Peter P. Sena III President and Chief Nuclear Officer

First Energy Nuclear Operating Compan

August 26, 2013 L-13-243

10 CFR 2.202

ATTN: Document Control Desk U.S. Nuclear Regulatory Commission Washington, DC 20555-001

SUBJECT:

Beaver Valley Power Station, Unit Nos. 1 and 2 Docket No. 50-334, License No. DPR-66 Docket No. 50-412, License No. NPF-73 Davis-Besse Nuclear Power Station Docket No. 50-346, License No. NPF-3 Perry Nuclear Power Plant Docket No. 50-440, License No. NPF-58 <u>FirstEnergy Nuclear Operating Company's (FENOC's) First Six-Month Status Report in</u> <u>Response to March 12, 2012 Commission Order Modifying Licenses with Regard to</u> <u>Requirements for Mitigation Strategies for Beyond-Design-Basis External Events (Order</u> Number EA-12-049) (TAC Nos. MF0841, MF0842, MF0961, and MF0962)

On March 12, 2012, the Nuclear Regulatory Commission (NRC or Commission) issued an order (Reference 1) to FENOC. Reference 1 was immediately effective and directs FENOC 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. 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 pursuant to Section IV, Condition C. Reference 2 endorses industry guidance document Nuclear Energy Institute (NEI) 12-06, Revision 0 (Reference 3) with clarifications and exceptions identified in Reference 2. Reference 4 provided the FENOC initial status report regarding mitigation strategies. Reference 5 provided the FENOC overall integrated plan for Beaver Valley Power Station, Unit Nos. 1 and 2 (BVPS), Davis-Besse Nuclear Power Station (DBNPS), and Perry Nuclear Power Plant (PNPP).

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

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status report pursuant to Section IV, Condition C.2, of Reference 1, that delineates progress made in implementing the requirements of Reference 1. The attached reports for BVPS, DBNPS, and PNPP (Attachments 1, 2, and 3, respectively) provide an update of milestone accomplishments since the last status report, including any changes to the compliance method, schedule, or need for relief/relaxation and the basis, if any.

This letter contains no new regulatory commitments. If you have any questions regarding this report, please contact Mr. Thomas A. Lentz, Manager – Fleet Licensing, at 330-315-6810.

I declare under penalty of perjury that the foregoing is true and correct. Executed on August $\underline{36}$, 2013.

Respectfully submitted,

hx P. lin

Peter P. Sena, III

Attachments:

- 1. Beaver Valley Power Station First 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
- 2. Davis-Besse Nuclear Power Station First 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
- 3. Perry Nuclear Power Plant First 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:

- 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
- 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
- 3. NEI 12-06, Diverse and Flexible Coping Strategies (FLEX) Implementation Guide, Revision 0, dated August 2012
- 4. FirstEnergy Nuclear Operating Company's (FENOC's) Initial Status Report in Response to March 12, 2012 Commission Order Modifying Licenses with Regard

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to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events (Order Number EA-12-049), dated October 26, 2012

- 5. FirstEnergy Nuclear Operating Company's (FENOC's) 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 27, 2013
- cc: Director, Office of Nuclear Reactor Regulation (NRR) NRC Region I Administrator NRC Region III Administrator NRC Resident Inspector (BVPS) NRC Resident Inspector (DBNPS) NRC Resident Inspector (PNPP) NRC Project Manager (BVPS) NRC Project Manager (DBNPS) NRC Project Manager (PNPP) Ms. Jessica A. Kratchman, NRR/JLD/PMB, NRC Director BRP/DEP (without Attachments) Site BRP/DEP Representative (without Attachments) Utility Radiological Safety Board (without Attachments)

Attachment 1 L-13-243

Beaver Valley Power Station First 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 Page 1 of 4

1 Introduction

FirstEnergy Nuclear Operating Company (FENOC) developed an Overall Integrated Plan (OIP) for Beaver Valley Power Station, Unit Nos. 1 and 2 (Reference 1 in Section 8), documenting the diverse and flexible strategies (FLEX), in response to Reference 2. This attachment provides an update of milestone accomplishments since submittal of the OIP, 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 submittal of the OIP (Reference 1). This update is current as of July 19, 2013.

- Completed review of the FLEX strategies following the submittal. FLEX strategies are unchanged, and a vendor has been selected to perform the detailed design engineering for the plant modifications.
- Submitted the Phase 1 staffing study (Reference 3) performed using the guidance in Nuclear Energy Institute (NEI) 12-01, *Guideline for Assessing Beyond Design Basis Accident Response Staffing and Communications Capabilities*.
- Planned plant modifications have been targeted to the appropriate refueling outage and/or on-line work period.
- The Pressurized Water Reactors Owners Group (PWROG) has issued the generic FLEX Support Guidelines.

