

March 22, 2007

Mr. Paul A. Harden
Site Vice President
Nuclear Management Company, LLC
Palisades Nuclear Plant
27780 Blue Star Memorial Highway
Covert, MI 49043-9530

SUBJECT: PALISADES NUCLEAR PLANT - REQUEST FOR RELIEF FROM INSERVICE TESTING REQUIREMENTS FOR THE FOURTH 10-YEAR PUMP AND VALVE INSERVICE TESTING PROGRAM: (TAC NOS. MD1122, MD1123, MD1124, MD1125, MD1126, MD1127, AND MD1163)

Dear Mr. Harden:

Your letter dated March 24, 2006, as supplemented by letter dated October 31, 2006, requested relief from certain inservice testing requirements for valves for its fourth 10-year program interval at its Palisades Nuclear Plant. By letter dated October 31, 2006, the Relief Requests VRR-21, VRR-28, and VRR-31 were withdrawn.

The Nuclear Regulatory Commission (NRC) staff has reviewed your proposed alternatives for relief requests VRR-12, VRR-18, VRR-20, and VRR-30. Relief Requests VRR-12, VRR-18, and VRR-20 are authorized for the fourth 10-year interval pursuant to Title 10 of the *Code of Federal Regulations* (10 CFR) 50.55a(a)(3)(ii) based on the determination that compliance with the specified American Society of Mechanical Engineers (ASME) *Code for Operation and Maintenance* (OM Code) requirements results in hardship or unusual difficulty without a compensating increase in the level of quality and safety. Relief Request VRR-30 is authorized for an interim period until March 24, 2010, pursuant to 10 CFR 50.55a(a)(3)(ii) based on the determination that compliance with the specified ASME OM Code requirements results in hardship or unusual difficulty without a compensating increase in the level of quality and safety to allow evaluation of future valve testing data and establish a valve testing frequency.

P. Harden

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The NRC staff's evaluation and conclusions are provided in the enclosed safety evaluation. If you have any questions, please contact Mahesh L. Chawla at 301-415-8371.

Sincerely,

/RA/

L. Raghavan, Chief
Plant Licensing Branch III-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-255

Enclosure:
Safety Evaluation

cc w/encl: See next page

P. Harden

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ADAMS Accession Number: **ML070680021**

*SE dated February 15, 2007

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SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

FOURTH 10-YEAR INTERVAL INSERVICE TESTING (IST) PROGRAM

RELIEF REQUESTS VRR-12, VRR-18, VRR-20, AND VRR-30

NUCLEAR MANAGEMENT COMPANY, LLC

PALISADES NUCLEAR PLANT

DOCKET NO. 50-255

1.0 INTRODUCTION

By letter dated March 24, 2006 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML060890451) Nuclear Management Company, LLC (the licensee) submitted relief requests for the fourth 10-year inservice testing (IST) program interval at its Palisades Nuclear Plant (PNP). The licensee requested relief from certain IST requirements of the 2001 edition through 2003 addenda of the American Society of Mechanical Engineers (ASME) *Code for Operation and Maintenance of Nuclear Power Plants* (OM Code). The PNP's fourth 10-year IST interval commenced March 24, 2006. In response to Nuclear Regulatory Commission (NRC) staff's request for additional information, the licensee submitted additional information in a letter dated October 31, 2006 (ADAMS Accession No. ML063040506). In its October 31, 2006, letter, the licensee withdrew Relief Requests VRR-21, VRR-28, and VRR-31. The NRC staff's evaluation of relief requests VRR-12, VRR-18, VRR-20, and VRR-30 is contained herein.

2.0 REGULATORY EVALUATION

Title 10 of the *Code of Federal Regulations* (10 CFR) 50.55a, requires that IST of certain ASME Code Class 1, 2, and 3 pumps and valves be performed at 120-month (10-year) IST program intervals in accordance with the specified ASME Code incorporated by reference in the regulations, except where alternatives have been authorized or relief has been requested by the licensee and granted by the Commission 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 or requesting relief, the licensee must demonstrate that: (1) the proposed alternatives provide an acceptable level of quality and safety; (2) compliance would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety; or (3) conformance is impractical for the facility. Section 50.55a authorizes the

ENCLOSURE

Commission to approve alternatives and to grant relief from ASME 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, Revision 1, "Guidance for Inservice Testing at Nuclear Power Plants."

