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

December 29, 2008

Mr. Keith J. Polson
Vice President Nine Mile Point
Nine Mile Point Nuclear Station, LLC
P. O. Box 63
Lycoming, NY 13093

SUBJECT: NINE MILE POINT NUCLEAR STATION - SAFETY EVALUATION OF RELIEF REQUESTS FOR THE UNIT NO. 1 FOURTH 10-YEAR AND UNIT NO. 2 THIRD 10-YEAR PUMP AND VALVE INSERVICE TESTING PROGRAM (TAC NOS. MD9202 AND MD9203)

Dear Mr. Polson:

By letter dated June 30, 2008, Nine Mile Point Nuclear Station, LLC, the licensee, submitted relief requests for the fourth 10-year and third 10-year interval inservice testing program at Nine Mile Point Nuclear Station, Unit Nos. 1 and 2, respectively. The licensee requested relief from certain inservice testing requirements of the American Society of Mechanical Engineers (ASME) Code for Operation and Maintenance of Nuclear Power Plants (OM Code).

The Nuclear Regulatory Commission (NRC) staff has reviewed the licensee's relief requests and has concluded that the licensee's proposed alternative as specified in Relief Requests GV-RR-01, GV-RR-02, CRD-VR-01, CTNH202-VR-01, CTNH202-VR-02, and MSS-VR-01 are authorized pursuant to Title 10 of the *Code of Federal Regulations* (10 CFR) Section 50.55a(a)(3)(i) on the basis that it provides an acceptable level of quality and safety. Pursuant to 10 CFR 50.55a(a)(3)(ii), Relief Request RBCLC-PR-01 is authorized on the basis that complying with the specified requirements results in hardship or unusual difficulty without a compensating increase in the level of quality and safety. Relief Request GA-RR-01 is approved pursuant to 10 CFR 50.55a(f)(4)(iv) subject to the modifications and limitations in 10 CFR 50.55a(b)(3)(i), (ii), (v), and (vi) based on incorporation by reference of the 2004 Edition of the ASME OM Code in 10 CFR 50.55a(b)(3). Relief Request GV-RR-08 was previously approved for the duration of the term of the Nine Mile Point, Unit No. 2 operating license (until October 31, 2026) and further NRC review is not required.

If you have any questions regarding this approval, please contact the Nine Mile Point Project Manager, Richard Guzman, at (301) 415-1030.

Sincerely,

Douglas V Pickett for

Mark G. Kowal, Chief
Plant Licensing Branch I-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-220 and 50-410

Enclosure: Safety Evaluation

cc w/encl: Distribution via Listserv

UNITED STATES
NUCLEAR REGULATORY COMMISSION
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SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO THE INSERVICE TESTING PROGRAM

FOURTH AND THIRD 10-YEAR INTERVAL

NINE MILE POINT NUCLEAR STATION, LLC

NINE MILE POINT NUCLEAR STATION, UNIT NOS. 1 AND 2

DOCKET NOS. 50-220 AND 50-410

1.0 INTRODUCTION

By letter dated June 30, 2008, Agencywide Documents Access and Management System (ADAMS) Accession No. ML081900568, Nine Mile Point Nuclear Station, LLC (NMPNS or the licensee), submitted Relief Requests GA-RR-01, GV-RR-01, GV-RR-02, CRD-VR-01, CTNH202-VR-01, CTNH202-VR-02, RBCLC-PR-01, GV-RR-08, and MSS-VR-01 for the Unit 1 fourth 10-year interval and Unit 2 third 10-year interval inservice testing (IST) program at Nine Mile Point Unit Nos. 1 and 2 (NMP 1 and 2). The licensee requested relief from certain IST requirements of the American Society of Mechanical Engineers (ASME) Code for Operation and Maintenance of Nuclear Power Plants (OM Code). Relief Request GV-RR-08 was previously approved for the duration of the term of NMP 2 and further Nuclear Regulatory Commission (NRC) review is not required. In response to the NRC staff's request for additional information (RAI), the licensee submitted the additional information in a letter dated November 13, 2008 (ADAMS Accession No ML083230512).

2.0 REGULATORY EVALUATION

Title 10 of the *Code of Federal Regulations*, Part 50, Section 55a, (10 CFR 50.55a), requires that IST of certain ASME Code Class 1, 2, and 3 pumps and valves be performed at 120-month intervals in accordance with the specified ASME Code incorporated by reference in the regulations, except where alternatives have been authorized or relief has been granted pursuant to paragraphs (a)(3)(i), (a)(3)(ii), or (f)(6)(i) of 10 CFR 50.55a. In accordance with 10 CFR 50.55a(f)(4)(ii), licensees are required to comply with the requirements of the latest edition and addenda of the ASME Code incorporated by reference in the regulations 12 months prior to the start of each 120-month IST program interval. In accordance with 50.55a(f)(4)(iv), IST of pumps and valves may meet the requirements set forth in subsequent editions and addenda that are incorporated by reference in 10 CFR 50.55a(b), subject to NRC approval. Portions of editions or addenda may be used provided that all related requirements of the respective editions and addenda are met.

