



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
REGION IV  
1600 EAST LAMAR BOULEVARD  
ARLINGTON, TEXAS 76011-4511

June 21, 2022

Mr. Adam Heflin, Executive Vice President  
and Chief Nuclear Officer  
Arizona Public Service Company  
P.O. Box 52034, MS 7602  
Phoenix, AZ 85072-2034

SUBJECT: PALO VERDE NUCLEAR GENERATING STATION, UNITS 1, 2, AND 3 - NRC  
EXAMINATION REPORT 05000528/2022301, 05000529/2022301, AND  
05000530/2022301

Dear Mr. Heflin:

On June 1, 2022, the U.S. Nuclear Regulatory Commission (NRC) completed an initial operator license examination at Palo Verde Nuclear Generating Station, Units 1, 2, and 3. The enclosed report documents the examination results and licensing decisions. The preliminary examination results were discussed on May 5, 2022, with Mrs. Maria Lacal, Executive Vice President / Chief Nuclear Officer, and other members of your staff. A telephonic exit meeting was conducted on June 1, 2022, with Mr. J. Stewart, Operations Training Manager, who was provided the NRC licensing decisions.

The examination included the evaluation of ten applicants for reactor operator licenses, one applicant for an instant senior reactor operator license, and five applicants for upgrade senior reactor operator licenses. The license examiners determined that all applicants satisfied the requirements of 10 CFR Part 55, and the appropriate licenses have been issued. There was one post-examination comment submitted by your staff. Enclosure 1 contains details of this report and Enclosure 2 summarizes the post-examination comment resolution.

No findings were identified during this examination.

This letter, its enclosure, and your response (if any) will be made available for public inspection and copying at <http://www.nrc.gov/reading-rm/adams.html> and at the NRC Public Document Room in accordance with 10 CFR 2.390, "Public Inspections, Exemptions, Requests for Withholding."

Sincerely,



Signed by Gepford, Heather  
on 06/21/22

Heather J. Gepford, Chief  
Operations Branch  
Division of Operating Reactor Safety

Docket Nos. 05000528, 05000529, and 05000530  
License Nos. NPF-41, NPF-51, and NPF-74

Enclosures:

1. Examination Report 05000528/2022301,  
05000529/2022301, and  
05000530/2022301  
w/attachment: Supplemental  
Information
2. NRC Post-Examination Comment  
Resolution

Electronic distribution via LISTSERV

**U.S. NUCLEAR REGULATORY COMMISSION  
Inspection Report**

Docket Numbers: 05000528, 05000529, 05000530

License Numbers: NPF-41, NPF-51, NPF-74

Report Numbers: 05000528/2022301, 05000529/2022301, and 05000530/2022301

Enterprise Identifier: L-2022-OLL-0021

Licensee: Arizona Public Service Company

Facility: Palo Verde Nuclear Generating Station

Location: Tonopah, Arizona

Inspection Dates: May 2, 2022, to June 1, 2022

Inspectors: J. Kirkland, Chief Examiner, Senior Operations Engineer  
K. Clayton, Senior Operations Engineer  
C. Osterholtz, Senior Operations Engineer  
M. Doyle, Operations Engineer  
N. Hernandez, Operations Engineer  
D. You, Operations Engineer

Approved By: Heather J. Gepford, Chief  
Operations Branch  
Division of Operating Reactor Safety

## SUMMARY

Examination Report 05000528/2022301, 05000529/2022301, and 05000530/2022301 Palo Verde Nuclear Generating Station, Units 1, 2, and 3; Initial Operator Licensing Examination Report

The NRC examiners evaluated the competency of ten applicants for reactor operator licenses, one applicant for an instant senior reactor operator license, and five applicants for upgrade senior reactor operator licenses at Palo Verde Nuclear Generating Station, Units 1, 2, and 3.

