

September 20, 2016

MEMORANDUM TO: Michael T. Markley, Chief
Plant Licensing Branch II-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Operation

FROM: Eric R. Oesterle, Chief **/RA/**
Reactor Systems Branch
Division of Safety System
Office of Nuclear Reactor Regulation

SUBJECT: AUDIT REPORT - APPLICATION FOR AMENDMENT PERRY
NUCLEAR POWER PLANT. THE PROPOSED LICENSE
AMENDMENT REVISES THE PERRY NUCLEAR POWER
PLANT TECHNICAL SPECIFICATIONS FOR 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
(TAC NO. MF7476)

By letter dated March 15, 2016 in the Agencywide Documents Access and Management System Accession No. ML16075A411, FirstEnergy Nuclear Operating Company (FENOC, the licensee) submitted a License Amendment Request (LAR) for the Perry Nuclear Power Plant (PNPP). The proposed license amendment revises the PNPP Technical Specifications for Upper Containment Pool (UCP) gate installation in Modes 1, 2, and 3, and drain-down of reactor cavity portion of the UCP in Mode 3. The U. S. Nuclear Regulatory Commission staff conducted a regulatory audit to increase the efficiency of the LAR review. The audit report is enclosed.

CONTACT: Fred Forsaty, NRR/DSS
301-415-8523

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SRXB/RF FForsaty RidsNrrPMPerry EOesterle

Accession No.: ML16259A185

NRR-106

OFFICE	NRR/DSS/SRXB	NRR/DSS/SRXB: BC
NAME	FForsaty	EOesterle
DATE	9/15/2016	9/20/2016

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AUDIT REPORT - APPLICATION FOR AMENDMENT PERRY NUCLEAR POWER PLANT.
THE PROPOSED LICENSE AMENDMENT REVISES THE PERRY NUCLEAR POWER
PLANT TECHNICAL SPECIFICATIONS FOR 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

BACKGROUND

By letter dated March 15, 2016 (Agencywide Documents Access and Management System Accession No. ML16075A411), FirstEnergy Nuclear Operating Company (FENOC, the licensee) submitted a License Amendment Request (LAR) for the Perry Nuclear Power Plant (PNPP). The proposed license amendment revises the PNPP Technical Specifications for Upper Containment Pool (UCP) gate installation in Modes 1, 2, and 3, and drain-down of reactor cavity portion of the UCP in Mode 3.

AUDIT REPORT

The U. S. Nuclear Regulatory Commission (NRC) staff conducted a regulatory audit of the licensee to increase the efficiency of the LAR review. The NRC staff focused on the following topics during this audit:

- Discussions related to current requirements
- Discussions related to 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
- Discussion related to dose analysis
 - Small-Break Loss-Of-Coolant Accident (SBLOCA) and Large-Break Loss-Of-Coolant Accident (LBLOCA) with steam bypass of suppression pool
- Comparison of the analysis of record (method and results) and the analysis used in this LAR

ENCLOSURE

To evaluate the PNPP LAR, the licensee also provided all the required references and documents, on a secured website for the NRC staff review as a part of this audit. The major documents that were audited are:

- GOTHIC model benchmarking
- Containment pressure response during a steam bypass event in MODE 3 drain down
- Level uncertainty
- Drywell leakage capability (calculation)
- Drywell free volume
- Entrapment volume
- Holdup volume
- Low and high water levels
- Heat sink calculation
- Major analyses of record assumptions for the LBLOCA, SBLOCA and Steamline Break
- PNPP Emergency Operating Procedure requirements related to this LAR

The staff discussions during the audit resulted in a set of Requests for Additional Information that are to be issued separately to the licensee.