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August 29, 2008

AUG 29 P 4:40
AZ CORP COMMISSION
DOCKET CONTROL

Docket Control
Arizona Corporation Commission
1200 West Washington
Phoenix, Arizona 85007

RE: PVNGS SEMI-ANNUAL REPORT
DECISION NO. 69663
DOCKET NO. E-01345A-05-0816, E-01345A-05-0826, E-01345A-05-0827

Dear Sir or Madam:

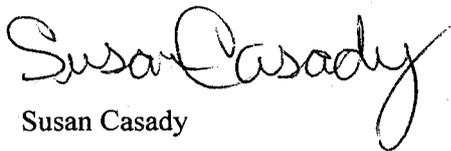
Pursuant to Decision No. 69663, Page 158, Line 11:

“Arizona Public Service Company shall file with Docket Control as a compliance item in this Docket, a semi-annual report describing plant performance, explaining any negative regulatory reports by the NRC or INPO, and providing details of corrective actions taken, until further Order of the Commission.”

Enclosed please find the semi-annual report for the Palo Verde Nuclear Generating Station for the period of January 1 through June 30 of 2008.

If you should have any questions regarding the information contained herein, please call Mr. Jeff Johnson at 602-250-2661.

Sincerely,



Susan Casady

SC/dst

Attachments

Cc: Brian Bozzo
Ernest Johnson
Terri Ford

Arizona Corporation Commission
DOCKETED

AUG 29 2008

DOCKETED BY 

**SEMI-ANNUAL REPORT
PALO VERDE NUCLEAR GENERATING STATION
IN COMPLIANCE WITH DECISION NO. 69663
FOR THE PERIOD OF JANUARY 1, 2008 THROUGH JUNE 30, 2008**

In Decision No. 69663, dated June 27, 2007, the Commission required APS to submit a semi-annual report describing plant performance and explaining any negative regulatory reports by the Nuclear Regulatory Commission ("NRC") or the Institute of Nuclear Power Operations ("INPO") as a compliance item in Docket No. E-01345A-05-016, et al. APS submits this report in compliance with the requirement for the reporting period of January 1, 2008 through June 30, 2008.

PERFORMANCE OVERVIEW

The three Palo Verde Nuclear Generating Station (PVNGS or Palo Verde) units generated over 4.2 million MWh for APS from January through June of 2008, providing over 32% of the Company's retail customer electricity requirements for the period. Any planned or unplanned outages experienced during the reporting period, including applicable net replacement costs, have been described in detail in the Company's PVNGS outage reports that have already been filed with the Commission in accordance with other compliance requirements in Decision No. 69663.

INPO REPORTS

INPO information release and copyright distribution requirements prohibit release of INPO reports received during the reporting period.

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NRC REPORTS

The Nuclear Regulatory Commission ("NRC") issued three reports during the reporting period that fall within the scope of this report. They include the following:

- NRC Integrated 10/01/07 – 12/31/07 Inspection Report 2007-05
- NRC Integrated 0/01/08 – 3/31/08 Inspection Report 2008-02
- NRC Supplemental 95003 Inspection Report 2007-12

Full copies of each of these reports can be found on the NRC website at <http://www.nrc.gov/reactors/plant-specific-items/palo-verde-issues.html>.

The NRC's Reactor Oversight Process inspection findings are classified by color based on their safety significance. All the findings identified in these reports are classified as very low safety significance "Green" finding. These findings were also classified by the NRC as "non-cited" violations, which means that the findings do not require a written response to the NRC from Palo Verde.

Inspection findings fall into three categories, which are differentiated by how the violation was identified. "Licensee-identified" findings are those findings identified by Palo Verde employees and documented through programs or processes in place at Palo Verde and for which the NRC assesses that the licensee has made effective evaluations and has taken (or will take) appropriate corrective actions. "NRC-identified" findings are those findings that were initially identified by NRC inspectors, or those which the licensee had initially identified but, in the NRC's estimation, had not fully evaluated or taken appropriate actions

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to correct. "Self-revealing" findings are those that reveal themselves to either the NRC or the licensee through a change in process, capability or functionality of equipment, operations, or programs during routine operation. Although licensee-identified findings are mentioned in NRC reports, the NRC does not list these on their website and those findings are not included herein. Consistent with the Company's prior semi-annual filing, only NRC-identified and self-revealing findings are included in this report.