In proposing alternatives pursuant to paragraphs (a)(3)(i) or (a)(3)(ii) of 10 CFR 50.55a, the licensee must demonstrate that: (1) the proposed alternatives would provide an acceptable level

of quality and safety; or (2) compliance with the specified requirements would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety.

Section 50.55a authorizes the NRC to approve alternatives and to grant relief from ASME OM Code requirements upon making necessary findings. NRC guidance contained in Generic Letter (GL) 89-04, "Guidance on Developing Acceptable Inservice Testing Programs," provides alternatives to ASME Code requirements which are acceptable. Further guidance is given in GL 89-04, Supplement 1, and NUREG-1482, "Guidance for Inservice Testing at Nuclear Power Plants."

The NMP 1 fourth 10-year IST interval and NMP 2 third 10-year IST interval commences January 1, 2009. The program was developed in accordance with the 2004 Edition of the ASME OM Code.

The NRC's findings with respect to authorizing alternatives to the IST program or denying the IST program relief requests are given below.

3.0 TECHNICAL EVALUATION

3.1 Relief Request GA-RR-01

3.1.1 Code Requirements

The licensee requested relief from ISTA 3200 which requires that the test plan for each successive test interval comply with the edition and addenda of the section that have been adopted by the regulatory authority 12 months prior to the start of the inservice test interval, or subsequent editions and addenda that have been adopted by the regulatory authority.

3.1.2 Licensee's Basis for Requesting Relief

The current Code edition and addenda incorporated by reference in 10 CFR 50.55a(b)(3) is the 2001 Edition through 2003 Addenda. NMP 1 and 2 is part of the Constellation Energy fleet of nuclear plants. The other plants in the Constellation fleet have recently updated or will be updating their IST programs within the next 2 years. Constellation's goal for uniformity and economic benefit is to have all their plants in the fleet using the same ASME Code edition and addenda for their IST programs.

3.1.3 Licensee's Proposed Alternative Testing

NMPNS will use the 2004 Edition of the ASME OM Code as the Code of Record for the IST Program.

3.1.4 Evaluation

The 2001 Edition through 2003 Addenda of the ASME OM Code was incorporated by reference in 10 CFR 50.55a(b)(3) in a final rule dated October 1, 2004, in a *Federal Register* notice (69 FR 58804). 10 CFR 50.55a(f)(4)(ii) and ISTA-3200(f)(3) require that the Unit 1 fourth and Unit 2

third IST program intervals comply with the 2001 Edition through 2003 Addenda of the ASME OM Code subject to the modifications and limitations in 10 CFR 50.55a(b)(3)(i), (ii), (v), and (vi).

The licensee is proposing to use the 2004 Edition of the ASME OM Code as the Code of Record for the Nine Mile Point Nuclear Station Unit 1 fourth and Unit 2 third 10-year IST program intervals in lieu of the 2001 Edition through 2003 Addenda of the ASME OM Code. Subsequent to the submittal of this relief request, the 2004 Edition of the ASME OM Code was incorporated by reference in 10 CFR 50.55a(b)(3) subject to the modifications and limitations in 10 CFR 50.55a(b)(3)(i), (ii), (v), and (vi). The regulation in 10 CFR 50.55a(f)(4)(iv) states that IST of pumps and valves may meet the requirements set forth in subsequent editions and addenda that are incorporated by reference in 10 CFR 50.55a(b), subject to NRC approval. Portions of editions or addenda may be used provided that all related requirements of the respective editions and addenda are met. The NRC staff has found that the use of the 2004 Edition of the ASME Code is acceptable for meeting the IST testing requirements of pumps and valves based on incorporation by reference into 10 CFR 50.55a(b)(3). Use of the 2004 Edition of the ASME OM Code updates the licensee's IST program to the latest NRC approved version of the ASME OM Code and provides assurance of the operational readiness of the components included in the IST program. The NRC staff finds that the use of the 2004 Edition of the ASME Code subject to the modifications and limitations in 10 CFR 50.55a(b)(3)(i), (ii), (v), and (vi) is acceptable pursuant to 10 CFR 50.55a(f)(4)(iv).

3.1.5 Conclusion

Based on the above evaluation, the use of the licensee's use of the 2004 Edition of the ASME Code subject to the modifications and limitations in 10 CFR 50.55a(b)(3)(i), (ii), (v), and (vi) is acceptable pursuant to 10 CFR 50.55a(f)(4)(iv) for the Unit 1 fourth 10-year IST interval and the Unit 2 third 10-year IST interval.

