



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

March 15, 2011

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

SUBJECT: SUPPLEMENTAL REQUEST FOR ADDITIONAL INFORMATION REGARDING  
NINE MILE POINT NUCLEAR STATION, UNIT NO. 2 – RE: EXTENSION OF  
COMPLETION TIME FOR INOPERABLE DIESEL GENERATOR, ELECTRICAL  
ENGINEERING REVIEW (TAC NO. ME3736)

Dear Mr. Belcher:

By letter dated March 30, 2010, as supplemented on June 1, 2010, December, 29, 2010, and January 14, 2011, Nine Mile Point Nuclear Station, LLC (NMPNS) submitted a license amendment for Nine Mile Point, Unit No. 2 (NMP2). The proposed amendment would modify NMP2 Technical Specification (TS) Section 3.8.1, "AC Sources - Operating," to extend the Completion Time for an inoperable Division 1 or Division 2 diesel generator (DG) from 72 hours to 14 days. The proposed amendment represents a risk-informed licensing change.

The Nuclear Regulatory Commission (NRC) staff is reviewing the information provided in those letters 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 March 7, 2011, and it was agreed that your response would be provided within 45 days from the date of this letter.

Sincerely,

A handwritten signature in black ink, appearing to read "R. 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

cc w/encl: Distribution via Listserv

REQUEST FOR ADDITIONAL INFORMATION (RAI) FOR  
LICENSE AMENDMENT REQUEST (LAR) RE: EXTENSION OF COMPLETION TIME FOR  
INOPERABLE DIESEL GENERATOR  
ELECTRICAL ENGINEERING REVIEW  
NINE MILE POINT NUCLEAR STATION, LLC  
NINE MILE POINT NUCLEAR STATION, UNIT NO. 2  
DOCKET NO. 50-410

By letter dated March 30, 2010 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML100900460), as supplemented by letter dated June 1, 2010 (ML101600452), December, 29, 2010 (ML110110165), and January 14, 2011 (ML110250271), Nine Mile Point Nuclear Station, LLC (NMPNS or the licensee) submitted a license amendment request (LAR) for Nine Mile Point, Unit No. 2 (NMP2) requesting changes to the Technical Specifications (TSs) to extend the allowable completion time from 72 hours to 14 days when one emergency diesel generator (DG) is inoperable. The NRC staff is reviewing the LAR and has determined that additional information as requested below will be needed to support its review.

1. NMP2-EEEEB-Supplemental RAI-3.a

- (a) The source of cooling water for the Division 3 high pressure core spray (HPCS) DG is stated to be Lake Ontario. Provide details on any chemical treatment or filtration systems required to treat the water for cooling a safety related system. DG lube oil and cooling water systems are normally maintained at high temperatures for optimum performance of the engine... Provide details on the effects of lake water temperature on the performance capability of the HPCS diesel.
- (b) Division 1 and Division 2 DGs have adequate fuel oil stored for seven day operation without replenishment. During the extended completion time (CT) for the Division 1 or Division 2 DG, the HPCS DG and its support systems and the portable generator for the DC systems are proposed to perform the safety functions of the DG that is inoperable. Provide details on the fuel oil requirements and capability of support systems for operation of the HPCS DG and DC systems for extended duration.
- (c) Fuel oil for the diesel driven fire pump is expected to be replenished from an underground fuel storage tank containing 1000 gallons using an electric pump or a hand pump. Provide details on the power source and capacity of the electric pump and the capacity of the hand pump. Demonstrate that the capability of each pump is adequate for the extended duration.

- (d) The LAR dated March 30, 2010, proposes using a diesel driven fire pump to support operation of the HPCS DG when required to replace the Division 1 or Division 2 DG during extended maintenance activities. Provide details on the consequences of a fire related event resulting in a loss-of-offsite power (LOOP) during the extended DG maintenance activities.

2. NMP2-EEEEB-Supplemental RAI-3.b

NMP2 has a procedure to connect a 60 kilovolt-ampere (kVA) portable generator to a Division 1 or Division 2 battery charger to cope with a station blackout (SBO) condition beyond 4 hours; and the estimated time to perform the procedure outlined in the RAI response is 2.5 hours. Provide details on the availability of resources required for manual actions necessary for alignment of the HPCS system and its support systems, and the portable generator for the DC system within the time constraints identified in the LAR. Verify that the complete procedure for this connection can be done in parallel with the manual breaker line-up procedure to cross-connect the Division 3 DG to Division 1 or Division 2, which is estimated to take approximately 2 hours. Describe the sequence of these activities with respect to man-power resources to accomplish the procedure.

3. NMP2-EEEEB-Supplemental RAI-3.c

The purpose of the supplemental power source is to provide defense-in-depth, avoid entry into station blackout conditions for extended duration and maintain the plant within design bases. The station blackout analyses may be used to demonstrate that the plant can be maintained in a safe condition while the supplemental alternating current (AC) source is being aligned. The NRC staff's expectation is that this supplemental power source has adequate capacity to bring the plant to a cold shutdown, if required, during the time that the Division 1 or Division 2 DG is in an extended outage. Provide details about the capability of the proposed supplemental power source to bring the plant to a cold shutdown.

4. NMP2-EEEEB-Supplemental RAI-3.d

The LAR states that the calculated steady state load for the HPCS DG is 2748 kilowatts (kW) when required to replace the Division 1 or Division 2 DG. The HPCS DG is expected to operate at steady state load for an extended duration. According to the NMPNS RAI response in letter dated December 29, 2010, the capability of HPCS DG to support this loading was verified during the last three surveillance runs for the 2-hour load range required by TS surveillance requirement (SR) 3.8.1.12a. The capability of the DG operation for an extended duration is demonstrated under TS SR 3.8.1.12b. The current SR requires the DG to be tested in the range of 2340 kW to 2600 kW. Provide details on the methods used to verify the capability of the HPCS DG for extended operation at 2748 kW.

5. NMP2-EEEEB-Supplemental RAI-4

The licensee stated that it is not necessary to establish TS requirements to implement the compensatory measures associated with the DG CT extension amendment. Several

studies have been performed (e.g., NUREG-1784 and NUREG/CR-6890) which concluded that the average duration of LOOP events has increased from the duration assumed at the time of issuance of the SBO Rule. As such, from a deterministic perspective, the NRC staff considers that the compensatory measures associated with ensuring that the supplemental source is available before entering and during the extended 14-day CT is of high regulatory significance and, should therefore, be enforced via TS actions. This is consistent with recent approvals of extended CTs for onsite power sources. The NRC staff considers TS amendments related to the availability of the supplemental source as an adequate assurance that plant safety will be maintained during the extended CT. The proposed amendments should:

- (a) Identify the actions that will be taken if the supplemental source becomes unavailable during the extended DG (Division 1 or 2) outage, and
- (b) Ensure that the availability of the supplemental source will be verified at least once every 12 hours.

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Sincerely,

*/ra/*

Richard V. Guzman, Senior Project Manager  
Plant Licensing Branch I-1  
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