The following summarizes, for each of the NRC reports, a description of the findings made and the corrective actions taken.

**NRC Integrated 10/01/07 – 12/31/07 Inspection Report 05000528/2007005,
05000529/2007005 and 05000530/2007005
Issued February 4, 2008**

The Integrated 10/01/07 – 12/31/07 Inspection Report noted 4 NRC identified findings and 2 self-revealing findings. As stated earlier, each of these findings was found to have very low safety significance and therefore all were determined to be Green findings.

The first finding was attributed to a steam supply bypass valve that did not open during a periodic surveillance test. The cause was determined to be foreign material on the valve's internal components, but the source of the debris was not initially identified. Subsequently, the valve did not close during another test. Further investigation indicated that it was caused by foreign material, most likely rust particles on the valve's internal components. Corrective actions included:

- Replacing the valve
- Scheduling inspections of similar valves on an 18-month cycle
- Additional self assessments and training on systematic problem solving and decision-making techniques
- Modifications to procedures to incorporate systemic troubleshooting and a checklist for operability determination (OD)
- Assignment of a single senior reactor operator to perform operability determinations until training for other staff can be completed

The second finding involved two operability evaluations, one concerning emergency diesel generators following a low oil pressure indication and one concerning a valve leak in the auxiliary feedwater system. Corrective actions included personnel training, procedure revision, and valve repair.

The third finding arose from a discovery that the design bases of the refueling machine had not been adequately translated into specifications,

**NRC Integrated 10/01/07 – 12/31/07 Inspection Report 05000528/2007005,
05000529/2007005 and 05000530/2007005
Issued February 4, 2008**

drawings, procedures, or instructions when the refueling machine was modified. To address this issue, a functional assessment of the old refueling machine design was performed and a licensing document change request was generated to clarify the design of the refueling machine.

The fourth, fifth, and sixth findings all related to radiation protection and control practices. The fourth finding resulted from two instances of plant personnel controlling a high radiation area, one specifically when a worker removed a shielded plug from the survey/inspection port. The fifth finding involved decontamination of the temporary reactor head. The sixth finding involved adherence to directions in the radiation exposure permit.

To address these findings:

- Personnel involved were coached by their leaders regarding radiation protection practices
- A redesigned shield plug removal tool is under evaluation.
- The radiation exposure permit that was not followed will be revised to recommend additional containment building ventilation and performing decontamination with additional protective equipment
- The decontamination method and location of the work will be reviewed and a detailed job history will be added to the associated radiation exposure permit.

**NRC Integrated 01/01/08 – 03/31/08 Inspection Report 05000528/2008002,
05000529/2008002, 05000530/2008002
Issued May 9, 2008**

The Integrated 01/01/08 – 3/31/08 Inspection Report noted five NRC identified findings and two self-revealing findings. Each of these findings was found to have very low safety significance and therefore all were determined to be Green findings. The first finding refers to the establishment and implementation of maintenance procedures for inspection and replacement of fuel injection pump O-rings in emergency diesel generators. PVNGS made the change to ultra-low sulfur diesel as required by the U.S. Environmental Protection Agency. The refining process for ultra-low sulfur diesel lowers the concentration of a certain compound which ultimately results in accelerated degradation of elastomeric (i.e. rubber) material. To address this issue, Palo Verde engineering completed an immediate operability determination, which concluded that the emergency diesel generators could operate as designed notwithstanding potential leaks. Palo Verde replaced all of the fuel injection pumps with new fuel injection pumps that have O-ring elastomers that are not susceptible to accelerated degradation for Unit 3, and the pump and O-ring replacement will be complete for Units 1 and 2 in 2008.

The second finding identified the need for additional level of detail in two troubleshooting plans for safety-related components. To address this issue, engineering issued a more detailed trouble shooting game plan and the troubleshooting procedure was changed to provide more detail and clearer guidance.

**NRC Integrated 01/01/08 – 03/31/08 Inspection Report 05000528/2008002,
05000529/2008002, 05000530/2008002
Issued May 9, 2008**

The third finding related to the amount of overtime worked by operations personnel. To address this issue, APS completed an evaluation and concluded that there is appropriate oversight of control room staff overtime and operations overtime has been following existing licensing and regulatory requirements. Additionally, there are no known instances of fatigue related errors or fitness-for-duty referrals.

