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August 29, 2012
L-12-313

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

SUBJECT:
Beaver Valley Power Station, Units No. 1 and 2
BVPS-1 Docket No. 50-334, License No. DPR-66
BVPS-2 Docket No. 50-412, License No. NPF-73
Notification of Schedule Change and Revision of Regulatory Commitment Regarding Submittal of 10 CFR 50.48(c) License Amendment Request (TAC Nos. ME0058, ME0059)

By memorandum dated June 10, 2011, "Staff Requirements - SECY 11-0061 – A Request to Revise the Interim Enforcement Policy for Fire Protection Issues on 10 CFR 50.48(c) to Allow Licensees to Submit License Amendment Requests in a Staggered Approach" (RIN 3150- AG48) (Agencywide Documents Access and Management System (ADAMS) Accession No. ML111610616), the Nuclear Regulatory Commission approved a staff recommendation to revise the existing enforcement policy regarding the extension of enforcement discretion for certain noncompliances related to fire protection programs. To obtain the extension, licensees were required to submit a letter by June 29, 2011, acknowledging a new commitment date for submittal of their license amendment application to adopt National Fire Protection Association Standard NFPA 805, Performance-Based Standard for Fire Protection for Light Water Reactor Electric Generating Plants, 2001 Edition, in accordance with Section 50.48(c) of Part 50 of Title 10 of the Code of Federal Regulations (10 CFR 50.48(c)).

By letter dated June 29, 2011 (ADAMS Accession No. ML 111800765), FirstEnergy Nuclear Operating Company (FENOC) established a formal regulatory commitment to submit an application for license amendment to implement 10 CFR 50.48(c) at Beaver Valley Power Station, Units No. 1 and 2 (BVPS) on or before September 30, 2012, and requested extension of the enforcement discretion period for BVPS under the terms and conditions provided in SECY 11-0061, as approved by the Commission.

On July 12, 2011, the Nuclear Regulatory Commission (NRC) published in the Federal Register (76 FR 40777) the Interim Enforcement Policy for Certain Fire Protection Issues, formally establishing terms and conditions consistent with those provided in SECY 11-0061, as approved. By letter dated August 1, 2011 (ADAMS Accession No. ML112010151), the NRC concluded that FENOC's letter of June 29, 2011 was consistent with Commission direction established in SRM SECY-11-0061, and granted the request for the extension of enforcement discretion. The term of enforcement discretion was extended to correspond with the License Amendment Request (LAR) submittal date. Upon submittal of an acceptable application for license amendment, enforcement discretion for previously identified noncompliances and any newly identified noncompliances could remain in effect until the NRC dispositions the license amendment request.

The NRC project manager for BVPS was notified on July 2, 2012, of the potential for a NFPA 805 LAR schedule extension. On August 1, 2012, a Category 1 public meeting was held between the NRC and representatives of FENOC to discuss the status of the proposed LAR. Specifically, FENOC provided notification to the NRC staff that the committed due date for the subject NFPA 805 LAR will not be met. Additional information to support that conclusion is provided herein.

During the transition to NFPA 805, FENOC has continued to maintain fire safety at BVPS Units No. 1 and 2 in accordance with the Facility Operating Licenses. Violations identified through NRC inspection activities have been limited to issues of very low safety significance, and have been determined to satisfy the criteria specified for the exercise of enforcement discretion. Noncompliances are addressed through the FENOC corrective action program, and where necessary, appropriate compensatory measures are in place.

FENOC remains fully committed to the improvement of fire protection programs through voluntary implementation of 10 CFR 50.48(c) at Beaver Valley, and has made significant progress in several key areas of the NFPA 805 transition project. Notwithstanding the above, the effort required to complete transition efforts and develop a high-quality license amendment application for BVPS has been more substantial than originally anticipated, and the benefit from the synergy of a dual-unit application has been less than expected. Additionally, several unforeseen developments have affected the project completion schedule; some of the more significant developments are as follows:

- To incorporate lessons learned during the development of the BVPS Unit No. 2 Fire Probabilistic Risk Analysis (FPRA) model, the Solid State Protection and Instrumentation portions of the BVPS Unit No.1 FPRA model were updated. The resultant impact on the previous schedule was an approximate three month delay.

