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U. S. Nuclear Regulatory Commission
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SUBJECT: Relief Requests, Proposed Alternatives, for the Fifth 10-Year Inservice Test Interval

Palisades Nuclear Plant
Docket 50-255
Renewed Facility Operating License No. DPR-20

REFERENCE: 1. NRC letter to Nuclear Management Company, LLC, *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),* dated March 22, 2007 (ADAMS Accession Number ML070680021)

Dear Sir or Madam:

Pursuant to 10 CFR 50.55a(z)(2), Entergy Nuclear Operations, Inc. (ENO) hereby requests Nuclear Regulatory Commission (NRC) approval of two proposed alternatives for the Palisades Nuclear Plant (PNP). These alternatives are for the fifth 10-year inservice test (IST) interval.

The first relief request, RR 5-2, is to use American Society of Mechanical Engineers (ASME) Operation and Maintenance (OM) Code Case OMN-20, *Inservice Test Frequency*, as an alternative to the test frequencies specified in ASME OM Division 1 Section IST for pumps and valves. The information provided in the enclosed request demonstrates that the code requirement results in hardship without a compensating increase in quality and safety.

The second relief request, RR 5-3, proposes to use a previously authorized relief for the current fourth 10-year IST interval concerning stroke timing requirements of the ASME OM Code, Subsection ISTC for two valves, VRR-12 (Reference 1). The information provided in the enclosed request demonstrates that the code requirement results in hardship without a compensating increase in quality and safety.

The PNP fifth 10-year interval IST program code of record will be ASME OM Code, 2004 Edition through the OMB-2006 Addenda. The duration of this requested relief is for the fifth IST interval which will begin on March 24, 2016 and conclude on March 23, 2026.

ENO requests NRC approval by March 23, 2016 to support plans to implement the proposed alternative at the start of the fifth 10-year IST interval.

Summary of Commitments

This letter contains no new commitments and no revised commitments.

Sincerely,



jah/jpm

- Attachments:
1. Entergy Nuclear Operations, Inc., Palisades Nuclear Plant,
10 CFR 50.55a Relief Request Number RR 5-2, Proposed Alternative in
Accordance with 10 CFR50.55a(z)(2) Hardship or Unusual Difficulty Without
a Compensating Increase in the Level of Quality and Safety, Use of OMN-20
Inservice Test Frequencies for Pumps and Valves
 2. Entergy Nuclear Operations, Inc., Palisades Nuclear Plant,
10 CFR 50.55a Relief Request Number RR 5-3, Proposed Alternative in
Accordance with 10 CFR50.55a(z)(2) Hardship or Unusual Difficulty Without
a Compensating Increase in the Level of Quality and Safety, Program Valve
Stroke Testing

cc: Administrator, Region III, USNRC
Project Manager, Palisades, USNRC
Resident Inspector, Palisades, USNRC

ATTACHMENT 1

ENTERGY NUCLEAR OPERATIONS, INC.

PALISADES NUCLEAR PLANT

10 CFR 50.55a Relief Request Number RR 5-2

**Proposed Alternative
in Accordance with 10 CFR 50.55a(z)(2)
Hardship or Unusual Difficulty without a Compensating
Increase in the Level of Quality and Safety**

**Use of OMN-20 Inservice Test Frequencies for
Pumps and Valves**

4 pages follow

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Proposed Alternative In Accordance with 10CFR50.55a(z)(2) Hardship or Unusual
Difficulty Without a Compensating Increase in the Level of Quality and Safety
Use of OMN-20 Inservice Test Frequencies for Pumps and Valves

1. American Society of Mechanical Engineers (ASME) Code Component(s) Affected

All pumps and valves contained within the inservice test (IST) program scope.

2. Applicable ASME Code Edition and Addenda

ASME Code for Operations and Maintenance of Nuclear Power Plants (OM Code) 2004 Edition, with addenda through Omb-2006

3. Applicable ASME OM Code Requirement(s)

This request applies to the frequency specifications of the ASME OM Code. The frequencies for tests given in the ASME OM Code do not include a tolerance band. Applicable sections are:

ISTA-3120(a)	"Inservice Test Interval, The frequency for the inservice testing shall be in accordance with the requirements of Section IST."
ISTB-3400	"Frequency of Inservice Tests"
ISTC-3510	"Valve Testing Requirements, Exercising Test Frequency"
ISTC-3540	"Valve Testing Requirements, Manual Valves"
ISTC-3630(a)	"Leak Testing Requirements, Leakage Rate for Other Than Containment Isolation Valves" Frequency, Tests shall be conducted at least once every 2 years"
ISTC-3700	"Position Verification Testing"
ISTC-5221(c)(3)	"Check Valves, Valve Obturator Movement, At least one valve from each group shall be disassembled and examined at each refueling outage; all valves in each group shall be disassembled and examined at least once every 8 years."
Appendix I, I-1320	"Test Frequencies, Class 1 Pressure Relief Devices"
Appendix I, I-1330	"Test Frequency, Class 1 Nonreclosing Pressure Relief Devices"
Appendix I, I-1340	"Test Frequency, Class 1 Pressure Relief Valves that are used for Thermal Relief Application"
Appendix I, I-1350	"Test Frequency, Classes 2 and 3 Pressure Relief Valves"
Appendix I, I-1360	"Test Frequency, Classes 2 and 3 Nonreclosing Pressure Relief Devices"
Appendix I, I-1370	"Test Frequency, Classes 2 and 3 Primary Containment Vacuum Relief Valves"
Appendix I, I-1380	Test Frequency, Classes 2 and 3 Vacuum Relief Valves, Except for Primary Containment Vacuum Relief Valves

