



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

May 31, 2012

Randall K. Edington, Executive  
Vice President, Nuclear/CNO  
Arizona Public Service Company  
P.O. Box 52034, Mail Stop 7602  
Phoenix, AZ 85072-2034

**SUBJECT:** PALO VERDE NUCLEAR GENERATING STATION, UNITS 1, 2, AND 3 –  
NRC EXAMINATION REPORT 05000528/2012301; 05000529/2012301;  
05000530/2012301

Dear Mr. Edington:

On March 24, 2012, 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 March 23, 2012, with Mr. B. Bement, Senior Vice President for Nuclear Operations, and other members of your staff. A telephonic exit meeting was conducted on April 10, 2012, with Mr. S. Zerkel, Operations Training Manager, and Mr. P. McSparran, Training Director, who were provided the NRC licensing decisions. A second telephonic exit meeting was conducted on May 23, 2012, with Mr. B. Bement, Senior Vice President for Nuclear Operations, to discuss the details of a violation of NRC requirements which was identified after the original exit meeting.

The examination included the evaluation of fifteen applicants for reactor operator licenses, seven applicants for instant senior reactor operator licenses, and five applicants for upgrade senior reactor operator licenses. The license examiners determined that all of the 27 applicants satisfied the requirements of 10 CFR Part 55 and the appropriate licenses have been issued. There were no post examination comments submitted by your staff. The Enclosure contains details of this report.

During this examination, the NRC determined that two Severity Level IV violations of NRC requirements occurred. These violations are being treated as Non-Cited Violations (NCVs), consistent with Section 2.3.2 of the Enforcement Policy. The NCVs are described in the subject examination report. If you contest the violation or significance of the NCVs, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington DC 20555-0001, with copies to: (1) the Regional Administrator, U.S. Nuclear Regulatory Commission, Region IV, 1600 E. Lamar Blvd., Arlington, Texas 76011; (2) the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001; and (3) the NRC Senior Resident Inspector at Palo Verde Nuclear Generating Station.

R. Edington

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In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response if you choose to provide one will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room). To the extent possible, your response (if you choose to provide one) should not include any personal privacy or proprietary information so that it can be made available to the Public without redaction.

Sincerely,

**/RA/**

Mark S. Haire, Chief  
Operations Branch  
Division of Reactor Safety

Dockets: 50-528; 50-529; 50-530  
Licenses: NPF-41; NPF-51; NPF-74

Enclosure:  
NRC Examination Report: 05000528/2012301  
05000529/2012301; 05000530/2012301

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**U.S. NUCLEAR REGULATORY COMMISSION**

**REGION IV**

Docket: 50-528; 50-529; 50-530

License: NPF-41; NPF-51; NPF-74

Report: 05000528/2012301; 05000529/2012301; 05000530/2012301

Licensee: Arizona Public Service Company

Facility: Palo Verde Nuclear Generating Station, Units 1, 2, and 3

Location: 5951 S. Wintersburg Road  
Tonopah, Arizona

Dates: March 16 – May 23, 2012

Inspectors: G. Apger, Chief Examiner, Operations Engineer  
C. Osterholtz, Senior Operations Engineer  
M. Bloodgood, Operations Engineer  
T. Farina, Operations Engineer  
S. Hedger, Operations Engineer  
D. Strickland, Operations Engineer  
D. Reeser, Operations Engineer (RIII)

Approved By: Mark S. Haire, Chief  
Operations Branch  
Division of Reactor Safety

## SUMMARY OF FINDINGS

ER 05000528/2012301; 05000529/2012301; 05000530/2012301; March 16 - May 23, 2012; Palo Verde Nuclear Generating Station, Units 1, 2, and 3; Initial Operator Licensing Examination Report.

NRC examiners evaluated the competency of fifteen applicants for reactor operator licenses, seven applicants for instant senior reactor operator licenses 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 9, Supplement 1. The written examination was administered by the licensee on March 16, 2012. NRC examiners administered the operating tests on March 19-24, 2012.

