



**UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
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ARLINGTON, TEXAS 76011-4005**

September 3, 2003

Gregg R. Overbeck, Senior Vice
President, Nuclear
Arizona Public Service Company
P.O. Box 52034
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**SUBJECT: PALO VERDE NUCLEAR GENERATING STATION, UNITS 1, 2, AND 3 - NRC
EXAMINATION REPORT 05000528/2003-301; 05000529/2003-301;
05000530/2003-301**

Dear Mr. Overbeck:

On July 24, 2003, the U. S. Nuclear Regulatory Commission (NRC) completed an examination at Palo Verde Nuclear Generating Station, Units 1, 2, and 3. The enclosed report documents the examination findings, which were discussed on July 24, 2003, with Messrs. Mike Shea, Fred Riedel, and other members of your staff.

The examination included the evaluation of six applicants for reactor operator licenses and three applicants for senior operator licenses. We determined that all applicants satisfied the requirements of 10 CFR Part 55, and the appropriate licenses have been issued.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosure 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).

Sincerely,

/RA/

Anthony T. Gody, Chief
Operations Branch
Division of Reactor Safety

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

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-2-

Enclosure:

NRC Examination Report

05000528/2003-301; 05000529/2003-301; 05000530/2003-301

cc w/enclosure:

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-3-

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**U.S. NUCLEAR REGULATORY COMMISSION
REGION IV**

Dockets: 50-528, 50-529, 50-530
Licenses: NPF-41, NPF-51, NPF-74
Report : 05000528/2003-301, 05000529/2003-301, and 05000530/2003-301
Licensee: Arizona Public Service Company
Facility: Palo Verde Nuclear Generating Station, Units 1, 2, and 3
Location: 5951 S. Wintersburg
Tonopah, Arizona
Dates: July 21-24, 2003
Inspectors: T. F. Stetka, Chief Examiner, Operations Branch
T. O. McKernon, Senior Operations Engineer
R. E. Lantz, Senior Emergency Preparedness Inspector
Approved By: Anthony T. Gody, Chief
Operations Branch
Division of Reactor Safety

SUMMARY OF FINDINGS

ER 05000528/2003-301, 05000529/2003-301, 05000530/2003-301; 7/21-24/2003; Palo Verde Nuclear Generating Station, Units 1, 2, and 3; Initial Operator Licensing Examinations.

NRC examiners evaluated the competency of six applicants for reactor operator licenses and three applicants for senior operator licenses at Palo Verde Nuclear Generating Station, Units 1, 2, and 3. The facility licensee developed the examinations using NUREG-1021, "Operator Licensing Examination Standards for Power Reactors," Draft Revision 9. Licensee proctors administered the written examination to all applicants on July 18, 2003, in accordance with the instructions provided by the chief examiner. The NRC administered the operating tests on July 21-24, 2003.

Cornerstone: Human Performance

No findings of significance were identified (Section 40A4.1).

Report Details

4. OTHER ACTIVITIES (OA)

4OA4 Initial Operator License Examination

.1 Operator Knowledge and Performance

a. Examination Scope

On July 18, 2003, the licensee proctored the administration of the written examinations to all nine applicants. The licensee staff graded the written examinations, analyzed the results, and presented their analysis to the NRC on July 24, 2003.

The NRC examination team administered the various portions of the operating examination to all nine applicants on July 21-24, 2003. The six applicants for reactor operator licenses and the three upgrade applicants for senior operator licenses participated in two dynamic simulator scenarios. The six applicants for reactor operator participated in a control room and facilities walkthrough test consisting of 11 system tasks, and an administrative test consisting of 4 administrative tasks. The three applicants for upgrade to senior operator participated in a control room and facilities walkthrough test consisting of 5 system tasks, and an administrative test consisting of 5 administrative tasks.

b. Findings

All nine of the applicants passed all parts of the examinations. The applicants demonstrated good 3-way communications, alarm response, and peer checking. For the written examinations, the reactor operator applicant's average score was 91 percent and ranged from 88 to 96 percent, the senior operator applicant's average score was 95 percent and ranged from 92 to 98 percent. The overall written examination average was 93 percent. The text of the examination questions may be accessed in the ADAMS system under the accession numbers noted in the attachment.

The licensee conducted a performance analysis for the written examinations, submitting them to the chief examiner on July 24, 2003. The analysis identified no common knowledge deficiency. No remediation training was determined to be necessary following the examinations.

No findings of significance were identified.

.2 Initial Licensing Examination Development

The licensee developed the examinations in accordance with NUREG-1021, Draft Revision 9. All licensee facility training and operations staff involved in examination preparation and validation were on a security agreement.

.2.1 Examination Outline and Examination Package

a. Examination Scope

The facility licensee submitted the integrated examination outlines on March 24, 2003. The chief examiner reviewed the submittal against the requirements of NUREG-1021, Draft Revision 9, and provided comments to the licensee. The facility licensee submitted the final draft examination package on May 23, 2003. The chief examiner reviewed the draft submittal against the requirements of NUREG-1021, Draft Revision 9, and provided comments to the licensee on the examination on June 12, 2003. The NRC conducted an onsite validation of the operating examinations and provided further comments during the week of June 30, 2003. The licensee satisfactorily completed comment resolution on July 14, 2003.

b. Findings

The NRC approved the initial examination outline and advised the licensee to proceed with the operating examination development.

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

No findings of significance were identified.

.3 Simulation Facility Performance

a. Examination Scope

The examiners observed simulator performance with regard to plant fidelity during the examination validation and administration.

b. Findings

No findings of significance were identified.

.4 Examination Security

a. Examination Scope

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

b. Findings

While the examination team considered examination security to be adequate, one event occurred that had the potential to compromise examination security. The NUREG 1021, Draft Revision 9, allows examination material to be sent via e-mail if it is password protected. The NUREG further states that the Chief Examiner be notified of the password via telephone or regular mail. The intent of this process is to use a different sending method for the password to further assure examination security. However, when the licensee e-mailed the final examination to the NRC, they also e-mailed the password immediately after the examinations in a separate e-mail.

The examination team reviewed this occurrence to determine if examination security was compromised. The team noted that the licensee took the following actions during transmittal of the examinations and password:

- The messages were sent from the examination room, a secure location;
- No one had access to the messages;
- There were no ccs or bccs sent with the messages; and,
- The messages were immediately deleted from all mailboxes following completion of the transmittal.

In addition, the licensee developed a sign-up sheet for the candidates to provide certification that the candidates had no prior knowledge of the examination material.

Based on these activities, the team concluded that an examination security compromise did not occur. No other findings of significance were identified.

4OA5 Management Meeting

.1 Exit Meetings

The chief examiner presented the examination results to Messrs. Mike Shea, Training Director, Fred Riedel, Operations Training Manager, and other members of the licensee's management staff on July 24, 2003. The licensee acknowledged the findings presented.

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

ATTACHMENT

KEY POINTS OF CONTACT

Licensee

F. Riedel, Operations Training Manager
W. Potter, Simulator Support-Section Leader
P. Capehart, Nuclear Training Instructor
T. Stahler, Nuclear Training Instructor
L. Wilhelm, Nuclear Training Instructor
W. Drey, Nuclear Training Instructor

NRC

N. Salgado, Senior Resident Inspector

ADAMS DOCUMENTS REFERENCED

Accession No. ML032260469 - Written examination for reactor operators
Accession No. ML032260479 - Written examination for senior reactor operators
Accession No. ML032260490 - Written examination performance analysis