The PNP, fourth 10-year IST interval commenced March 24, 2006. The program was developed in accordance with the 2001 edition through 2003 addenda of the ASME OM Code. By letter dated March 24, 2006, the licensee requested relief from certain requirements of the ASME OM Code for its PNP fourth 10-year IST interval.

The NRC staff's findings with respect to granting the IST program relief requests are described below:

3.0 TECHNICAL EVALUATION

3.1 Valve Relief Request VRR-12

3.1.1 Code Requirements

The licensee requested relief from the requirements of ISTC-5131 of ASME OM Code, which requires that valve stroke times be measured during valve exercising. Relief was requested for the following component cooling water (CCW) valves:

CV-0944
CV-0977B

3.1.2 Licensee's Basis for Requesting Relief

Valves CV-0944 and CV-0977B are normally open valves, which close on a safety injection signal (SIS). The valves close to isolate CCW to the radioactive waste evaporators (RWEs). There is no position indication in the control room, which is the location from where the SIS activation test is initiated. The SIS is tested once each quarter during performance of technical specification (TS) surveillance activities. Stroke time coordination of these valves is impractical for the following reasons:

1. Surveillance activities are manpower intensive and involves blocking or bypassing several automatic actuations and must, therefore, be performed in as little time as possible; because, it places the plant in an abnormal operating condition.
2. The SIS is initiated from the control room; however, the position indication for CV-0944 and CV-0977B is located at remote panel C-105. Coordination between the control room activities and panel C-105 would be difficult since a dedicated operator would need to be positioned at panel C-105 with a stopwatch. Starting the stopwatch would be manual based on a verbal signal from the control room, resulting in an additional reaction time error over and above that introduced by the control room operator. As a result, obtaining a consistent stroke time basis suitable for meaningful trending would be

nearly impossible. The information obtained would be of limited use, due to the anticipated wide range of scatter of the data.

The portion of the CCW system isolated by these valves is a closed loop. If both valves fail to close, water cannot be isolated to the RWEs. If either valve closes, flow to the RWEs is isolated.

Compliance with the Code requirements would require a modification to change the actuating scheme for the subject valves by adding open and close type control switches in the control room or a temporary modification to install control switches and position indication at the valves. The modification would be used in place of the controllers for IST and would serve no other practical purpose beyond creating the ability to perform stroke time testing.

Valves CV-0944 and CV-0977B will be stroke tested each quarter during performance of TS surveillance activities. The TS surveillance activities will verify that valves CV-0944 and CV-0977B have traveled to their safety position without measuring stroke time. The fail-safe capability of valves CV-0944 and CV-0977B will also be verified on a quarterly basis.

Testing verifies that the subject valves will travel to the close position. This is considered adequate for the following reasons:

1. The valves are tested in the mode in which they would be called upon to mitigate an accident.
2. If either valve closes, flow to the RWEs is isolated.

Testing without obtaining stroke times is sufficient to assure the ability of these valves to close.

The valves and air actuators for valves CV-0944 and CV-977B are within the scope of the air operated valve condition assessment program. The actuators for these valves are subjected to condition assessment following completion of maintenance activities. Should assessment results indicate the need for further valve or actuator maintenance, this maintenance will be planned, scheduled, and performed in accordance with administrative requirements. These actions will assure continued operability of these components.

3.1.3 Licensee's Proposed Alternative Testing

Valves CV-0944 and CV-0977B will be stroke tested each quarter during performance of TS surveillance activities. The TS surveillance activities will verify that valves CV-0944 and CV-0977B have traveled to their safety position without measuring stroke time. The fail-safe capability of valves CV-0944 and CV-0977B will also be verified on a quarterly basis.

The valves and air actuators for valves CV-0944 and CV-977B are within the scope of the air-operated valve condition assessment program. The actuators for these valves are subjected to condition assessment following completion of maintenance activities. Should assessment results indicate the need for further valve or actuator maintenance, this maintenance will be planned, scheduled, and performed in accordance with administrative requirements. These actions will assure continued operability of these components.

3.1.4 Staff Evaluation

Valves CV-0944 and CV-0977B are normally open valves, which close on a SIS. There is no position indication in the control room, which is the location from where the SIS activation test is initiated. Stroke time coordination of these valves would result in hardship or unusual difficulty. The portion of the CCW system isolated by these valves is a closed loop. If both of these valves fail to close, water cannot be isolated to the RWEs. If either of these valve closes, flow to the RWEs is isolated.