3.2 Relief Request GV-RR-01

3.2.1 Code Requirements

The licensee requested relief from ISTA 3130 which requires that code cases shall be applicable to the edition and addenda specified in the test plan.

3.2.2 Licensee's Basis for Requesting Relief

Code Case OMN-1, "Alternative Rules for Preservice and Inservice Testing of Certain Electric Motor-Operated Valve Assemblies in Light Water Reactor Power Plants," contains no applicability statement. In the 2001 Edition through 2003 Addenda, the expiration date given for OMN-1 is March 30, 2004. OMN-1 is included in the 2006 Addenda to the 2004 Edition with a new expiration date of March 30, 2007. The ASME Code committee has recently reaffirmed this code case. Regulatory Guide (RG) 1.192 conditionally approves the use of Code Case OMN-1 in lieu of the provisions for stroke-time testing in Subsection ISTC of the 1995 Edition up to and including the 2000 Addenda of the ASME OM Code.

3.2.3 Licensee's Proposed Alternative Testing

The licensee will apply the requirements of OMN-1, including the conditions specified in Table 2 of RG 1.192, in lieu of the provisions for motor-operated valve (MOV) testing in Subsection ISTC f the 2004 Edition of the ASME OM Code.

3.2.4 Evaluation

NUREG-1482, Revision 1, Section 4.2.5 states, in part, that as an alternative to MOV stroke-time testing, ASME developed Code Case OMN-1, which provides periodic exercising and diagnostic testing for use in assessing the operational readiness of MOVs. Section 4.2.5 recommends that licensees implement ASME Code Case OMN-1 as accepted by the NRC (with certain conditions) in the regulations, as an alternative to the MOV stroke-time testing provisions in the ASME OM Code.

Application of code cases is addressed in 10 CFR 50.55a(b)(6) through references to RG 1.192, which lists acceptable and conditionally acceptable code cases for implementation in IST programs. RG 1.192, Table 2, conditionally approves the use of Code Case OMN-1 and states that the code case is applicable to the 2000 Addenda and earlier editions and addenda of the Code. There is no technical reason for prohibiting the use of Code Case OMN-1 with the 2004 Edition of the Code. Code Case OMN-1 provides an acceptable level of quality and safety for testing of MOVs and is an acceptable alternative for use in the licensee's IST program. This conclusion is consistent with the NRC staff's position in NUREG-1482, Revision 1, and RG 1.192.

3.2.5 Conclusion

The NRC staff concludes that the licensee's proposed alternative is authorized pursuant to 10 CFR 50.55a(a)(3)(i) on the basis that the alternative provides an acceptable level of quality and safety. The licensee's proposed alternative provides reasonable assurance of the operational readiness of the MOVs in the IST program and is authorized for the NMP 1 fourth 10-year IST program interval and the NMP 2 third 10-year IST program interval.

3.3 Relief Request GV-RR-02

3.3.1 Code Requirements

The licensee requested relief from ISTA 3130 which requires that code cases shall be applicable to the edition and addenda specified in the test plan.

3.3.2 Licensee's Basis for Requesting Relief

Code Case OMN-8, "Alternative Rules for Preservice and Inservice Testing of Power–Operated Valves That Are Used for System Control and Have a Safety Function per OM-10," contains no applicability statement. In the 2001 Edition through 2003 Addenda, the expiration date given for OMN-8 is November 20, 2006. OMN-8 is included in the 2006 Addenda to the 2004 Edition without a new expiration date. The ASME Code committee has recently reaffirmed this code case. RG 1.192 approves the use of Code Case OMN-8. Code Case OMN-8 provides an

alternative to stroke-time testing power operated control valves that have only a fail safe safety function.

3.3.3 Licensee's Proposed Alternative Testing

The licensee will apply the requirements of OMN-8 in lieu of the provisions for power-operated control valve testing specified in ISTC 5131, ISTC 5132, ISTC 5133(b), ISTC 5141, ISTC 5142, and ISTC 5143(b).

3.3.4 Evaluation

Application of code cases is addressed in 10 CFR 50 55a(b)(6) through references to RG 1.192, which lists acceptable and conditionally acceptable code cases for implementation in the IST program. RG 1.192, Table 1, approves the use of Code Case OMN-8 and the code case is applicable to the 2000 Addenda and certain earlier editions and addenda of the Code. There is no technical reason for prohibiting the use of Code Case OMN-8 with the 2004 Edition. Although the current expiration date for OMN-8 is November 20, 2006, this code case is included in the 2006 Addenda to the 2004 Edition of the OM Code, and approved for use. The use of Code Case OMN-8 is consistent with RG 1.192 and the ASME OM Code, and provides an acceptable level of quality and safety for testing of certain safety-related control valves.

