



Energy Harbor Nuclear Corp.
Perry Nuclear Power Plant
10 Center Road
P.O. Box 97
Perry, Ohio 44081

Rod L. Penfield
Site Vice President, Perry Nuclear

440-280-5382

January 28, 2021
L-21-047

10 CFR 50.55a

ATTN: Document Control Desk
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Subject:
Perry Nuclear Power Plant
Docket No. 50-440, License No. NPF-58
10 CFR 50.55a Request Numbers VR-3 and VR-5, Valve Testing Extension

In accordance with 10 CFR 50.55a(z)(2), Energy Harbor Nuclear Corp. hereby requests Nuclear Regulatory Commission (NRC) staff approval of requests VR-3, Revision 0, and VR-5, Revision 0 that propose a one-time extension of valve testing for certain Perry Nuclear Power Plant valves scheduled for the upcoming spring 2021 refueling outage. The enclosed request identifies the affected components, applicable code requirements, and a description and basis for the proposed alternative.

Because of the hardship produced by the recent pandemic and the resulting national state of emergency, Energy Harbor Nuclear Corp. is requesting expedited NRC approval of this request. To support the critical generation and startup of Perry Nuclear Power Plant from its scheduled spring 2021 refueling outage, Energy Harbor Nuclear Corp. requests approval of the proposed alternative by February 26, 2021.

There are no regulatory commitments contained in this submittal. If there are any questions or if additional information is required, please contact Mr. Phil H. Lashley, Manager, Fleet Licensing, at (330) 696-7208.

Sincerely,

Penfield, Rod 55166
site vp
I am approving this document
Jan 28 2021 5:16 PM

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Rod L. Penfield

Perry Nuclear Power Plant

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Enclosure:

A. Perry Nuclear Power Plant 10 CFR 50.55a Request Number VR-3, Revision 0

B. Perry Nuclear Power Plant 10 CFR 50.55a Request Number VR-5, Revision 0

cc: NRC Region III Administrator

NRC Resident Inspector

NRR Project Manager

Enclosure A
L-21-047

Perry Nuclear Power Plant
10 CFR 50.55a Request Number VR-3, Revision 0

(3 pages follow)

Proposed Alternative
 In Accordance with 10 CFR 50.55a(z)(2)
 --Hardship Without a Compensating Increase in Quality and Safety--

1. ASME Code Components Affected

Component ID	Component Description	Code Class	Valve Category
1D23-F010A	Suppression Pool Level A Dry Leg Isolation Valve	2	A
1D23-F010B	Suppression Pool Level B Dry Leg Isolation Valve	2	A
1D23-F020A	Containment Pressure A Containment Isolation Valve	2	A
1D23-F020B	Containment Pressure B Containment Isolation Valve	2	A
1D23-F030A	Containment Drywell A Differential Pressure – Containment Leg Valve	2	A
1D23-F030B	Containment Drywell B Differential Pressure – Containment Leg Valve	2	A
1D23-F040A	Containment Drywell A Differential Pressure – Drywell Leg Valve	2	A
1D23-F040B	Containment Drywell B Differential Pressure – Drywell Leg Valve	2	A
1D23-F050	Suppression Pool Level C Dry Leg Isolation Valve	2	A

2. Applicable Code Edition and Addenda

American Society of Mechanical Engineers (ASME) Operation and Maintenance (OM) Code, 2012 Edition.

3. Applicable Code Requirements

ASME OM Code, Subsection ISTC 3630, "Leakage Rate for Other Than Containment Isolation Valves," paragraph (a), "Frequency," states that:

Tests shall be conducted at least once every 2 yr [years].

ASME OM Code, Subsection ISTC-3700, "Position Verification Testing," states in part that:

Valves with remote position indicators shall be observed locally at least once every 2 yr [years] to verify that valve operation is accurately indicated. Where practicable, this local observation should be supplemented by other indications such as use of flow meters or other suitable instrumentation to verify obturator position. These observations need not be concurrent. Where local observation is not possible, other indications shall be used for verification of valve operation.

When implementing ASME OM Code, 2012 Edition, Subsection ISTC-3700, the supplemental indication portion is made mandatory by 10 CFR 50.55a(b)(3)(xi).

