

From: Vaidya, Bhalchandra
Sent: Monday, November 10, 2014 11:02 AM
To: 'Terry.Syrell@exeloncorp.com'; Kristensen, Kenneth J:(NMP) (kenneth.kristensen@exeloncorp.com); Loomis, Thomas R:(GenCo-Nuc) (thomas.loomis@exeloncorp.com); Reynolds, Ronnie J.:(GenCo-Nuc) (Ronnie.Reynolds@exeloncorp.com); David.Gudger@exeloncorp.com
Cc: Beasley, Benjamin; Stattel, Richard; Thorp, John; Bucholtz, Kristy; Elliott, Robert; Dozier, Jerry; Shoop, Undine; Guzzetta, Ashley; 'Huang, Tai'; Jackson, Christopher; Karipineni, Nageswara; Dennig, Robert; Panicker, Mathew; Dean, Jeremy; Weerakkody, Sunil; Eagle, Eugene; Green, Brian; Ki, DaBin; Chung, Donald
Subject: Nine Mile Point Unit 2, MF3056, LAR re: MELLLA+, Simulator Audit Plan, November 20-21, 2014 at the Plant Site

SUBJECT: NINE MILE POINT NUCLEAR STATION, UNIT NO. 2 – FORTH ROUND OF REQUEST FOR ADDITIONAL INFORMATION REGARDING LICENSE AMENDMENT REQUEST PURSUANT TO 10 CFR 50.90: MAXIMUM EXTENDED LOAD LINE LIMIT ANALYSIS PLUS (MELLLA+) (TAC NO. MF3056)

By letter dated November 1, 2013 (Agencywide Document Access and Management System (ADAMS) Package Accession No. ML13316B090), as supplemented by letters dated January 21, 2014 (ADAMS Accession No. ML14023A654), February 14, 2014 (ADAMS Package Accession No. ML14051A155), February 25, 2014 (ADAMS Accession No. ML14064A321), March 10, 2014 (ADAMS Accession No. ML14071A466), May 14, 2014 (ADAMS Accession No. ML14139A416), and June 13, 2014 (ADAMS Accession No ML14169A034), Nine Mile Point Nuclear Station, LLC (the licensee) submitted a license amendment request for Nine Mile Point Nuclear Station, Unit 2. The proposed amendment would allow (1) operation in the expanded maximum extended load line limit analysis plus (MELLLA+) domain; (2) use of the Detect and Suppress Solution - Confirmation Density, DSS-CD stability solution; (3) use of the TRACG04 analysis code; (4) increase the isotopic enrichment of boron-10 in the sodium pentaborate solution used to prepare the neutron absorber solution in the Standby Liquid Control System (SLS); and (5) increase the Safety Limit Minimum Critical Power Ratio (SLMCPR) for two recirculation loops in operation.

During its review of the LAR, the U.S. Nuclear Regulatory Commission (NRC) staff identified several open items associated with the safety analyses that warrants resolution with an audit. The audit is required to close all the open items and to complete the staff's review of the application.

Provided below is the NRC staff's audit plan to review the Operator actions related to Nine Mile Point Nuclear Station Unit-2 maximum extended load line limit analysis plus (MELLLA+) licensing amendment request. The main purpose of the audit is to witness the operator actions using the simulator during potential thermal-hydraulic instability events. The audit is planned for November 20-21, 2014 in Oswego, New York.

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**AUDIT PLAN RELATED TO LICENSE AMENDMENT REQUEST
FOR MAXIMUM EXTENDED LOAD LINE LIMIT ANALYSIS PLUS
EXELON GENERATION COMPANY, LLC
NINE MILE POINT NUCLEAR STATION, UNIT 2
DOCKET NO. 50-410**

Purpose and Scope

By letter dated November 1, 2013 (Agency wide Documents Access and Management System (ADAMS) Accession No. ML13316B090), Exelon Generation Company, LLC (Exelon, the licensee), submitted a License Amendment Request (LAR) for maximum extended load line limit analysis plus (MELLLA+) operation. The proposed LAR would allow operation in the expanded MELLLA+ operating domain. During its review of the LAR, the U.S. Nuclear Regulatory Commission (NRC) staff identified several open items associated with the safety analyses that warrant resolution with an audit. The audit is required to close all the open items and to complete the staff's review of the Application.