- During the Fire Risk Evaluation process it was discovered that the BVPS Unit No. 1 control room abandonment portion of the FPRA model requires additional risk reductions to meet the core damage frequency (CDF) criteria established in Regulatory Guide 1.174, An Approach for Using Probabilistic Risk Assessment in Risk-Informed Decisions on Plant-Specific Changes to the Licensing Basis. To develop a strategy to reduce risk, FENOC is currently performing engineering feasibility studies on potential design modifications for those fire ignition sources in the BVPS Unit No. 1 Process Rack Area that are impacting risks. The resulting effect on the transition schedule is currently under evaluation.
- The discovery of and risk effect determination for BVPS Unit No. 1 Licensee Event Report 2011-001-00, "Use of Liquid Tight Conduits Installed in Fire Barrier Penetrations Results in Unanalyzed Configurations," resulted in the diversion of project resources, and a resultant impact of approximately two months on the previous schedule. The effects of the issue resolution on the project schedule (potential analysis changes and design modification) are still being evaluated.
- Although the BVPS Unit No. 2 Human Reliability Analysis Dependency Analysis was very similar to the BVPS Unit No. 1 analysis already determined to be acceptable, a BVPS Unit No. 2 FPRA peer review finding required a significant effort to revise the analysis. The resultant impact on the previous schedule was an approximate four month delay.

Consistent with Section 9.1 of the Interim Enforcement Policy, FENOC is providing the following information to justify a revised submittal schedule.

Evaluations to date have resulted in some completed modifications in BVPS Unit No. 1, and additional ongoing and conceptual future modifications have been identified for both units. Appropriate modifications will be completed in a timely manner and will result in improved fire safety at BVPS, as envisioned when the NFPA 805 transition process was undertaken. Completed design modifications, the purposes they are intended to achieve, and the current status of each, are provided in Attachment 1. Similar information for ongoing and conceptual design modifications is provided in Attachment 2. The modifications listed in Attachment 2 are subject to change as Fire Risk Evaluations and further design review activities are completed.

The plant modification work already identified, the additional analytical work required as a result of lessons learned during the NFPA evaluation process, and the evaluation of issues identified through NRC review of applications submitted by other licensees all make it clear that additional effort is required, particularly in the areas of Fire Risk Evaluation and PRA model development, in order for FENOC to develop an

amendment application of sufficient quality and completeness for BVPS. As a result of FENOC's assessment of the BVPS NFPA 805 project progress to date, FENOC has revised the forecast for submittal of the LAR for NFPA 805 transition at BVPS. Major project activities and milestones for the BVPS transition to a fire protection program based on NFPA 805 are reflected in Attachment 3.

Consistent with the revised forecast for LAR submittal, the regulatory commitment established in the FENOC correspondence dated June 29, 2011 is hereby revised. FENOC will submit the application for license amendment to implement 10 CFR 50.48(c) at BVPS Units No. 1 and 2 on or before December 31, 2013. While the forecast date for submittal of an acceptable license amendment application is firm, intermediate milestones identified in Attachment 3 are subject to change as project development progresses.

To support any NRC staff reviews of NFPA 805 transition progress at BVPS, the following transition related information will be made available for NRC staff review:

- A listing of all fire protection-related noncompliances and the related compensatory measures for those noncompliances;
- Documentation ensuring each Operator Manual Action put in place as a compensatory measure is feasible and reliable, in accordance with the guidance in Regulatory Issue Summary 2005-07, "Compensatory Measures to Satisfy the Fire Protection Program Requirements"; and,
- A description of the physical modifications performed, to address existing fire protection issues and noncompliances.

The Interim Enforcement Policy for Certain Fire Protection Issues published on July 12, 2011 states, in part:

> If the licensee is unable to submit its license amendment request (LAR) within the timeframe stated above, it will lose its enforcement discretion. However, licensees with appropriate justification and staff approval may regain enforcement discretion once an acceptable LAR is submitted.

On February 24, 2012, the NRC staff issued SECY-12-0031, Enforcement Alternatives for Sites that Indicate Additional Time Required to Submit Their License Amendment Requests to Transition to 10 CFR 50.48(c) National Fire Protection Association Standard 805, which presented the staff's available alternatives regarding enforcement issues in such cases. To determine how to best support the general objectives of the staff as established in SECY-12-0031, FENOC has evaluated the scenarios and potential alternative NRC responses outlined by the staff.

The preferred alternative would have a licensee preserve its enforcement discretion by arranging for the substitution of the LAR submittal from another site by the committed date. Such an arrangement would result in little or no impact on the staff or the resources budgeted for the LAR review schedule, but would be subject to staff acceptance based on the comparative safety benefits of the sites involved. Use of this alternative is not feasible for the BVPS situation, because current industry commitments have no plants scheduled to submit in a time frame necessary to support FENOC's needs. Additionally, discussions at a recent industry meeting identified no plants that would be willing to accept FENOC's current commitment for submittal by September 30, 2012.

