



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

July 15, 2009

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

SUBJECT: NINE MILE POINT NUCLEAR STATION, UNIT NO. 2 – ACCEPTANCE REVIEW  
OF LICENSE AMENDMENT REQUEST RE: EXTENDED POWER UPRATE  
(TAC NO. ME1476)

Dear Mr. Polson:

By letter dated May 27, 2009, Nine Mile Point Nuclear Station, LLC (NMPNS) submitted a license amendment for Nine Mile Point, Unit No. 2 (NMP2). The proposed amendment requests an increase in the maximum steady-state power level at NMP2 from 3467 megawatts thermal (MWt) to 3988 MWt. This represents a 15-percent increase over the current licensed thermal power. The purpose of this letter is to provide the results of the U.S. Nuclear Regulatory Commission (NRC) staff's acceptance review of this amendment request. The acceptance review was performed to determine if there is sufficient technical information in scope and depth to allow the NRC staff to complete its detailed technical review. The acceptance review is also intended to identify whether the application has any readily apparent information insufficiencies in its characterization of the regulatory requirements or the licensing basis of the plant.

Consistent with Section 50.90 of Title 10 of the *Code of Federal Regulations* (10 CFR), an amendment to the license (including the Technical Specifications) must fully describe the changes requested, and following as far as applicable, the form prescribed for original applications. Section 50.34 of 10 CFR addresses the content of technical information required. This section stipulates that the submittal address the design and operating characteristics, unusual or novel design features, and principal safety considerations.

The NRC staff has reviewed your application and concluded that the information delineated in the enclosure to this letter is necessary to enable the staff to make an independent assessment regarding the acceptability of the proposed amendment request in terms of regulatory requirements and the protection of public health and safety and the environment.

In order to make the application complete, the NRC staff requests that NMPNS supplement the application to address the information requested in the enclosure by August 28, 2009. This will enable the NRC staff to begin its detailed technical review. If the information responsive to the NRC staff's request is not received by the above date, the application will not be accepted for review pursuant to 10 CFR 2.101, and the NRC will cease its review activities associated with the application. If the application is subsequently accepted for review, you will be advised of any further information needed to support the staff's detailed technical review by separate correspondence.

S. Belcher

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The informational needs in the enclosure to this letter and the associated timeframe to respond were conveyed to your staff during teleconferences on July 9 and 14, 2009.

If you have any questions, please contact me at (301) 415-1030.

Sincerely,

A handwritten signature in black ink, appearing to read "Richard V. Guzman". The signature is fluid and cursive, with a long horizontal stroke at the end.

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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NRC STAFF ACCEPTANCE REVIEW COMMENTS AND  
REQUESTED SUPPLEMENTAL INFORMATION REQUEST REGARDING  
PROPOSED EXTENDED POWER UPRATE (EPU)  
RENEWED FACILITY OPERATING LICENSE NO. NPF-69  
NINE MILE POINT NUCLEAR STATION, LLC  
NINE MILE POINT NUCLEAR STATION, UNIT NO. 2  
DOCKET NO. 50-410

By letter dated May 27, 2009, Nine Mile Point Nuclear Station, LLC (NMPNS or the licensee) submitted a license amendment for Nine Mile Point, Unit No. 2 (NMP2). The proposed amendment requests an increase in the maximum steady-state power level at NMP2 from 3467 megawatts thermal (MWt) to 3988 MWt. This represents a 15-percent increase over the current licensed thermal power (CLTP).

The NRC staff has reviewed your application and concluded that the information below is necessary to enable the staff to make an independent assessment regarding the acceptability of the proposed amendment request in terms of regulatory requirements and the protection of public health and safety and the environment. The NRC staff has identified the following deficiencies which have not been adequately addressed in NMPNS' application for the NRC staff to complete the detailed technical review:

1. **Non-Acceptance Issue**: Acoustic Circuit Model (ACM) Benchmarking

The main steam line (MSL) strain gage signals at CLTP are modified by filtering the low flow (LF) plant noise as described by Equation (8) of the Continuum Dynamics, Inc. (CDI) Report 08-24P, Rev. 1, "Stress Analysis of Nine Mile Point 2 Steam Dryer." The ACM Code described in the CDI Report 04-09 uses these filtered signals and generates the pressure loading on the steam dryer. The NRC staff finds that such filtering of the LF plant noise is non-conservative and, therefore, not acceptable because filtering of the LF plant noise was not accounted for during the benchmarking of the ACM Code.

The ACM Code is benchmarked using the Quad Cities 2 (QC2) data with the inclusion of LF noise to establish the bias and uncertainties. As previously accepted by the NRC staff, ACM Rev. 4 is currently benchmarked based on the QC2 data with LF noise included. The NRC staff finds the subtraction of LF noise across the entire frequency range, unacceptable, for steam dryer qualification, because the ACM Code is not benchmarked for such applications.

Enclosure

2. **Non-Acceptance Issue:** Requirement of 2.0 for Minimum Alternating Stress Ratio for the Steam Dryer

The minimum alternating stress ratio (SR-a) for the NMP2 steam dryer at the proposed EPU conditions does not meet the accepted value of 2 when LF noise is not filtered. As stated above, the bias errors and uncertainties associated with ACM Rev. 4 are not benchmarked for noise subtraction. In the CDI Report, 08-24P, Rev. 1, the SR-a is shown as 2.02 at the projected EPU conditions, when LF noise is subtracted or filtered. The licensee has not provided the stress ratios with inclusion of the LF noise. Since LF noise subtraction is not allowed, as discussed in the first non-acceptance issue, for the reason that the ACM Code is not benchmarked for the noise filtered case, the steam dryer's SR-a may fall substantially below the target value of 2 for EPU. Therefore, the staff has determined that, based on current analysis of record, the stress ratio of the steam dryer is not acceptable for EPU.

The current submittal by NMPNS for NMP2 does not include detailed results of steam dryer stresses at various locations, with the LF noise included, and is therefore incomplete. As a result, this does not meet the staff's acceptance standard in that it does not include the minimum alternating stress ratios at CLTP and EPU with the LF noise included.

Specifically, to address the two non-acceptance issues addressed above, the NRC staff is requesting NMPNS to provide the following information by August 28, 2009.

1. Provide a table or summary of the minimum alternating stress ratios at CLTP conditions without filtering the NMP2 plant noise (i.e., LF signal) based on the actual results from the revised analysis of record.
2. Provide a table or summary of the minimum alternating stress ratios at EPU conditions without filtering the NMP2 plant noise based on the actual results from the revised analysis of record; and demonstrate that the minimum alternating stress ratio at EPU conditions is not less than 2.0 at the governing locations of the steam dryer.

S. Belcher

- 2 -

The informational needs in the enclosure to this letter and the associated timeframe to respond were conveyed to your staff during teleconferences on July 9 and 14, 2009.

If you have any questions, please contact me at (301) 415-1030.

Sincerely,

*/RA/*

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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NRR-106

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