3.3.5 Conclusion

The NRC staff concludes that the licensee's proposed alternative is authorized pursuant to 10 CFR 50.55a(a)(3)(i) on the basis that the alternative provides an acceptable level of quality and safety. The licensee's proposed alternative provides reasonable assurance of the operational readiness of power operated valves that are used for system control and have a safety function and is authorized for the Unit 1 fourth 10-year IST program interval and the Unit 2 third 10-year IST program interval.

3.4 Relief Request RBCLC-PR-01

3.4.1 Code Requirements

The licensee requested relief from ISTB 3400, Table ISTB-3400-1, and ISTB 5121 which requires that an inservice test be run on each Group A pump quarterly with the pump operating at a specified reference point and that the test parameters be determined and recorded. Relief was requested for the following Unit 1 Reactor Building Closed Loop Cooling (RBCLC) water pumps:

PMP-70-01
PMP-70-02
PMP-70-03

3.4.2 Licensee's Basis for Requesting Relief

The RBCLC system is not a fixed resistance system. The system contains no pump test loops or individual pump flow instrumentation. Individual pump flow can only be determined by

measuring system flow rate. The system flow rate and differential pressure are a function of the number of pumps running and system heat loads. During normal plant operations, system heat loads prevent removing the system from service. Operating conditions do not permit single pump operation at repeatable test conditions to allow individual pump parameters (i.e., flow rate and differential pressure) to be measured.

During normal plant operation, operating a single RBCLC pump at a fixed resistance would require reducing system heat loads and may result in a plant shutdown to cold shutdown conditions. Complying with the Code requirements would require Unit 1 to enter cold shutdown conditions every quarter where RBCLC system operating conditions allow single pump operation which would pose a significant hardship (plant shutdown).

Compliance could be achieved by a major system redesign and modification such as installation of individual pump test loops with flow instrumentation. This would allow a single pump to be removed from the system flow path and operated on a test flow path at Code required fixed resistance conditions. Such a major system modification would be costly and burdensome with no compensating increase in the level of quality or safety.

3.4.3 Licensee's Proposed Alternative Testing

Quarterly, during normal system operation, vibration (V) shall be measured for each RBCLC pump. During cold shutdown, all applicable parameters for a Group A test from Table ISTB-3000-1 (flow rate (Q), vibration (V), and differential pressure (DP)) shall be measured for each RBCLC pump. The comprehensive test will also be performed biennially.

3.4.4 Evaluation

There are no test loops or individual flow instrumentation for the RBCLC system pumps. Individual pump flow can only be determined by measuring system flow rate. The system flow rate and differential pressure are a function of the number of pumps running and the system heat loads. Therefore, the operating conditions, when two or more pumps are running, do not permit repeatable test conditions for individual pump parameters to be measured. Normal system heat loads require operation of more than one RBCLC pump, and operation of a single RBCLC pump for pump testing may result in a plant shutdown. Imposing the Code requirements would necessitate system redesign and modification such as installation of a test loop and flow instrumentation, which would be costly and burdensome to the licensee. As such, the licensee proposes to perform the quarterly Group A pump test only measuring vibration, and to defer the Code-specified test to cold shutdown using the normal system flow path. Evaluation of the results from Code-specified tests at cold shutdown, as well as the results from the pump vibration tests quarterly, along with the biennial comprehensive pump test should allow an adequate determination of pump operational readiness and permit the detection of degradation.

The NRC staff finds that compliance with the Code required Group A pump test requirements cannot be achieved without major system modifications and would result in hardship or unusual difficulty. The staff also finds that the alternative described in the licensee's proposal provides reasonable assurance of pump operational readiness.

3.4.5 Conclusion

The NRC staff concludes that the licensee's alternative to the Code required Group A pump test requirements for the RBCLC water pumps is authorized pursuant to 10 CFR 50.55a(a)(3)(ii) on the basis that compliance with the Code requirements results in hardship or unusual difficulty without a compensating increase in the level of quality and safety. The licensee's proposed alternative provides reasonable assurance of the operational readiness of the RBCLC water pumps and is authorized for the Unit 1 fourth 10-year IST program interval.