Another alternative addressed in SECY-12-0031 would apply if a licensee does not submit an acceptable LAR by its commitment date, and the extension of enforcement discretion has not otherwise been arranged. In such cases, the staff would shift to annual performance of fire protection inspections, and take appropriate enforcement actions for identified noncompliances. Based on the timing and results of recently performed triennial fire protection inspections, the limited extent of identified noncompliance issues to which enforcement discretion is currently applied, and the projected schedule for completion of the NFPA 805 transition efforts, FENOC perceives minimal safety or regulatory benefit achieved by this approach.

The remaining alternative involves NRC issuance of a confirmatory order (CO) to extend enforcement discretion thereby establishing an enforceable date for the submittal of an acceptable LAR. To support this approach, a licensee is required to provide adequate justification including the consideration of the status of the industry peer review, plant modifications, the licensee's compliance reviews, and the resolution of methodology issues. Given these considerations as well as others previously addressed, FENOC believes the justification provided in this letter to be adequate for the extension of enforcement discretion by way of a CO. FENOC also understands that the issuance of a CO would involve the agreement to comply with the terms and conditions arising out of the regulatory commitments established herein, consent to the issuance of the confirmatory order, and the waiver of hearing rights.

Based on the above considerations, FENOC hereby requests the continuation of the current enforcement discretion for certain fire protection issues for BVPS Units No. 1 and 2 until an acceptable application for license amendment is submitted, consistent with the regulatory commitment established in this letter. FENOC also requests that, consistent with the current Interim Enforcement Policy for Certain Fire Protection Issues, such enforcement discretion be further extended through the period of NRC review of the application.

The regulatory commitment established in this letter is identified in Attachment 4. If there are any questions or if additional information is required, please contact Mr. Gregory H. Halnon, Director - Fleet Regulatory Affairs, at 330-436-1369.

Sincerely,

Paul A. Harden

Attachments:
1. Completed Design Modifications
2. Ongoing and Conceptual Design Modifications
3. Status and Schedule of Major NFPA 805 Milestones (as of August 28, 2012)
4. Regulatory Commitment List

cc: Director, NRC Office of Enforcement
NRC Regional Administrator- Region I
NRC Resident Inspector
NRC Project Manager
Director- State of Pennsylvania BRP/DEP
Site Representative - State of Pennsylvania BRP/DEP

Attachment 1
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Completed Design Modifications
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Description	Basis for Modification	Completion Date
Relocation or Addition of Smoke Detectors in BVPS-1 Normal Switchgear Fire Area	To achieve detector spacing in accordance with NFPA standard.	7/3/2012
Relocation or Addition of Smoke Detectors in BVPS-1 Emergency Switchgear Train A Fire Area	To achieve detector spacing in accordance with NFPA standard.	2/23/2012
Relocation or Addition of Smoke Detectors in BVPS-1 Emergency Switchgear Train B Fire Area	To achieve detector spacing in accordance with NFPA standard.	7/3/2012
Relocation or Addition of Smoke Detectors in BVPS-1 Process Rack Area Fire Area	To achieve detector spacing in accordance with NFPA standard.	2/24/2012
Install Strainer in BVPS-1 River Water Supply to Auxiliary Feed Water (AFW) Pumps	To ensure that certain AFW flow channels do not become clogged when the River Water supply is needed. Modification necessary to meet nuclear safety performance criteria established by NFPA 805.	5/10/2012

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Ongoing and Conceptual Design Modifications

Description	Basis for Modification	Milestone/Date
Add Westinghouse Shutdown Seals to BVPS-1 and -2 Reactor Coolant Pumps	Reduces the Reactor Coolant System inventory loss through the Reactor Coolant Pump Seals following a loss of seal cooling event caused by a fire-induced spurious operation.	Planning first pump installation during BVPS-2 October 2012 Refueling Outage.
Replace two BVPS-1 and six BVPS-2 exterior fire doors	Corrects a noncompliance identified during NFPA 805 transition. Doors need to be replaced with doors that meet a three-hour fire rating.	Engineering Change Packages are complete. Doors to be installed by 4/30/13.
Install an Incipient Fire Detection System for the BVPS-1 and -2 Process Rack Fire Areas	Reduces the Core Damage Frequency from a fire in a process rack by very early warning detection.	Engineering work to be completed by 9/30/13. Completion date to be established in LAR.
Modify Over Current Trip Protection scheme for BVPS-1 and -2 4KV Emergency Busses	Addresses potential simultaneous faults on power and control cables. The current Fire Risk Evaluation (FRE) process is determining which circuits require modification.	Engineering work to be completed by 3/31/14. Completion date to be established in LAR.
Add BVPS-1 relay/modify BVPS-2 relay for existing Turbine/Generator Main Output Breakers	Resolves an identified multiple spurious operations issue involving spurious re-closure or failure to trip on turbine trip.	Conceptual Design Package* completed by 6/30/14. Completion date to be established in LAR.
Add isolation valves in the BVPS-1 and -2 CO_2 systems	Reduces system out of service time to ensure compliance with fire model analysis and provide positive clearance points.	Engineering work completed by 3/31/14. Completion date to be established in LAR.

