



*A subsidiary of Pinnacle West Capital Corporation*

Palo Verde Nuclear  
Generating Station

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ID#: 102-06226-JHH/TNW/CJS  
July 22, 2010

ATTN: Document Control Desk  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555-0001

Reference: Arizona Public Service Company Letter No. 102-06098, dated November 23, 2009, Palo Verde Nuclear Generating Station (PVNGS) Units 1, 2, and 3, Docket Nos. STN 50-528, 50-529, and 50-530, Request for Approval of the PVNGS Cyber Security Plan

Dear Sirs:

**Subject: Palo Verde Nuclear Generating Station (PVNGS)  
Units 1, 2, and 3  
Docket Nos. STN 50-528, 50-529, and 50-530  
Resubmittal of Request for Approval of the PVNGS Cyber Security Plan**

In the referenced letter, Arizona Public Service's (APS) submitted a license amendment request (LAR) for the Facility Operating Licenses (FOL) of PVNGS Units 1, 2, and 3. The proposed amendment requested U.S. Nuclear Regulatory Commission (NRC) approval of the PVNGS Cyber Security Plan, provided a Proposed Implementation Schedule, and added a paragraph to the existing FOL Physical Protection license condition to require APS to fully implement and maintain in effect all provisions of the Commission-approved Cyber Security Plan.

After completing the initial review of the proposed cyber security plan, the NRC staff decided to forgo the traditional acceptance review due to the nature and complexity of this application. One reason for this approach by the NRC was the significant concerns the NRC staff had with an earlier version of the guidance provided to licensees by the Nuclear Energy Institute (NEI). After numerous interactions between NEI and the NRC, on April 28, 2010, NEI submitted Revision 6, to NEI 08-09, "Cyber Security Plan for Nuclear Power Reactors," which contains changes that address the NRC staff concerns. Based on a technical review of the document, the NRC Office of Nuclear Security and Incident Response (NSIR) concluded that submission of a cyber security plan using the template provided in NEI 08-09, Revision 6, would be an acceptable method for licensees to comply with the requirements of 10 CFR 73.54.

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MRC

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This information was communicated in a letter dated May 24, 2010 [Agency-wide Documents Access and Management System (ADAMS) Accession No. ML101410004] from the NRC Project Manager for PVNGS to the Chief Nuclear Officer of PVNGS. In this letter, APS was provided with three options for addressing NRC staff concerns with the previously submitted LAR: provide a revised submittal that addresses issues with the previous submittal, provide a revised submittal that is consistent with NRC Regulatory Guide (RG) 5.71, or withdraw the previous submittal and submit a revised Cyber Security Plan consistent with NEI 08-09, Revision 6.

As discussed in that letter, the NRC staff identified one exception to concurrence with the content of NEI 08-09, Revision 6. That exception was the definition of "cyber attack." Subsequent discussions between the NSIR staff and NEI resulted in agreement of revised definition of "cyber attack," which was described in a letter dated June 7, 2010 (ADAMS Accession No. ML101550052), from NSIR to NEI.

Accordingly, APS is electing to withdraw the previous submittal and submit a revised Cyber Security Plan consistent with NEI 08-09, Revision 6, with seven exceptions. These exceptions are described in a Deviation Table in Enclosure 4, along with a justification for the deviations. Implementation of the PVNGS Cyber Security Plan will be completed by September, 2015, as described in Enclosure 3, contingent upon NRC approval.

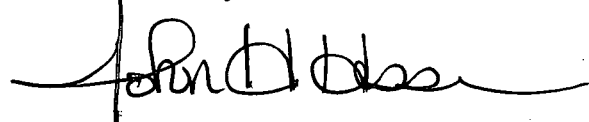
In accordance with the PVNGS Quality Assurance Program, the Plant Review Board and the Offsite Safety Review Committee have reviewed and concurred with this proposed amendment. By copy of this letter, this submittal is being forwarded to the Arizona Radiation Regulatory Agency (ARRA) pursuant to 10 CFR 50.91(b)(1).