3 Milestone Schedule Status

The following provides an update to Attachment 2 of the OIP. 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.

The following milestones are being added as part of this update.

Validation:

• Walk-throughs or Demonstrations: February-2015

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The revised milestone target completion dates do not impact the order implementation date.

Milestone	Target Completion Date	Activity Status (as of 7/19/13)	Revised Target Completion Date
Submit FLEX Integrated Implementation			
Plan	02/28/13	Complete	· · · · · · · · · · · · · · · · · · ·
6 Month NRC Status Updates	08/28/15	Started	
Update 1	08/28/13	Started	
Update 2	02/28/14	Not Started	
Update 3	08/28/14	Not Started	
Update 4	02/27/15	Not Started	
Update 5	08/28/15	Not Started	
Complete FLEX Strategy Review	March-2013	Complete	
Validation	N/A	Not Started	February-2015
Walk-throughs or Demonstrations	N/A	Not Started	February-2015
Complete Staffing Analysis	November-2015	Started	November-2014
Submit NEI 12-01 Phase 1 Staffing Study	April-2013	Complete	
Submit NEI 12-01 Phase 2 Staffing Study	November-2015	Not Started	November-2014
Complete Plant Modifications	November-2015	Started	
Target plant modifications	April-2013	Complete	
Unit 1 Modifications complete	May-2015	Started	
Complete 1R22 outage modifications	November-2013	Started	
Complete on-line modifications	February-2015	Started	· · · · · · · · · · · · · · · · · · ·
Complete 1R23 outage modifications	May-2015	Started	
Unit 2 Modifications complete	November-2015	Started	
Complete 2R17 outage modifications	May-2014	Started	· · · · · · · · · · · · · · · · · · ·
Complete on-line modifications	August-2015	Started	
Complete 2R18 outage modifications	November-2015	Started	
FLEX Storage Complete	March-2015	Not Started	
Complete Building Design	December-2013	Not Started	
Commence Construction	June-2014	Not Started	· · · · · · · · · · · · · · · · · · ·
Complete Construction	March-2015	Not Started	
River (UHS) Access Complete	October-2014	Not Started	
Fence & Gate Modification Design	August-2013	Not Started	February-2014
New Fence & Gate Construction	August-2014	Not Started	
Security Barrier Pipe Penetrations Design	January-2014	Not Started	
Security Barrier Pipe Penetration			
Construction	October-2014	Not Started	
On-site FLEX Equipment	June-2014	Not Started	December-2014
Confirm FLEX Equipment Requirements	April-2013	Started	November-2013
FLEX Equipment Ordered	May-2013	Not Started	December-2013
FLEX Equipment Delivered	May-2014	Not Started	December-2014
Off-site FLEX Equipment	April-2015	Not Started	
Develop Strategies with RRC	November-2013	Not Started	June-2014
Phase 3 Site Access Strategies in Place	October-2014	Not Started	
Complete Near Site Staging Location (as needed)	March-2015	Not Started	April-2015

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Milestone	Target Completion Date	Activity Status (as of 7/19/13)	Revised Target Completion Date
Procedures Complete	December-2014	Started	
PWROG issues NSSS-specific guidelines	June-2013	Complete	
Issue Beaver Valley FSG	June-2014	Not Started	
Issue Maintenance Procedures	December-2014	Not Started	
Training Complete	April-2015	Started	
Develop Training Plan	September-2014	Started	
Implement Training	October-2014	Not Started	April-2015
Submit Completion Report	November-2015	Not Started	

4 Changes to Compliance Method

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

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

FENOC expects to comply with the order implementation date. Relief/relaxation is not 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 OIP or the draft safety evaluation (SE) and the status of each item.

Overall Integrated Plan Open Item	Status
OI 1. Finalize the location of the FLEX storage building. The deployment routes, distances, and times provided in this report are bounded for the currently proposed locations but will be updated as necessary.	Not Started
OI 2. Perform containment evaluation based on the boundary conditions described in Section 2 of NEI 12-06. Based on the results of this evaluation, required actions to ensure maintenance of containment integrity and required instrument function will be developed.	Not Started
OI 3. Modify the RWST at each unit to protect it from tornado missiles or identify a borated source that is protected from tornados and can be utilized to provide core cooling when steam generators are not available.	Not Started

Draft Safety Evaluation Open Item	Status
N/A	N/A

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7 Potential Draft Safety Evaluation Impacts

There are no potential impacts to the draft safety evaluation identified at this time.