*Conceptual Design Package - A documented analysis of one or more alternative solutions to a known problem. The purpose of the analysis is to estimate the cost of each alternative by developing preliminary interfaces, installation requirements, materials, and radiological impact, to perform cost/benefit, of each or between each alternative, and to identify the preferred solution.

Ongoing and Conceptual Design Modifications
(Continued)

Description	Basis for Modification	Milestone/Date
Add auto suppression system for the BVPS-2 Train DF Switchgear	Permits this area to meet the current standard of one hour fire barrier with detection and auto suppression, resolving an embedded cable adverse condition. (This area does not currently meet the required three-hour fire barrier rating.)	Conceptual Design Package* completed by 3/31/14. Completion date to be established in LAR.
Modify control circuits for approximately 108 BVPS-1 Motor Operated Valves to prevent certain fire related hot shorts from bypassing the torque and limit switch protection	Prevents damage to the valves to allow subsequent manual operation.	Conceptual Design Package* completed by 12/31/13. Completion date to be established in LAR.
Modify the BVPS-1 diesel generator breaker control circuit to prevent nonsynchronous paralleling of EDG with on-site and off-site sources	Resolves a multiple spurious operations issue related to spurious breaker operations.	Conceptual Design Package* completed by 3/31/14. Completion date to be established in LAR.
Add BVPS-2 Power Operated Relief Valve (PORV) isolation switches outside Containment	Addresses multiple spurious operations scenarios to ensure the PORVs can be isolated from outside of Containment	Engineering work competed by 12/31/13. Completion date to be established in LAR.

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Ongoing and Conceptual Design Modifications
(Continued)

Description	Basis for Modification	Milestone/Date
Relocate BVPS-1 equipment and cable in the Emergency Switchgear Train A Fire Area	Item 1. Prevents a fire in Emergency Switchgear Train A fire area from isolating the ventilation for Emergency Switchgear Train B, by relocating Temperature Switch and its associated cable in Emergency Switchgear Train A to Emergency Switchgear Train B. Item 2. Eliminates a manual action to provide portable ventilation to Train A Diesel Generator Room in the event of a fire in the BVPS-1 Cable Spreading Fire Area, by relocating an existing relay from Train A Emergency Switchgear fire area to Train A Diesel Generator Room.	Conceptual Design Package* completed by 6/30/14. Completion date to be established in LAR.
Change normal system alignments for the following: BVPS-1 MOV-1RW-116 &117 circuit breakers to open (de-energized) BVPS-1 MOV-1RC-556A,B & C circuit breakers to open (de-energized) BVPS-2 2CCS-MOV112A & B circuit breakers to open (de-energized) BVPS-2 2RCS-MOV556A, B, & C circuit breakers to open (de-energized) Main Steam Isolation Valve bypass valves instrument air supply valves to sealed shut BVPS-2 2CAB-TEST1,3 & 5 circuit breakers to open (de-energized)	Prevents potential for multiple spurious operations.	Engineering work competed by12/31/13. Completion date to be established in LAR.

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Ongoing and Conceptual Design Modifications
(Continued)

Description	Basis for Modification	Milestone/Date
Modify BVPS-1 exhaust damper control circuit for diesel-driven instrument air compressor to prevent failure on loss of power	Ensures continued operation of the diesel driven instrument air compressor in the event of equipment failure during a station blackout, providing additional reduction of Core Damage Frequency for the internal events model.	Conceptual Design Package* completed by 12/31/14. Completion date to be established in LAR.
Installation of a qualified Fire Barrier Wrap on BVPS-2 Raceways for Train A Diesel Generator fans & dampers	Eliminates an operator manual action to transfer the Train A Diesel Generator ventilation fan and dampers to the alternate shutdown panel in the event of a fire in fire area SB-3.	Engineering work to be completed by 12/31/14. Completion date to be established in LAR.

*Conceptual Design Package - A documented analysis of one or more alternative solutions to a known problem. The purpose of the analysis is to estimate the cost of each alternative by developing preliminary interfaces, installation requirements, materials, and radiological impact, to perform cost/benefit, of each or between each alternative, and to identify the preferred solution.