The examiners determined that all applicants satisfied the requirements of 10 CFR Part 55, and the appropriate licenses have been issued. Two NRC-identified Severity Level IV non-cited violations (NCVs) were identified. The significance of these violations are indicated by their severity level (SL-IV, -III, -II, -I) using the NRC Enforcement Policy. Findings for which the significance determination process does not apply may be Green or be assigned a severity level after NRC management review.

### A. NRC-Identified and Self-Revealing Findings

- SL-IV. An NRC-identified non-cited violation of 10 CFR 50.9, "Completeness and Accuracy of Information," was identified for failure to request an experience waiver on NRC Form 398 for a Reactor Operator license applicant who did not have three years of responsible nuclear power plant experience as required by NUREG 1021, Revision 9, Supplement 1, ES-202.D.1.a.(1). Upon discovery, the facility licensee submitted a revised NRC Form 398, which included the waiver request, and entered this issue into their corrective action program as Condition Report 4080143.

The examiners evaluated this issue using the traditional enforcement process because the performance deficiency had the potential for impacting the NRC's ability to perform its regulatory function. This performance deficiency was determined to be Severity Level IV because it fits the SL-IV example of Enforcement Policy Section 6.4.d, "Violation Examples: Licensed Reactor Operators." This section states, "Severity Level IV violations involve, for example ... cases of inaccurate or incomplete information inadvertently provided to the NRC that does [sic] not contribute to the NRC making an incorrect regulatory decision as a result of the originally submitted information or an unqualified individual performing the functions of an operator or senior operator... ." Because the performance deficiency was corrected before the issuance of a license and an experience waiver was ultimately granted, it did not cause the NRC to make an incorrect regulatory decision. There is no Cross-Cutting Aspect associated with this violation because it was processed using Traditional Enforcement. This violation is described in greater detail in section 4OA5.1.b of this report.

- SL-IV. An NRC-identified non-cited violation of 10 CFR 50.9, “Completeness and Accuracy of Information,” was identified for submitting a final written exam question to the NRC which was identified and approved as “Closed Reference,” but administered by the licensee as “Open Reference” by supplying the applicants with an unapproved Technical Specification. On evaluation, the NRC determined that it would not have approved the question had it been properly identified as open-reference on submittal, because the reference made the question a direct lookup and the information in the reference was of a nature that licensed operators are expected to have memorized. No licensing decisions were affected and the facility licensee entered this issue into their corrective action program as Condition Report 4144197.

The examiners evaluated this issue using the traditional enforcement process because the performance deficiency impacted the NRC’s ability to perform its regulatory function. This performance deficiency was determined to be Severity Level IV because it fits the SL-IV example of Enforcement Policy Section 6.4.d, “Violation Examples: Licensed Reactor Operators.” This section states, “Severity Level IV violations involve, for example ... cases of inaccurate or incomplete information inadvertently provided to the NRC that does [sic] not contribute to the NRC making an incorrect regulatory decision as a result of the originally submitted information or an unqualified individual performing the functions of an operator or senior operator... .” The performance deficiency did not cause the NRC to make an incorrect regulatory decision because it did not affect the number of applicants who passed. There is no Cross-Cutting Aspect associated with this violation because it was processed using Traditional Enforcement. This violation is described in greater detail in section 4OA5.2.b of this report.

B. Licensee-Identified Violations

None.

## REPORT DETAILS

### 4. OTHER ACTIVITIES (OA)

#### 4OA5 Other Activities (Initial Operator License Examination)

##### .1 License Applications

###### a. Scope

NRC examiners reviewed all license applications submitted to ensure each applicant satisfied relevant license eligibility requirements. 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

Introduction. An NRC-identified non-cited violation (NCV) of 10 CFR 50.9, "Completeness and Accuracy of Information," was identified for submitting NRC form 398, "Personal Qualification Statement – Licensee," without requesting an experience waiver as required for an individual who did not have a full three years of Responsible Nuclear Power Plant Experience. This violates the requirement of 10 CFR 50.9 that "Information provided to the Commission by an applicant for a license or by a licensee ... shall be complete and accurate in all material respects."