8 References

The following references support the updates to the OIP described in this attachment.

- 1. FirstEnergy Nuclear Operating Company's (FENOC's) 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 27, 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.
- Response to NRC Letter, Request for Information Pursuant to Title 10 of the Code of Federal Regulations 50.54(f) Regarding Recommendations 2.1, 2.3, and 9.3, of the Near-Term Task Force Review of Insights from the Fukushima Dai-ichi Accident, dated April 29, 2013.

Attachment 2 L-13-243

Davis-Besse Nuclear Power Station First 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 Page 1 of 3

1 Introduction

FirstEnergy Nuclear Operating Company (FENOC) developed an Overall Integrated Plan (OIP) for Davis-Besse Nuclear Power Station (Reference 1 in Section 8), documenting the diverse and flexible strategies (FLEX), in response to Reference 2. This attachment provides an update of milestone accomplishments since submittal of the OIP, 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 submittal of the OIP (Reference 1). This update is current as of July 19, 2013.

• Planned plant modifications have been targeted to the appropriate refueling outage and/or on-line work period.

3 Milestone Schedule Status

The following provides an update to Attachment 2 of the OIP. 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.

The following milestones are being added as part of this update.

Validation:

• Walk-throughs or Demonstrations: April-2016

The revised milestone target completion dates do not impact the order implementation date.

Milestone	Target Completion Date	Activity Status (as of 7/19/13)	Revised Target Completion Date
Submit FLEX Integrated Implementation			
Plan	02/28/13	Complete	
6 Month NRC Status Updates	02/28/16	Started	
Update 1	08/28/13	Started	
Update 2	02/28/14	Not Started	
Update 3	08/28/14	Not Started	
Úpdate 4	02/27/15	Not Started	
Update 5	08/28/15	Not Started	
Update 6	02/28/16	Not Started	
Validation	N/A	Not Started	April-2016
Walk-throughs or Demonstrations	N/A	Not Started	April-2016
Complete Staffing Analysis	November-2015	Not Started	October-2015
Submit NEI 12-01 Phase 2 Staffing Study	November-2015	Not Started	October-2015
Complete Plant Modifications	April-2016	Started	· · ·
Target plant modifications	May-2013	Complete	
Modifications complete	April-2016	Started	
Complete 1R18 outage modifications	June-2014	Complete*	
Complete on-line modifications	February-2016	Started	
Complete 1R19 outage modifications	April-2016	Started	
Complete Communications			
Modifications	April-2016	Started	
Complete SFP Level Indication			
Modifications	April-2016	Started	
FLEX Storage Complete	April-2016	Not Started	
Complete Building Design	December-2014	Not Started	
Commence Construction	June-2015	Not Started	
Complete Construction	April-2016	Not Started	
On-site FLEX Equipment	April-2016	Started	
Confirm FLEX Equipment Requirements	January-2014	Started	
FLEX Equipment Ordered	January-2015	Not Started	
FLEX Equipment Delivered	April-2016	Not Started	
Off-site FLEX Equipment	April-2016	Not Started	
Develop Strategies with RRC	June-2014	Not Started	· ·
Phase 3 Site Access Strategies in Place	April-2016	Not Started	
Complete Near Site Staging Location (as			
needed)	April-2016	Not Started	
Procedures Complete	April-2016	Started	
PWROG issues NSSS-specific guidelines	June-2013	Started	August-2013
Issue Davis-Besse FLEX Strategy			
Guidelines	June-2014	Not Started	June-2015
Issue Maintenance Procedures	April-2016	Not Started	
Training Complete	April-2016	Not Started	
Develop Training Plan	September-2015	Not Started	
Implement Training	April-2016	Not Started	
Submit Completion Report	April-2016	Not Started	

* Modifications are targeted for 1R19 and on-line; none targeted for 1R18.

4 Changes to Compliance Method

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

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

FENOC expects to comply with the order implementation date. Relief/relaxation is not 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 OIP or the draft safety evaluation (SE) and the status of each item.

Overall Integrated Plan Open Item	Status
OI 1. Finalize locations for FLEX storage buildings.	Started
Deployment routes, distances and times contained	
in the submittal are bounded for the currently	
proposed locations but will be updated as	
necessary.	
OI 2. Finalize the strategy for providing a protected	Started
source of borated water to support FLEX strategies.	
OI 3. Determine if a mobile boration unit and/or	Started
water purification unit is required to support the	
FLEX strategies.	

Draft Safety Evaluation Open Item	Status
N/A	N/A

7 Potential Draft Safety Evaluation Impacts

There are no potential impacts to the draft safety evaluation identified at this time.