APS makes one commitment in this letter, to implement the PVNGS Cyber Security Plan by September, 2015. Should you need further information regarding this submittal, please contact Russell A. Stroud, Licensing Section Leader, at (623) 393-5111.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on JULY 22, 2010.  
(Date)

Sincerely,



JHH/TNW/CJS/gat

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U.S. Nuclear Regulatory Commission  
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Enclosure 1 – Evaluation of Proposed Change  
Enclosure 2 – PVNGS Cyber Security Plan  
Enclosure 3 – PVNGS Cyber Security Plan Proposed Implementation Schedule  
Enclosure 4 – PVNGS NEI 08-09, Revision 6, Deviation Table

cc: E. E. Collins Jr. NRC Region IV Regional Administrator  
J. R. Hall NRC NRR Senior Project Manager  
L. K. Gibson NRC NRR Project Manager  
R. I. Treadway NRC Senior Resident Inspector for PVNGS  
Sr. Physical Security Inspector, RIV/DRS/PSB  
  
A. V. Godwin Arizona Radiation Regulatory Agency (ARRA)  
T. Morales Arizona Radiation Regulatory Agency (ARRA)

ENCLOSURES 2, 3, AND 4 CONTAIN  
**Security-Related Information – Withhold under 10 CFR 2.390**  
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## **ENCLOSURE 1**

### **Evaluation of Proposed Change**

ENCLOSURES 2, 3, AND 4 CONTAIN  
**Security-Related Information – Withhold under 10 CFR 2.390**  
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**Enclosure 1**  
**Evaluation of Proposed Change**

**Evaluation of Proposed Change**  
**Request for Approval of the PVNGS Cyber Security Plan**

- 1.0 Summary Description
  - 2.0 Detailed Description
  - 3.0 Technical Evaluation
  - 4.0 Regulatory Evaluation
    - 4.1 Applicable Regulatory Requirements / Criteria
    - 4.2 Significant Hazards Consideration
    - 4.3 Conclusions
  - 5.0 Environmental Consideration
  - 6.0 References
- 

Attachment - FOL Page Markups

**Enclosure 1**  
**Evaluation of Proposed Change**

## **1.0 SUMMARY DESCRIPTION**

The proposed license amendment request (LAR) includes the proposed Palo Verde Nuclear Generating Station (PVNGS) Cyber Security Plan (Plan), a Proposed Implementation Schedule, and a proposed paragraph to be added to the existing Facility Operating License (FOL) Physical Protection license condition.

## **2.0 DETAILED DESCRIPTION**

The proposed LAR includes three parts: the proposed Plan, a Proposed Implementation Schedule, and a proposed paragraph to be added to the existing FOL Physical Protection license condition to require Arizona Public Service (APS) to fully implement and maintain in effect all provisions of the Commission approved cyber security plan as required by 10 CFR 73.54. The regulations in 10 CFR 73.54, "Protection of digital computer and communication systems and networks," establish the requirements for a cyber security program. This regulation specifically requires each licensee currently licensed to operate a nuclear power plant under Part 50 to submit a cyber security plan that satisfies the requirements of 10 CFR 73.54. Each submittal must include a proposed implementation schedule and implementation of the licensee's cyber security program must be consistent with the approved schedule. The background for this application is addressed by the NRC Notice of Availability published on March 27, 2009, 74 FR 13926 (Reference 1).

## **3.0 TECHNICAL EVALUATION**

Reference 1 issued the final rule that amended 10 CFR Part 73. Cyber security requirements are codified in 10 CFR 73.54 and are designed to provide high assurance that digital computer and communication systems and networks are adequately protected against cyber attacks up to and including the design basis threat established by 10 CFR 73.1(a)(1)(v). These requirements are a substantial expansion upon the requirements imposed by NRC Order EA-02-026 (Reference 2).

This LAR includes the proposed Plan (Enclosure 2) that is based on the template provided in NEI 08-09, Revision 6 (Reference 3). The LAR includes the proposed change to the existing FOL license condition for "Physical Protection" (Enclosure 1 - Attachment). The LAR contains the Proposed Implementation Schedule (Enclosure 3) as required by 10 CFR 73.54 and, deviations from the NEI 08-09, Revision 6 (Enclosure 4).

**Enclosure 1**  
**Evaluation of Proposed Change**

## **4.0 REGULATORY EVALUATION**

### **4.1 APPLICABLE REGULATORY REQUIREMENTS / CRITERIA**

This LAR is submitted pursuant to 10 CFR 73.54 which requires licensees currently licensed to operate a nuclear power plant under 10 CFR Part 50 to submit a Cyber Security Plan as specified in 50.4 and 50.90.

