

October 2, 2006

Mr. Timothy J. O'Connor
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. 1 - ISSUANCE OF
AMENDMENT RE: APPLICATION FOR TECHNICAL SPECIFICATION
IMPROVEMENT TO ELIMINATE REQUIREMENTS FOR THE HYDROGEN
MONITORS USING THE CONSOLIDATED LINE ITEM IMPROVEMENT
PROCESS (TAC NO. MD0031)

Dear Mr. O'Connor:

The Commission has issued the enclosed Amendment No. 191 to Facility Operating License No. DPR-63 for the Nine Mile Point Nuclear Station, Unit No. 1 (NMP-1). The amendment consists of changes to the Technical Specifications (TSs) in response to your application transmitted by letter dated January 18, 2006.

The amendment deletes the reference to the hydrogen monitors in TS 3.6.11, "Accident Monitoring Instrumentation."

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/

Timothy G. Colburn, Senior Project Manager
Plant Licensing Branch I-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-220

Enclosures:

1. Amendment No. 191 to DPR-63
2. Safety Evaluation

cc w/encls: See next page

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NINE MILE POINT NUCLEAR STATION, LLC (NMPNS)

DOCKET NO. 50-220

NINE MILE POINT NUCLEAR STATION, UNIT NO. 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 191
License No. DPR-63

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Nine Mile Point Nuclear Station, LLC (the licensee) dated January 18, 2006, 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 I;
 - 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 license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. DPR-63 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendix A, which is attached hereto, as revised through Amendment No. 191, are hereby incorporated into the license. Nine Mile Point Nuclear Station, LLC shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of the date of its issuance and shall be implemented within 60 days.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

Richard J. Laufer, Chief
Plant Licensing Branch I-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment:
Changes to the License and
Technical Specifications

Date of Issuance: October 2, 2006

ATTACHMENT TO LICENSE AMENDMENT NO. 191

TO FACILITY OPERATING LICENSE NO. DPR-63

DOCKET NO. 50-220

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

Remove

3

Insert

3

Replace the following pages of Appendix A, Technical Specifications, with the attached revised pages. The revised pages are identified by amendment number and contain marginal lines indicating the areas of change.

Remove

269

272

Insert

269

272

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 191 TO FACILITY OPERATING LICENSE NO. DPR-63
NINE MILE POINT NUCLEAR STATION, LLC (NMPNS)
NINE MILE POINT NUCLEAR STATION UNIT NO. 1 (NMP-1)
DOCKET NO. 50-220

1.0 INTRODUCTION

By letter dated January 18, 2006 (Agencywide Documents Access and Management System Accession No. ML060310372), NMPNS (the licensee) submitted a request for changes to the NMP-1 Technical Specifications (TSs). The requested changes would delete the reference to the hydrogen monitors in TS 3.6.11, "Accident Monitoring Instrumentation."

The Nuclear Regulatory Commission (NRC) has revised Section 50.44 to Part 50 of Title 10 of the *Code of Federal Regulations* (10 CFR), "Standards for combustible gas control system in light-water-cooled power reactors." The amended standards eliminated the requirements for hydrogen recombiners and relaxed the requirements for hydrogen and oxygen monitoring. In letters dated December 17, 2002, and May 12, 2003, the Nuclear Energy Institute (NEI) Technical Specification Task Force (TSTF) proposed to remove requirements for hydrogen recombiners and hydrogen and oxygen monitors from the standard technical specifications (STS), NUREGs 1430 - 1434, on behalf of the industry. This proposed change is designated TSTF-447.

The NRC staff prepared this model safety evaluation (SE) for the elimination of requirements regarding containment hydrogen recombiners and the removal of requirements from TS for containment hydrogen and oxygen monitors and solicited public comment (67 FR 50374, published August 2, 2002) in accordance with the Consolidated Line Item Improvement Process (CLIIP). The use of the CLIIP in this matter is intended to help the NRC to efficiently process amendments that propose to remove the hydrogen recombiner and hydrogen and oxygen monitor requirements from TSs. Licensees of nuclear power reactors to which this model applies were informed (68 FR 55416; September 25, 2003) that they could request amendments conforming to the model, and, in such requests, should confirm the applicability of this SE to their reactors and provide the requested plant-specific verifications and commitments.