3.5 Relief Request CRD-VR-01

3.5.1 Code Requirements

The licensee requested relief from ISTC 5131 which requires that active valves have their stroke times measured when exercised in accordance with ISTC 3500. Relief was requested for the following Unit 1 Scram Discharge Volume (SDV) valves:

IV-44.2-15
IV-44.2-16
IV-44.2-17
IV-44.2-18

3.5.2 Licensee's Basis for Requesting Relief

The SDV containment isolation valves are normally open valves. The valves close on loss of air or the de-energizing of the solenoid valves. The SDV air header and valve arrangement are single failure proof. The solenoid valves are powered from either reactor trip bus 131 or 141 through fuses. Removing the fuses to fail safe test these valves causes a reactor scram in approximately 6 seconds due to the de-energizing of SOV-113-273 and SOV-113-272. Venting the scram air header due to exercising of the valves by pulling fuses subjects the control rod drives to higher differential pressures than observed during a scram at normal operating conditions. The high differential pressure applied to control rods fully inserted has resulted in equipment damage. Testing via the safety related scram exhaust path cannot be performed during power operation. A test solenoid valve was installed to permit fail safe and stroke-time testing without causing a scram. The test solenoid exhaust path adds a restriction that is not present in the scram path. When the test solenoid is energized, the SDV air header and valve actuators are vented through SOV-113-277. The restriction is due to exhausting air through the SOV-113-274 and SOV-113-276 air inlet supply port, since the solenoids are energized. The solenoid valve employs an internal pilot in the inlet port. Air can exhaust through the inlet port; however, the flow path is not a fixed resistance system. The variable resistance can cause variations in the quarterly stroke-time measurements of the valves. These variations can result in inaccurate stroke times and mask the true valve performance. This limits the ability to accurately monitor for and detect degradation. Additionally, the test path is not the safety related exhaust path (scram path) for the containment isolation valves.

Stroke-time testing through the scram path can be performed during refueling outages. Stroke times obtained during refueling outage tests (using the scram vent path) have provided consistently accurate results. This testing method provides an accurate indication of valve performance and provides the ability to monitor for and detect degradation.

3.5.3 Licensee's Proposed Alternative Testing

The valves will be full stroke exercised and fail safe tested quarterly using the test solenoid valve. The valves will be stroke time tested through the scram path during refueling outages.

3.5.4 Evaluation

Testing via the safety related scram exhaust path cannot be performed during power operation. A test solenoid valve was installed to permit fail safe and stroke-time testing without causing a scram. The test solenoid exhaust path adds a restriction that is not present in the scram path and introduces a variable system resistance into the test flow path. The variable resistance can cause variations in the quarterly stroke-time measurements of the valves. These variations can result in inaccurate stroke times and mask true valve performance.

The quarterly test path is not the safety related exhaust path for the containment isolation valves and does not provide accurate indication as to valve stroke times utilizing the normal flow path. Stroke-time testing through the scram path can be performed during refueling outages. Stroke times obtained during refueling outage tests provide consistent test results. The licensee proposes to full-stroke exercise and fail safe test the valves quarterly using the test solenoid valve and stroke time test the valves through the scram path during refueling outages. This testing method provides an accurate indication of valve performance and provides the ability to monitor for and detect degradation.

3.5.5 Conclusion

The NRC staff concludes that the licensee's proposed alternative is authorized pursuant to 10 CFR 50.55a(a)(3)(i) on the basis that the alternative provides an acceptable level of quality and safety. The licensee's proposed alternative provides reasonable assurance of the operational readiness of the SDV valves and is authorized for the Unit 1 fourth 10-year IST program interval.

3.6 Relief Request CTNH202-VR-01

3.6.1 Code Requirements

The licensee requested relief from ISTC 5131 and ISTC 5132 which requires that active valves have their stroke times measured when exercised in accordance with ISTC 3500 and that the test results be compared to the reference values established in accordance with ISTC 3300, ISTC 3310, or ISTC 3320. Relief was requested for the following Unit 1 valves:

IV-201.2-109	IV-201.2-110	IV-201.2-111	IV-201.2-112
IV-201.7-01	IV-201.7-02	IV-201.7-08	IV-201.7-09
IV-201.7-10	IV-201.7-11		

3.6.2 Licensee's Basis for Requesting Relief

These pneumatically operated valves are grouped together on common control switches. The valve groups have a common closed light and individual open lights. Reference values are established for each group by timing the valves for at least three exercises. The exercising is conducted over a sufficient interval to prevent erroneous data due to preconditioning. An individual reference value is developed for each valve in a group. A composite (group) reference value is developed by averaging the individual reference values.

As needed, primarily after rework or repair, the individual reference values and the group reference value are re-established. The group reference value is used as a common reference value for each valve in the group. The valve stroke-time test uses switch actuation to red light out (closed indication) for open to close stroke time. The stroke time of the slowest valve is observed and recorded. If the slowest valve exceeds the acceptance criteria the group is declared inoperable. Corrective action is then taken.

The group reference values are less than 10 seconds, significantly below the Updated Final Safety Analysis Report (UFSAR) limiting value of 60 seconds. While some performance degradation is masked by this testing methodology, nuclear safety will not be compromised. Prior to any valve exceeding the limiting value of 60 seconds, the acceptance criteria would be significantly exceeded, and corrective action would be taken. The proposed alternative testing provides an adequate capability to monitor and detect individual valve degradation prior to exceeding the UFSAR limiting value. This method provides an equivalent level of quality and safety compared to the Code required individual valve testing.