Compliance with the Code requirements would require a modification to change the actuating scheme for the subject valves by adding open and close type control switches in the control room, or a temporary modification to install control switches and position indication at the valves. The modification would be used in place of the controllers for IST, and would serve no other practical purpose beyond creating the ability to perform stroke time testing.

The valves and air actuators for valves CV-0944 and CV-977B are within the scope of the air-operated valve condition assessment program. The actuators for these valves are subjected to condition assessment following completion of maintenance activities. Should assessment results indicate the need for further valve or actuator maintenance, this maintenance will be planned, scheduled, and performed in accordance with administrative requirements.

Measuring stroke time using conventional methods presents a hardship or unusual difficulty without a compensating increase in the level of quality and safety. The Code requirement for stroke time testing of power operated valves is intended to monitor for degrading conditions by monitoring for increases in the stroke time that could indicate changes in the valve internals or valve actuator or control system. Imposing the Code requirements would necessitate modifications, such as installation of control switches or position indication at the valves. Quarterly stroke testing, with verification that the valves travel to their safety-related position, and that the valves will fail to the safe position along with inclusion of the valves in the air operated valve condition assessment program, provides reasonable assurance of the operational readiness of valves CV-0944 and CV-0977B.

3.1.5 Conclusion

Based on the above evaluation, the staff concludes that the licensee's alternative is authorized pursuant to 10 CFR 50.55a(a)(3)(ii) on the basis that compliance with the Code requirements would result 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 valves CV-0944 and CV-0977B. Accordingly, the proposed alternative is authorized for the fourth 10-year IST interval at PNP.

3.2 Valve Relief Request VRR-18

3.2.1 Code Requirements

The licensee requested relief from the requirements of ISTC-5131 of ASME OM Code, which requires that valve stroke times be measured during valve exercising. Relief was requested for the following auxiliary feedwater (AFW) valves:

CV-0727
CV-0736A
CV-0737A
CV-0749

3.2.2 Licensee's Basis for Requesting Relief

Control valves CV-0727, CV-0736A, CV-0737A, and CV-0749 are four identical valves, which provide automatic flow control during normal shutdown and emergency shutdown operation. The safety related AFW system is designed to provide feedwater to the steam generators during start-up operations, and to remove primary system sensible and decay heat during initial stages of shutdown operations. The AFW system also supplies water to the secondary side of the steam generators when normal feedwater sources are unavailable. These four pneumatically-controlled flow control valves are used to maintain steam generator level. The operation of these valves is essential for the system to meet its design objectives.

Compliance with the Code requirements would require a modification to change the actuating scheme for the subject valves by adding open and close type control switches in the control room, or a temporary modification to install control switches and position indication at the valves. The modification would be used in place of the controllers for IST, and would serve no other practical purpose beyond creating the ability to perform stroke time testing.

Ensuring the ability to open upon a pump start and to achieve flowrates in the test band, provides for testing of the flow control valves. At the end of each pump test, the valves are manually closed to isolate flow to the steam generators.

The valves and air actuators for valves CV-0727, CV-0736A, CV-0737A, and CV-0749 are within the scope of the air-operated valve condition assessment program. These actuators are subjected to periodic condition assessment within this program. Should assessment results indicate the need for valve or actuator maintenance, this maintenance will be planned, scheduled, and performed in accordance with administrative requirements. These actions will assure continued operability of these components.

3.2.3 Licensee's Proposed Alternative Testing

The regulating capability of valves CV-0727, CV-0736A, CV-0737A, and CV-0749 will be demonstrated quarterly in accordance with TS surveillance procedures. Ensuring the ability to open upon a pump start and to achieve flowrates in the test band, provides for testing of the flow control valves. At the end of each pump test, the valves are manually closed to isolate flow to the steam generators.

The valves and air actuators for valves CV-0727, CV-0736A, CV-0737A, and CV-0749 are within the scope of the air-operated valve condition assessment program. These actuators are subjected to periodic condition assessment within this program. Should assessment results indicates the need for valve or actuator maintenance, this maintenance will be planned, scheduled, and performed in accordance with administrative requirements. These actions will assure continued operability of these components.