Description. On May 17, 2011, the facility licensee submitted a letter to the NRC Region IV office informing the NRC of its intention to request a waiver of the requirement to have three years of responsible nuclear power plant experience for one Reactor Operator license applicant. The requirement to have three years of power plant experience is established by NUREG-1021, Revision 9, Supplement 1, ES-202.D.1.a.(1). However, per the provisions of NUREG-1021, ES-204.D.1.i.(1), the region may authorize a facility licensee to defer up to six months of the three years of responsible nuclear power plant experience for an RO applicant until after the licensing examination is passed. The RO applicant in question was short of the three-year requirement by 20 days.

On February 28, 2012, the facility licensee submitted the final license applications for the exam, consisting of NRC Forms 396 ("Certification of Medical Examination by Facility Licensee") and 398 ("Personal Qualification Statement – Licensee") for 27 individuals. Per NUREG-1021, ES-202.C.1.f, the facility licensee certifies that an applicant has completed all of its requirements and commitments for a license by placing a check in Item 19.B of NRC Form 398, having the form signed by the senior management representative on site, and submitting it to the NRC. These requirements include experience, control manipulations, training, and medical information. The NRC Form 398 for the RO applicant in question had a check in Item 19.B and was signed by

the senior management representative, but did not have a check in Item 4.f (“Waiver Requested”) or any verbiage elsewhere indicating that a waiver was required. The NRC examiner reviewing the applications recognized that the NRC Form 398 for the applicant in question was inconsistent with the facility licensee’s previous letter which expressed a need for a waiver. The NRC examiner asked the facility licensee if anything had changed such that a waiver was no longer required or if the NRC Form 398 was in error. The facility licensee acknowledged that the original NRC Form 398 was in error, submitted a revised NRC Form 398 with a waiver request, and entered the issue into their corrective action program as Condition Report 4080143.

Analysis. The failure of the facility licensee to request an experience waiver on NRC Form 398 for an RO applicant with less than three years of responsible nuclear power plant experience was a performance deficiency. The examiners evaluated this issue using the traditional enforcement process because the performance deficiency had the potential for impacting the NRC’s ability to perform its regulatory function. Specifically, had the NRC not identified the failure to request a waiver, it could have caused the NRC to issue a Reactor Operator license to an individual who failed to meet the experience requirements of NUREG-1021. This performance deficiency was determined to be Severity Level IV because it fits the SL-IV example of Enforcement Policy Section 6.4.d, “Violation Examples: Licensed Reactor Operators.” This section states, “Severity Level IV violations involve, for example ... cases of inaccurate or incomplete information inadvertently provided to the NRC that does [sic] not contribute to the NRC making an incorrect regulatory decision as a result of the originally submitted information or an unqualified individual performing the functions of an operator or senior operator... .” Because the performance deficiency was corrected before the issuance of a license and an experience waiver was ultimately granted, it did not cause the NRC to make an incorrect regulatory decision.

This finding is being treated as a non-cited violation (NCV) because: (1) the licensee placed the violation into their corrective action program; (2) the licensee restored compliance within a reasonable period of time by submitting a revised NRC Form 398; (3) the violation was non-repetitive; and (4) the violation did not involve willfulness. There is no Cross-Cutting Aspect associated with this violation because it was processed using Traditional Enforcement.