[Note: Post-accident hydrogen recombiners are not installed at NMP-1, and there are no oxygen monitoring instrumentation requirements in the NMP-1 TSs. Therefore, the portions of the CLIIP model SE that discuss hydrogen recombiners and oxygen monitoring instrumentation are not applicable to NMP-1.]

2.0 REGULATORY EVALUATION

Regulatory Issue Summary 2000-06, "Consolidated Line Item Improvement Process (CLIIP) for Adopting Standard Technical Specification Changes for Power Reactors," was issued on March 20, 2000. The CLIIP is intended to improve the efficiency of NRC licensing processes. This is accomplished by processing proposed changes to the STS in a manner that supports subsequent license amendment applications. The CLIIP includes an opportunity for the public to comment on proposed changes to the STS following a preliminary assessment by the NRC staff and finding that the change will likely be offered for adoption by licensees. The NRC staff evaluates any comments received for a proposed change to the STS and either reconsiders the change or proceeds with announcing the availability of the change for proposed adoption by licensees. Those licensees opting to apply for the subject change to TSs are responsible for reviewing the NRC staff's evaluation, referencing the applicable technical justifications, and providing any necessary plant-specific information. Each amendment application made in response to the notice of availability would be processed and noticed in accordance with applicable rules and NRC procedures.

The Commission's regulatory requirements related to the content of TSs are set forth in 10 CFR 50.36. This regulation requires that the TSs include items in five specific categories. These categories include 1) safety limits, limiting safety system settings and limiting control settings, 2) limiting conditions for operation (LCOs), 3) surveillance requirements (SRs), 4) design features, and 5) administrative controls. However, the regulation does not specify the particular TSs to be included in a plant's license.

Additionally, 10 CFR 50.36(c)(2)(ii) sets forth four criteria to be used in determining whether an LCO is required to be included in the TSs. These criteria are as follows:

1. Installed instrumentation that is used to detect, and indicate in the control room, a significant abnormal degradation of the reactor coolant pressure boundary.
2. A process variable, design feature, or operating restriction that is an initial condition of a design basis accident or transient analysis that assumes either the failure of or presents a challenge to the integrity of a fission product barrier.
3. A structure, system, or component that is part of the primary success path and which functions or actuates to mitigate a design basis accident or transient that either assumes the failure of or presents a challenge to the integrity of a fission product barrier.
4. A structure, system, or component which operating experience or probabilistic risk assessment has shown to be significant to public health and safety.

Existing LCOs and related surveillances included as TS requirements which satisfy any of the criteria stated above must be retained in the TSs. Those TS requirements which do not satisfy these criteria may be relocated to other licensee-controlled documents.

As part of the rulemaking that revised 10 CFR 50.44, the Commission retained requirements for ensuring a mixed atmosphere, inerting Mark I and II containments, and providing hydrogen control systems capable of accommodating an amount of hydrogen generated from a metal-water reaction involving 75 percent of the fuel cladding surrounding the active fuel region in Mark III and ice condenser containments. The Commission eliminated the design-basis loss-of-coolant accident (LOCA) hydrogen release from 10 CFR 50.44 and consolidated the requirements for hydrogen and oxygen monitoring to 10 CFR 50.44 while relaxing safety classifications and licensee commitments to certain design and qualification criteria. The Commission also relocated without change, the hydrogen control requirements in 10 CFR 50.34(f) to 10 CFR 50.44, and the high point vent requirements from 10 CFR 50.44 to 10 CFR 50.46a.

3.0 TECHNICAL EVALUATION

The ways in which the requirements and recommendations for combustible gas control were incorporated into the licensing bases of commercial nuclear power plants varied as a function of when plants were licensed. Plants that were operating at the time of the Three Mile Island (TMI), Unit 2, accident are likely to have been the subject of confirmatory orders that imposed the combustible gas control functions described in NUREG-0737, "Clarification of TMI Action Plan Requirements," as obligations. The issuance of plant-specific amendments adopting the changes of TSTF-447 to remove hydrogen recombiner and hydrogen and oxygen monitoring controls from TSs supersede the combustible gas control specific requirements imposed by post-TMI confirmatory orders.

