



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

January 6, 2010

Mr. Samuel L. Belcher
Vice President Nine Mile Point
Nine Mile Point Nuclear Station, LLC
P.O. Box 63
Lycoming, NY 13093

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION REGARDING NINE MILE POINT
NUCLEAR STATION, UNIT NO. 2 (NMP2) – RE: ADOPTION OF NEI-94-01,
REVISION 2-A, AND EXTENSION OF PRIMARY CONTAINMENT INTEGRATED
LEAKAGE RATE TEST INTERVAL TO 15 YEARS (TAC NO. ME1650)

Dear Mr. Belcher:

By letter dated June 29, 2009, as supplemented on August 13, 2009, Nine Mile Point Nuclear Station, LLC (NMPNS), submitted for Nuclear Regulatory Commission (NRC) staff review and approval, a proposed license amendment requesting to revise the Technical Specifications to replace the reference to Regulatory Guide 1.163, "Performance Based Containment Leak-Test Program," with a reference to Nuclear Energy Institute (NEI) Topical Report 94-01, Revision 2-A, as the implementation document used by NMPNS to develop the NMP2 performance-based leakage testing program in accordance with Option B of Title 10 of the *Code of Federal Regulations*, Appendix J.

The NRC staff is reviewing the information provided in that letter and has determined that additional information is needed to support its review. Enclosed is the NRC staff's request for additional information (RAI). The RAI was discussed with your staff on December 29, 2009, and it was agreed that your response would be provided within 30 days from the date of this letter.

Sincerely,

A handwritten signature in black ink, appearing to read "Richard V. Guzman".

Richard V. Guzman, Senior Project Manager
Plant Licensing Branch I-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-410

Enclosure:
As stated

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REQUEST FOR ADDITIONAL INFORMATION (RAI)

NINE MILE POINT NUCLEAR STATION, LLC

NINE MILE POINT, UNIT NO. 2 (NMP2)

LICENSE AMENDMENT REQUEST RE: ADOPTION OF NEI-94-01, REVISION 2-A,

AND EXTENSION OF TYPE A TEST INTERVAL TO 15 YEARS

DOCKET NO. 50-410

The Nuclear Regulatory Commission (NRC) staff is reviewing the Nine Mile Point Nuclear Station, LLC (NMPNS or the licensee) license amendment request (LAR) application dated June 29, 2009, as supplemented on August 13, 2009. The NRC staff notes that the Type A Containment Integrated Leak Rate Test (ILRT), the Type B and Type C Local Leak Rate Tests (LLRT), and Containment In-Service Inspection (CISI) program collectively ensure leak-tight integrity and structural integrity of the containment, and has determined that additional information requested below is needed to complete its review.

Mechanical and Civil Engineering

1. In order for the NRC staff to assess the proper and effective implementation of the Type B and Type C local leak rate testing program, the licensee is requested to provide:
 - (a) A table of all containment pressure boundary components at NMP2 that are subject to the Type B and Type C testing, under the Primary Containment Leakage Rate Testing Program, with the current test frequency and the approximate dates (or refueling outage) of the last test and the next scheduled test.
 - (b) A summary table of LLRT results of those containment penetrations (including their test schedule intervals) that have not demonstrated acceptable performance history in accordance with the Primary Containment Leakage Rate Program and a discussion of the causes and corrective actions taken.
 - (c) A discussion of whether there have been any refueling outages since the last Type A test in which the combined leakage from Type B and Type C tests did not meet the acceptance criteria. Provide a discussion of the results, cause(s), and corrective actions taken.
2. It is stated in Section 3.2.5.1 of the LAR that, "Type C penetrations have had generally good performance and are typically tested on a 60-month interval."
 - (a) Given that NMP2 is on a 24-month operating cycle, discuss how a 60-month interval was implemented in the current 10 CFR Appendix J Testing Program Plan using Regulatory Guide (RG) 1.163 (September 1995) as the implementing document. In addition, discuss how a 60-month interval will be implemented using NEI 94-01, Revision 2-A, "Industry Guideline for Implementing Performance-Based Option of 10 CFR Part 50, Appendix J," as the implementing document.