3.2.4 Staff Evaluation

Control valves CV-0727, CV-0736A, CV-0737A, and CV-0749 provide automatic AFW flow control during normal shutdown and emergency shutdown operation. The safety-related AFW system is designed to provide feedwater to the steam generators during start-up operations and to remove primary system sensible and decay heat during initial stages of shutdown operations. The AFW system also supplies water to the secondary side of the steam generators when normal feedwater sources are unavailable. These four pneumatically-controlled flow control valves are used to maintain steam generator water level. The operation of these valves is essential for the system to meet its design objectives.

Compliance with the Code requirements would require a modification to change the actuating scheme for the subject valves by adding open and close type control switches in the control room or a temporary modification to install control switches and position indication at the valves. The modification would be used in place of the controllers for IST and would serve no other practical purpose beyond creating the ability to perform stroke time testing.

Ensuring the ability to open upon a pump start and to achieve flowrates in the test band, provides for testing of the flow control valves. At the end of each pump test, the valves are manually closed to isolate flow to the steam generators.

The valves and air actuators for valves CV-0727, CV-0736A, CV-0737A, and CV-0749 are within the scope of the air-operated valve condition assessment program. These actuators are subjected to periodic condition assessment within this program. Should assessment results indicates the need for valve or actuator maintenance, this maintenance will be planned, scheduled, and performed in accordance with administrative requirements.

Measuring stroke time using conventional methods, presents a hardship or unusual difficulty without a compensating increase in the level of quality and safety. The Code requirement for stroke time testing of power operated valves is intended to monitor for degrading conditions by monitoring for increases in the stroke time that could indicate changes in the valve internals or valve actuator or control system. Imposing the Code requirements would necessitate modifications, such as installation of control switches or position indication at the valves. Quarterly stroke testing, ensuring the ability of the valves to open upon a pump start and to achieve flowrates in the test band and manually closing the valves to isolate flow to the steam generators along with inclusion of the valves in the air operated valve condition assessment program, provides reasonable assurance of the operational readiness of valves CV-0727, CV-0736A, CV-0737A, and CV-0749.

3.2.5 Conclusion

Based on the above evaluation, the staff concludes that the licensee's alternative is authorized pursuant to 10 CFR 50.55a(a)(3)(ii) on the basis that compliance with the Code requirements would result 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 valves CV-0727, CV-0736A, CV-0737A, and CV-0749. Accordingly, the proposed alternative is authorized for the fourth 10-year IST interval at PNP.

3.3 Valve Relief Request VRR-20

3.3.1 Code Requirements

The licensee requested relief from the requirements of ISTC-5131 of ASME OM Code, which requires that valve stroke times be measured during valve exercising. Relief was requested for CCW valve CV-0915 (CCW surge tank vent).

3.3.2 Licensee's Basis for Requesting Relief

The CCW surge tank is normally vented through valve CV-0915 to the auxiliary building atmosphere, but when a CCW high radiation signal is received, valve CV-0915 changes position and vents the surge tank to the vent gas collection header. The valve can only be actuated via a high radiation signal, since there is no means of manual positioning. The valve does have position indication in the control room.

The high radiation signal is initiated in the control room; however, position indication for valve CV-0915, is located on a control panel located out of sight from the location of the actuating signal. Coordination between control room activities for actuation and observation of position indication would be difficult and involve starting the stopwatch based on a verbal signal. As a result, obtaining a consistent stroke time basis suitable for meaningful trending would be nearly impossible. The information obtained would be of limited use, due to the anticipated wide range of scatter of the data.

Compliance with the Code requirements would require a modification to change the actuating scheme for the subject valve by adding open close type control switch in the control room or a temporary modification to install control switch and position indication at the valve. The modification would be used in place of the controllers for IST and would serve no other practical purpose beyond creating the ability to perform stroke time testing.

A value of less than 10 seconds, for indication that valve CV-0915 changed position, has been established. However, this value is not considered to be stroke timing as defined by the Code because the time of initiation of the actuating signal is not known. If CV-0915 does not move to the desired position, the valve will be declared inoperable. This is considered adequate because the valve is tested in the mode in which it would be called upon to mitigate a radiation release.

The valve and air actuator for valve CV-0915 is within the scope of the air-operated valve condition assessment program. The actuator is subjected to condition assessment within the post maintenance testing program. Should assessment results indicate the need for further valve or actuator maintenance, this maintenance will be planned, scheduled, and performed in accordance with administrative requirements. These actions assure continued operability of these components.