4. Reason for Request

Perry Nuclear Power Plant (PNPP) is scheduled to start its 18th refueling outage (1R18) on March 7, 2021. Leakage rate testing and position verification testing of the valves identified in Section 1 is required every two years. The valves identified may only be tested during a cold shutdown or refueling outage as opening or closing the valves may cause unanalyzed perturbations that initiate the trip logic associated with the instrumentation being isolated that in turn could cause a plant shutdown to occur. Performance of the valve testing requires qualified valve leak rate testing contractors.

To prevent the spread of coronavirus disease 2019 (COVID-19), comply with Centers for Disease Control and Prevention (CDC) guidance at the Perry Nuclear Power Plant, and to protect the health and safety of plant personnel while maintaining responsibilities to support critical infrastructure, Energy Harbor Nuclear Corp. intends to reduce the number of personnel on-site during the upcoming refueling outage, including qualified valve leak rate testing contractor personnel.

The COVID-19 virus has created a hardship or unusual difficulty in performing the applicable code required testing and performing the required testing during the upcoming spring 2021 refueling outage would not provide a compensating increase in the level of quality or safety as there is reasonable assurance that the affected valves will be operationally ready as described in section 5 below.

5. Proposed Alternative and Basis for Use

As an alternative to the ASME OM Code Subsection ISTC 3630, paragraph (a), valve leakage rate test frequency of every two years, and Subsection ISTC-3700 position

indication verification requirements, Energy Harbor Nuclear Corp. proposes a one-time extension of the test frequency and position verification requirements scheduled to be performed during the spring 2021 refueling outage. The leakage rate testing and position indication verification requirements applicable to the affected valves (listed in Section 1) will resume during the next scheduled refueling outage in the spring of 2023.

These solenoid valves are tested to verify they exercise close to their safety-related position and their stroke time is measured in the closed direction during cold shutdowns or refueling outages. These tests are scheduled and will be performed during the spring 2021 refueling outage. To satisfy the position indication requirement, the valves are tested using leak rate measuring equipment. The valve obturator position is determined by the ability to pressurize the test volume via test equipment (valve closed) and the ability to depressurize the test volume (valve opened). This test also satisfies 10 CFR 50.55a(b)(3)(xi) supplemental indication requirements when ISTC-3700 is performed. Measured leakage is compared against an owner-specified limit. There has not been a failure of the position indication light or measured leakage rate criteria for any solenoid valve in the last 13 years. This testing is performed each refueling outage.

Based on valve test history and other information provided above, there is reasonable assurance that the affected valves (listed in Section 1 above) will remain operationally ready until the 2023 refueling outage.

6. Duration of Proposed Alternative

The proposed alternative is requested for use during the PNPP fourth 10-year in-service test interval. The proposed alternative would be a one-time extension of testing of the affected valves (listed in Section 1 above) during the spring 2021 refueling outage. Testing of the valves in accordance with Subsection ISTC-3630 and IST-3700 would resume in the 2023 refueling outage.

Enclosure B
L-21-047

Perry Nuclear Power Plant
10 CFR 50.55a Request Number VR-5, Revision 0

(3 pages follow)

Proposed Alternative
In Accordance with 10 CFR 50.55a(z)(2)
--Hardship Without a Compensating Increase in Quality and Safety--

1. ASME Code Components Affected

Component ID	Component Description	Code Class	Valve Category
1C41-F029B	SLC Pump B Relief Valve	2	C
1E51-F018	RCIC Turbine Lube Oil Cooler Relief to CRW	2	C

SLC – Standby Liquid Control

RCIC – Reactor Core Isolation Cooling

CRW – Clean Radwaste Collection System

2. Applicable Code Edition and Addenda

American Society of Mechanical Engineers (ASME) Operation and Maintenance (OM) Code, 2012 Edition.

3. Applicable Code Requirements

ASME OM Code, Division 1, Mandatory Appendix I, Subsection I-1350, “Test Frequency, Classes 2 and 3 Pressure Relief Valves,” paragraph (a), “10-Yr Test Interval,” states in part that:

Classes 2 and 3 pressure relief valves, with the exception of PWR main steam safety valves, shall be tested every 10 yr [year], starting with initial electric power generation. No maximum limit is specified for the number of valves to be tested during any single plant operating cycle; however, a minimum of 20% of the valves from each valve group shall be tested within any 48-mo [month] interval. This 20% shall consist of valves that have not been tested during the current 10-yr [year] test interval, if they exist.

4. Reason for Request

Perry Nuclear Power Plant (PNPP) is scheduled to start its 18th refueling outage (1R18) on March 7, 2021. Two relief valves are at the end of their required 48-month required test interval as specified by ASME OM Code, Mandatory Appendix I, Paragraph I-1350(a) and are required to be tested during the 18th refueling outage.

