



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

February 23, 2022

Mrs. Maria L. Lacal
Executive Vice President/
Chief Nuclear Officer
Arizona Public Service Company
P.O. Box 52034, Mail Station 7605
Phoenix, AZ 85072-2034

SUBJECT: PALO VERDE NUCLEAR GENERATING STATION, UNIT 2 – RELIEF
REQUEST 69 TO EXTEND INSERVICE INSPECTION OF CONTAINMENT
TENDON BY 4 MONTHS DUE TO THE COVID-19 PANDEMIC
(EPID L-2022-LLR-0011 [COVID-19])

Dear Mrs. Lacal:

By electronic submittal dated January 28, 2022, Arizona Public Service Company (APS, the licensee) submitted a COVID-19 relief request to extend containment tendon inspection at Palo Verde Nuclear Generating Station, Unit 2 (Palo Verde, Unit 2) by 4 months, in accordance with Title 10 of the *Code of Federal Regulations* (10 CFR) Section 50.55a(z)(2), "Hardship without a compensating increase in quality and safety."

Specifically, pursuant to 10 CFR 50.55a(z)(2), the licensee requested U.S. Nuclear Regulatory Commission (NRC) approval of Relief Request 69 regarding the interval between containment tendon inspections as specified per Subsubarticle IWL-2420 of the American Society of Mechanical Engineers Boiler and Pressure Vessel Code (ASME Code), Section XI, "Rules for Inservice Inspection of Nuclear Power Plant Components," Subsection IWL, "Requirements for Class CC [Concrete Containment] Concrete Components of Light-Water Cooled Plants," required by 10 CFR 50.55a. Relief is requested on the basis that compliance with the Code-specified inspection interval during the COVID-19 pandemic would result in hardship without a compensating increase in the level of quality and safety for Palo Verde, Unit 2.

The U.S. Federal Government made a declaration of emergency due to COVID-19, under the Stafford Act on March 13, 2020, while the U.S. Centers for Disease Control and Prevention determined that COVID-19 poses a serious public health risk. Due to the COVID-19 pandemic, the licensee has enacted guidelines to limit outside contractors, including those that perform examinations for the inservice inspection program, in order to minimize the potential of inadvertently spreading the COVID-19 virus to Palo Verde personnel.

In its submittal dated January 28, 2022, the licensee stated, in part, that:

APS has made good faith efforts to complete the Unit 2 containment tendon examinations by the February 8, 2022, due date. Examinations were originally scheduled to start in November 2021. Unfortunately, due to tooling parts and material manufacturing at the other facilities, there were delays in vendor

completion of work at other sites, which delayed mobilization at [Palo Verde, Unit 2] until January 2022. The majority of the inspection work is expected to be completed by the deadline of [February 8, 2022]; however, further COVID-19 impacts have been experienced, with examiners being ill or isolated due to close contact. Initial inspections are targeted by February 8, 2022, with the final vendor report targeted for March 2022, and final APS acceptance in April 2022. The proposed timeline provides contingency or margin in the schedule to ensure completion of the final report and closure of the surveillance package, to support containment operability.

The duration of the proposed alternative would extend from the current February 8, 2022, deadline for completing the Unit 2, 35th year, IWL Containment Post-Tensioning System Inspection until June 8, 2022. The licensee received verbal authorization from the NRC on February 2, 2022.

As set forth in the enclosed safety evaluation, the NRC staff determines that complying with the specified requirement would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety. The NRC staff concludes that the licensee's proposed alternative in Relief Request 69 has adequately addressed the regulatory requirements set forth in 10 CFR 50.55a(z)(2). Accordingly, the NRC staff determines that granting relief pursuant to 10 CFR 50.55a(z)(2) is authorized by law and will not endanger life or property or the common defense and security, and is otherwise in the public interest giving due consideration to the burden upon the licensee that could result if the requirements were imposed on the facility. Therefore, the NRC staff authorizes the proposed alternative at Palo Verde, Unit 2 for the period beginning February 8, 2022, and ending June 8, 2022, during the Palo Verde, Unit 2, third 10-year Containment Tendon Inspection Program interval.

All other ASME Code Section XI requirements for which the alternative was not specifically requested and authorized in this proposed alternative remain applicable, including a third-party review by the Authorized Nuclear Inservice Inspector.

If you have any questions, please contact the Project Manager, Siva P. Lingam, at 301-415-1564 or by e-mail to Siva.Lingam@nrc.gov.