### **4.2 SIGNIFICANT HAZARDS CONSIDERATION**

Federal Register Notice 74 FR 13926 issued the final rule that amended 10 CFR Part 73. Cyber security requirements are codified as new 10 CFR 73.54 and are designed to provide high assurance that digital computer and communication systems and networks are adequately protected against cyber attacks up to and including the design basis threat established by 10 CFR 73.1(a)(1)(v). This application requests NRC approval of the Cyber Security Plan for PVNGS in accordance with 10 CFR 73.54 and proposes changes to Section 2.E of Facility Operating Licenses Nos. NPF-41, 51, and 74 for PVNGS to incorporate the provisions for implementing and maintaining in effect the approved Cyber Security Plan. APS is submitting the Cyber Security Plan based on the template provided in Nuclear Energy Institute (NEI) 08-09, Revision 6, "Cyber Security Plan for Nuclear Power Plants," and provides a description of how the requirements of 10 CFR 73.54 will be implemented at PVNGS.

PVNGS has a fully dedicated Cyber Security Project, approved budget, and a detailed schedule in place to implement the revised Cyber Security Plan as outlined in the PVNGS Cyber Security Plan Proposed Implementation Schedule (Enclosure 3). APS has evaluated the proposed changes as required by 10 CFR 50.91(a) using the criteria in 10 CFR 50.92 and has determined that the proposed changes do not involve a significant hazards consideration. An analysis of the issue of no significant hazards consideration is presented below:

***Criterion 1: Does the proposed amendment involve a significant increase in the probability or consequences of an accident previously evaluated?***

**Response:** No.

The proposed amendment incorporates a new requirement in the Facility Operating License (FOL) to implement and maintain a Cyber Security Plan as part of the facility's overall program for physical protection. Inclusion of the Cyber Security Plan in the FOL itself does not involve any modifications to the safety-related structures, systems, or components (SSCs). Rather, the Cyber Security Plan describes how the requirements

**Enclosure 1**  
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of 10 CFR 73.54 are to be implemented to identify, evaluate, and mitigate cyber attacks up to and including the design basis cyber attack threat, thereby achieving high assurance that the facility's digital computer and communications systems and networks are protected from cyber attacks. The addition of the Cyber Security Plan to the Physical Security Plan will not alter previously evaluated Updated Final Safety Analysis Report (UFSAR) design basis accident analysis assumptions, add any accident initiators, or affect the function of the plant safety-related SSCs as to how they are operated, maintained, modified, tested, or inspected.

Therefore, it is concluded that this change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

***Criterion 2: Does the proposed amendment create the possibility of a new or different kind of accident from any accident previously evaluated?***

**Response:** No.

This proposed amendment provides assurance that safety-related SSCs are protected from cyber attacks. Implementation of 10 CFR 73.54 and the inclusion of a plan in the FOL do not result in the need of any new or different FSAR design basis accident analysis. It does not introduce new equipment that could create a new or different kind of accident, and no new equipment failure modes are created. As a result, no new accident scenarios, failure mechanisms, or limiting single failures are introduced as a result of this proposed amendment.

Therefore, the proposed change does not create the possibility of a new or different kind of accident from any previously evaluated.

***Criterion 3: Does the proposed amendment involve a significant reduction in a margin of safety?***

**Response:** No.

The margin of safety is associated with the confidence in the ability of the fission product barriers (i.e., fuel cladding, reactor coolant pressure boundary, and containment structure) to limit the level of radiation to the public. The proposed amendment would not alter the way any safety-related SSC functions and would not alter the way the plant is operated. The amendment provides assurance that safety-related SSCs are protected from cyber attacks. The proposed amendment would not introduce any new uncertainties or change any existing uncertainties associated with any safety limit. The proposed amendment would have no impact on the structural integrity of the fuel cladding, reactor coolant pressure boundary, or containment structure. Based on the



**Enclosure 1**  
**Evaluation of Proposed Change**

above considerations, the proposed amendment would not degrade the confidence in the ability of the fission product barriers to limit the level of radiation to the public.

Therefore, the proposed change does not involve a significant reduction in a margin of safety.