3.6.3 Licensee's Proposed Alternative Testing

Individual reference values, group reference values, and group acceptance criteria will be established. The valve group will be stroke timed, recording the slowest operating valve and the corresponding stroke time. The slowest valve stroke time will be compared to the acceptance criterion to determine the valve group operability status. Corrective actions will be taken as necessary for exceeding the acceptance criterion.

3.6.4 Evaluation

These pneumatically operated valves are grouped together on common control switches. The valve groups have a common closed light and individual open lights. Reference values are established for each group by timing the valves for at least three exercises. The exercising is conducted over a sufficient interval to prevent erroneous data due to preconditioning. An individual reference value is developed for each valve in a group. A composite (group) reference value is developed by averaging the individual reference values.

The licensee proposes to establish power operated valve group stroke time reference values and to evaluate acceptance based upon deviation from this reference. If the slowest valve in the group exceeds the acceptance criterion, the group is declared inoperable, and corrective actions are taken. The proposed acceptance criterion is consistent with the Code requirement which states that valves with reference stroke times less than or equal to 10 seconds shall

exhibit no more than a 50% change in stroke time when compared to the reference value. The proposed alternative will detect individual valve degradation, provides reasonable assurance of valve operational readiness, and provides an acceptable level of quality and safety.

3.6.5 Conclusion

The NRC staff concludes that the licensee's proposed alternative is authorized pursuant to 10 CFR 50.55a(a)(3)(i) on the basis that the alternative provides an acceptable level of quality and safety. The licensee's proposed alternative provides reasonable assurance of valve operational readiness and is authorized for the Unit 1 fourth 10-year IST program interval.

3.7 Relief Request CTNH202-VR-02

3.7.1 Code Requirements

The licensee requested relief from ISTC 5151 and ISTC 5152 which requires that active valves have their stroke times measured when exercised in accordance with ISTC 3500 and that the test results be compared to the reference values established in accordance with ISTC 3300, ISTC 3310, or ISTC 3320. Relief was requested for the following Unit 1 valves:

IV-201.2-23
IV-201.2-24
IV-201.2-29
IV-201.2-30

3.7.2 Licensee's Basis for Requesting Relief

These solenoid operated valves are grouped together on a common control switch. The valves are paired and each pair has a common closed light and individual open lights. A reference value is established for each pair of valves by timing the valves for at least three exercises. The exercising is conducted over a sufficient interval to prevent erroneous data due to preconditioning. A composite (group) reference value is developed by averaging the valve pair reference values. The valves stroke in less than 2 seconds and are designated as rapid acting valves. A limiting value of 2 seconds is assigned to the group.

As needed, primarily after rework or repair, the valve pair reference values and the group reference value are re-established. The group reference value is used as a common reference value for each valve in the group. The valve stroke time test uses switch actuation to red light out (closed indication) for open to close stroke time. The stroke time of the slowest valve is observed and recorded. If the slowest valve exceeds the acceptance criteria the group is declared inoperable. Corrective action is then taken.

The group limiting value of 2 seconds is significantly below the UFSAR limiting value of 60 seconds. Prior to any valve exceeding the limiting value of 60 seconds, the acceptance criteria would be significantly exceeded, and corrective action would be taken. The proposed alternative testing provides an adequate capability to monitor and detect individual valve degradation prior to exceeding the UFSAR limiting value. This method provides an equivalent level of quality and safety compared to the Code required individual valve testing.

3.7.3 Licensee's Proposed Alternative Testing

Valve pair reference values, group reference values, and group acceptance criteria will be established. The valve group will be stroke timed, recording the slowest operating valve and the corresponding stroke time. The slowest valve stroke time will be compared to the acceptance criterion to determine the valve group operability status. Corrective actions will be taken as necessary for exceeding the acceptance criterion.

3.7.4 Evaluation

These solenoid operated valves are grouped together on a common control switch. The valves are paired and each pair has a common closed light and individual open lights. A reference value is established for each pair of valves by timing the valves for at least three exercises. The exercising is conducted over a sufficient interval to prevent erroneous data due to preconditioning. A composite (group) reference value is developed by averaging the valve pair reference values. The valves stroke in less than 2 seconds and are designated as rapid acting valves. A limiting value of 2 seconds is assigned to the group.

The licensee proposes to establish valve group stroke time reference values and to evaluate acceptance based upon deviation from this reference. If the slowest valve in the group exceeds the acceptance criterion, the group is declared inoperable, and corrective actions are taken. The acceptance criterion is consistent with the Code requirement which states that valves with reference stroke times less than or equal to 2 seconds may have a maximum stroke time of 2 seconds. The proposed alternative will detect individual valve degradation, provides reasonable assurance of valve operational readiness, and provides an acceptable level of quality and safety.