Sincerely,

Jennifer L. Dixon-Herrity, Chief
Plant Licensing Branch IV
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. STN 50-529

Enclosure:
Safety Evaluation

cc: Listserv



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

RELIEF REQUEST 69

REQUEST TO DEFER ASME CODE INSERVICE

INSPECTION OF CONTAINMENT TENDON BY 4 MONTHS

DUE TO COVID-19 PANDEMIC

ARIZONA PUBLIC SERVICE COMPANY

PALO VERDE NUCLEAR GENERATING STATION, UNIT 2

DOCKET NO. STN 50-529

1.0 INTRODUCTION

By electronic submittal dated January 28, 2022 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML22031A098), Arizona Public Service Company (APS, the licensee) submitted COVID 19 Relief Request 69 (RR-69), to extend containment tendon inspection at Palo Verde Nuclear Generating Station, Unit 2 (Palo Verde, Unit 2) for one time from February 8, 2022, to June 8, 2022 (i.e., 4 months), in accordance with Title 10 of the *Code of Federal Regulations* (10 CFR) Section 50.55a(z)(2), "Hardship without a compensating increase in quality and safety." Specifically, pursuant to 10 CFR 50.55a(z)(2), the licensee requested U.S. Nuclear Regulatory Commission (NRC) approval of RR-69 regarding the interval between containment tendon inspections as specified per Subsubarticle IWL-2420 of the American Society of Mechanical Engineers Boiler and Pressure Vessel Code (ASME Code), Section XI, "Rules for Inservice Inspection of Nuclear Power Plant Components," Subsection IWL, "Requirements for Class CC [Concrete Containment] Concrete Components of Light-Water Cooled Plants," required by 10 CFR 50.55a, "Codes and standards."

By teleconference call on February 2, 2022, the NRC provided verbal authorization to APS for the subject RR-69 for Palo Verde, Unit 2 (ADAMS Accession No. ML22034A013).

2.0 REGULATORY EVALUATION

Pursuant to 10 CFR 50.55a(g)(4), "Inservice inspection standards requirement for operating plants," throughout the service life of a nuclear power facility, components that are classified as ASME Class CC pressure retaining components must meet the requirements set forth in Section XI of the ASME Code, Subsection IWL, as incorporated by reference in 10 CFR 50.55a(a)(1)(ii), "ASME Boiler and Pressure Vessel Code, Section XI," subject to the conditions listed in 10 CFR 50.55a(b)(2)(ix), "Section XI condition: Metal containment examinations." Section XI, Subsection IWL of the ASME Code, provides rules for inservice

inspection (ISI) and repair/replacement activities of the reinforced concrete and post-tensioning system components of Class CC containment structures. The appropriate edition of the code to be used for successive 120-month inspection intervals is determined under paragraph (g)(4)(ii), "Applicable ISI Code: Successive 120-month intervals," of 10 CFR 50.55a. Alternatives to the requirements of 10 CFR 50.55a(g), "Preservice and inservice inspection requirements," may be authorized by the NRC under 10 CFR 50.55a(z)(2) if the licensee demonstrates that the specified requirement would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety.

Pursuant 10 CFR 50.55a(g)(4)(ii), the licensee's Code of record for the third 10-year containment ISI interval is the 2007 Edition with the 2008 Addenda of ASME Code, Section XI, Subsection IWL. Subsubarticle IWL-2420 "Unbonded Post-Tensioning Systems," subparagraph (a) states that "Unbonded post-tensioning systems shall be examined in accordance with IWL-2520 at 1, 3, and 5 years following the completion of the containment Structural Integrity Test and every 5 years thereafter." Subsubarticle IWL-2420 further states in subparagraph (c) that "The 10-year and subsequent examinations shall commence not more than 1 year prior to the specified dates and shall be completed not more than 1 year after such dates. If plant operating conditions are such that examination of portions of the post-tensioning system cannot be completed within this stated time interval, examination of those portions may be deferred until the next regularly scheduled plant outage." Table IWL-2500-1, "Examination Category L-B, Unbonded Post-Tensioning System," provides the examination and test requirements for the post-tensioning system components.

Palo Verde, Unit 2's specified date for the 35th surveillance year subsequent examination under Subsubarticle IWL-2420(a) is February 8, 2020. Therefore, per Subsubarticle IWL-2420(c), Palo Verde, Unit 2's deadline for the completion of the 35th year inspection is February 8, 2021. By electronic submittal dated November 5, 2020 (ADAMS Accession No. ML20315A156), APS submitted COVID-19 RR-66 to extend the containment tendon inspection at Palo Verde, Unit 2 by 1 year, in accordance with the requirements of 10 CFR 50.55a(z)(2). On April 2, 2021, the NRC approved RR-66 extending the containment tendon inspection from February 8, 2021, to February 8, 2022 (ADAMS Accession No. ML21089A010). For this relief request, the licensee requests postponing the completion date for the 35th year surveillance to no later than June 8, 2022, under 10 CFR 50.55a(z)(2), because of hardship or unusual difficulty imposed by the national emergency declaration due to the COVID-19 pandemic.

Based on the above, and subject to the following technical evaluation, the NRC staff finds that regulatory authority exists for the licensee to request, and the NRC to authorize, the alternative requested by the licensee.

