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

September 28, 2011

Mr. Thomas A. Lynch
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 REGARDING CHANGES TO MODIFY SURVEILLANCE REQUIREMENTS FOR TESTING OF THE MAIN STEAM ELECTROMATIC RELIEF VALVES (TAC NO. ME4849)

Dear Mr. Lynch:

The Nuclear Regulatory Commission (NRC) has issued the enclosed Amendment No. 210 to Renewed Facility Operating License No. DPR-63 for the Nine Mile Point Nuclear Station, Unit No. 1 (NMP1), in response to your application dated September 29, 2010, (Agencywide Documents and Management System (ADAMS) Accession No. ML102800415).

This amendment revises the NMP1 Technical Specifications (TS) Sections 3/4.1.5, "Solenoid-Actuated Pressure Relief Valves (Automatic Depressurization System)," and 3/4.2.9, "Pressure Relief Systems -Solenoid-Actuated Pressure Relief Valves (Overpressurization)," to provide for an alternative means of testing the main steam electromatic relief valves (ERVs). The proposed change allows demonstration of the capability of the valves to perform their safety function without requiring the ERVs to be cycled with reactor steam pressure while installed in the plant.

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,

Richard V. Guzman, Senior Project Manager
Plant Licensing Branch I-1
Division of Operator Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-220

Enclosures:
1. Amendment No. 210 to DPR-63
2. Safety Evaluation

cc w/encls: Distribution via Listserv

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

NINE MILE POINT NUCLEAR STATION, LLC (NMPNS)

DOCKET NO. 50-220

NINE MILE POINT NUCLEAR STATION, UNIT NO. 1

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 210
Renewed 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 September 29, 2010, 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 Renewed 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. 210, is hereby incorporated into this 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 90 days of the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

Nancy L. Salgado, 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: September 28, 2011

ATTACHMENT TO LICENSE AMENDMENT NO. 210

TO RENEWED FACILITY OPERATING LICENSE NO. DPR-63

DOCKET NO. 50-220

Replace the following page of the Renewed 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 Page	Insert Page
3	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 Pages	Insert Pages
60	60
121	121

(3) Pursuant to the Act and 10 CFR Parts 30, 40, and 70 to receive, possess and use at any time any byproduct, source and special nuclear material as sealed neutron sources for reactor startup, sealed sources for reactor instrumentation and radiation monitoring equipment calibration, and as fission detectors in amounts as required;

(4) Pursuant to the Act and 10 CFR Parts 30, 40 and 70, to receive, possess and use in amounts as required any byproduct, source or special nuclear material without restriction to chemical or physical form, for sample analysis or instrument and equipment calibration or associated with radioactive apparatus or components.

(5) Pursuant to the Act and 10 CFR Parts 30 and 70, to possess, but not separate, such byproduct and special nuclear materials as may be produced by the operation of the facility.

C. This renewed operating license shall be deemed to contain and is subject to the conditions specified in the following Commission regulations in 10 CFR Chapter I:

Part 20, Section 30.34 of Part 30; Section 40.41 of Part 40; Section 50.54 and 50.59 of Part 50; and Section 70.32 of Part 70. This renewed license is subject to all applicable provisions of the Act and to the rules, regulations, and orders of the Commission now or hereafter in effect and is also subject to the additional conditions specified or incorporated below:

(1) Maximum Power Level

The licensee is authorized to operate the facility at steady state reactor core power levels not in excess of 1850 megawatts (thermal).

(2) Technical Specifications

The Technical Specifications contained in Appendix A, which is attached hereto, as revised through Amendment No. 210, is hereby incorporated into this license. Nine Mile Point Nuclear Station, LLC shall operate the facility in accordance with the Technical Specifications.

(3) Deleted

LIMITING CONDITION FOR OPERATION

3.1.5 SOLENOID-ACTUATED PRESSURE RELIEF VALVES (AUTOMATIC DEPRESSURIZATION SYSTEM)

Applicability:

Applies to the operational status of the solenoid-actuated relief valves.

Objective:

To assure the capability of the solenoid-actuated pressure relief valves to provide a means of depressurizing the reactor in the event of a small line break to allow full flow of the core spray system.