3.7.5 Conclusion

The NRC staff concludes that the licensee's proposed alternative is authorized pursuant to 10 CFR 50.55a(a)(3)(i) on the basis that the alternative provides an acceptable level of quality and safety. The licensee's proposed alternative provides reasonable assurance of valve operational readiness and is authorized for the Unit 1 fourth 10-year IST program interval.

3.8 Relief Request MSS-VR-01

3.8.1 Code Requirements

The licensee requested relief from Mandatory Appendix I, I-1320, which requires that Class 1 pressure relief valves be tested at least once every 5 years with a minimum of 20% of the valves from each valve group tested within any 24-month interval. This 20% shall consist of valves that have not been tested during the current 5-year interval, if they exist. The test interval for any individual valve shall not exceed 5 years. Relief was requested for the following Unit 2 Class 1 main steam safety relief valves:

2MSS*PSV120	2MSS*PSV121	2MSS*PSV122
2MSS*PSV123	2MSS*PSV124	2MSS*PSV125

2MSS*PSV126	2MSS*PSV127	2MSS*PSV128
2MSS*PSV129	2MSS*PSV130	2MSS*PSV131
2MSS*PSV132	2MSS*PSV133	2MSS*PSV134
2MSS*PSV135	2MSS*PSV136	2MSS*PSV137

3.8.2 Licensee's Basis for Requesting Relief

The licensee has implemented a 24-month fuel cycle for NMP2. When the fuel cycle was 18 months, it was possible to replace approximately one-third of the relief valves each refueling outage and meet the 5-year period requirements and the 20% in 24-months requirement. With the 24-month fuel cycle, one-half of the relief valves typically must be replaced each refueling outage to meet the 5-year period requirements.

Increasing the test interval from 5 years to 3 refueling cycles (approximately 6 years) continues to provide an acceptable level of quality and safety while restoring the operational and maintenance flexibility that was lost when the 24-month fuel cycle produced the unintended consequence of additional testing burden. The 3 refueling cycle test interval continues to provide assurance of valve operational readiness.

A review of the setpoint testing results for the time period from initial operation to the present (20 years), which comprises 103 data points, shows that the average setpoint change is 0.86%. This slight deviation is well within the Technical Specification (TS) requirement that the as-left setpoint be within 1% of the nameplate value, and well within the as-found Code requirement of 3%. The testing of safety relief valves at Nine Mile Point Nuclear Station, Unit 2 was taken over by the onsite test facility in 1997. There is no significant difference in the average change between the Wyle Labs data and the onsite test facility data. A significant number of the as-found setpoints were greater than 1% above the nameplate set pressure. However, only 11 were greater than 2% above the nameplate set pressure, and only 3 exceeded the Code tolerance of 3%. Two valve as-found tests were more than 3% below the nameplate set pressure. Note that there is a slight tendency toward higher as-found setpoints, but this tendency is well within both the TS and the Code requirements. The testing data indicate that setpoint history has been good with only infrequent need for additional testing. Therefore, the increased testing required by the switch to a 24-month refueling cycle will not result in any additional benefit to the plant.

3.8.3 Licensee's Proposed Alternative Testing

Class 1 pressure relief valves shall be tested at least once every 3 refueling cycles. A minimum of 20% of the valves from each valve group shall be tested within any 24-month interval. This 20% shall consist of valves that have not been tested during the current 3-cycle interval, if they exist. The test interval for any individual valve shall not exceed 3 refueling cycles.

3.8.4 Evaluation

The licensee has implemented a 24-month fuel cycle. When the fuel cycle was 18 months, it was possible to replace approximately one-third of the relief valves each refueling outage and meet the 5-year period requirements and the 20% in 24-months requirement. With the 24-

month fuel cycle, one-half of the relief valves typically must be replaced each refueling outage to meet the 5-year period requirements.

The NRC staff has reviewed the relief valve test results from March 2000 to April 2008 to determine if it is acceptable to extend the test interval beyond the 5-year interval specified in the ASME OM Code. During this time interval, the licensee tested 28 valves with test intervals of 6 years based on a previously approved relief request. The test results demonstrate that the relief valves almost always passed the TS lift acceptance criterion of plus or minus 3% of set pressure. In one instance, an unsatisfactory test was only slightly below the minus 3% requirement and the failure was attributed to setpoint drift. From an overpressure protection standpoint, set pressure drift in the downwards direction is conservative because the valve would tend to open sooner than required. The setpoint data demonstrated that the relief valves have performed acceptably and provided adequate overpressure protection over three 24-month refueling cycle intervals.