8 References

The following references support the updates to the OIP described in this attachment.

- 1. FirstEnergy Nuclear Operating Company's (FENOC's) 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 27, 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.

Attachment 3 L-13-243

Perry Nuclear Power Plant First 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 Page 1 of 3

1 Introduction

FirstEnergy Nuclear Operating Company (FENOC) developed an Overall Integrated Plan (OIP) for Perry Nuclear Power Plant (Reference 1 in Section 8), documenting the diverse and flexible strategies (FLEX), in response to Reference 2. This attachment provides an update of milestone accomplishments since submittal of the OIP, 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 submittal of the OIP (Reference 1). This update is current as of July 19, 2013.

- Completed review of the FLEX strategies following the submittal. FLEX strategies are unchanged, and a vendor has been selected to perform the detailed design engineering for the plant modifications.
- Planned plant modifications have been targeted to the appropriate refueling outage and/or on-line work period.

3 Milestone Schedule Status

The following provides an update to Attachment 2 of the OIP. 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.

The following milestones are being added as part of this update.

Validation:

• Walk-throughs or Demonstrations: March-2015

The following milestones replace previous modification milestones.

Complete Plant Modifications:

- Target plant modifications
- Complete on-line modifications
- Complete 1R15 outage modifications

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The revised milestone target completion dates do not impact the order implementation date.

Milestone	Target Completion Date	Activity Status (as of 7/19/13)	Revised Target Completion Date
Submit FLEX Integrated Implementation			
Plan	02/28/13	Complete	
6 Month Status Updates	02/27/15	Started	
Update 1	08/01/13	Started	
Update 2	02/28/14	Not Started	
Update 3	08/28/14	Not Started	
Update 4	02/27/15	Not Started	
FLEX Strategy Review	May-2013	Complete	
Validation	N/A	Not Started	March-2015
Walk-throughs or Demonstrations	N/A	Not Started	March-2015
Complete Staffing Analysis*	January-2014	Not Started	October-2014
Complete Plant Modifications	April-2015	Started	March-2015
Target plant modifications	May-2013	Complete	
Complete on-line modifications	December-2014	Started	
Complete 1R15 outage modifications	February-2015	Started	March-2015
FLEX Storage	January-2015	Not Started	
Complete Unit 2 Aux Building for storage			
and Use	January-2015	Not Started	
Convert Unit 2 diesel Building for storage			
and Use	January-2015	Not Started	
Lake (UHS) Access	November-2014	Started	
Regrade road to barge slip area	October-2014	Not Started	
Fence & Gate Construction modifications	October-2014	Not Started	
Security Barrier Pipe Penetrations Design	January-2014	Started	February-2014
Security Barrier Pipe Penetration			
Construction	November-2014	Not Started	
On-site FLEX Equipment	January-2015	Not Started	October-2014
Ordered	August-2013	Not Started	November-2013
Delivered	January-2015	Not Started	October-2014
Off-site FLEX Equipment	March-2015	Not Started	
Develop Strategies with RRC	December-2013	Not Started	June-2014
Complete Near Site Staging Location (as		· · · · · · · · · · · · · · · · · · ·	
needed)	March-2015	Not Started	
Phase 3 Site Access Strategies in Place	November-2014	Not Started	
Procedures	March-2015	Started	· · · · · · · · · · · · · · · · · · ·
Implement EPG/SAG Rev 3 Guidance	August-2014	Started	
Create Perry FSG	May-2014	Not Started	
Implement Perry FSG	March-2015	Not Started	
Create Maintenance Procedures	July-2014	Not Started	
Training	March-2015	Started	
Develop EOP Training Plan	January-2014	Started	
Implement EOP Training	July-2014	Not Started	March-2015
Develop SAMG Training Plan	January-2014	Not Started	

Milestone	Target Completion Date	Activity Status (as of 7/19/13)	Revised Target Completion Date
Implement SAMG Training	January-2015	Not Started	March-2015
Develop FLEX Training Plan	August-2014	Not Started	
Implement FLEX Training	November-2014	Not Started	March-2015
Submit Completion Report	March-2015	Not Started	

*Changed milestone from Perform Staffing Analysis to Complete Staffing Analysis.

4 Changes to Compliance Method

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

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

FENOC expects to comply with the order implementation date. Relief/relaxation is not required at this time.

6 Open Items from Overall Integrated Plan and Draft Safety Evaluation

None.

7 Potential Draft Safety Evaluation Impacts

There are no potential impacts to the draft safety evaluation identified at this time.

8 References

The following references support the updates to the OIP described in this attachment.

- FirstEnergy Nuclear Operating Company's (FENOC's) 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 27, 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.