3.3.3 Licensee's Proposed Alternative Testing

Valve CV-0915 will be stroke tested once each quarter, without stroke timing the valve. Verification of valve motion will be performed at the lights in the main control room. A value of

less than 10 seconds, for indication that valve CV-0915 changed position, has been established. This value is not considered to be stroke timing as defined by the Code because the time of initiation of the actuating signal is not known. If CV-0915 does not move to the desired position, then it will be declared inoperable.

The valve and air actuator for valve CV-0915 is within the scope of the air-operated valve condition assessment program. The actuator is subjected to condition assessment within the post maintenance testing program. Should assessment results indicate the need for further valve or actuator maintenance, this maintenance will be planned, scheduled, and performed in accordance with administrative requirements. These actions assure continued operability of these components.

3.3.4 Staff Evaluation

The CCW surge tank is normally vented through valve CV-0915 to the auxiliary building atmosphere, but when a CCW high radiation signal is received, valve CV-0915 changes position and vents the surge tank to the vent gas collection header. The valve can only be actuated via a high radiation signal, since there is no means of manual positioning.

The high radiation signal is initiated in the control room; however, position indication for valve CV-0915 is located on a control panel located out of sight from the location of the actuating signal. Coordination between control room activities for actuation and observation of position indication would be difficult, and involve starting the stopwatch based on a verbal signal. As a result, obtaining a consistent stroke time basis suitable for meaningful trending would be nearly impossible. The information obtained would be of limited use, due to the anticipated wide range of scatter of the data.

Compliance with the Code requirements would require a modification to change the actuating scheme for the subject valve by adding open close type control switch in the control room or a temporary modification to install control switch and position indication at the valve. The modification would be used in place of the controllers for IST and would serve no other practical purpose beyond creating the ability to perform stroke time testing.

The valve and air actuator for valve CV-0915 is within the scope of the air-operated valve condition assessment program. The actuator is subjected to condition assessment within the post maintenance testing program. Should assessment results indicate the need for further valve or actuator maintenance, this maintenance will be planned, scheduled, and performed in accordance with administrative requirements.

Measuring stroke time using conventional methods presents a hardship or unusual difficulty without a compensating increase in the level of quality and safety. The Code requirement for stroke time testing of power operated valves is intended to monitor for degrading conditions by monitoring for increases in the stroke time that could indicate changes in the valve internals or valve actuator or control system. Imposing the Code requirements would necessitate modifications, such as installation of control switch or position indication at the valve. Quarterly stroke testing, with verification that the valve changes position within 10 seconds, along with inclusion of the valve in the air-operated valve condition assessment program, provides reasonable assurance of the operational readiness of valve CV-0915.

3.3.5 Conclusion

Based on the above evaluation, the staff concludes that the licensee's alternative is authorized pursuant to 10 CFR 50.55a(a)(3)(ii) on the basis that compliance with the Code requirements would result 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 valve CV-0915. Accordingly, the proposed alternative is authorized for the fourth 10-year IST interval at PNP.

3.4 Valve Relief Request VRR-30

3.4.1 Code Requirements

The licensee requested relief from the requirements of Mandatory Appendix I, I-1340 of ASME OM Code, which requires that Class 1 pressure relief devices be tested at least once every 5 years and that a minimum of 20 percent of the valves be tested within any 24 month period. Relief was requested for shutdown cooling system relief valve RV-0401.

3.4.2 Licensee's Basis for Requesting Relief

Relief valve RV-0401 has a safety function to provide overpressure protection to the shutdown cooling return header between two motor-operated valves. The valve is located in the letdown from the primary coolant system to the shutdown cooling system. Testing cannot be performed with the primary coolant system greater than cold shutdown because valve RV-0401 provides the second isolation barrier for the primary system. Failure of the first isolation barrier would result in uncontrollable and highly contaminated primary coolant leakage.

Testing cannot be performed during cold shutdown with shutdown cooling in service because PNP has no alternate letdown paths for shutdown cooling. Shutdown cooling cannot be isolated, unless there is a full core off load.

In order to assure the leakage does not impact system operability, PNP will continue to monitor system parameters and perform examinations in accordance with the site's ASME Section XI pressure test program. Additionally, the requirements of the site's boric acid corrosion control program will be followed to assure leakage does not adversely impact other components that may be in the leak path.

A historical review of set point testing for valve RV-0401 indicates the setpoint has drifted between 2482 psig to 2450 psig. Even with set point drift, system operability and safety requirements were maintained with no reduction in safety margin.