Specification:

a. During power operating condition whenever the reactor coolant pressure is greater than 110 psig and the reactor coolant temperature is greater than saturation temperature, all six solenoid-actuated pressure relief valves shall be operable.

b. If specification 3.1.5a above is not met, the reactor coolant pressure and the reactor coolant temperature shall be reduced to 110 psig or less and saturation temperature or less, respectively, within ten hours.

SURVEILLANCE REQUIREMENT

4.1.5 SOLENOID-ACTUATED PRESSURE RELIEF VALVES (AUTOMATIC DEPRESSURIZATION SYSTEM)

Applicability:

Applies to the periodic testing requirements for the solenoid-actuated pressure relief valves.

Objective:

To assure the operability of the solenoid-actuated pressure relief valves to perform their intended functions.

Specification:

The solenoid-actuated pressure relief valve surveillance shall be performed as indicated below.

a. At least once during each operating cycle, verify each valve actuator strokes when manually actuated.

b. At least once during each operating cycle, automatic initiation shall be demonstrated.

LIMITING CONDITION FOR OPERATION	SURVEILLANCE REQUIREMENT
	b. At least once during each operating cycle, verify each valve actuator strokes when manually actuated. c. At least once during each operating cycle, relief valve setpoints shall be verified.

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 210

TO RENEWED FACILITY OPERATING LICENSE NO. DPR-63

NINE MILE POINT NUCLEAR STATION, LLC

NINE MILE POINT NUCLEAR STATION, UNIT NO. 1

DOCKET NO. 50-220

1.0 INTRODUCTION

By letter dated September 29, 2010 (Agencywide Documents Access Management System (ADAMS) Accession No. ML102800415), Nine Mile Point Nuclear Station, LLC (NMPNS or the licensee) submitted a request for changes to the Nine Mile Point, Unit No. 1 (NMP1) Technical Specifications (TSs).

The proposed change would modify NMP1 Technical Specifications (TS) Sections 3/4.1.5, "Solenoid-Actuated Pressure Relief Valves (Automatic Depressurization System)," and 3/4.2.9, "Pressure Relief Systems -Solenoid-Actuated Pressure Relief Valves (Overpressurization)," to provide for an alternative means of testing the electromatic relief valves (ERVs) located on the main steam system. These valves provide overpressure protection and automatic depressurization relief functions. The proposed change would allow demonstration of the capability of the valves to perform their safety function without requiring the ERVs to be cycled with reactor steam pressure while installed in the plant. Specifically, the proposed amendment would revise TS Surveillance Requirements (SRs) 4.1.5.a and 4.2.9.b to verify each ERV actuator strokes when manually actuated at least once each operating cycle.

2.0 REGULATORY EVALUATION

In Title 10 of the *Code of Federal Regulations* (10 CFR) Section 50.36, the Commission established its regulatory requirements related to the content of TS. Pursuant to 10 CFR 50.36, TS are required to include items in the following five specific categories related to station operation: (1) safety limits, limiting safety system settings, and limiting control settings; (2) limiting conditions for operation (LCOs); (3) SRs; (4) design features; and (5) administrative controls. The rule does not specify the particular requirements to be included in a plant's TS. As stated in 10 CFR 50.36(c)(2)(i), the "Limiting conditions for operation are the lowest functional capability or performance levels of equipment required for safe operation of the facility. When an LCO of a nuclear reactor is not met, the licensee shall shut down the reactor or follow any

remedial action permitted by the technical specification..." NMP1 TS Sections 3.0 and 4.0, on "LCO and SR Applicability," provide details or ground rules for complying with the LCOs.

Criterion 3 of 10 CFR 50.36(c)(2)(ii) requires an LCO to be established for 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. Paragraph (c)(3) of 10 CFR 50.36 specifies that SRs should ensure that LCOs are met. The licensee states that Criterion 3 of 10 CFR 50.36(c)(2)(ii) will continue to be met since full functionality will be tested under the proposed methodology. The NRC staff's evaluation of the proposed TS change is provided below.