3.1 Hydrogen Monitoring Equipment

Section 50.44(b)(1), the STS, and plant-specific TSs currently contain requirements for monitoring hydrogen. Licensees have also made commitments to design and qualification criteria for hydrogen monitors in Item II.F.1, Attachment 6 of NUREG-0737 and Regulatory Guide (RG) 1.97, "Instrumentation for Light-Water-Cooled Nuclear Power Plants to Assess Plant and Environs Conditions During and Following an Accident." The hydrogen monitors are required to assess the degree of core damage during a beyond design-basis accident (DBA) and confirm that random or deliberate ignition has taken place. If an explosive mixture that could threaten containment integrity exists during a beyond DBA, then other severe accident management strategies, such as purging and/or venting, would need to be considered. The hydrogen monitors are needed to implement these severe accident management strategies.

With the elimination of the design-basis LOCA hydrogen release, hydrogen monitors are no longer required to mitigate DBAs and, therefore, the hydrogen monitors no longer meet the definition of a safety-related component as defined in 10 CFR 50.2. RG 1.97 recommends classifying the hydrogen monitors as Category 1. RG 1.97 Category 1 is intended for key variables that most directly indicate the accomplishment of a safety function for DBA events and, therefore, are items usually addressed within TSs. As part of the rulemaking to revise 10 CFR 50.44, the Commission found that the hydrogen monitors no longer meet the definition of Category 1 in RG 1.97. The Commission concluded that Category 3, as defined in RG 1.97, is an appropriate categorization for the hydrogen monitors because the monitors are required to diagnose the course of beyond DBAs. Hydrogen monitoring is not the primary means of indicating a significant abnormal degradation

of the reactor coolant pressure boundary. Section 4 of Attachment 2 to SECY-00-0198, "Status Report on Study of Risk-Informed Changes to the Technical Requirements of 10 CFR Part 50 (Option 3) and Recommendations on Risk-Informed Changes to 10 CFR 50.44 (Combustible Gas Control)," found that the hydrogen monitors were not risk-significant. Therefore, the NRC staff finds that hydrogen monitoring equipment requirements no longer meet any of the four criteria in 10 CFR 50.36(c)(2)(ii) for retention in TSs and, therefore, may be relocated to other licensee-controlled documents.

However, because the monitors are required to diagnose the course of beyond DBAs, each licensee should verify that it has, and make a regulatory commitment to maintain, a hydrogen monitoring system capable of diagnosing beyond DBAs. The elimination of Post-Accident Sampling System requirements from some plant-specific TSs (and associated CLIP notices) indicated that during the early phases of an accident, safety-grade hydrogen monitors provide an adequate capability for monitoring containment hydrogen concentration. The NRC staff has subsequently concluded that Category 3 hydrogen monitors also provide an adequate capability for monitoring containment hydrogen concentration during the early phases of an accident.

3.2 Oxygen Monitoring Equipment¹

STS and plant-specific TS currently require oxygen monitoring to verify the status of the inert containment. Combustible gases produced by beyond DBAs involving both fuel-cladding oxidation and core-concrete interaction would be risk-significant for plants with Mark I and II containments if not for the inerted containment atmospheres. If an inerted containment was to become de-inerted during a beyond DBA, then other severe accident management strategies, such as purging and venting, would need to be considered. The oxygen monitors are needed to implement these severe accident management strategies. Oxygen concentration also appears extensively in the emergency procedure guidelines/severe accident guidelines of plants with inerted containment atmospheres.