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Program Valve Stroke Testing

Appendix I, I-1390	"Test Frequency, Classes 2 and 3 Pressure Relief Devices That Are Used for Thermal Relief Application"
Appendix II, II-4000 (a)(1)(e)	"Condition-Monitoring Activities, Performance Improvement Activities, Identify the interval of each activity"
Appendix II, II-4000 (b)(1)(e)	"Condition-Monitoring Activities, Optimization of Condition-Monitoring Activities, Identify the interval of each activity"

4. Reason for Request

Pursuant to 10 CFR 50.55a, *Codes and standards*, paragraph (z)(2), *Alternatives to codes and standards requirements, Hardship without a compensating increase in quality and safety*, relief is requested from the frequency specifications of the ASME OM Code. The basis for relief is that the ASME OM Code requirements present an undue hardship without a compensating increase in the level of quality or safety.

ASME OM Code Section IST establishes the inservice test frequency for all components within the scope of the Code. The frequencies (e.g., quarterly) have historically been interpreted as "nominal" frequencies (generally as defined in the Table 3.2 of NUREG 1482, Revision 2) and Owners routinely applied the surveillance extension time period (i.e., grace period) contained in the plant Technical Specifications (TS) Surveillance Requirements (SR). The TS typically allow for a less than or equal to 25% extension of the surveillance test interval to accommodate plant conditions that may not be suitable for conducting the surveillance (SR 3.0.2). However, regulatory issues have been raised concerning the applicability of the TS "grace period" to ASME OM Code required inservice test frequencies irrespective of allowances provided under TS Administrative Controls (i.e., TS 5.5.7, "Inservice Testing Program," invokes SR for various ASME OM Code frequencies).

The lack of a tolerance band on the ASME OM Code inservice test frequency restricts operational flexibility. For example, there may be a conflict in which a surveillance test could be required (i.e., its frequency could expire), but it is not possible or not desired that the test be performed until after a specific plant condition is reached or an associated Limiting Condition for Operation (LCO) is within its applicability.

The Nuclear Regulatory Commission (NRC) recognized this potential issue in the TS by allowing a frequency tolerance as described in PNP's Renewed Facility Operating License TS SR 3.0.2 and Administrative Controls Section 5.5.7. The lack of a similar tolerance for ASME OM Code testing places an unusual hardship on the plant to adequately schedule work tasks without operational flexibility.

Thus, just as with TS required surveillance testing, some tolerance is needed to allow adjusting ASME OM Code testing intervals to align with plant conditions and other maintenance and testing activities. This assures operational flexibility when scheduling surveillance tests in a manner that minimizes the conflicts between surveillance test frequency requirements and plant conditions.

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5. Proposed Alternative and Basis for Use

Code Case OMN-20 is included in the ASME OM Code, 2009 Edition, and will be used as an alternative to the frequencies of the ASME OM Code. The requirements of Code Case OMN-20 are described below. Period extensions are not intended to be used repeatedly as a mere operational convenience to extend test intervals beyond those specified.

ASME OM Code establishes component test frequencies that are based either on elapsed time periods (e.g., quarterly, two years, etc.) or on the occurrence of plant conditions or events (e.g., cold shutdown, refueling outage, upon detection of a sample failure, following maintenance, etc.).

- a. Components whose test frequencies are based on elapsed time periods shall be tested at the frequencies specified in ASME Code Section IST with a specified time period between tests as shown in the following table.

Frequency	Specified Time Period Between Tests
Quarterly (or every 3 months)	92 days
Semiannually (or every 6 months)	184 days
Annually (or every year)	366 days
x Years	x calendar years where 'x' is a whole number of years ≥ 2

- b. The specified time period between tests may be extended as follows:
- i. For periods specified as less than two years, the period may be extended by up to 25% for any given test.
 - ii. Period extensions may also be applied to accelerated test frequencies (e.g., pumps in Alert Range) and other less than two year test frequencies not specified in the table above.
 - iii. For periods specified as greater than or equal to 2 years, the period may be extended by up to 6 months for any given test.
- c. Components whose test frequencies are based on the occurrence of plant conditions or events (e.g., cold shutdown, refueling outage, upon detection of a sample failure, following maintenance, etc.) may not have their period between tests extended except as allowed by the ASME OM Code.

6. Duration of Proposed Alternative

The duration of the requested relief is for the fifth 10-year IST interval which will begin on March 24, 2016 and conclude on March 23, 2026.