The Nuclear Regulatory Commission (NRC) has also previously approved similar TS changes at several boiling-water reactor facilities (e.g., the Oyster Creek, LaSalle, Clinton, Peach Bottom, Dresden, and Quad Cities nuclear power facilities) regarding alternatives to stroke testing the main steam safety/relief and ERVs while the plant is on-line with steam pressure.

3.0 TECHNICAL EVALUATION

3.1 Licensee's Basis for the Proposed TS Change

As a basis for the proposed TS change, the licensee provides the following information.

There are six Dresser model 1525VX solenoid-actuated, pilot-operated ERVs installed at NMP1. The ERVs are located between the main steam line flow restrictor and inboard isolation valve. The ERVs have two TS-required functional modes of operation, i.e., the automatic depressurization system (ADS) mode and the overpressurization protection (OP) mode. The ADS and OP function of the ERVs are described respectively in Sections VII and V-A of the NMP1 Updated Final Safety Analysis Report.

The licensee's proposed revision to the SRs provides an alternative method of verifying ERV operability. Current SR 3/4.1.5 and SR 3/4.2.9 require that at least once during each operating cycle, each ERV shall be manually stroked open until the downstream acoustic monitors or thermocouples indicate that the valve has opened and steam is flowing from the valve. The proposed alternative would revise SR 3/4.1.5 and SR 3/4.2.9 to verify that each ERV actuator strokes when manually actuated at least once each refueling cycle, and the test would be performed with no reactor pressure. The functional testing of the ERV main valve would be in accordance with the Inservice Testing (IST) program and controlled pursuant to TS 6.5.4, "Inservice Testing Program." The in-situ steam pressure testing of the ERVs would be retained as an optional test method.

The proposed changes require that the valve actuators stroke when manually actuated. The test will be performed with the pilot valve and solenoid actuator mounted in their normal installed positions inside the drywell, which allows the solenoid actuator to be actuated electrically from the control room. Position indication verification will be performed by locally witnessing solenoid plunger movement and by verifying that control room indicating lights accurately indicate solenoid actuator operation. An as-found solenoid actuator test will be performed prior to performing maintenance activities. A final solenoid stroke test is performed after maintenance

activities are completed and directly demonstrates operability of the solenoid actuator. Degradation of the solenoid actuator is monitored through the preventive maintenance inspection that are performed each refueling outage for each of the six ERV solenoid actuators.

Preventive maintenance is currently, and will continue to be, performed on all six of the ERV solenoid actuators and their associated cutout switches each refueling outage. The preventive maintenance activities include inspection and cleaning of the cutout switch contacts, as necessary to assure that the contact surfaces are clean and free of oxidation, corrosion, and discoloration. The contact tin plating is verified to be intact and not worn off exposing the copper base material. Associated springs and mechanisms are inspected, and as-left contact resistances are verified. Resistance checks are performed on both actuator coils, and actuator operating currents during electrical actuation are verified to be within acceptance limits. These steps provide substantial indication that the solenoid actuator is capable of functioning as designed and producing its full output force.

Regarding the potential of a bent stem in the pilot valve assembly, the licensee states that as part of the preventive maintenance program, all six of the ERV pilot valve assemblies are removed and replaced with new or refurbished assemblies every refueling outage. The maintenance activities include inspections of pilot valve assembly parts and the pilot valve housing interior to identify any damage or wear that could impair free movement of the stem or proper valve seating. Parts are refurbished or replaced as necessary. Cleanliness of parts and components and absence of foreign material are verified prior to assembly. Prior to reinstalling the pilot valve assembly inside the pilot housing, pilot stem/disc leak testing and freedom of movement and reseat functionality are demonstrated. A complete cleanliness inspection must be performed prior to installing the pilot valve assembly back into the housing. The housing is thoroughly cleaned and vacuumed to remove moisture and debris to minimize the potential for debris blocking or hindering pilot valve performance. Following the installation of the pilot valve assembly inside the housing, the freedom of movement and clearance adjustments for the pilot valve operating lever and pilot valve assembly are confirmed, followed by stroking the solenoid actuator plunger by hand to the full extent of travel. This ensures that the solenoid actuator plunger, pilot valve operating lever, and pilot valve assembly function as a unit, while eliminating the risk of damage resulting from electrically stroking the pilot valve in the absence of steam pressure. Degradation of the pilot valve assemblies is monitored through the preventive maintenance inspections that are performed each refueling outage for each of the six ERV pilot valve assemblies.

