Palo Verde
Nuclear Generating Station
P.O. Box 52034
Phoenix, AZ 85072
Mail Station 7636
Tel 623 393 4972

102-07696-MEK/DJH
April 25, 2018

Clyde Osterholtz, Chief Examiner
U.S. Nuclear Regulatory Commission, Region IV
1600 E. Lamar Blvd.
Arlington, TX 76011-4511

Dear Sir:

Subject: **Palo Verde Nuclear Generating Station (PVNGS)**
Units 1, 2, and 3
Docket No. STN 50-528, 50-529, 50-530
2018 Reactor Operator and Senior Reactor Operator
Examination Results

Arizona Public Service Company (APS) management has completed its review of the initial operator licensing examination conducted April 13 thru April 20, 2018. Per NUREG 1021, Rev 11, Section ES-501 (C.1.b), this letter provides the required post examination documents. There were no substantive comments made by the applicants following the written examination. Enclosed examination documents are:

- Any questions asked by and answers given to the applicants during administration of the written exam
- Written examination seating chart
- Completed ES-403-1, Written Examination Grading Quality Checklist, signed by facility supervisor or manager
- Results of any written exam performance analysis that was performed, with recommended substantive changes
- Justification for any recommended exam changes (no changes recommended)
- Copies of condition reports written or to be written as a means to improve exam processes, procedure quality, training quality, exam security, simulator fidelity, and any other general topics that relate to the exam process

The following examination documents were provided to the Chief Examiner prior to leaving Palo Verde Nuclear Generating Station on April 20, 2018.

- Graded written examinations including each applicant's original answer sheet and exam cover sheet
- Two (2) clean copies of each applicant's answer sheet (made prior to grading)
- Master examination(s) and answer key(s), annotated to indicate any changes made while administering and grading the examination(s)

As discussed with the Chief Examiner, APS will obtain post-exam signatures from individuals who had detailed knowledge of any part of the operating tests or written examination and electronically forward completed Form(s) ES-201-3, "Examination Security Agreement," with the appropriate pre- and post-examination signatures.

APS requests that the NRC Region IV office delay public release of the proposed and final operating test, written examinations and answer keys for a period of 24 months from the date of the examination completion.

There are no commitments made to the NRC by this letter.

Please call Joe Allison, Nuclear Training Section Leader, at (623) 393-6335 if you have questions or require additional information.

Sincerely,

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Matthew E. Kura
Regulatory Affairs Department Leader

MEK/DJH

Enclosures:
Hard Copy

1. Questions asked by and answers given to the applicants during administration of the written exam
2. Written examination seating chart
3. Completed ES-403-1, Written Examination Grading Quality Checklist, signed by facility supervisor or manager
4. Results of any written exam performance analysis that was performed, with recommended substantive changes
5. Justification for any recommended exam changes (no changes recommended)
6. Copies of condition reports written or to be written as a means to improve exam processes, procedure quality, training quality, exam security, simulator fidelity, and any other general topics that relate to the exam process

cc: (w/o enclosures)
K. M. Kennedy NRC Region IV Regional Administrator
V. G. Gaddy NRC Region IV, Chief, Operations Branch
C. A. Peabody NRC Senior Resident Inspector for PVNGS

(w/enclosures)
J. A. Bridges NRC Region IV, Licensing Assistant, Operations Branch

Written Examination Question Assessment

Questions >50% of the candidates missed and other question comments

Question #	Success Rate	Description
37	50%	Question asked about the plant response to a Supplemental Protection System pressure transmitter (single channel) failed high. 38% of applicants chose distractor B and 13% chose distractor C. Student feedback revealed that although this concept is taught, and this event had been run once in the simulator, they didn't remember the exact plant response to this failure.
66	46%	Question asked about approved methods to verify the current revision of a procedure prior to use. 29% of applicants chose distractor A and 25% chose distractor C. Most applicants said that while they felt that all three methods were likely acceptable, they had experienced times in the Control Room in which the procedure had been revised electronically but the paper copy in the Control Room had not yet been updated and therefore felt like the "controlled copy" was not an approved method for determining the current revision.
68	50%	Question asked about Reactor trip criteria during a Condenser Tube Leak based on chemistry readings. 4% of applicants chose distractor A, 8% chose distractor C and 38% chose distractor D. All applicants agreed that while fair, this was not an event they ran often in the simulator and were not as familiar as they should have been with the specific Reactor trip criteria in the AOP.

All questions missed by any candidate have been reviewed and there are not other issues identified with any other questions.

Administrative Task Assessment

No issues identified.

JPM Assessment

No issues identified.

Scenario Assessment

General weakness identified in the application of LCO 3.3.11 Condition B. CR generated to evaluate for training enhancement (CR # 18-07033)

Written Examination Scores

RO Exam Average (for RO applicants): 89.0%

RO Exam Average (for SRO applicants): 92.1%

RO Exam Average (for all applicants): 90.9%

SRO Exam Average: 87.2%

Overall Exam Average: 90.2%