

**Constellation Energy**

• Nine Mile Point Nuclear Station

P.O. Box 63  
Lycoming, NY 13093

October 28, 2005  
NMP1L 1993

U.S. Nuclear Regulatory Commission  
Attn: Document Control Desk  
Washington, DC 20555-0001

SUBJECT: Nine Mile Point Units 1 and 2  
Docket Nos. 50-220 and 50-410  
Facility Operating License Nos. DPR-63 and NPF-69

License Renewal Application (LRA) – Responses to NRC Requests for  
Additional Information Regarding LRA Sections 2.3 and 2.4 (TAC Nos. MC3272  
and MC3273)

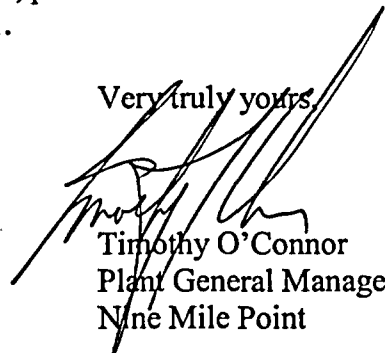
Gentlemen:

By letter dated July 14, 2005, Nine Mile Point Nuclear Station, LLC (NMPNS) submitted an Amended License Renewal Application (ALRA) for the operating licenses of Nine Mile Point Units 1 and 2.

In a letter dated October 11, 2005, the NRC requested additional information regarding the ALRA Section 2.3 - Scoping and Screening Results: Mechanical Systems and Section 2.4 – Scoping and Screening Results: Structures and Component Supports. The NMPNS responses to these requests for additional information are provided in Attachment 1. This letter contains no new regulatory commitments.

If you have any questions about this submittal, please contact David Dellario, NMPNS License Renewal Project Manager, at (315) 349-7141.

Very truly yours,



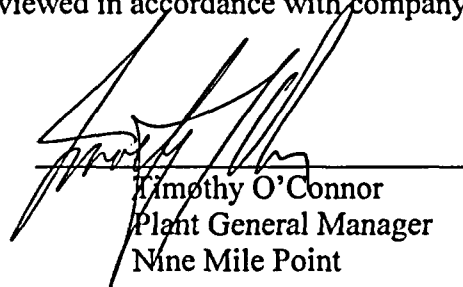
Timothy O'Connor  
Plant General Manager  
Nine Mile Point

TJO/MSL/sac

A107

STATE OF NEW YORK :  
 : TO WIT:  
COUNTY OF OSWEGO :

I, Timothy O'Connor, being duly sworn, state that I am Plant General Manager Nine Mile Point, and that I am duly authorized to execute and file these responses on behalf of Nine Mile Point Nuclear Station, LLC. To the best of my knowledge and belief, the statements contained in this submittal are true and correct. To the extent that these statements are not based on my personal knowledge, they are based upon information provided by other Nine Mile Point employees and/or consultants. Such information has been reviewed in accordance with company practice and I believe it to be reliable.

  
Timothy O'Connor  
Plant General Manager  
Nine Mile Point

Subscribed and sworn before me, a Notary Public in and for the State of New York and County of Oswego, this 28<sup>th</sup> day of October, 2005.

WITNESS my Hand and Notarial Seal:

**TONYA L. JONES**  
Notary Public in the State of New York  
Oswego County Reg. No. 01JO6063354  
My Commission Expires 11/12/2006

  
Notary Public

My Commission Expires:

11/12/2006  
Date

Attachment:

1. Responses to NRC Requests for Additional Information (RAI) Regarding ALRA Section 2.3 - Scoping and Screening Results: Mechanical Systems and Section 2.4 - Scoping and Screening Results: Structures and Component Supports

cc: Mr. S. J. Collins, NRC Regional Administrator, Region I  
Mr. L. M. Cline, NRC Senior Resident Inspector  
Mr. T. G. Colburn, Senior Project Manager, NRR  
Mr. N. B. Le, License Renewal Project Manager, NRR  
Mr. J. P. Spath, NYSERDA

## **ATTACHMENT 1**

### **Nine Mile Point Nuclear Station**

#### **Responses to NRC Requests for Additional Information (RAI) Regarding Amended License Renewal (ALRA) Section 2.3 - Scoping and Screening Results: Mechanical Systems and Section 2.4 – Scoping and Screening Results: Structures and Component Supports**

This attachment provides the Nine Mile Point Nuclear Station, LLC (NMPNS) responses to the requests for additional information contained in the NRC letter dated October 11, 2005, regarding scoping and screening results for ALRA Section 2.3, Mechanical Systems and 2.4, Structures and Component Supports. Each NRC RAI is repeated, followed by the NMPNS response for Nine Mile Point Unit 1 (NMP1) and/or Nine Mile Point Unit 2 (NMP2), as applicable.