3.0 TECHNICAL EVALUATION

3.1 Licensee's Proposed Alternative

The licensee's alternative request applies to the containment unbonded post-tensioning system inspections. Specifically, the request applies to the requirement in Subsubarticle IWL-2420(c) as stated above. The licensee's proposed alternative corresponding to the above code requirement is a one-time, 4-month extension beyond the NRC approved date of February 8, 2022, for RR-66 until June 8, 2022.

The licensee's November 5, 2020, letter stated that APS did not have the internal capability and equipment to perform the inspection, and this must be done by the vendor. The letter further

stated that 10 contractors were needed to perform the containment tendon inspections. In general, this work activity involves a team of people working in close proximity and does not allow for social distancing which could be a large contributor towards the spread of the virus. As stated in the licensee's letter dated January 28, 2022, the vendor delay and sickness due to COVID-19 are the reasons for requesting a 4-month extension for completing the ASME Code's containment unbonded post-tensioning system inspections.

The licensee's letter dated November 5, 2020, stated that the prior containment post-tensioning surveillances had been completed successfully with no abnormal degradation. The recent inspection results of the 25th and 30th years' inspections concluded that the structural and functional integrity of the post tensioning system was acceptable. The licensee's November 5, 2020, letter further stated that a "visual examination of the Unit 2 Concrete Containment's exterior surface was completed in August of 2017." The inspection results indicated that no conditions which would require structural repair or more frequent examinations were identified, and the condition of the exterior concrete surface was deemed acceptable, per paragraph IWL-3211, "Acceptance by Examination."

In the licensee's submittal dated January 28, 2022, the licensee stated that it had "made good faith efforts to complete the Unit 2 containment tendon examinations by the February 8, 2022, due date." Examinations were originally scheduled to start in November 2021. However, due to the delay of vendor completion of work at other sites, which delayed the mobilization at Palo Verde, Unit 2 until January 2022. The inspection work was completed during the week of February 7, 2022. The vendor report will take approximately 45 days, and APS will complete the finalization of the report by June 8, 2022.

The proposed timeline provides contingency or margin in the schedule to ensure completion of the final report and closure of the surveillance package, to support containment operability. The duration of the proposed alternative would extend from the current February 8, 2022, deadline for completing the Unit 2, 35th year IWL Containment Post-Tensioning System Inspection until June 8, 2022.

3.2 NRC Staff Evaluation

The NRC staff reviewed the information provided in the proposed alternative request, as well as general information available regarding the COVID-19 pandemic, and finds that completing the inspections as required would result in a hardship or unusual difficulty.

Summary results of the 25th and 30th years' Tendon Surveillances, performed on Palo Verde, Unit 2, was attached to the licensee's November 5, 2020, submittal. The tendon surveillances results confirmed that the functional integrity of the selected post-tensioning system met the applicable code requirements. The NRC staff reviewed the licensee's tendon surveillances results and noted that the inspections have been completed successfully with no indications of degradation to the post-tensioning system that would compromise the structural integrity of the containment building. Specifically, the NRC staff finds that the licensee performed all the ASME Code, Section XI, Table IWL-2500-1 (L-B) inspection requirements of the containment post-tensioning system and met the requirements as specified in the Code.

Since the previous inspection results were all acceptable, the regression analysis shows that the tendon forces in the post-tensioning system are expected to exceed the minimum prescribed lower limit value for each tendon type for the duration of the current license, and the 2017 visual inspection showed no significant signs of degradation. The NRC staff finds that

conducting the required inspections of the unbonded post-tensioning system by the February 8, 2022, deadline would not have provided an increase in quality or safety commensurate with the increased hardship.

Based on its review, the NRC staff finds it is acceptable for the licensee to defer completion of the required ASME Section XI, Table IWL-2500-1 (L-B) inspections of the containment post-tensioning system for an additional 4 months, or until no later than June 8, 2022. The NRC staff also finds that there is reasonable assurance that the structural integrity of the containment building will be maintained until June 8, 2022, when the required ASME Code inspections will be completed.

4.0 CONCLUSION

As set forth above, the NRC staff determines that complying with the specified requirement would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety. The NRC staff concludes that the licensee's proposed alternative in RR 69 has adequately addressed the regulatory requirements set forth in 10 CFR 50.55a(z)(2). Accordingly, the NRC staff determines that granting relief pursuant to 10 CFR 50.55a(z)(2) is authorized by law and will not endanger life or property or the common defense and security, and is otherwise in the public interest giving due consideration to the burden upon the licensee that could result if the requirements were imposed on the facility. Therefore, the NRC staff authorizes the proposed alternative at Palo Verde, Unit 2 for the period beginning February 8, 2022, and ending June 8, 2022, during the Palo Verde, Unit 2, third 10-year Containment Tendon Inspection Program interval.

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Principal Contributor: J. Ma, NRR

Date: February 23, 2022

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***by e-mail**

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