The licensee developed the examinations using NUREG-1021, "Operator Licensing Examination Standards for Power Reactors," Revision 12. The written examination was administered by the licensee on May 12, 2022. The NRC examiners administered the operating tests on May 2-5, 2022,

The NRC examiners determined that all of the applicants satisfied the requirements of 10 CFR Part 55, and the appropriate licenses have been issued.

A. NRC-Identified and Self-Revealing Findings

None.

B. Licensee-Identified Violations

None.

## REPORT DETAILS

### OTHER ACTIVITIES – INITIAL LICENSE EXAM

#### .1 License Applications

##### a. Scope

The NRC examiners reviewed all license applications submitted to ensure each applicant satisfied relevant license eligibility requirements. The NRC examiners also audited three of the license applications in detail to confirm that they accurately reflected the subject applicant's qualifications. This audit focused on the applicant's experience and on-the-job training, including control manipulations that provided significant reactivity changes.

##### b. Findings

No findings were identified.

#### .2 Examination Development

##### a. Scope

The NRC examiners reviewed integrated examination outlines and draft examinations submitted by the licensee against the requirements of NUREG-1021. The NRC examiners conducted an onsite validation of the operating tests.

##### b. Findings

The NRC examiners provided outline, draft examination comments, and post-validation comments to the licensee. The licensee satisfactorily completed comment resolution prior to examination administration.

The NRC examiners determined the written examinations and operating tests initially submitted by the licensee were within the range of acceptability expected for a proposed examination.

.3 Operator Knowledge and Performance

a. Scope

On May 12, 2022, the licensee proctored the administration of the written examinations to all applicants. The licensee staff graded the written examinations, analyzed the results, and presented their analysis and post-examination comments to the NRC on May 19, 2022.

The NRC examination team administered the various portions of the operating tests to all applicants from May 2-5, 2022.

b. Findings

No findings were identified.

All applicants passed the written examination and all parts of the operating test. The final examinations and post-examination analysis and comments may be accessed in the ADAMS system under the accession numbers noted in the attachment.

The examination team noted one generic weakness associated with applicant performance on the administrative job performance measures section of the operating test. Four of six senior reactor operator applicants could not accurately determine the time a unit was required to be at 50% power following a slipped control element assembly. The examination team also noted one generic weakness associated with applicant performance on the dynamic scenario section of the operating tests. Three of four senior reactor operator applicants could not completely describe technical specification implications following the loss of a safety related electrical bus.

Post-examination analysis revealed two generic weaknesses associated with applicant performance on the written examination. Nine of sixteen applicants could not describe all indications used to identify a leaking pressurizer safety valve, and three of six senior operator applicants could not identify how many licensed operators are required to be in the control room in Mode 5.

These weaknesses were captured in the licensee's corrective action program as condition reports 22-05792 and 22-05793. Copies of all individual examination reports were sent to the facility training manager for evaluation and determination of appropriate remedial training.

.4 Simulation Facility Performance

a. Scope

The NRC examiners observed simulator performance regarding plant fidelity during examination validation and administration.

b. Findings

No findings were identified.

.5 Examination Security

a. Scope

The NRC examiners reviewed examination security for examination development during both the onsite preparation week and examination administration week for compliance with 10 CFR 55.49 and NUREG-1021. Plans for simulator security and applicant control were reviewed and discussed with licensee personnel.

Findings

No findings were identified.

**EXIT MEETINGS AND DEBRIEFS**

Exit Meeting Summary

The chief examiner presented the preliminary examination results to Mrs. Maria Lacal, Executive Vice President and Chief Nuclear Officer, and other members of the staff on May 5, 2022. A telephonic exit was conducted on June 1, 2022, between Mr. J. Kirkland, Chief Examiner, and Mr. J. Stewart, Operations Training Manager.

The licensee did not identify any information or materials used during the examination as proprietary.