#### **ALRA Section 2.3 - Scoping and Screening Results: Mechanical Systems**

*RAI 2.3-1. For Unit 1, please indicate whether the liquid poison pressure nozzle is considered a reactor pressure vessel penetration requiring an Aging Management Review (AMR).*

##### **NMP Response:**

The NMP1 liquid poison pressure nozzle is considered a reactor pressure vessel penetration and is part of the core differential pressure penetration. NMP1 utilizes a 'pipe-within-a-pipe' design that is consistent with the older BWR designs. It is included within the scope of license renewal and subject to aging management review as shown in ALRA Tables 2.3.1.A-1 and 3.1.2.A-1 under the component type of Penetrations – Core Differential Pressure. It is managed by the Water Chemistry Control and BWR Penetrations Programs.

*RAI 2.3-2. For Unit 2, please indicate whether temperature equalizing columns should be identified as reactor pressure vessel instrumentation system components requiring an AMR.*

##### **NMP Response:**

The design of the NMP2 reactor pressure vessel instrumentation system is not exactly the same as the NMP1 design and does not utilize temperature equalizing columns. For NMP2, the type of level measurement system makes no correction for changes in reactor vessel, reference leg water temperature or density, and is termed 'non-compensated.' Each instrument is calibrated at the vessel pressure and drywell temperature in which the instrument is normally used. As such, NMP2 should not identify temperature equalizing columns as a component type in the reactor vessel instrumentation system.

*RAI 2.3-3. For Unit 1, the Liquid Poison System contains two elements that monitor the Liquid Poison Storage Tank temperature. One of these components is in-scope for license renewal since it is a safety-related component. The other component is non-safety-related and has no license renewal intended function. The in-scope temperature element itself is an active component and, therefore, not subject to AMR. However, the temperature sensor is housed in a thermowell that is subject to AMR. Which temperature element is the in scope element, is it TE 41-35 or TE 41-28?*

**NMP Response:**

NMP1 TE 41-28 is the safety-related temperature element and is within the scope of license renewal (LR). This element monitors the temperature of the sodium pentaborate solution in the liquid poison storage tank and provides the input to the temperature controller and heater to maintain the temperature in the proper range. The thermowell for TE 41-28 is subject to aging management and is managed with the storage tank by the Water Chemistry Control Program.

*RAI 2.3-4. For Unit 2, please indicate whether the diffuser seal ring and shroud support plate should be identified as a reactor pressure vessel internal component requiring an AMR.*

**NMP Response:**

The diffuser seal ring and shroud support plate are reactor pressure vessel internal components for NMP2 and are managed for aging. The diffuser seal ring is included in the component type 'Jet Pump Assemblies' identified in ALRA Tables 2.3.1.B.2-1 and 3.1.2.B-2. It is managed by a combination of the Water Chemistry Control and BWRVIP Programs. Similarly, the shroud support plate is included in the component type 'Core Shroud Support Structures' in the same tables. The shroud support plate is also managed by a combination of the Water Chemistry Control and BWRVIP Programs.

**ALRA Section 2.4 – Scoping and Screening Results: Structures and Component Supports.**

*RAI 2.4.A-1 The ALRA section 2.4.A.1 incorporates the thrust of this RAI, except it is not clear if the refueling seal between the refueling cavity and the drywell is within the scope or not. The staff's concern is as follows:*

*Leakage through the refueling seals located at the top of the drywell potentially exposes the carbon steel drywell shell inner and outer surfaces to loss of material due to corrosion. This is a particular concern for the embedded portion of the drywell shell. Corrosion detected on the outer shell surface in the sand pocket region in a number of Mark I steel containments has been attributed to leakage past the drywell-to-reactor building refueling seal, coupled with clogging of the sand pocket drains.*

*Leakage into the drywell, past the reactor vessel-to-drywell refueling seal, creates the potential for corrosion of the inaccessible portion of the inner surface of the drywell shell, embedded in the concrete floor.*

*From the information contained in ALRA Table 2.4.A.1-1, it is not clear to the staff: (1) whether the refueling seals have been included in the license renewal scope, and (2) if included, how aging management is being addressed. Please provide the following information:*

- *Verification that the refueling seals are included in the license renewal scope, or a detailed explanation for their exclusion.*
- *A detailed description of the plant-specific operating experience for the refueling seals, including incidences of degradation, method of detection, root cause, corrective actions, and current inspection procedures.*
- *A detailed description of the scoping, screening, and AMR for the refueling seals.*
- *The aging management programs credited to manage aging of the refueling seals.*