Enclosure

- (b) Provide a summary of performance results for Type C penetrations that would support the statement of "generally good performance" of these penetrations.
3. In Section 3.2.2 of the LAR, the table entitled, "NMP2 Containment Inservice Inspection Periods (IWE/IWL)," only provides an inspection schedule that is based on Subsection IWE of the ASME Code, Section XI, and applies to the Class MC containment metallic liner and its attachments. Indicate and clarify the schedule of inspections that were, or will be, performed on the concrete containment structure in accordance with Subsection IWL, and explain how it meets the requirements in Section 9.2.3.2 of NEI 94-01, Revision 2-A, and Condition 2 in Section 4.1 of the NRC safety evaluation (SE) for topical report NEI 94-01, Revision 2-A.
 4. Sections 3.2.2 and 3.2.3 of the LAR provide generic statements of the NMP-2 IWE/IWL ISI program. Discuss historic highlights of important findings from IWE and IWL examinations performed since the last Type A test on the containment pressure retaining structures and components, in accordance with the NMP2 CISI program, and actions taken to disposition them. In the response, provide factual information that would demonstrate proper and effective implementation of the ISI program in monitoring and managing degradation to ensure that containment structural and leak-tight integrity has been, and will continue to be, maintained through the service life of the plant. Include relevant highlights of examinations performed on the containment penetrations (with seals, gaskets, bolted connections, and bellows), the vent system, the metallic liner, and the reinforced concrete containment structure. Also, discuss highlights of findings from recent inspections from the NMP2 Drywell Coatings Inspection Program and actions taken.
 5. Provide information of instances during implementation of the CISI program in accordance with IWE/IWL at NMP2, where existence of or potential for degraded conditions in inaccessible areas of the concrete containment structure and metallic liner were identified and evaluated based on conditions found in accessible areas, as required by 10 CFR 50.55a(b)(2)(viii)(E) and 10 CFR 50.55a(b)(2)(ix)(A). If there were any instances of such conditions, discuss the findings and actions taken.
 6. Item 3 of the table on page 6 of 21 of the LAR states that the NMP2 containment system does not employ any moisture barriers. In the absence of a moisture barrier, relative to NRC Information Notice 2004-09, "Corrosion of Steel Containment and Containment Liner," discuss the operating experience and evaluation results, if any, of the potential for, or presence of, corrosive conditions on the inaccessible drywell floor and suppression pool floor liner.
 7. Provide information on the operating experience or testing results with regard to detection of leakage through containment penetrations ZNMT*Z31A, B, C, D and E with bellows. Confirm whether or not these penetrations use 2-ply bellows.
 8. Condition 3 in Section 4.1 of the NRC SE for NEI 94-01, Revision 2-A, requires that licensees address the areas of containment structure potentially subject to degradation. Section 3.1.3 of the NRC SE, in part, states that licensees referencing NEI 94-01, Revision 2-A, in support of a request to amend their TS should also explore/consider such inaccessible degradation-susceptible areas in plant-specific inspections, using

viable, commercially available non-destructive examination (NDE) methods (such as boroscopes, guided wave techniques, etc. - see Report ORNL/NRC/LTR-02/02 "Inspection of Inaccessible Regions of Nuclear Power Plant Containment Metallic Pressure Boundaries," June 2002 (ADAMS Accession No. ML061230425), for recommendations to support plant-specific evaluations). The NRC staff's intent of this statement in the SE is that licensees should explore and consider NDE techniques such as those discussed in the reference or other methods for inspections of inaccessible degradation-susceptible areas of the containment pressure boundary to support plant-specific evaluations of inaccessible areas, as these advanced technologies become commercially available and viable for implementation in practice in the future. While the staff understands that these techniques may not be commercially viable at the present time, the licensee is requested to identify areas in the NMP2 containment that are inaccessible and degradation-susceptible, and acknowledge that these NDE technologies would be explored and considered in the future for the examination of inaccessible degradation-susceptible areas of the containment, as these technologies become commercially viable.

9. In response to Condition 4 in Section 4.1 of the NRC SE for topical report NEI 94-01, Revision 2-A, the NMP2 response in Item 4 of the Table on page 6 of 21 of the LAR states that, "The station design change process would address testing requirements for any future containment structure modifications."
 - (a) Describe how the above statement addresses the requirements of Condition 4 of Section 4.1 and as discussed in Section 3.1.4 of the NRC SE for NEI 94-01, Revision 2-A, with regard to major and minor containment repairs and modifications.
 - (b) Address why it is appropriate to make reference to a "station design change process," which is not subject to NRC review, in an application for a licensing action.
 - (c) Clarify whether the repair/replacement program, which includes associated post modification testing for the NMP2 containment structure, is performed as part of the CISI program in accordance with 10 CFR 50.55a(g)(4) or as part of the "station design change process."
 - (d) Clarify and confirm NMPNS's understanding of the distinction between major and minor containment repair and modifications with regard to post-modification testing.

Probabilistic Risk Assessment (PRA)

10. Discuss the reasons for the decision to estimate the NMP population dose based on scaling of Peach Bottom population doses, given that: (1) Electric Power Research Institute Topical Report 1009325 Rev 2A indicates that the order of preference for determining population dose "shall be plant-specific best estimate, Severe Accident Mitigation Alternative (SAMA) for license renewal, and scaling of a reference plant population dose", and (2) plant-specific population dose estimates were available as part of the NMP SAMA analysis.

11. The assessment of corrosion-induced leakage of the steel liner in Section 4.4 of Attachment 2 was based on two observed corrosion events (at North Anna 2 and Brunswick Unit 2). There have been additional instances of liner corrosion that are relevant to this assessment, including a recent finding at Beaver Valley Unit 1 (LER 2009-003-00). Provide a more comprehensive assessment of corrosion-induced leakage of the steel liner to include all observed corrosion events relevant to the NMP2 containment, and an evaluation of the impact on risk results when all relevant corrosion events are included in the risk assessment.

12. The discussion of PRA quality relies on a self assessment of the NMP2 PRA prior to the most recent PRA update, peer review findings for the NMP1 PRA, and the consideration of the NMP1 peer review findings during the most recent PRA update for NMP2. For the NMP2 PRA model used to support the application, provide (1) a list of findings from the NMP1 PRA peer review and NMP2 PRA self assessment that remain open for the NMP2 PRA model, and (2) the impact of these open items on this application.

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Richard V. Guzman, Senior Project Manager
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*RAI provided by memo. No substantial changes made. ** Concurrence via-email

NRR-088

OFFICE	LPL1-1/PM	LPL1-1/LA	EMCB/BC	SRXB/BC	LPL1-1/BC
NAME	RGuzman	ABaxter for SLittle	MKhanna*	DHarrison*	NSalgado**
DATE	1/5/10	1/5/10	12/15/09 memo dtd	11/18/09 memo dtd	1/6/10

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