

February 25, 2002

Mr. John T. Conway  
Site Vice President  
Nine Mile Point Nuclear Station, LLC  
P.O. Box 63  
Lycoming, NY 13093

SUBJECT: NINE MILE POINT NUCLEAR STATION, UNIT NO. 2 - ISSUANCE OF  
AMENDMENT RE: POST-SAFETY-INJECTION OPERATION OF THE  
HYDROGEN MONITORING SYSTEM (TAC NO. MB3040)

Dear Mr. Conway:

The Commission has issued the enclosed Amendment No. 102 to Facility Operating License No. NPF-69 for the Nine Mile Point Nuclear Station, Unit 2 (NMP-2). The amendment consists of changes to Operating License NPF-69 in response to an application from Niagara Mohawk Power Corporation (NMPC) dated October 5, 2001.

On November 7, 2001, NMPC's ownership interest and operating license in NMP2 were transferred to Nine Mile Point Nuclear Station, LLC (NMPNS), thus allowing NMPNS to possess, use and operate NMP2. By letter dated November 20, 2001, NMPNS requested that the Nuclear Regulatory Commission (NRC) continue to review and act on all requests previously submitted by NMPC before the transfer, and to consider such requests as if they had been originally submitted by NMPNS. Accordingly, the NRC staff continued its review of the subject submittals. NMPNS revised the original application by a letter dated January 4, 2002.

The amendment imposes a new license condition in Operating License NPF-69 to approve a change in the licensing basis regarding post-safety-injection hydrogen monitoring. Specifically, the amendment changes the permissible delay from 30 minutes to 90 minutes.

A copy of the related Safety Evaluation is enclosed. A Notice of Issuance will be included in the Commission's next regular biweekly Federal Register notice.

Sincerely,

*/RA/*

Peter S. Tam, Senior Project Manager, Section 1  
Project Directorate I  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

Docket No. 50-410

Enclosures: 1. Amendment No. 102 to NPF-69  
2. Safety Evaluation

cc w/encls: See next page

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\*\*P. Milano concurred for J. Munday

NINE MILE POINT NUCLEAR STATION, LLC (NMPNS)

LONG ISLAND LIGHTING COMPANY

DOCKET NO. 50-410

NINE MILE POINT NUCLEAR STATION, UNIT 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 102  
License No. NPF-69

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by Niagara Mohawk Power Corporation (the former licensee) dated October 5, 2001, as revised on January 4, 2002, and adopted by NMPNS (the licensee) pursuant to a letter dated November 20, 2001, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's rules and regulations set forth in 10 CFR Chapter 1;
  - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
  - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
  - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
  - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.
2. Accordingly, the operating license is amended by addition of a new license condition as indicated in the attachment to this license amendment.

3. This license amendment is effective as of the date of its issuance and shall be implemented during Refueling Outage 8.

FOR THE NUCLEAR REGULATORY COMMISSION

***/RA by PMilano for JMunday/***

Joel Munday, Acting Chief, Section I  
Project Directorate I  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

Attachment: Changes to Page 6 of the  
Operating License

Date of Issuance: February 25, 2002

ATTACHMENT TO LICENSE AMENDMENT NO. 102

TO FACILITY OPERATING LICENSE NO. NPF-69

DOCKET NO. 50-410

Replace the following page of Operating License NPF-69 with the attached revised page. The revised page is identified by amendment number and contains marginal lines indicating the areas of change.

Remove Page

6

Insert Page

6

(11) Additional Condition 2

The schedule for performing Surveillance Requirements (SRs) that are new or revised in Amendment No. 91 shall be as follows:

For SRs that are new in this amendment, the first performance is due at the end of the first surveillance interval that begins on the date of implementation of this amendment.

For SRs that existed prior to this amendment whose intervals of performance are being reduced, the first reduced surveillance interval begins upon completion of the first surveillance performed after implementation of this amendment.

For SRs that existed prior to this amendment that have modified acceptance criteria, the first performance is due at the end of the first surveillance interval that began on the date the surveillance was last performed prior to the implementation of this amendment.

For SRs that existed prior to this amendment whose intervals of performance are being extended, the first extended surveillance interval begins upon completion of the last surveillance performed prior to the implementation of this amendment.

(11a) Additional Condition 3

The operating licensee shall be capable of establishing containment hydrogen monitoring within 90 minutes of initiating emergency core cooling (safety injection) following a loss of coolant accident.

- (12) On the closing date(s) of the transfer of the NMPC, RG&E, CHGEC, and NYSEG interests in NMP-2 to it, Nine Mile Point Nuclear Station, LLC shall: (1) obtain from the transferors then transferring their interests all of their accumulated decommissioning trust funds for NMP-2, and (2) receive a parent company guarantee pursuant to 10 CFR 50.75(e)(1)(iii)(B) (to be updated annually) in a form acceptable to the NRC and in an amount which, when combined with the decommissioning trust funds for NMP-2 that have been transferred, equals or exceeds the total amounts for NMP LLC's then resulting total ownership share of NMP-2, respectively, pursuant to 10 CFR 50.75(b) and (c).