Based on the above, APS concludes that the proposed change presents no significant hazards consideration under the standards set forth in 10 CFR 50.92(c), and accordingly, a finding of no significant hazards consideration is justified.

#### **4.3 CONCLUSIONS**

In conclusion, based on the considerations discussed above: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner; (2) such activities will be conducted in compliance with the Commission's regulations; and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

#### **5.0 ENVIRONMENTAL CONSIDERATION**

The proposed amendment establishes the licensing basis for a Cyber Security Program for PVNGS and will be a part of the Physical Security Plan. This proposed amendment will not involve any significant construction impacts. Pursuant to 10 CFR 51.22(c)(12) no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendment.

#### **6.0 REFERENCES**

1. Federal Register Notice, Final Rule 10 CFR Part 73, Power Reactor Security Requirements, published on March 27, 2009, 74 FR 13926.
2. EA-02-026, Order Modifying Licenses, Safeguards and Security Plan Requirements, issued February 25, 2002.
3. NEI 08-09, Revision 6, April 2010, "Cyber Security Plan for Nuclear Power Reactors."

ENCLOSURES 2, 3, AND 4 CONTAIN  
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**ENCLOSURE 1, Attachment**  
**FOL Page Markups**

FOL No. NPF-41 - Page 7  
FOL No. NPF-51 - Page 8  
FOL No. NPF-74 - Pages 5 and 6

ENCLOSURES 2, 3, AND 4 CONTAIN  
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- (c) Actions to minimize release to include consideration of:
1. Water spray scrubbing.
  2. Dose to onsite responders.
- D. The facility requires an exemption from Paragraph III.D.2(b)(ii) of Appendix J to 10 CFR Part 50 (Section 6.2.6, SSER 7). This exemption is authorized by law and will not endanger life or property or the common defense and security and is otherwise in the public interest. This exemption is, therefore, hereby granted pursuant to 10 CFR 50.12. With the granting of this exemption, the facility will operate, to the extent authorized herein, in conformity with the application, as amended, the provisions of the Act, and the rules and regulations of the Commission.
- E. The licensees shall fully implement and maintain in effect all provisions of the Commission-approved physical security, training and qualification, and safeguards contingency plans including amendments made pursuant to provisions of the Miscellaneous Amendments and Search Requirements revisions to 10 CFR 73.55 (51 FR 27817 and 27822) and to the authority of 10 CFR 50.90 and 10 CFR 50.54(p). The combined set of plans, which contains Safeguards Information protected under 10 CFR 73.21, is entitled: "Palo Verde Nuclear Station Security Plan, Training and Qualification Plan, Safeguards Contingency Plan and Independent Spent Fuel Storage Installation Security Program Revision 3," submitted by letter dated May 16, 2006.
- The licensees shall fully implement and maintain in effect all provisions of the Commission-approved Palo Verde Nuclear Generating Station Cyber Security Plan submitted by letter dated July 22, 2010 including amendments made pursuant to the authority of 10 CFR 50.90 and 10 CFR 50.54(p). This plan is withheld from public disclosure in accordance with 10 CFR 2.390.
- F. Deleted
- G. The licenses shall have and maintain financial protection of such type and in such amounts as the Commission shall require in accordance with Section 170 of the Atomic Energy Act of 1954, as amended, to cover public liability claims; and

Amendment No. 162  
Revised by letter dated August 2, 2007

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- E. The licensees shall fully implement and maintain in effect all provisions of the Commission-approved physical security, training and qualification, and safeguards contingency plans including amendments made pursuant to provisions of the Miscellaneous Amendments and Search Requirements revisions to 10 CFR 73.55 (51 FR 27817 and 27822) and to the authority of 10 CFR 50.90 and 10 CFR 50.54(p). The combined set of plans, which contains Safeguards Information protected under 10 CFR 73.21, is entitled: "Palo Verde Nuclear Station Security Plan, Training and Qualification Plan, Safeguards Contingency Plan and Independent Spent Fuel Storage Installation Security Program Revision 3," submitted by letter dated May 16, 2006.

The licensees shall fully implement and maintain in effect all provisions of the Commission-approved Palo Verde Nuclear Generating Station Cyber Security Plan submitted by letter dated July 22, 2010 including amendments made pursuant to the authority of 10 CFR 50.90 and 10 CFR 50.54(p). This plan is withheld from public disclosure in accordance with 10 CFR 2.390.