With the elimination of the design-basis LOCA hydrogen release, the oxygen monitors are no longer required to mitigate DBAs and, therefore, the oxygen monitors do not meet the definition of a safety-related component as defined in 10 CFR 50.2. RG 1.97 recommends that, for inerted containment plants, the oxygen monitors be Category 1 which is intended for key variables that most directly indicate the accomplishment of a safety function for DBA events. As part of the rulemaking to revise 10 CFR 50.44, the Commission found that Category 2, as defined in RG 1.97, is an appropriate categorization for the oxygen monitors, because the monitors are required to verify the status of the inert containment.² Oxygen monitoring is not the primary means of indicating a significant abnormal degradation of the reactor coolant pressure boundary. Oxygen monitors have not been shown by a probabilistic risk assessment to be risk-significant. Therefore, the NRC staff finds that oxygen monitoring equipment

¹ NMP Unit 1 does not have oxygen monitoring requirements in its TS. However, this section of the model SE is included as background for the Regulatory Commitment to maintain an oxygen monitoring system to verify status of the inerted containment.

² While discussing the designation of the oxygen monitors as Category 2, the NRC acknowledged in the final rule (68 FR 54123) that the monitors need not be qualified in accordance with 10 CFR 50.49. The amended rule implements performance-based requirements for hydrogen and oxygen monitors to be functional, reliable, and capable of continuously measuring the appropriate parameter in the beyond DBA environment.

requirements no longer meet any of the four criteria in 10 CFR 50.36(c)(2)(ii) for retention in TSs and, therefore, may be relocated to other licensee-controlled documents.

However, for plant designs with an inerted containment, each licensee should verify that it has, and make a regulatory commitment to maintain, an oxygen monitoring system capable of verifying the status of the inert containment. In addition, separate requirements for primary containment oxygen concentration will be retained in TSs for plant designs with an inerted containment. The basis for retention of this requirement in TSs is that it meets Criterion 2 of 10 CFR 50.36(c)(2)(ii) in that it is a process variable, design feature, or operating restriction that is an initial condition of a DBA or transient analysis that either assumes the failure of or presents a challenge to the integrity of a fission product barrier. This is based on the fact that calculations typically included in Chapter 6 of Updated Final Safety Analysis Reports (UFSARs) assume that the primary containment is inerted, that is, oxygen concentration < 4.0 volume percent, when a design-basis LOCA occurs.

4.0 VERIFICATIONS AND COMMITMENTS

As requested by the NRC staff in the notice of availability for this TS improvement, the licensee has addressed the following plant-specific verifications and commitments.

- 4.1 Each licensee should verify that it has and make a regulatory commitment to maintain a hydrogen monitoring system capable of diagnosing beyond design-basis accidents.

The licensee has verified that it has a hydrogen monitoring system capable of diagnosing beyond DBAs. The licensee has committed in its application to maintain the hydrogen monitors within its UFSAR. The licensee will implement this commitment as part of the implementation of the amendment.

- 4.2 For plant designs with an inerted containment, each licensee should verify that it has and make a regulatory commitment to maintain an oxygen monitoring system capable of verifying the status of the inert containment.

The licensee has verified that it has an oxygen monitoring system capable of verifying the status of its inerted containment (post-accident monitoring function). The licensee has committed in its application to maintain the oxygen monitors within its UFSAR. The licensee will implement this commitment as part of the implementation of the amendment.

The NRC staff finds that reasonable controls for the implementation and for subsequent evaluation of proposed changes pertaining to the above regulatory commitments are provided by the licensee's administrative processes, including its commitment management program. The NRC staff has determined that the commitments do not warrant the creation of regulatory requirements which would require prior NRC approval of subsequent changes. The NRC staff has agreed that NEI 99-04, Revision 0, "Guidelines for Managing NRC Commitment Changes," provides reasonable guidance for the control of regulatory commitments made to the NRC staff (see Regulatory Issue Summary 2000-17, "Managing Regulatory Commitments Made by Power Reactor Licensees to the NRC Staff," dated September 21, 2000). The commitments should be controlled in accordance with the industry guidance or comparable criteria employed by a

specific licensee. The NRC staff may choose to verify the implementation and maintenance of these commitments in a future inspection or audit.

5.0 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.

6.0 ENVIRONMENTAL CONSIDERATION

The amendment changes a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 and changes surveillance requirements. 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 Commission has previously issued a proposed finding that the amendment involves no significant hazards consideration, and there has been no public comment on such finding (71 FR 40749). 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.

7.0 CONCLUSION

The staff 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.

Principal Contributor: E. Thomas

Date: October 2, 2006