Attachment 3
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Status and Schedule of Major NFPA 805 Milestones (as of August 28, 2012)

Project Task / Milestone	BV1 Status/ Completion Date	BV2 Status/ Completion Date	Comments
Fundamental Fire Protection Program Review			**Classical Fire Protection Transition**
Fundamental Fire Protection and Design Elements Review (B-1 Table)	95% October 2012	Complete June 2012	Non Fire Area Specific Records
Fire Area Specific Elements Review (B-1 Table)	95% October 2012	Complete June 2012	Fire area specific NFPA 805 Chapter 3 requirements were addressed individually for each required fire area.
Update B-1 Table to reflect open item closures	Not Started June 2013	Not Started June 2013	BVPS-1 B-1 Open Items - 80 BVPS-2 B-1 Open Items - 29
Fire Area Licensing Action Review	95% September 2012	50% November 2012	
Review of Existing Engineering Equivalency Evaluations (EEEE)	Complete June 2011	Complete November 2010	BVPS-1 EEEEs - 38 BVPS-2 EEEEs - 17
Development of Additional Existing Engineering Equivalency Evaluations based on items identified in engineering reviews	35% May 2013	Not started January 2013	Currently, 28 EEEEs are required based on review of existing evaluations. Six new EEEEs are expected for aluminum conduit Issues Additional EEEEs are expected for Flex Conduit issues.
Nuclear Safety Capability Assessment (NSCA)			**Nuclear Safety Performance Criteria Transition**
Review and Upgrade Safe Shutdown Equipment List (SSEL) and Logics	Complete July 2007	Complete July 2011	This work included development and implementation of an automated Safe Shutdown Analysis using SAFE software developed by EPM, Inc.
Nuclear Safety Performance Methodology Review (B-2 Table)	Complete September 2011	Complete September 2011	Additional actions required to prepare gap analysis against revised NEI 00-01 (rev. 2) and incorporate open item resolutions. BVPS-1 Open Items – 8 BVPS-2 Open Items – 5
Fire Area by Fire Area Transition (B-3 Table)	80% June 2013	80% April 2013	This work is substantially complete with identification of Variations from Deterministic Requirements (VFDR) for each compartment. Remaining work is to incorporate the results of the Fire Risk Evaluations (FRE) into the B-3 table. BVPS-1 VFDRs – 353 BVPS-2 VFDRs – 352

Project Task / Milestone	BV1 Status Completion Date	BV2 Status Completion Date	Comments
Recovery Action Transition			
Finalize Recovery Actions and Procedure Changes	25% August 2013	Not Started June 2013	Based on FREs, determine recovery actions, perform feasibility reviews, and incorporate into procedures.
Non-Power Operational (NPO) Modes Transition			
Perform Circuit Analysis for NPO Components	Complete December 2009	Complete December 2009	
Pinch Point Analysis and Suggested Procedure Changes	90% January 2013	90% January 2013	Final NPO expert panel review required. BVPS-1 Open Items – 1 BVPS-2 Open Items – 1
Develop Fire Probabilistic Risk Assessment (PRA)			
Fire PRA Peer Review	Complete April 2011	Complete April 2012	
Fire Modeling	Complete October 2010	Complete October 2011	Fire Compartments with Detailed Fire Modeling BVPS-1 - 22 BVPS-2 - 21
Finding and Observation (F&O) resolution and PRA workbooks update	80% May 2013	80% May 2013	Fire PRA Models updated; paperwork closeout remaining
Final Open Item Review and Closure	Not Started September 2013	Not Started September 2013	
Fire Risk Evaluations (FREs)			
NFPA 805 Modification Scoping	90% April 2013	80% January 2013	
Final FRE quantifications	50% March 2013	Not Started January 2013	
Completion of LAR and Transition Report			
Complete development of Transition Report and LAR	September 2013	September 2013	Includes development of Transition Report and LAR, plant technical review and comment resolution.
Internal and external oversight committee reviews	November 2013	November 2013	Includes presentation, review and comment resolution for Engineering Assessment Board, Plant Operations Review Committee and Company Nuclear Review Board
Licensing Review and Correspondence Development and LAR Submittal	December 2013	December 2013	

Attachment 4
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Regulatory Commitment List

The following list identifies those actions committed to in this document and its attachments by FirstEnergy Nuclear Operating Company (FENOC) for Beaver Valley Power Station Units No. 1 and 2. Any other intended or planned actions discussed in the submittal are described for information only, and are not considered Regulatory Commitments.

	Regulatory Commitment
1.	FENOC will submit the application for license amendment to implement 10 CFR 50.48(c) at BVPS-1 and 2 on or before December 31, 2013.