Enforcement. 10 CFR 50.9 requires that “Information provided to the Commission by an applicant for a license or by a licensee ... shall be complete and accurate in all material respects.” Contrary to the above, the facility licensee provided information to the NRC Region IV staff that was not accurate in all material respects. Specifically, on February 28, 2012, the facility licensee submitted NRC Form 398 for an RO applicant who did not have three years of responsible nuclear power plant experience without requesting an experience waiver. The facility licensee submitted a revised NRC Form 398 with the requisite waiver on March 7, 2012. Because this finding is of very low safety significance and was entered into the corrective action program as Condition Report 4080143, this violation is being treated as a non-cited violation, consistent with Section 2.3.2 of the NRC Enforcement Policy: NCV 05000528; 05000529; 05000530/2012301-01, Failure to Request an Experience Waiver for a Reactor Operator License Applicant.



.2 Examination Development

a. Scope

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

b. Findings

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

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.

Introduction. An NRC-identified non-cited violation (NCV) of 10 CFR 50.9, "Completeness and Accuracy of Information," was identified for submitting a final written exam question to the NRC which was identified and approved as "Closed Reference," but administered as "Open Reference" by supplying the applicants with an unapproved Technical Specification. This violates the requirement of 10 CFR 50.9 that "Information provided to the Commission by an applicant for a license or by a licensee ... shall be complete and accurate in all material respects."

Description. On March 1, 2012, the facility licensee made its final written exam submittal to the NRC consisting of 100 questions. NUREG-1021, Form ES-401-5, "Written Examination Question Worksheet," requires that each question be identified as open- or closed-reference. Question #31 of the Reactor Operator exam was unintentionally identified as closed-reference by the following statement: "*Proposed reference to be provided to applicant during the examination: NONE.*" This version of Question #31 was approved for administration by the NRC on March 13, 2012.

When the facility licensee administered the exam on March 16, 2012, however, Technical Specification 3.9.4 was provided to the applicants as a reference. The discrepancy between the approved exam and the administered exam was discovered by an NRC examiner when he received the as-given reference package from the licensee post-examination. The NRC evaluated the as-given question and determined that the question would not have been approved had it been identified as open-reference on submittal. The correct answer to Question #31 was an immediate action statement in Technical Specification 3.9.4; Reactor Operators are expected to have 1-hour and less action statements memorized. Since the Technical Specification was provided, this made the question a "direct lookup," a psychometric flaw which is prohibited by NUREG-1021. The licensee responded that the submission of the question as closed-reference was an administrative error, and that they had intended

that it be open-reference. As evidence of this intention they stated that all licensed operators who validated the exam pre-submittal were provided with a reference.

The impact of this question on the exam results was evaluated. Had the question been removed from the exam, all applicants would still have passed. Therefore, no licensing decisions were affected by this violation. The licensee entered the issue into their corrective action program as Condition Report 4144197.

Analysis. The failure of the facility licensee to identify Question #31 as open-reference on the final written exam submittal was a performance deficiency. The examiners evaluated this issue using the traditional enforcement process because the performance deficiency impacted the NRC's ability to perform its regulatory function. Specifically, the licensee administered a written exam question that was not approved by the NRC due to the licensee's submittal of inaccurate information to the NRC. This performance deficiency was determined to be Severity Level IV because it fits the SL-IV example of Enforcement Policy Section 6.4.d, "Violation Examples: Licensed Reactor Operators." This section states, "Severity Level IV violations involve, for example ... cases of inaccurate or incomplete information inadvertently provided to the NRC that does [sic] not contribute to the NRC making an incorrect regulatory decision as a result of the originally submitted information or an unqualified individual performing the functions of an operator or senior operator... ." The performance deficiency did not cause the NRC to make an incorrect regulatory decision because it did not affect the number of applicants who passed.

This finding is being treated as a non-cited violation (NCV) because: (1) the licensee placed the violation into their corrective action program; (2) the violation was non-repetitive as determined by a PIM search on ROP Digital City; and (3) the violation did not involve willfulness. There is no Cross-Cutting Aspect associated with this violation because it was processed using Traditional Enforcement.