The fourth finding related to ensuring relevant vendor-recommended preventative maintenance information was reviewed in making operability determinations. To address this issue, prompt operability determinations were completed on affected components.

The fifth finding involved operations personnel assessing the inoperability of the main feedwater isolation valve (MFIV) and performing Technical Specification actions required for an inoperable MFIV. To address this issue, the associated procedure was revised to delineate actions to confirm a sub-component of the MFIV was able to perform its function.

The sixth finding involved evaluating foreign material left in the Unit 2 spent fuel pool to determine the impact the presence of foreign material may have on affected safety systems. To address this issue, a search for foreign material was conducted and debris was removed. A procedure revision will be made to set the timeframe in which a foreign material evaluation is to be completed.

**NRC Integrated 01/01/08 – 03/31/08 Inspection Report 05000528/2008002,
05000529/2008002, 05000530/2008002
Issued May 9, 2008**

The seventh finding involves the use of proper procedures for operating the spent pool cooling cleanup system. To address this issue, personnel were coached to ensure adequate pre-job briefs were conducted, including the use of prints. This incident was also added to industry events training for operations personnel.

**NRC Supplemental 95003 Inspection Report and Preliminary White
(Emergency Preparedness) Finding and Final Significance Letter (Green)
05000528/2007012, 05000529/2007012, 05000530/2007012
Issued February 1, 2008**

The NRC Supplemental 95003 Inspection Report and Preliminary White (Emergency Preparedness) Finding and Final Significance Letter (Green) was prepared to document the results of the comprehensive Inspection Procedure (IP) 95003 inspection that was performed in 2007 following NRC's placement of Palo Verde Unit 3 into Column 4 of the NRC Reactor Oversight Process Action Matrix. The IP 95003 was conducted over several months and involved over twenty inspectors who worked for over 4,000 hours to conduct an extremely comprehensive assessment of Palo Verde programs, processes, and equipment. This in-depth inspection **did not** identify any findings that were greater than very low safety significance. The inspection did note 17 NRC identified findings. Each of these findings was found to have very low safety significance and therefore all were determined to be Green findings. .

The first finding was for transient combustibles being stored in containment without the proper evaluation and required permits. In response, PVNGS performed the evaluation and obtained the missing permits.

The second finding involved Palo Verde's assessment and implementation of risk mitigation actions for maintenance activities in the Palo Verde switchyard. To address this issue, a switchyard coordinator position was established to coordinate access control to the switchyard, to schedule and support emergent activities, conduct briefings, and support communication and scheduling.

**NRC Supplemental 95003 Inspection Report and Preliminary White
(Emergency Preparedness) Finding and Final Significance Letter (Green)
05000528/2007012, 05000529/2007012, 05000530/2007012
Issued February 1, 2008**

The third finding was related to insufficient or missing operability determinations (OD) for eight examples of degraded or unanalyzed conditions.

An investigation was performed and all the following actions were completed:

- Clear identification of the Operations Department as the owner of ODs and dedication of a senior reactor operator to oversee ODs
- Addressed the knowledge weakness on situations requiring an OD by training the impacted groups and upgrading procedures to provide better instructions.
- Support from engineering for ODs will be provided by the engineering team
- Implementation of a quality review board with external oversight to review and provide feedback on ODs
- Daily reviews of ODs by a team sponsored by the Plant Manager, and monthly oversight review by the Nuclear Assurance Department (NAD)

The fourth finding arose from inconsistent use of the corrective action program (CAP) between 1988 and 2007. An investigation was performed and the following actions have been completed, and some are ongoing:

- Training for all plant personnel on the proper use of the CAP (i.e. quality and timeliness of problem identification, problem evaluation and corrective actions)
- Developing metrics to monitor the health and performance of the CAP and regular review of the metrics by management to identify and take action to ensure the CAP continues to be effective
- Training to all leaders on leadership expectations in support of CAP and monitoring leaders' performance in support of CAP
- Providing general and department/task-specific training to station personnel on their expectations regarding CAP
- Providing a dedicated team of station experts to review all conditions identified to ensure the issues are properly classified and needed notifications are performed
- Assigning dedicated advocates for each Palo Verde organization to provide support to the organization to monitor and effectively implement CAP

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- Revising station procedures, and revising and implementing upgraded expectations for the review and approval of select CAP documents by the Corrective Action Review Board
- Heightened oversight, review, and reporting by NAD
- Regular communication to station personnel on the importance of CAP
- Ongoing CAP self-assessments and implementation of needed adjustments and assessment of the interface with other major station program to ensure the CAP is used properly.