Audit Agenda

The audit will take place from November 20 to November 21 (if needed), 2014, at Nine Mile Point Unit-2 site, Oswego, New York. The following are the planned discussion topics:

- Status of MELLLA+ upgrade
- Experiences/problems with the extended power uprate (EPU) implementation and implications for MELLLA+ implementation
- Implementation of Detect and Suppress Solution (DSS)-Confirmation Density (CD)
- Review of Supplemental Reload Licensing Report (SRLR) and Traversing Incore Probe (TIP) Report
- Simulator Exercises/Emergency Operating Procedures
- Confirmation of feasibility of manual actions

Staff review of Emergency Operating Procedures (EOPs) related to plant operation during plant instability events.

Staff tour of the simulator before the exercise to familiarize with the instrumentation and control of the simulator.

In addition, the NRC staff would like a brief simulator demonstration of the MELLLA+ operation using plant procedures by the licensed operators. The purpose of this demonstration is to provide a better understanding of the operation of the oscillation power range monitor and the transfer to automatic backup stability protection during NUMAC system failures. The NRC staff would like to observe an inoperability of both functions, which would lead to a manual operator action during an instability event. (Note: We suggest including one or more licensed operators in the requested support personnel section. We would like to discuss the operator actions and the use of EOP's during an instability event with licensed operators during the simulator activity.)

The following scenarios are recommended:

From full EPU power and low flow (~85%) perform the following transients:

Full isolation ATWS with complete rod failure. Transient initiates with a MSIV closure, with complete failure to insert rods. Alternate rod insertion fails. Only SLCS is effective. Depressurization and HCTL related actions.

ATWS/Stability. Transient initiates with turbine trip with bypass. Simulate unstable power oscillations (verbal operator instruction is acceptable to simulate the oscillations).

Audit Team

The audit team will consist of:

- Ashley Guzzetta, Reactor Systems Branch Technical Reviewer, Office of Nuclear Reactor Regulation (NRR) (Team Leader)
- George Thomas, Reactor Systems Branch Technical Reviewer, NRR
- Jose March-Leuba, Consultant/Contractor, Oak Ridge National Laboratory
- Rich Stattel, Instrumentation & Controls Branch Technical Reviewer, NRR
- George Lapinsky, DaBin Ki, PRA Operations & Human Factors Branch Reviewers, NRR
- Benjamin Beasley, Branch Chief, Plant Licensing, NRR

The following support personnel are requested:

- Licensing staff from Exelon
- Cognizant staff engineers from Exelon (specifically thermal hydraulics and Analysts)

Documents Requested for Staff Examination

The NRC staff requests that documentation pertaining to the MELLLA+ LAR be made available, especially the following:

1. EOPs related to thermal-hydraulic instability events
2. SRLR, and
3. TIP Report for a recent cycle

Logistical Considerations

The NRC staff prefers to be able to process searches, electronically, in the design record files and retrieve documents from that system as needed during the audit. The following logistics are also requested:

- Telephone available to call NRC Headquarters if necessary
- Private space for internal NRC staff discussion separate from the licensee or GEHitachi Nuclear Energy Americas LLC staff
- A white board in the conference room to assist in discussion
- A projector and screen for presentations

Documentation of Audit

Within 45 days of the audit, the NRC staff will prepare a detailed audit report documenting the information reviewed during the audit, and any open items identified as a result of the audit. The NRC staff will also document its understanding of the proposed resolution of any identified open items. The audit report will be provided to the licensee in draft form for proprietary markup.

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If you have any questions regarding the Audit Plan please let me know.

Bhalchandra K. Vaidya
Licensing Project Manager

NRC/NRR/DORL/LPL1-1
(301)-415-3308 (O)
bhalchandra.vaidya@nrc.gov