The relief valves will be tested in accordance with the NMP1 IST Program, fourth 10-year interval. The current IST program for relief valves is based on the 2004 Edition of American Society of Mechanical Engineers Boiler Pressure and Vessel Code (ASME Code) for Operation and Maintenance of Nuclear Power Plants. The IST program specifies that three of the six ERV main valves be removed and replaced with pre-tested spare main valves during each refueling outage, such that all six ERV main valves are replaced every two refueling outages. Main valve testing will be performed at an offsite steam test facility. The testing and refurbishment activities performed at the off-site test facility on the partial sample (three valves each refueling outage) will ensure that main valve degradation mechanisms are detected in a timely manner. A spare pilot valve assembly and a spare solenoid actuator, both representative of the components used at the plant, will be installed at the test facility to allow testing of the main valve. The valve will be installed on a test steam header in the same orientation as the plant installation. The test

conditions at the test facility will be similar to those in the plant, including ambient temperature and steam conditions. The main valve will receive an initial seat leak test, a functional test to ensure it is capable of opening and closing, and a final seat leak test. A valve stroke time will be obtained during the exercise test. Valve seat tightness will be verified by a cold bar test, and if not free of fog, leakage will be measured and verified to be below the specified acceptance criteria. Monitoring of ERV discharge line temperatures during plant operation also provides an indication of degradation of installed main valves.

The licensee states that after initial testing, the main valves will be completely disassembled, inspected and refurbished, and then retested. The refurbished main valves will be stored at the offsite test facility and returned to the plant prior to the next scheduled use. Prior to installation at the plant, the spare main valves will be inspected for foreign material and damage. The steam line and ERV discharge line openings will also be inspected to verify cleanliness and absence of foreign material. Procedural requirements ensure that the proper ERV inlet flange gasket separating ring thickness is provided, so proper crush of the flexitallic gasket is achieved when the valve is installed. The valves are then installed and necessary connections completed.

A potential reason for performing in-situ testing of the ERVs with steam is to verify that the discharge line to the suppression pool is not blocked. The Foreign Material Exclusion (FME) controls implemented at NMP1 serve to minimize the potential for debris blocking an ERV discharge line. The licensee states that considering: (1) the size of the ERV discharge pipe (expands to 14 inches downstream of the 8-inch discharge expansion bellows); (2) the energy associated with high pressure steam; and (3) the FME controls, the probability of blocking an ERV discharge line and preventing the valve function is considered to be extremely remote.

The licensee concludes that steam testing three ERV main valves at the offsite test facility each refueling outage, and the solenoid actuator and pilot valve assembly testing, inspections, and maintenance activities performed for all six ERVs each refueling outage, will provide a complete check of the capability of the valves to open and close. Therefore, the proposed changes will provide for the demonstration of full functionality of the ERVs without cycling the valves using reactor steam pressure with the valves installed. The licensee further states that this approach will reduce the potential for valve seat leakage and that the proposed alternative test for the ERVs reflects the recommendations of NUREG-0737, "Clarification of TMI Action Plan Requirements," Item II.K.3.16, "Reduction of Challenges and Failures of Relief Valves," that the number of relief valve openings be reduced as much as possible and unnecessary challenges should be avoided.

3.2 Evaluation of TS Changes

The NRC staff has reviewed the licensee's basis for the proposed TS change and finds that with the proposed testing, the functional capabilities of the ERVs are adequately verified. A manual actuation and valve leakage test will be performed at a steam test facility using test conditions similar to those for the installed valves in the plant, including valve orientation, ambient temperature, and steam conditions. Following ERV installation, the licensee's proposed testing includes verifying proper electrical supply connections and actuator performance. It is noted that, although the tests of the ERVs at the steam test facility are not performed with the actual valve solenoids installed in the plant, the solenoids are adequately tested and verified by

separate tests. The NRC staff finds that all of the components necessary to actuate the ERVs will continue to be tested as necessary to demonstrate the functional capability of the valves, without the need to stroke test the valves on-line under system steam pressure conditions. In addition, the NRC staff finds that the current testing requirements could result in undesired seat leakage of the ERVs during power operation. Excessive seat leakage could result in excessive suppression pool temperature and level or unidentified drywell leakage.

