

November 2, 2005

Mr. James A. Spina  
Vice President  
Nine Mile Point Nuclear Station, LLC  
P.O. Box 63  
Lycoming, NY 13093

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION FOR THE REVIEW OF NINE  
MILE POINT NUCLEAR STATION, UNITS 1 AND 2, AMENDED LICENSE  
RENEWAL APPLICATION (TAC NOS. MC3272 AND MC3273)

Dear Mr. Spina:

By letter dated July 14, 2005, Constellation Energy Group, Inc. (CEG), resubmitted an application pursuant to Title 10 of the *Code of Federal Regulations* Part 54 (10 CFR Part 54), to renew the operating licenses for the Nine Mile Point Nuclear Station (NMP), Units 1 and 2, for review by the U.S. Nuclear Regulatory Commission (NRC). The NRC staff is reviewing the information contained in the amended license renewal application (ALRA) and has identified, in the enclosure, areas where additional information is needed to complete the review.

Based on discussions with Mr. David Dellario of your staff, a mutually agreeable date for your response is within 30 days from the date of this letter. If you have any questions regarding this letter or if circumstances result in your need to revise the response date, please contact me by telephone at 301-415-1458 or via e-mail at [nbl@nrc.gov](mailto:nbl@nrc.gov).

Sincerely,

*/RA/*

N. B. (Tommy) Le, Senior Project Manager  
License Renewal Section A  
License Renewal and Environmental Impacts Program  
Division of Regulatory Improvement Programs  
Office of Nuclear Reactor Regulation

Docket Nos.: 50-220 and 50-410

Enclosure: As stated

cc w/encl: See next page

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Dated: November 2, 2005, Accession No.: ML053070131

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**NINE MILE POINT NUCLEAR STATION, UNITS 1 AND 2 (NMP1 and NMP2)  
AMENDED LICENSE RENEWAL APPLICATION (ALRA)  
REQUEST FOR ADDITIONAL INFORMATION (RAI)  
PART 1 - AGING MANAGEMENT OF AUXILIARY SYSTEMS  
PART 2 - NMP UNIT 1 AMENDED LICENSE RENEWAL (ALRA) ISSUE REGARDING  
CONTROL ROD DRIVE STUB TUBE PENETRATIONS  
PART 3 - TIME-LIMITED AGING ANALYSES**

**PART 1 - AGING MANAGEMENT OF AUXILIARY SYSTEMS**

**3.3 Aging Management of Auxiliary Systems**

**General RAI**

**a-RAI 3.3.2-1**

One-Time Inspection (OTI) is appropriate where either an aging effect is not expected to occur but there is insufficient data to completely rule it out, or the aging effect is expected to occur very slowly so as not to affect the component intended function. In the Amended LRA (ALRA) submitted to the staff by letter dated July 14, 2005, the applicant proposed to use the OTI program to manage aging effects for various materials exposed to various environments for the majority of the components in the following two systems:

- (a) ALRA Table 3.3.2.A-14, NMP1 Radioactive Waste System
  - (b) ALRA Table 3.3.2.B-14, NMP2 Floor and Equipment Drains System
- (1) Explain from system characteristics standpoint, why the OTI program [rather than periodic inspections] is proposed to manage the aging effects for those material/environment combinations having OTI as the sole AMP in these two systems.
- (2) Justify the use of OTI program for the following cases:
- (a) In ALRA Table 3.3.2.A-14, Aging Effect Requiring Management (AERM) of cracking for Wrought Austenitic Stainless Steel (WASS) Heat Exchangers exposed to air, moisture or wetting, temperature greater or equal to 140°F, and for WASS valves exposed to treated water, temperature greater or equal to 140°F but less than 212°F.
  - (b) In ALRA Table 3.3.2.A-14, AERM of loss of material (LOM) for carbon or low alloy steel (yield strength less than 100 ksi), or WASS valves, and piping and fittings exposed to Demineralized Untreated Water (DUW).
  - (c) In ALRA Table 3.3.2.A-14, AERM of LOM for carbon or low alloy steel (yield strength less than 100 ksi) valves exposed to either the DUW, low flow, or treated water, temperature greater or equal to 140°F but less than 212°F.

