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U.S. Nuclear Regulatory Commission
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Palisades Nuclear Plant
Docket 50-255
License No. DPR-20

Response to Request for Additional Information Regarding Palisades Fourth 10-Year IST Interval Valve Relief Requests

In accordance with 10 CFR 50.55a(f), Nuclear Management Company, LLC (NMC) provided the updated Inservice Testing (IST) program for the fourth ten-year interval at Palisades Nuclear Plant (PNP) by letter dated March 24, 2006. Section 7.0 of the updated program entitled, "Valve Relief Requests," was submitted for NRC review and approval in accordance with 10 CFR 50.55a. By letter dated October 10, 2006, the NRC sent a request for additional information (RAI) on the valve relief requests. Enclosure 1 provides responses to the RAIs.

In addition, NMC is withdrawing the following valve relief requests that were submitted by letter dated March 24, 2006: VRR-21, VRR-28, and VRR-31. VRR-21 is being withdrawn because following completion of significant maintenance activities on these valves during the 2006 refueling outage, and following the validation of improved testing procedures, test data indicates these valves are able to be tested in accordance with the Code requirements. VRR-28 and VRR-31 are being withdrawn because following the 2007 refueling outage (in which these valves are being tested), the next testing due date for these valves is approximately 2016. These valves are tested during full core offloads due to system limitations, as discussed in the relief request. Therefore, following completion of the testing during the 2007 refueling outage, NMC intends to meet Code requirements for setpoint testing or request relief from test frequency requirements when the need is identified.

Because NMC is withdrawing relief requests VRR-21, VRR-28, and VRR-31, RAI questions that pertain to these relief requests are no longer applicable.

Summary of Commitments

This letter contains no new commitments and no revisions to existing commitments.

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Enclosure (1)

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ENCLOSURE 1
REQUEST FOR ADDITIONAL INFORMATION (RAI)
PALISADES FOURTH 10-YEAR IST INTERVAL
VALVE RELIEF REQUESTS

NRC Request

1. *Valve Relief Request 12 (VRR-12)*

   RAI-VRR-12-01:

   The relief request states that valves CV-0944 and CV-0977B are within the scope of the air operated valve (AOV) condition assessment program. Please provide the details of the condition assessment program with respect to valves CV-0944 and CV-0977B, and include the scheduled frequency of the activities.

NMC Response

1. Engineering Manual Procedure EM-28-03, "Air and Solenoid Operated Valve Program," applies to all engineering and maintenance activities affecting air operated valves (AOVs) in the AOV Program and define responsibilities for implementation of the program plan.

   Air operated valves are divided into three (3) categories. This categorization provides a graded approach based on importance to safety, importance to power production, and maintenance costs. Valves in Categories 1 and 2 are within the scope of this Program.

   Each category is defined as follows:

   - Category 1: Valves in this category are safety-related or non-safety related and are high safety-significant based on PSA ranking and expert panel judgement. Category 1 AOVs require a documented design basis review and setpoint verification periodically by diagnostic testing.

   - Category 2: Valves in this category are safety-related with active safety functions and are not high safety-significant based on PSA ranking and expert panel. Category 2 AOVs may receive design basis reviews and baseline diagnostic testing based on generic issues identified through the Category 1 design basis review or industry feedback.

The following table outlines the program requirements for both Category 1 and Category 2 valves.

Program Element	Category 1	Category 2
Setpoint Control	Yes	Yes
Design Basis Reviews (DBR)	Yes	No (1)
Baseline Testing	Yes	No (2)
Periodic Testing	Yes	No (3)
Post Maintenance Testing	Yes	No (4)
Preventive Maintenance	Yes	Yes
Training	Yes	Yes
Feedback	Yes	Yes
Documentation/Data Management	Yes	Yes
Tracking and Trending	Yes	Yes

NOTE 1: Although a DBR is not required for Category 2 valves, any generic issues identified through Category 1 DBRs or industry feedback mechanisms that could affect Category 2 valves is considered.

NOTE 2: Baseline testing is not required on Category 2 AOVs unless a DBR is required due to a generic issue identified through the Category 1 DBR process.

NOTE 3: Testing may be required by existing plant programs such as in service inspection/testing (ISI/IST), Maintenance Rule, ASME code, local leak rate testing (LLRT), licensing commitments, etc. For Category 2 AOVs, additional testing is not specifically required for the AOV Program.