## **SUPPLEMENTAL INFORMATION**

### **KEY POINTS OF CONTACT**

#### **Licensee Personnel**

J. Stewart, Operations Training Manager  
J. Shaver, Simulator/Exam Grp Section Leader  
H. Eutsler, Initial License Training Section Leader  
J. Rodgers, Lead Exam Writer

#### **NRC Personnel**

L. Merker, Senior Resident Inspector

### **ADAMS DOCUMENTS REFERENCED**

Accession No. ML22143A988 - FINAL WRITTEN EXAMS  
Accession No. ML22143A987 - FINAL OPERATING TEST  
Accession No. ML22143A989 - POST-EXAMINATION ANALYSIS-COMMENTS



## NRC Resolution to the Palo Verde Post-Examination Comment

A complete text of the licensee's post-examination analysis and comments can be found in ADAMS under Accession Number ML22143A989.

### **SR QUESTION # 56**

**COMMENT:** The licensee recommended accepting both C and D as correct answers. The answer key only identified D as a correct answer.

“The failure of a Startup Channel NI results in the failure to meet both LCO 3.3.12 and LCO 3.9.2. LCO 3.9.2, Nuclear Instrumentation, contains a required action to suspend CORE ALTERATIONS when one required SRM is inoperable (stated in the stem of the question). LCO 3.9.2 also contains a note which states, “Enter applicable Conditions and Required Actions of LCO 3.3.12, Boron Dilution Alarm System (BDAS) for BDAS made inoperable by SRMs”. Due to this note, the provisions of LCO 3.0.6 would not be applicable, therefore the actions for LCO 3.3.12 are required to be taken.

“While the required actions for LCO 3.3.12 (for one channel of BDAS inoperable) do not directly require the cessation of CORE ALTERATIONS, the supporting procedures used to comply with the Required Action for LCO 3.3.12, Condition A, do, making answer C an additional correct answer.

“73DP-9ZZ14, Surveillance Testing, refers to the site-controlled cross-reference table (Master Surveillance Test List – or MSTL) for STs used to comply with Technical Specification – both SRs and Conditional STs (in this case, used to comply with the Required Action for not meeting the LCO). The MSTL specifies the use of 40ST-9ZZ24, Boron Dilution Alarm System Inoperable, to comply with LCO 3.3.12, Condition A, Action A.1. Additionally, the Performance Interval for 40ST-9ZZ24 is “Immediately after loss of one or both BDAS channels”, therefore there are two distinct paths to drive the performance of 40ST-9ZZ24.

“40ST-9ZZ24 contains two sections. Section 6.1, One or Both BDAS Channels Inoperable in Modes 3, 4, 5, or 6, and Section 6.2, One or Both BDAS Channels Inoperable in Mode 6 Due to Inoperable Startup Range Monitor. Section 6.1 contains direction for sampling the RCS to determine boron concentration. Section 6.2 contains direction to stop CORE ALTERATIONS and to stop positive reactivity additions. If the reason for one channel of BDAS being inoperable was due to any reason OTHER THAN a failed Startup Channel NI, CORE ALTERATIONS would NOT have to be stopped. However, when 40ST-9ZZ24 is performed, the sections required to be performed are based on the reason for the inoperability of BDAS. In this case, both sections 6.1 and 6.2 must be performed. Since the method for compliance with LCO 3.3.12, Condition A, Action A.1 results in the cessation of CORE ALTERATIONS, answer C is also correct.”

**NRC RESOLUTION:** The NRC agrees with the licensee's recommendation to accept both C and D as correct answers for Question #6. This is based on 73DP-9ZZ14 being a controlled procedure, and it defines conditional surveillance tests as those performed to meet Technical Specification Surveillance Requirements when certain plant conditions or combination of conditions are met.

A. Heflin

PALO VERDE NUCLEAR GENERATING STATION, UNITS 1, 2, AND 3 - NRC EXAMINATION REPORT 05000528/2022301, 05000529/2022301, AND 05000530/2022301 – DATED – JUNE XX, 2022

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ADAMS ACCESSION NUMBER: ML22164A040

SUNSI Review: ADAMS:  Non-Publicly Available  Non-Sensitive Keyword:  
By: JCK  Yes  No  Publicly Available  Sensitive NRR-079

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