



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION**  
WASHINGTON, D.C. 20555-0001

November 9, 2016

Mr. David B. Hamilton  
Site Vice President  
FirstEnergy Nuclear Operating Company  
Mail Stop A-PY-A290  
P.O. Box 97, 10 Center Road  
Perry, OH 44081-0097

**SUBJECT: PERRY NUCLEAR POWER PLANT, UNIT NO. 1 – REGULATORY AUDIT  
SUMMARY RELATED TO AMENDMENT REQUEST REGARDING  
INSTALLATION OF THE UPPER CONTAINMENT POOL GATE IN MODES 1, 2,  
OR 3 AND THE DRAIN-DOWN OF THE UPPER CONTAINMENT POOL  
DURING MODE 3 (CAC NO. MF7476) (L-16-083)**

Dear Mr. Hamilton:

By letter to the U.S. Nuclear Regulatory Commission (NRC) dated March 15, 2016, FirstEnergy Nuclear Operating Company (FENOC) submitted a license amendment request that proposed changes to the technical specifications to permit the installation of the upper containment pool gate in MODES 1, 2, or 3, and the drain-down of the reactor well portion of the upper containment pool during MODE 3, for the Perry Nuclear Power Plant, Unit No. 1.

To enhance the NRC review of the request, the staff conducted an audit of supporting documents during the week of September 6, 2016. The staff reviewed the documents and held discussions with members of FENOC and its contractor, Zachry Group. The regulatory audit summary is enclosed.

While the NRC review team did not identify any significant issues during its audit or during the discussions with FENOC and its contractor, the team indicated that the review was ongoing and that any additional information necessary to support the review would be formally requested.

D. Hamilton

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If you have any questions, please contact me at (301) 415-1627.

Sincerely,

A handwritten signature in black ink, appearing to read "Kimberly J. Green". The signature is fluid and cursive, with the first name "Kimberly" and last name "Green" clearly distinguishable.

Kimberly J. Green, Senior Project Manager  
Plant Licensing Branch III-1  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket No. 50-440

Enclosure:  
Regulatory Audit Summary

cc w/encl: Distribution via ListServ

REGULATORY AUDIT SUMMARY RELATED TO LICENSE AMENDMENT REQUEST  
REGARDING UPPER CONTAINMENT POOL GATE INSTALLATION IN MODES 1, 2, AND 3,  
AND DRAIN-DOWN OF REACTOR CAVITY PORTION OF THE UPPER CONTAINMENT

POOL IN MODE 3

FIRSTENERGY NUCLEAR OPERATING COMPANY

PERRY NUCLEAR POWER PLANT, UNIT NO. 1

DOCKET NO. 50-440

Date of Audit: September 6 – 9, 2016

Audit Location: NRC Headquarters

The audit was conducted remotely at the U.S. Nuclear Regulatory Commission's (NRC) Headquarters in Rockville, Maryland, via access through an electronic portal. Access to the licensee's documents via the electronic portal was controlled in accordance with the following conditions:

- The online reference portal is password-protected and passwords are assigned to those directly involved in the review on a need-to-know basis;
- The online reference portal is sufficiently secure to prevent staff from printing, saving, or downloading any documents; and
- Conditions of use of the online reference portal are displayed on the login screen and require concurrence by each user.

NRC Audit Team Members:

Kim Green, Project Manager  
Fred Forsaty, Technical Reviewer

FENOC and Contractor Participants:

Ted Hilston, FirstEnergy Nuclear Operating Company (FENOC)  
Al Widmer, FENOC  
Al Rabenold, FENOC  
Phil Lashley, FENOC  
Dave Pribyl, Zachry Group  
Glenn (Skip) Denny, Zachry Group

Enclosure

Documents Audited:

Calculation 2.2.1.10, Revision 0, "Containment Response for LOCA [loss-of-coolant accident] When Draining Upper Containment Pool in MODE 3," January 14, 2016

Letter from Michael D. Lyster, Centerior Energy, to NRC Document Control Desk, "Technical Specification Change, Request: Containment Response Analysis Improvements Necessary Due to Increased Ambient Air and Lake Temperatures," PY-CEI/NRR-1510 L, dated June 24, 1992

Calculation B21-C10, Revision 2, "Reactor Vessel High Level 8 RCIC/HPCS Trip," May 12, 1999

Instruction Number EOP-01, Revision 6, "RPV [reactor pressure vessel] Control," Effective Date: October 22, 2015

Instruction Number EOP-01A, Revision 8, "Level Power Control," Effective Date: October 26, 2015

Perry Nuclear Power Plant, Unit 1, Updated Safety Analysis Report, Revision 19, October 2015

Summary of Audit Activities:

The NRC staff conducted a regulatory audit of the licensee's documents to increase the efficiency of the license amendment request (LAR) review. The staff also conducted discussions with the licensee and its contractor regarding the following topics during this audit:

- Discussions related to general design criteria (GDCs) 16, 38, and 50.
- Discussions related to the design bases for current requirements.
- Discussions on the safety analysis of the proposed change.
  - Post-accident vent coverage
  - Hydrodynamic loads
  - Emergency core cooling system net positive suction head requirements
  - Long term heat sink
- Discussions related to input assumptions used in the GOTHIC code calculations for this LAR.
- Comparison of the analysis of record (method and results) and the analysis used in this LAR.
- The band on operator action for Level 8.
- Original assumptions for sizing of the upper containment pool, specifically, break size and location.

Request for Additional Information:

The audit of the documents resulted in a request for additional informational that was transmitted to FENOC separately from this report.

D. Hamilton

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If you have any questions, please contact me at (301) 415-1627.

Sincerely,

**/RA/**

Kimberly J. Green, Senior Project Manager  
Plant Licensing Branch III-1  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket No. 50-440

Enclosure:  
Audit Report

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**ADAMS Accession No.: ML16309A081**

**\*via email/memo dated**

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DATE	11/7/16	11/7/16	11/8/16	11/8/16	11/9/16

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