- F. Deleted
- G. The licensees shall have and maintain financial protection of such type and in such amounts as the Commission shall require in accordance with Section 170 of the Atomic Energy Act of 1954, as amended, to cover public liability claims; and
- H. This license is effective as of the date of issuance and shall expire at midnight on April 24, 2026.

FOR THE NUCLEAR REGULATORY COMMISSION

Original Signed By

Darrell G. Eisenhut, Acting Director  
Office of Nuclear Reactor Regulation

Attachments:

1. [Requirements for Initial Mode 1 Entry] - Deleted
2. [Schedule for NUREG-0737, Sup. 1, Requirement (SPDS)] - Deleted
3. Appendix A -  
Technical Specifications
4. Appendix B  
Environmental Protection Plan
5. Appendix C  
Antitrust Conditions
6. Appendix D - [Additional Conditions] - Deleted

Date of Issuance: April 24, 1986

Amendment No. 462  
Revised by letter dated August 2, 2007

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(b) Operations to mitigate fuel damage considering the following:

1. Protection and use of personnel assets.
2. Communications.
3. Minimizing fire spread.
4. Procedures for implementing integrated fire response strategy.
5. Identification of readily-available pre-staged equipment.
6. Training on integrated fire response strategy.
7. Spent fuel pool mitigation measures.

(c) Actions to minimize release to include consideration of:

1. Water spray scrubbing.
2. Dose to onsite responders.

- D. APS has previously been granted an exemption from Paragraph III.D.2(b)(ii) of Appendix J to 10 CFR Part 50. This exemption was previously granted in Facility Operating License NPF-65 pursuant to 10 CFR 50.12.

With the granting of this exemption, the facility will operate, to the extent authorized herein, in conformity with the application, as amended, the provisions of the Act, and the rules and regulations of the Commission.

- E. The licensees shall fully implement and maintain in effect all provisions of the Commission-approved physical security, training and qualification, and safeguards contingency plans including amendments made pursuant to provisions of the Miscellaneous Amendments and Search Requirements revisions to 10 CFR 73.55 (51 FR 27817 and 27822) and to the authority of 10 CFR 50.90 and 10 CFR 50.54(p). The combined set of plans, which contains Safeguards Information protected under 10 CFR 73.21, is entitled: "Palo Verde Nuclear Station Security Plan, Training and Qualification Plan, Safeguards Contingency Plan and Independent Spent Fuel Storage Installation Security Program Revision 3," submitted by letter dated May 16, 2006.

The licensees shall fully implement and maintain in effect all provisions of the Commission-approved Palo Verde Nuclear Generating Station Cyber Security Plan submitted by letter dated July 22, 2010 including amendments made pursuant to the authority of 10 CFR 50.90 and 10 CFR 50.54(p). This plan is withheld from public disclosure in accordance with 10 CFR 2.390.

Amendment No. 462  
Revised by letter dated August 2, 2007

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- F. APS shall implement and maintain in effect all provisions of the approved fire protection program as described in the Final Safety analysis Report for the facility, as supplemented and amended, and as approved in the SER through Supplement 11, subject to the following provision:

APS may make changes to the approved fire protection program without approval of the Commission only if those changes would not adversely affect the ability to achieve and maintain safe shutdown in the event of a fire.

- G. Deleted

- H. The licensees shall have and maintain financial protection of such type and in such amounts as the Commission shall require in accordance with Section 170 of the Atomic Energy Act of 1954, as amended, to cover public liability claims; and

- I. This license is effective as of the date of issuance and shall expire at midnight on November 25, 2027.

FOR THE NUCLEAR REGULATORY COMMISSION

Original Signed By

Thomas E. Murley, Director  
Office of Nuclear Reactor Regulation

Attachments:

1. [Requirements for Initial Mode 1 Entry] - Deleted
2. Appendix A -  
Technical Specifications
3. Appendix B -  
Environmental Protection Plan
4. Appendix C -  
Antitrust Conditions
5. Appendix D - [Additional Conditions] - Deleted

Date of Issuance: November 25, 1987

Amendment No. 458  
Revised by letter dated August 2, 2007