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Program Valve Stroke Testing**

7. Precedents

NRC letter to Exelon Nuclear, *Three Mile Island Nuclear Station, Unit 1 – Relief Requests PR-01, PR-02, and VR-02, Associated with the Fifth 10-Year Inservice Test Interval (TAC Nos. MF0046, MF0047 and MF0048)*, dated August 15, 2013 (ADAMS Accession No. ML13227A024)

NRC letter to Duane Arnold Energy Center, *Duane Arnold Energy Center – Relief Request No. VR-03 Related to the Inservice Testing Program for the Fourth 10-Year Interval (TAC No. MF3076)*, dated June 9, 2014 (ADAMS Accession No. ML14144A002)

ATTACHMENT 2

ENTERGY NUCLEAR OPERATIONS, INC.

PALISADES NUCLEAR PLANT

10 CFR 50.55a Relief Request Number RR 5-3

**Proposed Alternative
in Accordance with 10 CFR 50.55a(z)(2)
Hardship or Unusual Difficulty without a Compensating
Increase in the Level of Quality and Safety**

Program Valve Stroke Testing

3 pages follow

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10 CFR 50.55a Relief Request Number RR 5-3
Proposed Alternative In Accordance with 10CFR50.55a(z)(2) Hardship or Unusual
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Program Valve Stroke Testing

1. American Society of Mechanical Engineers (ASME) Code Component(s) Affected

Component ID	Class	Category	System	Drawing
CV-0944	3	B	Component Cooling	M209-3
CV-0977B	3	B	Component Cooling	M209-3

2. Applicable Code Edition and Addenda

ASME Code for Operations and Maintenance of Nuclear Power Plants (OM Code) 2004 Edition, with addenda through Omb-2006

3. Applicable Code Requirement(s)

The scope of OM-2004 through Omb2006, Subsection ISTC contains requirements for inservice testing of valves in light-water reactor nuclear power plants that are required to perform a specific function in shutting down a reactor or in mitigating the consequences of an accident.

ISTC-5130 "Pneumatically Operated Valves"
ISTC-5131 "Valve Stroke Testing"

4. Reason for Request

Pursuant to 10 CFR 50.55a, "Codes and standards," paragraph (z)(2), relief is requested from the stroke timing requirements of the ASME OM Code, Subsection ISTC, Paragraph ISTC-5131 since compliance with the code requirements is impractical. The basis of the relief request is that the Code requirement presents an undue hardship without a compensating increase in the level of quality and safety.

CV-0944 and CV-0977B are normally open valves, which close on a safety injection signal (SIS). These valves have no remote or local control switch to perform stroke testing. These valves can only be actuated via an SIS. In addition, the valves have no control room indication, which is the location where the SIS actuation testing is initiated from. SIS actuation testing is performed on a quarterly frequency during technical specification surveillance activities. The valves fail closed on loss of instrument air which provides a "fail-safe" capability.

Stroke time testing of these valves results in hardship or unusual difficulty without a compensating increase in the level of quality and safety, based on the following:

1. Surveillance testing of the SIS is 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, position indications for CV-0944 and CV-0977B are located at remote control panel C-105. Coordination between control

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room activities and C-105 would be difficult since a dedicated operator would need to be positioned at C-105 with a stopwatch. Starting the stopwatch would be based on a verbal command from the control room, which results 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 difficult. The information obtained would be of limited use, due to the anticipated wide range of scatter of the data.

The portion of the component cooling water system isolated by these valves is a closed loop. If both valves fail to close, water cannot be isolated to the radioactive waste evaporators (RWEs) and waste gas compressor, C-54. If either valve closes, flow to the RWEs and waste gas compressor, C-54, is isolated.

Compliance with the code requirements would require a modification to change the SIS actuating scheme for the subject valves by adding an open and closed type control switch in the control room or a modification to install control switches and position indication at the valves locally. These modifications would be used in place of the current surveillance testing and would serve no other practical purpose beyond supporting the ability to perform stroke time testing.

5. Proposed Alternative and Basis for Use

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

This quarterly testing is considered adequate for the following reasons:

1. These valves are tested in the same manner in which they would be called upon to perform their accident mitigation function.
2. If either CV-0944 or CV-0977B closes, flow to the RWEs will be isolated.

Based on statements 1 and 2 above, testing without obtaining stroke times is sufficient to assure the ability of these valves to close.

The valves and air actuators for CV-0944 and CV-0977B are within the scope of the air operated valve program. Entergy Nuclear Engineering Programs procedure SEP-AOV-PLP-001, "Air Operated Valve Program," Attachment 1, has identified CV-0944 and CV-0977B as Category 2 air operated valves. 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 program requirements will assure continued operability of these components.

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Program Valve Stroke Testing**

6. Duration of Proposed Alternative

The proposed alternative identified in this relief request shall be implemented during the fifth 10-year inservice test (IST) interval beginning March 23, 2016.

7. Precedent

NRC letter to Nuclear Management Company, LLC, *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)*, dated March 22, 2007 (ADAMS Accession Number ML070680021)