NOTE 4: This program does not require additional post maintenance testing for Category 2 AOVs beyond verification of the affected setpoints.

Procedure EM-28-03, Attachment 4, identifies control valves CV-0944 and CV-0977B as Category 2. The following table identifies how the AOV program is implemented for these valves:

Valve ID	Baseline Test Date	Test Frequency
CV-0944	11/24/2002	Post Maintenance
CV-0977B	11/24/2002	Post Maintenance

NRC Request

2. Valve Relief Request 18 (VRR-18)

RAI-VRR-18-01:

The relief request states that valves are part of the component cooling system (Section 1.0). The valves are described as auxiliary feedwater control valves, and appear to be listed under the feedwater system in the valve matrix. Please clarify which system that the valves are associated with.

NMC Response

2. Control valves CV-0727, CV-0736A, CV-0737A and CV-0749 are part of the Auxiliary Feedwater (AFW) System.

NRC Request

RAI-VRR-18-02:

The relief request states that valves CV-0727, CV-0736A, CV-0737A, and CV-0749 are within the scope of the AOV condition assessment program. Please provide the details of the condition assessment program with respect to valves CV-0727, CV-0736A, CV-0737A, and CV-0749, and include the scheduled frequency of the activities.

NMC Response

The basis for categorization of AOVs is provided in the response to RAI-VRR-12.

Procedure EM-28-03, Attachment 4, identifies control valves CV-0727, CV-0736A, CV-0737A and CV-0749 as Category 1. The following table identifies how the AOV program is implemented for these valves:

Valve ID	Baseline Test Date	Test Frequency
CV-0727	11/06/1997	3 RFO/ 6 yrs*
CV-0736A	05/14/1998	3 RFO/ 6 yrs
CV-0737A	05/13/1998	3 RFO/ 6 yrs
CV-0749	05/20/1998	3 RFO/ 6 yrs

*Occurs every third refueling outage or every six years.

NRC Request

RAI-VRR-18-03:

Section 4.0, third paragraph, discusses valves CV-0736 and CV-0737. These valves are not identified in the components affected section (Section 1.0), and are not discussed in the proposed alternative and basis for use section (Section 6.0). Please remove this paragraph from the relief request, or provide clarification as to why the valves are discussed in the relief request.

NMC Response

This discussion is included to clarify why control valves CV-0736 and CV-0737 are not included within the scope of this relief request. Control Valves CV-0736 and CV-0737 are bypass flow control valves around CV-0736A and CV-0737A in the P-8C AFW train. They provide AFW flow control during normal startup operation and hot shutdown. The subject valves are required to regulate feedwater flow to the steam generators. They are not required to go to the full open or closed position for plant safety.

NRC Request

RAI-VRR-18-04:

The relief request states that the system provides auxiliary feedwater (AFW) flow control during normal startup operation and hot shutdown. Based on this statement, it would appear that the AFW pumps are not standby (Group B) pumps. The pump testing system index identifies the AFW pumps as Group B pumps. Please provide the rational used to determine that the auxiliary feedwater pumps are Group B pumps.

NMC Response

AFW Pump P-8C is categorized as a Group A pump. Group A pumps are operated continuously or routinely during normal operation, cold shutdown or refueling operations. This categorization is based on the preferential operation of pump P-8C, as described in System Operating Procedure SOP-12, "Feedwater System." A note in the procedure states the following: "Use of P-8C and associated flow control valves is preferred for Plant startups and shutdowns since the controllers have a design feature that automatically transfers the controller to cascade on an auxiliary feedwater actuation signal (AFAS) when the controllers are in automatic or PF (bypass valve) mode."

Engineering Manual Procedure EM-09-04, "Inservice Testing of Selected Safety Related Pumps," states that the AFW pumps P-8A and P-8B are centrifugal pumps, categorized as Group B pumps. Group B indicates they are standby pumps and are not normally operated, except for testing.

NRC Request

3. *Valve Relief Request 20 (VRR-20)*

RAI-VRR-20-01:

The relief request states that a value of 10 seconds has been established for indication that valve CV-0915 has changed position. Please provide the basis for the 10-second criteria, and provide expected nominal stroke time of the valve.