The fifth finding relates to station personnel not translating design basis requirements for the condensate storage tank (CST) into procedures to ensure the plant is operated within its design basis. To address this finding, procedure changes have been implemented to require immediate operator actions to monitor temperature and respond to high temperature CST conditions.

The next finding was related to upright fire sprinkler heads being found incorrectly installed in a downward orientation. The sprinkler heads were reoriented correctly.

The next two findings involved ineffective implementation of the Maintenance Rule (MRule) program. One finding involved the auxiliary feedwater (AF) system. Corrective actions have been completed, and include:

- Taking appropriate MRule action on the Unit 2 AF system
- Reviewing the MRule performance criteria for other systems
- Upgrading MRule procedures and moving ownership for the MRule program to the Risk Assessment group, and
- Reinforcing expectations to and providing training for system engineers.

The other MRule finding involved not establishing goals for the safety injection system, and not sufficiently monitoring the safety injection system. Corrective actions have been taken, which include clarifying performance criteria guidance

**NRC Supplemental 95003 Inspection Report and Preliminary White
(Emergency Preparedness) Finding and Final Significance Letter (Green)
05000528/2007012, 05000529/2007012, 05000530/2007012
Issued February 1, 2008**

and documenting the basis for actions taken to ensure clarity of the requirements of the MRule Program.

The next finding involved the lack of installation of emergency lights (E-light) in the Unit 2 containment building at the beginning of the fall 2007 outage.

To address this finding:

- E-lights have been installed
- All teams entering containment have portable lighting available
- Containment Coordinators have been briefed to assist others in exiting containment should normal, and essential lighting fail
- Radiation Protection and Electrical Maintenance have developed an improved strategy for outage E-light installation.

The next finding involved improperly installed temporary shielding. To address this finding, the installation was reworked to be in compliance with PVNGS specifications. Another finding involved support bracket U-bolts not being secured tight against the supported piping. The brackets serve to minimize motion during a seismic event. The brackets were evaluated and reworked as necessary to fit properly to the piping.

The next finding related to the personnel airlock door not being properly rigged in accordance with engineering drawings, which resulting in unanalyzed force being applied to the door's operating mechanism. To address this finding, the rigging was adjusted, and the personnel airlock door was reinstalled with no impact to the ability of the door to perform its containment barrier function.

The next finding related to obstruction of the containment spray nozzle which was identified during a surveillance test. The obstruction was remedied,

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but the surveillance test was not reperformed. Actions to address this finding have been completed and include review of the circumstances involved with blocked nozzle and the use of Surveillance Requirement 3.0.3. Additionally, Licensing management conducted a briefing to ensure that Licensing staff is in alignment with this position, and Licensed Operator training will include this example in a briefing or industry events review.

The next finding arose from improper Site Area Emergency declaration in a training exercise for steam generator tube rupture scenario. After additional information was provided to the NRC, the NRC concluded that the knowledge deficiency would not likely result in an incorrect emergency classification during an actual steam generator tube rupture event. To address this issue, training was provided to emergency response personnel on declaration requirements when a steam generator tube rupture event occurs.

The next finding involved an area radiation monitor located on the 140' elevation of the Control Building which was being used to measure potential radiation dose rates at a location on the 100' elevation of the Control Building. To address this issue, an evaluation was conducted which determined that, in an accident scenario, the dose rates at the 140' elevation of the Control Building would be representative of dose rates at the questioned location on the 100' elevation of the Control Building. In addition, the associated procedure was revised.

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The next finding resulted from not developing a procedure to enable Operations personnel to differentiate between an aircraft and an airliner so proper emergency classifications could be consistently determined. To address this issue, the associated procedure was revised.

The last finding was made because radiation protection personnel did not provide adequate information during pre-job briefs regarding radiological conditions and precautions to minimize radiation exposure. To address this issue, personnel involved were coached and personnel were directed to post large survey maps at the control point.