- (13) The decommissioning trust agreement for NMP-2, at the time any subject direct transfer is effected and thereafter, is subject to the following:
- a. The decommissioning trust agreement must be in a form acceptable to the NRC.
  - b. With respect to the decommissioning trust funds, investments in the securities or other obligations of Constellation Energy Group, Inc., New Controlled, or their affiliates, successors, or assigns, are and shall be prohibited. Except for investments tied to market indexes or other non-nuclear sector mutual funds, investments in any entity owning one or more nuclear power plants are and shall be prohibited.

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
RELATED TO AMENDMENT NO. 102 TO FACILITY OPERATING LICENSE NO. NPF-69  
NINE MILE POINT NUCLEAR STATION, LLC (NMPNS)  
NINE MILE POINT NUCLEAR STATION, UNIT NO. 2 (NMP2)  
DOCKET NO. 50-410

## 1.0 INTRODUCTION

By letter dated October 5, 2001, Niagara Mohawk Power Corporation (NMPC) requested an amendment to the operating license that would change the licensing basis requirement for establishing containment hydrogen monitoring from “within 30 minutes” to “within 3 hours” of initiating emergency core cooling (safety injection) following a loss-of-coolant accident (LOCA). On November 7, 2001, NMPC’s ownership interest and operating license in NMP2 were transferred to Nine Mile Point Nuclear Station, LLC (NMPNS, the licensee), thus allowing NMPNS to possess, use and operate NMP2. By letter dated November 20, 2001, NMPNS requested that the Nuclear Regulatory Commission (NRC) continue to review and act on all requests previously submitted by NMPC before the transfer, and to consider such requests as if they had been originally submitted by NMPNS. Accordingly, the NRC staff continued its review of the subject submittals. By letter dated January 4, 2002, NMPNS revised the original application, changing the delay from “within 3 hours” to “within 90 minutes.”

In reviewing NMPNS’s application, the staff was aware of similar amendments previously issued to Vogtle and Arkansas Nuclear One.

## 2.0 NRC STAFF EVALUATION

### 2.1 Background

As a result of the accident at Three Mile Island (TMI), the NRC issued NUREG-0737, “Clarification of TMI Action Plan Requirements,” dated November 1980. Generic letters were issued in 1982 requesting the licensees of operating power reactors to furnish information pertaining to their implementation of specific TMI action plan items described in NUREG-0737.

Table 1.9 of the NMP2 Updated Safety Analysis Report (USAR) shows a commitment to comply with the acceptance criteria of NUREG-0800 (Standard Review Plan), Section 6.2.5, stating:

“The containment hydrogen monitor shall meet the requirements of item II.F.1 of NUREG-0737 and NUREG-0718, and the Appendix of Regulatory Guide 1.97.”

Section II.F.1, Attachment 6, of NUREG-0737 states, “a continuous indication of hydrogen concentration in the containment atmosphere shall be provided in the control room.” It also contains a note that reads:

- “(2) The continuous indication of hydrogen concentration is not required during normal operations.

If an indication is not available at all times, continuous indication and recording shall be functioning within 30 minutes of the initiation of safety injection.”

Thus, the licensee’s commitment in the USAR forms the current licensing basis which specifies hydrogen monitoring to begin within 30 minutes after initiation of emergency core cooling (safety injection).

## 2.2 Evaluation

According to the licensee, the hydrogen/oxygen analyzer units currently installed in the NMP2 containment monitoring system have a history of chronic failure and require excessive maintenance. The licensee proposed replacing the existing hydrogen/oxygen analyzer units with an improved design during the next refueling outage, which is scheduled to begin in March 2002.

By the referenced letters, the licensee requested an amendment to the NMP2 operating license. Specifically, the licensee requested adding Additional Condition (11a) to the operating license to state, “The operating licensee shall be capable of establishing containment hydrogen monitoring within 90 minutes of initiating emergency core cooling (safety injection) following a loss of coolant accident.” This 90-minute requirement takes into account:

- 60 minutes for plant operators to complete initial assessment and accident mitigation tasks and strategies;
- 30 minutes for the monitors to provide reliable measurements after the system mode changes from “standby” to “analyze”;
- Consistency with previously approved hydrogen monitoring requirements at other stations.

Significant improvements have been achieved since the TMI-2 accident in the areas of understanding risks associated with nuclear plant operations, and developing better strategies for managing the response to potentially severe accidents. Recent insights pertaining to plant risks and alternate severe accident assessment tools have led the NRC staff to conclude that some TMI Action Plan items can be revised without reducing, and perhaps would even enhance, the ability of licensees to respond to severe accidents. The NRC’s efforts to oversee the risks associated with nuclear technology more effectively and to eliminate undue regulatory costs to licensees and the public have prompted the NRC’s decision to revise the post-TMI requirement related to establishing indication of hydrogen concentration in containment.