The NRC staff also finds that the description of the licensee's FME program provides reasonable assurance that the ERV discharge lines will remain unblocked and that foreign material will not interfere with valve operation. Furthermore, the NRC staff finds that extending the ERV main valve exercising interval from every refueling cycle (approximately 2 years) to every 2 refueling cycles plus a 6-month grace period is acceptable since the licensee has had no failures of the valves to stroke open with no significant degradation noted in the past 10 years.

Based on the above, the NRC staff has determined that the licensee's proposed change to TS SR 3/4.1.5 and SR 3/4.2.9 for stroke testing the NMP1 ERVs is acceptable. The licensee also proposed changes to the TS Bases to reflect the changes to the SRs. The NRC staff has no objection to the proposed changes to the TS Bases.

3.3 Conclusion

The licensee has proposed a change to the NMP1 TS SRs, which would provide for alternative testing of the ERVs to demonstrate proper functional operation, without the need to stroke test the valves on-line with system steam pressure conditions. Based on the above evaluation, the NRC staff has determined that the licensee has adequately justified the proposed changes to the TS for NMP1. Therefore, the proposed TS changes to SR 3/4.1.5 and SR 3/4.2.9 are acceptable.

4.0 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.

5.0 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 SRs. 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 (76 FR 9826, February 22, 2011). The amendment also relates to changes in recordkeeping, reporting, or administrative procedures or requirements. Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9) and 10 CFR 51.22(c)(10). 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.

6.0 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.

Principal Contributor: J. Huang

Date: September 28, 2011

September 28, 2011

Mr. Thomas A. Lynch
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 REGARDING CHANGES TO MODIFY SURVEILLANCE REQUIREMENTS FOR TESTING OF THE MAIN STEAM ELECTROMATIC RELIEF VALVES (TAC NO. ME4849)

Dear Mr. Lynch:

The Nuclear Regulatory Commission (NRC) has issued the enclosed Amendment No. 210 to Renewed Facility Operating License No. DPR-63 for the Nine Mile Point Nuclear Station, Unit No. 1 (NMP1), in response to your application dated September 29, 2010, (Agencywide Documents and Management System (ADAMS) Accession No. ML102800415).

This amendment revises the NMP1 Technical Specifications (TS) Sections 3/4.1.5, "Solenoid-Actuated Pressure Relief Valves (Automatic Depressurization System)," and 3/4.2.9, "Pressure Relief Systems -Solenoid-Actuated Pressure Relief Valves (Overpressurization)," to provide for an alternative means of testing the main steam electromatic relief valves (ERVs). The proposed change allows demonstration of the capability of the valves to perform their safety function without requiring the ERVs to be cycled with reactor steam pressure while installed in the plant.

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/

Richard V. Guzman, Senior Project Manager
Plant Licensing Branch I-1
Division of Operator Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-220

Enclosures:
1. Amendment No. 210 to DPR-63
2. Safety Evaluation

cc w/encls: Distribution via Listserv

Distribution:

PUBLIC	RidsOgcRp	RidsOGCMailCenter	RidsRgn1MailCenter
LPL1-1 R/F	RidsNrrDorlLPL1-1	RidsNrrLASLittle	RidsNrrPMNineMilePoint
R. Grover, NRR	RidsNrrDirsItsb	RidsNrrDorlDpr	RidsAcrsAcnw_MailCenter
J. Huang, NRR	RidsNrrDciCptb		

ADAMS Accession No.: ML112500067
*SE provided by memo. No substantial changes made. **Concurrence via e-mail NRR-106

OFFICE	LPL1-1/PM	LPL1-1/LA	DCI/CPTB/BC	DIRS/ITSB/BC	OGC	LPL1-1/BC
NAME	RGuzman	SLittle**	AMcMurtray*	REliiott	AJones	9/22/11
DATE	9/13/11	9/13/11	7/22/11	9/16/11	9/22/11	

OFFICIAL RECORD COPY