NMC Response

The 10-second limit has been selected based on an expected actuation time of approximately 8 seconds, as determined by historical performance recorded within the AOV Program. The 10-second limit provides sufficient time for test personnel to initiate the high radiation signal, then move to the indicating lights and determine if valve motion occurred. There is no analytical requirement for the 10-second criteria.

By letter dated April 20, 1995, the subject relief request was previously approved. The safety evaluation stated, "CV-0915 shall be stroke tested once each quarter through the performance of the Health Physics Procedure HP 6.8, 'Process Monitor Operational Check - Quarterly,' without stroke timing the valves. Verification of valve motion will be performed at the lights in the main control room. Testing per HP 6.8 verifies the subject valve will travel to its desired position. This is considered adequate for the following reasons:

- The valve is tested in the mode in which it would be called upon to mitigate an accident.
- A limiting value of stroke time will be established at 10 seconds. If CV-0915 fails to operate within this time constraint, then corrective action shall be taken. If CV-0915 does not move to the desired position, then it shall be declared inoperable."

NRC Request

RAI-VRR-20-02:

The relief request states that valve CV-0915 is within the scope of the AOV condition assessment program. Please provide the details of the condition assessment program with respect to valve CV-0915, and include the scheduled frequency of the activities.

NMC Response

The basis for categorization of AOVs is provided in the response to RAI-VRR-12. Procedure EM-28-03, Attachment 4, identifies control valves CV-0915 as Category 2. The following table identifies how the AOV program is implemented for this valve:

Valve ID	Baseline Test Date	Test Frequency
CV-0915	08/28/2000	Post Maintenance

NRC Request

6. *Valve Relief Request 30 (VRR-30)*

RAI-VRR-30-01:

Relief has been previously granted to allow testing of the identified relief valves during the fall 2007 refueling outage. The previously submitted/approved relief request stated that the fourth IST interval would not be extended for these valves. Please discuss how this statement is consistent with the newly-submitted relief request. If the previously approved relief request is not accurate, please revise the previously submitted relief request to accurately reflect the proposed testing of the identified relief valves.

NMC Response

As documented in the NRC Safety Evaluation Report (SER), "Palisades Plant – Revised Valve Relief Requests 28, 30, AND 31 for the Third 10-Year Pump and Valve Inservice Testing Program (TAC NO. MC6545)" and dated August 17, 2005, PNP proposed to extend the third IST interval for the subject relief valves until the conclusion of the fall 2007 refueling outage.

At the beginning of the third IST interval, the next full core offload was scheduled for August 2005. Presently, PNP plans to perform the next full-core offload during the fall 2007 refueling outage. Therefore, NMC concluded it was a hardship to test the subject relief valves by the surveillance due date of August 2005, or by the conclusion of the 2006 refueling outage.

The August 2005 SER continues by stating that the fourth IST interval will not be extended for these valves. After completing setpoint testing during the 2007 refueling outage, NMC will set the fourth interval start date for these valves at March 24, 2006, which is the beginning date of the fourth IST interval. Testing intervals, and scope, will be determined based on the March 24, 2006 date.

In the fourth IST interval relief request NMC states that the valve 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. Also, NMC requests approval of the proposed alternative for the remainder of the fourth ten-year interval of the Inservice Testing Program for PNP, which will conclude on or before March 23, 2016. Based on these statements, NMC intends to test this valve during the 2007 refueling outage and then again no later than March 23, 2016, which provides a maximum test interval of approximately once per 9 years. In this way, the fourth 10-year interval will not be extended for these valves.

NRC Request

RAI-VRR-30-02:

The relief request states that the valves 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. The OM code states that the test interval for any individual valve may not exceed 5 years, and that 20 percent of the valves shall be tested within any 24 months. The NRC previously granted what was considered a one-time relief from the Code testing requirements during the latter portion of the third 10-year interval. The relief request as written is vague as to the testing frequency, and implies that the valve could possibly never be tested if a full core offload is not scheduled. The NRC has previously allowed an extension of the testing frequency to twice the Code-allowed frequency. Please clarify the proposed testing frequency.

NMC Response

As discussed, RV-0401 can only be tested during full core offloads. Because RV-0401 is the only valve in its group, it would be required per the Code to be tested within 24 months. NMC is proposing to test the valve during full core offloads. After the 2007 refueling outage, the next full core offload would be no later than March 2016.