The proposed extension in the time requirement for hydrogen monitoring from 30 minutes to 90 minutes after initiation of safety injection, following a LOCA is justified based on the following considerations:



- In SECY-2000-198, dated September 14, 2000, the NRC staff noted that for Mark II containments (such as the NMP2 containment), combustible gases are not a significant challenge to containment integrity in the early stages of a core-melt accident because of an inerted containment atmosphere. Subsequently, hydrogen monitors have limited significance in mitigating the threat to the containment in the early stages of an accident.
- The proposed hydrogen monitoring time limit uses the basis from the Arkansas Nuclear One confirmatory order issued on September 28, 1998. Here, the NRC staff acknowledged that, based on recent insights pertaining to plant risk, certain TMI action plan items can be revised without reducing, and perhaps would enhance, the ability of licensees to respond to severe accidents. The staff also considers that licensees should have the flexibility to determine the appropriate time limit for indication of hydrogen concentration in the containment. This would ensure that control room personnel are not distracted from more important tasks in the early phases of accident mitigation. The NRC staff notes that through using simulator scenarios, licensees have reported completing these more important accident mitigation actions within approximately 60 minutes.
- The guidance for establishing post-LOCA containment hydrogen monitoring at NMP2 is contained in the emergency operating procedure flowchart for primary containment control. This step follows those preliminary actions required to monitor and control the LOCA event and verify proper operation of essential safety systems. Considering the safety significance of preliminary actions to assure that safety systems are functioning properly and critical safety functions are being accomplished, it is appropriate to allow a delay in the operator's actions necessary to initiate hydrogen monitoring.
- The monitors are also used to support core damage assessment and the plant's severe accident management guidelines. The 90-minute delay is appropriate to support personnel in the Technical Support Center performing such assessments and management functions.

### 2.3 Summary

The proposed NMP2 extension in the time delay for establishing hydrogen monitoring is justified based on the safety significance of hydrogen monitoring, the immediate actions required of plant operators after a LOCA, and the operational characteristics of the hydrogen analyzers that are planned to be installed in the next refueling outage.

The staff concludes that with this change to the operating license and with the planned modification to the hydrogen monitoring system, NMP2's overall safety is reasonably assured by providing a more reliable monitoring system and eliminating a possible operator distraction during the early phases of accident mitigation. Therefore, based on the licensee's risk-informed technical justification, the NRC staff finds that the licensee's request for an amendment to the operating license is acceptable.

### 3.0 STATE CONSULTATION

In accordance with the Commission's regulations, the New York State official was notified of the proposed issuance of the amendment. The State official had no comments.

### 4.0 ENVIRONMENTAL CONSIDERATION

The amendment changes requirements with respect to use of facility components located within the restricted area as defined in 10 CFR Part 20. The NRC staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The staff has previously issued a proposed finding (66 FR 55020) that the amendment involves no significant hazards consideration (NSHC), and there has been no public comment on such finding. The licensee's January 4, 2002, letter, revised the original application. The NRC staff accordingly issued a revised proposed NSHC finding (67 FR 2925), and there has been no public comment on such finding. Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b) no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendment.

### 5.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above that (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

### 5.0 REFERENCES

1. Letter from Entergy Operations to USNRC, dated March 2, 1998, "NUREG-0737 Item II.F.1.6 Containment Hydrogen Monitor."
2. Letter from USNRC to Northeast Nuclear Energy Company, dated October 28, 1997, "Withdrawal of Deviation Request for NUREG-0737, Item II.F.1.6, Containment Hydrogen Monitors-Millstone Nuclear Power Station, Unit No. 2 (TAC No. M99296)."
3. Letter from USNRC to Entergy Operations, dated September 28, 1998, "Confirmatory Order Modifying Post-TMI Requirements Pertaining to Containment Hydrogen Monitors for Arkansas Nuclear One, Units 1 and 2 (TAC Nos. MA1267 and 1268)."
4. USNRC memorandums to all NRC project directors and project managers dated December 16, 1998 and titled, "Project Manager Guidance for Risk-Informed Confirmatory Orders on Post-Accident Hydrogen Monitoring."

5. Letter from Boiling Water Reactor Owners Group, dated June 22, 2001, transmitting Topical Report NEDO-33003, "Regulatory Relaxation for the Hydrogen/Oxygen Monitors and Combustible Gas Control System."
6. Letter from NMPC to USNRC, dated October 5, 2001, "Post-LOCA Containment Hydrogen Monitoring (TAC No. MB3040)."
7. Letter form Constellation Nuclear to USNRC, dated January 4, 2002, "Post-LOCA Containment Hydrogen Monitoring (TAC No. MB3040)."

Principal Contributor: V. Klco

Date: February 25, 2002

Nine Mile Point Nuclear Station  
Unit No. 2

cc:

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