRC

## **ATTACHMENT**

### **Palisades Nuclear Plant 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)**

#### **1 Introduction**

Entergy Nuclear Operations, Inc. (ENO) developed for Palisades Nuclear Plant (PNP) an overall integrated plan (Reference 1), which documented the diverse and flexible strategies (FLEX), in response to Reference 2. This attachment provides an update of milestone accomplishments since submittal of the overall integrated plan, including any changes to the compliance method, schedule, or need for relief/relaxation and the basis, if any.

#### **2 Milestone Accomplishments**

The following milestone(s) have been completed since the development of the Overall Integrated Plan (Reference 1), and are current as of July 31, 2013.

None.

#### **3 Milestone Schedule Status**

The following provides an update to Attachment 2 of the overall integrated plan. It provides the activity status of each item, and whether the expected completion date has changed. The dates are planning dates subject to change as design and implementation details are developed.

- FLEX Strategy Evaluation

The FLEX Strategy Evaluation is underway. The milestone target completion date has been changed to December 2013. This new milestone target completion date does not impact the Order implementation date.

- Modifications Evaluation

The Modifications Evaluation is underway. The milestone target completion date has been changed to January 2014. This new milestone target date does not impact the Order implementation date.

- N-1 Walkdown

The N-1 Walkdown milestone date was changed to February 2014. This engineering design walkdown was to coincide with the refueling outage prior to the implementation outage. The

date of this refueling outage has changed and is now scheduled to end in February 2014. This new milestone target completion date does not impact the Order implementation date.

- Implementation Outage

The Implementation Outage milestone target completion date changed to October 2015. This is the outage that will implement FLEX modifications, which require the plant to be in a shutdown mode. The date of this refueling outage has changed and is now scheduled to end in October 2015. This new milestone target date does not impact the Order implementation date.

- Purchase and Procure

The Purchase and Procure milestone date changed to June 2014 to better align with the Design Engineering milestone, which will determine the specific equipment required. This new milestone target completion date does not impact the Order implementation date.

- Develop Strategies with Regional Response Center

The Develop Strategies with Regional Response Center (RRC) milestone date was changed to January 2015. This new milestone target completion date does not impact the Order implementation date.

- Install Off-Site Delivery Station (If Necessary)

The Install Off-Site Delivery Station milestone date was changed to October 2015. This milestone date was revised due to a change in the 2015 refueling outage schedule, which changed from the Spring of 2015 to the Fall of 2015. This new milestone target completion date does not impact the Order implementation date.

- Create Palisades FLEX Support Guideline

The Create Palisades FLEX Support Guideline (FSG) milestone date was changed to March 2015. This milestone date was revised due to a change in the 2015 refueling outage schedule, which changed from the Spring of 2015 to the Fall of 2015. This new milestone target completion date does not impact the Order implementation date.

- Create Maintenance Procedures

The Create Maintenance Procedures milestone date was changed to March 2015. This milestone date was revised due to a change in the 2015 refueling outage schedule, which changed from the Spring of 2015 to the Fall of 2015. This new milestone target completion date does not impact the Order implementation date.

- Develop Training Plan

The Develop Training Plan milestone date was changed to June 2015. This milestone date was revised due to a change in the 2015 refueling outage schedule, which changed from the Spring of 2015 to the Fall of 2015. This new milestone target completion date does not impact the Order implementation date.

- Training Complete

The Training Complete milestone date was changed to September 2015. This milestone date was revised due to a change in the 2015 refueling outage schedule, which changed from the Spring of 2015 to the Fall of 2015. This new milestone target completion date does not impact the Order implementation date.

- Validation/Demonstration

A FLEX strategy Validation/Demonstration target completion date has been added to the milestone listing. The validation/demonstration will be completed October 2015 following FLEX modification implementation.

- Submit Completion Report

The Submit Completion Report target completion date was changed to coincide with the implementation Outage milestone date of October 2015. This new milestone target date does not impact the Order implementation date.