**NMP Response:**

The NMP1 refueling seals are within the scope of LR and subject to AMR. The refueling seal is basically comprised of six (6) components. Two of the components are the stainless steel bellows permanently welded in place. One of these bellows is between the liner and the drywell shell. The other is between the refueling seal platform and the reactor vessel flange. The third component is the carbon steel refueling seal platform. During normal operation, the refueling seal platform has twenty-four openings to the drywell for ventilation. During refueling, the fourth component, the aluminum refueling seal platform cover, is installed in twenty-four pieces to cover each of the openings, with gaskets between the covers and the platform. The fifth component is the gaskets between the refueling seal platform and the refueling seal platform cover. This component is also in twenty-four pieces corresponding with the number of pieces in the refueling seal platform cover. The sixth component is the stainless steel bolting that fastens the platform covers to the platform proper. The two bellows, the refueling seal platform, the refueling seal platform covers, and the bolting are within the scope of LR and subject to AMR. The gaskets between the cover pieces and the platform are within scope of LR but are not subject to AMR since new gaskets are used during each refueling outage.

The in-scope components subject to AMR are addressed in ALRA Table 2.4.A.1-1 as follows: (1) the bellows are included as the Component "Refueling Seal Platform Bellows;" (2) the refueling seal platform is included with the Component "Refueling Seal Platform" as the Component Type "Structural Steel (Carbon Low Alloy Steel) in Air," (3) the refueling seal platform covers are included as the Component "Refueling Seal Platform Covers;" and (4) the bolting is included with the Component "Refueling Seal Platform" as the Component Type "Fasteners (Wrought Austenitic Stainless Steel) in Air." The ALRA indicates that the bolting Component Type is "Fasteners (Carbon or Low Alloy Steel) in Air." This is an error. The bolting is stainless steel. The environment

is air because these components are in an air environment during normal operation. They are only wetted during refueling operations.

From ALRA Table 2.4.A.1-1, the Component Types for each of the four (4) identified Components are addressed for aging management by the same Component Types in Table 3.5.2.A-1 of ALRA Section 3.5.2.A.1. As seen in this table, for the stainless steel bellows, fasteners in air and the aluminum alloy covers in air, there are no aging effects requiring management (AERMs) and, therefore, no aging management program (AMP) is required. For the refueling seal platform itself, there is an AERM of Loss of Material, which is managed by the Structures Monitoring Program.

There has been no plant operating experience that indicates that there has been leakage from the refueling seals at NMPNS. Further, any corrosion of the drywell in visible areas would be detected and mitigated each refueling outage when the refueling cavity is filled. Any potential leakage would be observed prior to its settling in an inaccessible area of the drywell.

Additionally, NRC Information Notice 86-99 and Generic Letter 87-05 requested that utilities mitigate and/or identify potential degradation of Mark I containments. The subject degradation occurred at Oyster Creek as a result of water intrusion in the air gap due to leakage past the refueling seal and subsequent wetting of the sand cushion at the bottom of the air gap. NMPNS conducted several investigations and inspections which determined that water intrusion into the NMP1 sand cushion had not occurred and that periodic examination of the sand cushion area drain lines is not warranted.

*RAI 2.4.C.1-1 In Table 2.4.C-1 of the ALRA, the applicant includes ASME Class 1, 2, 3 and MC hangers and supports. The staff assumes that the drywell and torus external supports are included within the Class MC supports. The applicant is requested to confirm the staff's assumption.*

**NMP Response:**

The drywell supports are included in ALRA Section 2.4.C.1, "Component Supports," under the Component Type "ASME Class 1, 2, 3, and MC Hangers and Supports" in Table 2.4.C.1-1.

The torus supports are included in ALRA Section 2.4.A.2, "NMP1 Reactor Building." They are listed in Table 2.4.A.2-1 under the Component Type "Torus Support Columns."

These two component types encompass all drywell and torus supports.

The aging management of the drywell supports is addressed under the Component Type "Structural Steel (Carbon and Low Alloy Steel) in Air" in ALRA Table 3.5.2.C-1. These supports are managed by the ASME Section XI Inservice Inspection (Subsection IWF) Program, which is consistent with Generic Aging Lessons Learned (GALL) Report Item III.B1.3.1-a.

Aging management of the Torus Support Columns is addressed in ALRA Table 3.5.2.A-2 under the Component Type "Torus Support Columns." These supports are managed by the ASME Section XI Inservice Inspection (Subsection IWF) Program, consistent with GALL Report Item III.B1.3.1-a.