Energy Harbor Nuclear Corp. does not possess the required code symbol stamp to perform in-house modification or adjustment of relief valves at PNPP. Therefore, to

meet the Paragraph I-1350(a) test requirements, vendors that possess the required code symbol stamp are employed to perform the required test of a newly procured relief valve or an available spare relief valve from PNPP and provide a pretested relief valve to replace a relief valve that has been in service at PNPP.

An available spare relief valve at PNPP would ordinarily be tested by a vendor and used to replace valve 1C41-F029B. There is no available spare valve onsite that can be tested to replace valve 1E51-F018. Therefore, a new valve would ordinarily be procured and tested by a vendor to replace valve 1E51-F018.

To prevent the spread of coronavirus disease 2019 (COVID-19), comply with Centers for Disease Control and Prevention (CDC) guidance, and to protect the health and safety of Perry Nuclear Power Plant personnel while maintaining responsibilities to support critical infrastructure, Energy Harbor Nuclear Corp. intends to reduce the number of personnel on-site during the spring 2021 refueling outage, including a reduction in contractors for valve work. Additionally, due to the pandemic and vendor personnel working remotely, the production schedule of the vendor providing the valves to be used as pre-tested replacements has been negatively affected. As a result, the acquisition of qualified and tested replacement relief valves has been challenged and may not be available for the 18th refueling outage.

The COVID-19 virus has created a hardship or unusual difficulty in performing the applicable code required testing and performing the required testing during the upcoming spring 2021 refueling outage would not provide a compensating increase in the level of quality or safety as there is reasonable assurance that the affected valves will be operationally ready as described in section 5 below.

5. Proposed Alternative and Basis for Use

As an alternative to the 48-month required test interval of ASME OM Code, Division 1, Mandatory Appendix I, Paragraph I-1350(a), Energy Harbor Nuclear Corp. proposes a one-time extension of the test interval for valves 1C41-F029B and 1E51-F018 scheduled for the spring 2021 refueling outage. Testing for valves 1C41-F029B and 1E51-F018 to meet Paragraph I-1350(a) will resume during the next scheduled refueling outage in the spring of 2023.

Valve 1C41-F029B is categorized as a Class 2 and 3 pressure relief valve. It is in a group of two valves. The 48-month test is to be performed for this valve no later than March 12, 2021. For the currently installed valve 1C41-F029B, a previously installed valve was refurbished and then tested at a vendor facility on February 28, 2013 prior to installation into the plant.

Valve 1E51-F018 is categorized as a Class 2 and 3 pressure relief valve. It is in a group of two valves. The 48-month test is to be performed for this valve no later than March 15, 2021. For the currently installed valve 1E51-F018, a new valve was purchased from the original equipment manufacturer and then tested at the vendor

facility on March 10, 2014 prior to installation into the plant. The valve was pre-service tested with satisfactory results on December 6, 2016.

ASME OM Code paragraph I-1350(a) states in part that the test interval for any installed valve shall not exceed 10 years and the 10-year test interval shall begin from the date of the as-left set pressure test. Testing Valve 1C41-F029B during the spring of 2023 refueling outage would meet this 10-year test interval requirement by using a portion of the six-month test interval extension permitted by ASME OM Code Case OMN-20, "Inservice Test Frequency." Testing Valve 1E51-F018 during the spring of 2023 refueling outage would meet this 10-year test interval requirement.

Based on the information provided above, valve 1C41-F029B was replaced with a refurbished valve that was tested in February of 2013, and valve 1E51-F018 was replaced with a new valve that was tested in December of 2016. As valve 1C41-F029B has been in service less than 8 years since last tested, valve 1E51-F018 has been in service just over 4 years since last tested, and the valves would be tested within the 10-year test interval requirement (using a portion of the permitted six-month test interval extension for valve 1C41-F029B) there is reasonable assurance that these valves will remain operationally ready until the 2023 refueling outage.

6. Duration of Proposed Alternative

The proposed alternative is requested for use during the PNPP fourth 10-year in-service test interval. The proposed alternative would be a one-time extension of testing of the affected relief valves (listed in Section 1 above) during the spring 2021 refueling outage. Testing of the relief valve in accordance with ASME OM Code Mandatory Appendix I, Subsection I-1350, Paragraph (a) would resume in the 2023 refueling outage.