A review of industry experience for Teledyne-Farris relief valves contained in the Electric Power Research Institute Equipment Performance and Information and Exchange System database indicates that this type of relief valve, installed for thermal overpressure protection, is reliable. Failures are generally associated with test results outside of acceptable set point ranges or failure to close sufficiently to assure leak tight integrity. In all cases but one, failure occurred after more than 10 years of service. In the remaining case, failure was maintenance induced. The thermal protection function of these valves was maintained, even though specific performance criteria were not met.

3.4.3 Licensee's Proposed Alternative Testing

Valve RV-401 will be tested at the next full-core offload scheduled for refueling outage 19 in 2007, and once per full-core offload thereafter, but not more often than required by the Code. In order to assure leakage does not impact system operability, PNP will continue to monitor system parameters and perform examinations in accordance with the site's ASME Section XI pressure test program. Additionally, the requirements of the site's boric acid corrosion control program will be followed to assure leakage does not adversely impact other components that may be in the leak path.

3.4.4 Staff Evaluation

Relief valve RV-0401 has a safety function to provide overpressure protection to the shutdown cooling return header between two motor-operated valves. The valve is located in the letdown from the primary coolant system to the shutdown cooling system. Testing cannot be performed with the primary coolant system greater than cold shutdown because valve RV-0401 provides the second isolation barrier for the primary system. Failure of the first isolation barrier would result in uncontrollable and highly contaminated primary coolant leakage.

Testing cannot be performed during cold shutdown with shutdown cooling in service because PNP has no alternate letdown paths for shutdown cooling. Shutdown cooling cannot be isolated unless there is a full core off load.

Appendix I requires testing of Class 1 pressure relief devices. For Class 1 pressure relief valves, Appendix I, I-1330, requires a minimum of 20 percent of the valves be tested within any 24-month period and all valves be tested within each subsequent 5-year period.

Relief valve RV-0401 is located in the letdown from the primary coolant system to the shutdown cooling system and provides overpressure protection for the shutdown cooling return header between two valves that are closed with the unit at power. This portion of the shutdown cooling system is static, except when providing core cooling during cold shutdown or refueling shutdown conditions. Previous setpoint testing in 1995 indicated that the valve lifted at 2450 psig, which was within the acceptable range for valve lift.

In a letter dated March 6, 1998, relief was authorized for the third 10-year interval to test this relief valve on a 10-year interval in lieu of the 5 year and 24 month requirements of the ASME OM Code for Class 1 relief valves. In a letter dated August 17, 2005, relief was authorized to extend the testing interval an additional period of approximately 25 months until the conclusion of the fall 2007 refueling outage. The proposed alternative in the relief request associated with the third 10-year interval dated August 17, 2005, stated that the fourth IST interval will not be extended for these valves. Upon completion of setpoint testing requirements during the 2007 refueling outage, the fourth interval start date for these valves will be set at March 24, 2006. Testing intervals and scope of the test will be determined based on the March 24, 2006, date. The valve testing data referenced in the licensee relief request is based on testing conducted in 1995 and the alternative requested is to test once per core offload but not more often than required by the Code. The testing frequency, as stated, is open-ended, and could be interpreted as not requiring valve testing for an indefinite period if a core offload is not performed. Also, the valve testing referenced in the relief request is from the second 10-year interval.

Long-term relief cannot be granted based on the lack of information in the relief request concerning the actual valve testing frequency and the lack of valve performance data subsequent to 1995. However, interim relief can be granted based on the following conclusions. Industry experience indicates that relief valves installed for overpressure protection are reliable. Failures are generally associated with test results outside of acceptable setpoint ranges or failure to close sufficiently to assure leak tight integrity. The overpressure protection function of these valves was maintained, even though specific performance criteria were not met. Meeting Code requirements would necessitate a full core offload for the sole purpose of testing the relief valve. Such efforts would constitute a hardship or unusual difficulty, when compared to the relatively small benefit associated with successful valve testing. Therefore, the staff finds that the licensee's proposed alternative provides reasonable assurance of operational readiness of the valve for an interim period to allow evaluation of future valve testing data and establish a valve testing frequency.

3.4.5 Conclusion

Based on the above evaluation, the staff concludes that the licensee's alternative is authorized for an interim period until March 24, 2010, pursuant to 10 CFR 50.55a(a)(3)(ii) based on the determination that compliance with the specified 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 relief valve RV-401 for the identified interim period to allow evaluation of future valve testing data and establish a valve testing frequency.

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