Enclosure

- (d) In ALRA Table 3.3.2.B-14, AERM of cracking for WASS Drainers exposed to treated water, temperature greater or equal to 140°F but less than 212°F.
- (e) In ALRA Table 3.3.2.B-14, AERM of LOM for aluminum pump, or carbon or low alloy steel (yield strength less than 100 ksi) strainers exposed to raw water.

### **System Specific RAI**

#### **a-RAI 3.3.2.A-5-1**

In ALAR Table 3.3.2.A-5, please explain what the Note "K" represents for Heat Exchangers, and valves and dampers. Also explain why the LOM was not identified as an AERM for WASS Heat Exchangers, which are exposed to DUW similar to the WASS Heat Exchangers in Table 3.3.2.A-14.

### **PART 2 - NMP UNIT 1 AMENDED LICENSE RENEWAL (ALRA) ISSUE REGARDING CONTROL ROD DRIVE STUB TUBE PENETRATIONS**

#### **a-RAI 3.1.2-1**

In Table 3.1.1.A-1 of the Nine Mile Point (NMP) Amended License Renewal Application (ALRA), dated July 14, 2005, the applicant states, "Aging management of the CRD stub tube penetrations is managed in accordance with BWRVIP-47 of the BWR Vessel Internals Program, XI.M9, and plant-specific commitments contained in the NRC safety evaluation (SE) dated March 25, 1987." Then, by another letter dated July 14, 2005, the applicant provided its response to RAI 3.1.2-1, stating that, "NMP committed to implement a strategy whereby during the period of extended operation a leaking control rod drive (CRD) stub tube penetration would be roll repaired. If, following the roll repair, this stub tube were to leak within acceptable limits, then a weld repair would be effected no later than one operating cycle following discovery of the leakage."

The wording in Table 3.1.1.A-1 and in the applicant's response to RAI 3.1.2-1 imply that NMP Unit 1 will operate with CRD stub tube leakage for one operating cycle (2 years). The staff does not consider this is acceptable for the period of extended operation. The SE, dated March 25, 1987, as cited above, which allows NMP Unit 1 to operate with CRD stub tube leakage, was only acceptable as a temporary repair. Specifically, Item (6) of the staff's conclusions of the aforementioned SE, states that, "The proposed leakage criteria provides sufficient time to complete the final development of the prototype mechanical seal and associated tooling and investigate other methods such as weld repair."

Based on the information above, the staff requests that the applicant revise the Corrective Action statement on Page B2-25 and Commitment 36, in Table A1.4, of the NMP1 ALRA to commit to immediately repair any leaking CRD stub tubes, during the proposed period of extended operation, by the implementation of a permanent weld repair per approved ASME Code Cases with staff conditions, if any. In addition, the staff requests that the applicant revise the "Discussion" section of Item Number 3.1.1.A-30, "Penetrations," in Table 3.1.1.A for NMP1 (Page 3.1-29 of the ALRA) by deleting, "plant-specific commitments contained in the NRC safety evaluation dated March 25, 1987, and by adding, "plant-specific commitments for license renewal as indicated in Commitment 36 of Table A1.4."

### **PART 3 - TIME-LIMITED AGING ANALYSES**

#### **a-RAI 4.2-1**

Under TLAA 4.2 on Reactor Vessel Neutron Embrittlement Analysis, the applicant needs to provide a description of the Reflood Thermal Shock Analysis of the Reactor Vessel and the Reflood Thermal Shock Analysis of the Reactor Vessel Core Shroud for both NMP 1 and NMP 2. If not, then the applicant needs to provide a justification in the application of why these analyses are not needed (i.e. for NMP Unit 1-no jet pumps).

#### **a-RAI 4.7-1**

The applicant needs to include a TLAA in Section 4.7 for the Irradiation Assisted Stress Corrosion Cracking of Reactor Vessel Internals.

Nine Mile Point Nuclear Station, Units 1 and 2

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