The relief valve testing and maintenance cycle at NMP 2 consists of as-found testing and maintenance activities performed on the valves and subsequent post maintenance recertification testing. Subsequent to completion of as-found testing, each valve in the removed complement is disassembled to perform inspection and maintenance activities, including disc and seat inspection for evidence of degradation such as leakage or misalignment. Any valve that failed the as-found set pressure test is inspected to determine the cause. In the event the as-found tests or the visual inspections indicate that spring pack degradation may be present, a set pressure load test is performed to determine the amount of friction present and hysteresis characteristics. The results of this test are evaluated to identify irregularities in operation that might be indicative of subcomponent degradation. All adverse conditions are corrected, the disc and seats are lapped, and the valve is reassembled. Each valve is then recertified for service through inspection and testing. Although the ASME OM Code does not require maintenance to be routinely performed on relief valves, maintenance prior to installation provides reasonable assurance that set pressure drift will be minimized.

3.8.5 Conclusion

The NRC staff finds that the proposed alternative to extend the test interval beyond the ASME OM Code 5-year test requirement is acceptable. This finding is made, in part, with recognition that the provisions of 10 CFR 50.65 (the Maintenance Rule) require that licensee's monitor the performance or conditions of components, such as relief valves, against licensee-established goals commensurate with safety, taking into account industry operating experience.

The NRC staff concludes that the licensee's proposed alternative is authorized pursuant to 10 CFR 50.55a(a)(3)(i) on the basis that the alternative provides an acceptable level of quality and safety. The licensee's proposed alternative provides reasonable assurance of relief valve operational readiness and is authorized for the Unit 2 third 10-year IST program interval.

Principal Contributor: K. W. Poertner

Date: December 29, 2008

December 29, 2008

Mr. Keith J. Polson
Vice President Nine Mile Point
Nine Mile Point Nuclear Station, LLC
P. O. Box 63
Lycoming, NY 13093

SUBJECT: NINE MILE POINT NUCLEAR STATION - SAFETY EVALUATION OF RELIEF REQUESTS FOR THE UNIT NO. 1 FOURTH 10-YEAR AND UNIT NO. 2 THIRD 10-YEAR PUMP AND VALVE INSERVICE TESTING PROGRAM (TAC NOS. MD9202 AND MD9203)

Dear Mr. Polson:

By letter dated June 30, 2008, Nine Mile Point Nuclear Station, LLC, the licensee, submitted relief requests for the fourth 10-year and third 10-year interval inservice testing program at Nine Mile Point Nuclear Station, Unit Nos. 1 and 2, respectively. The licensee requested relief from certain inservice testing requirements of the American Society of Mechanical Engineers (ASME) Code for Operation and Maintenance of Nuclear Power Plants (OM Code).

The Nuclear Regulatory Commission (NRC) staff has reviewed the licensee's relief requests and has concluded that the licensee's proposed alternative as specified in Relief Requests GV-RR-01, GV-RR-02, CRD-VR-01, CTNH202-VR-01, CTNH202-VR-02, and MSS-VR-01 are authorized pursuant to Title 10 of the *Code of Federal Regulations* (10 CFR) Section 50.55a(a)(3)(i) on the basis that it provides an acceptable level of quality and safety. Pursuant to 10 CFR 50.55a(a)(3)(ii), Relief Request RBCLC-PR-01 is authorized on the basis that complying with the specified requirements results in hardship or unusual difficulty without a compensating increase in the level of quality and safety. Relief Request GA-RR-01 is approved pursuant to 10 CFR 50.55a(f)(4)(iv) subject to the modifications and limitations in 10 CFR 50.55a(b)(3)(i), (ii), (v), and (vi) based on incorporation by reference of the 2004 Edition of the ASME OM Code in 10 CFR 50.55a(b)(3). Relief Request GV-RR-08 was previously approved for the duration of the term of the Nine Mile Point, Unit No. 2 operating license (until October 31, 2026) and further NRC review is not required.

If you have any questions regarding this approval, please contact the Nine Mile Point Project Manager, Richard Guzman, at (301) 415-1030.

Sincerely,
/RA/
Mark G. Kowal, Chief
Plant Licensing Branch I-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-220 and 50-410

Enclosure: Safety Evaluation

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ADAMS Accession No. ML083500039 * Input provided by memo, no substantial changes made. NRR-028

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DATED: December 29, 2008

NINE MILE POINT NUCLEAR STATION - SAFETY EVALUATION OF RELIEF REQUESTS FOR THE UNIT NO. 1 FOURTH 10-YEAR AND UNIT NO. 2 THIRD 10-YEAR PUMP AND VALVE INSERVICE TESTING PROGRAM (TAC NOS. MD9202 AND MD9203)

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