<b>Milestone</b>	<b>Target Completion Date</b>	<b>Activity Status</b>	<b>Revised Target Completion Date</b>
<b>Submit Overall Integrated Implementation Plan</b>	Feb 2013	Complete	
<b>6 Month Status Updates</b>			
Update 1	Aug 2013	Complete	
Update 2	Feb 2014	Not Started	
Update 3	Aug 2014	Not Started	
Update 4	Feb 2015	Not Started	
Update 5	Aug 2015	Not Started	
<b>FLEX Strategy Evaluation</b>	Apr 2013	Started	Dec 2013
<b>Perform Staffing Analysis</b>	Dec 2013	Started	
<b>Modifications</b>			
Modifications Evaluation	Jun 2013	Started	Jan 2014
Engineering and Implementation			
N-1 Walkdown	Nov 2013	Not Started	Feb 2014
Design Engineering	May 2014	Started	

<b>Milestone</b>	<b>Target Completion Date</b>	<b>Activity Status</b>	<b>Revised Target Completion Date</b>
Implementation Outage	Mar 2015	Not Started	Oct 2015
<b>On-site FLEX Equipment</b>			
Purchase and Procure	Dec 2013	Not Started	Jun 2014
<b>Off-site FLEX Equipment</b>			
Develop Strategies with RRC	Nov 2013	Started	Jan 2015
Install Off-Site Delivery Station (If Necessary)	May 2015	Not Started	Oct 2015
<b>Procedures</b>			
Pressurized Water Reactor Owners Group (PWROG) issues Nuclear Steam Supply System (NSSS)-Specific Guidelines	Jun 2013	Complete	
Create Palisades FLEX FSG	Oct 2014	Not Started	Mar 2015
Create Maintenance Procedures	Oct 2014	Not Started	Mar 2015
<b>Training</b>			
Develop Training Plan	Jan 2015	Not Started	Jun 2015
Training Complete	Apr 2015	Not Started	Sept 2015
<b>Validation / Demonstration</b>	Oct 2015	Not Started	
<b>Submit Completion Report</b>	May 2015	Not Started	Oct 2015

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

There are no changes to the compliance method as documented in the overall integrated plan (Reference 1).

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

ENO expects to comply with the order implementation date and no relief/relaxation is required at this time.

## 6 Open Items from Overall Integrated Plan and Draft Safety Evaluation

The following tables provide a summary of the open items documented in the overall integrated plan or the Draft Safety Evaluation, and the status of each item.

Overall Integrated Plan Open Item	Status
OI1. Perform analysis on Palisades' susceptibility to soil liquefaction and potential consequences on the FLEX implementation plan.	Started
OI2. Develop Phase 3 deployment strategy with correspondence with the RRC.	Started
OI3. Evaluate the need to missile protect primary system makeup storage tank (T-81) and other external tanks.	Started
OI4. Select the location of FLEX equipment storage facility.	Started
OI5. Perform seismic evaluation of turbine-driven auxiliary feedwater pump (TDAFWP) driver K-8.	Started
OI6. Evaluate strategies to extend battery coping time.	Started
OI7. Evaluate sources of non-borated water in addition to condensate storage tank (T-2) and T-81.	Started
OI8. Palisades Probabilistic Risk Assessment (PRA) to provide justification why battery room ventilation is not required until 24 hours.	Not Started
OI9. Evaluate the effects of FLEX on security procedures.	Started
OI10. Evaluate requirements of mobile purification unit from RRC.	Started
OI11. Evaluate requirements of mobile boration unit from RRC.	Started

<b>Overall Integrated Plan Open Item</b>	<b>Status</b>
OI12. Evaluate methods of venting the fuel handling building.	Started
OI13. Evaluate the use of high-efficiency LED lighting.	Started
OI14. Perform evaluation to determine if additional parameters will need to be monitored during FLEX activities.	Started
OI15. Perform analysis to ensure survivability of containment.	Not Started
OI16. Evaluate borated water sources in addition to safety injection refueling water tank (SIRWT).	Started
OI17. Entergy, for the Palisades site, will negotiate and execute a contract with Strategic Alliance for FLEX Emergency Response (SAFER) that will meet the requirements of NEI 12-06, Section 12.	Complete
OI18. Evaluate a location to install a tee in the service water system to allow the ultimate heat sink (UHS) FLEX pump to provide cooling.	Not Started
OI19. Evaluate the use of lake water to cool the steam generators during an extended loss of ac power (ELAP).	Not Started
OI20. Evaluate time until primary coolant system (PCS) makeup is necessary in Modes 5 & 6.	Started
OI21. Evaluate connection to ensure cooling water can be provided for containment air fans.	Started
OI22. Evaluate the robustness of the charging pumps.	Started

<b>Draft Safety Evaluation Open Item</b>	<b>Status</b>
None.	



## **7 Potential Draft Safety Evaluation Impacts**

The Draft Safety Evaluation has not been issued at this time.

## **8 References**

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

1. Entergy Nuclear Operations, Inc. (ENO) letter to NRC, PNP 2013-010, *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)*, dated February 28, 2013
2. NRC Order Number EA-12-049, *Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events*, dated March 12, 2012 (ADAMS Accession No. ML12054A736).