Enforcement. 10 CFR 50.9 requires that "Information provided to the Commission by an applicant for a license or by a licensee ... shall be complete and accurate in all material respects." Contrary to the above, the facility licensee provided information to the NRC Region IV staff that was not accurate in all material respects. Specifically, on March 1, 2012, the facility licensee submitted a final written exam to the NRC that identified a question as closed-reference, but which was administered as open-reference. The question would not have been approved had it been identified as open-reference on submittal. No licensing decisions were affected by this performance deficiency. Because this finding is of very low safety significance and was entered into the corrective action program as Condition Report 4144197, this violation is being treated as a non-cited violation, consistent with Section 2.3.2 of the NRC Enforcement Policy: NCV 05000528; 05000529; 05000530/2012301-02, Inaccurate Identification of an Open-Reference Initial Licensing Exam Question as Closed-Reference.

.3 Operator Knowledge and Performance

a. Scope

On March 16, 2012, the licensee proctored the administration of the written examinations to all 27 applicants. The licensee staff graded the written examinations, analyzed the results, and presented their analysis to the NRC on March 24, 2012.

The NRC examination team administered the various portions of the operating tests to all applicants on March 19-24, 2012.

b. Findings

No findings were identified.

All applicants passed the written examination and all parts of the operating test. The final written 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 the following generic weaknesses associated with applicant performance on the operating test: 1) Several applicants would not take manual action to prevent a turbine trip without a procedure in hand, though they knew such an action was directed by the procedure; and 2) Several applicants did not demonstrate that they knew the difference between the Trip/Close pushbuttons (used only with breaker in TEST) and the Stop/Start controls (normal use) for local breaker operation. 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 with regard to 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.

b. Findings

No findings were identified. One licensee-identified Minor violation of 10 CFR 55.49, "Examination Security," occurred during the administration of the dynamic scenario portion of the operating test. A 5" by 8" sheet of paper containing rough notes written by an applicant from a previous scenario was not removed from the simulator and was found by an oncoming crew of applicants during their board walk-down. The applicant who found the sheet handed it to the simulator staff and affirmed to the examiners that he did not read it. The sheet was determined not to contain sufficient detail to provide an advantage to the oncoming crew, and considering the applicant's affirmation that he did not read it, the scenario was administered as written. This was considered minor because it did not require replacement of exam material or negatively impact the equitable administration of the exam. This issue was entered into the facility's corrective action program as Condition Report 4097964.

4OA6 Meetings, Including Exit

The chief examiner presented the preliminary examination results to Mr. B. Bement, Senior Vice President of Nuclear Operations, and other members of the staff on March 23, 2012. A telephonic exit was conducted on April 10, 2012, between Mr. T. Farina, NRC Examiner, and Messrs. S. Zerkel, Operations Training Manager, and P. McSparran, Training Director. A second telephonic exit was conducted on May 23, 2012, between Mr. T. Farina, NRC Examiner, and Mr. B. Bement, Senior Vice President for Nuclear Operations.

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

ATTACHMENT: SUPPLEMENTAL INFORMATION

## **SUPPLEMENTAL INFORMATION**

### **KEY POINTS OF CONTACT**

#### **Licensee Personnel**

W. Potter, Simulator Support-Section Leader  
L. Burton, Operations Training / Written Exam Author  
A. Malley, Operating Test Author

#### **NRC Personnel**

T. Brown, Senior Resident Inspector

### **ADAMS DOCUMENTS REFERENCED**

Accession No. ML121080306 - FINAL WRITTEN EXAM [Delayed Release – March 16, 2014]  
Accession No. ML12152A409 - FINAL OPERATING TEST  
Accession No. ML121080329 - POST EXAM ANALYSIS

### **LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED**

#### **Opened and Closed**

05000528; 05000529; 05000530/2012301-01      NCV    Failure to Request an Experience Waiver for a Reactor Operator License Applicant (Section 4OA5.01)

05000528; 05000529; 05000530/2012301-02      NCV    Inaccurate Identification of an Open-Reference Initial Licensing Exam Question as Closed-Reference (Section 1R05.03)