



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

October 21, 2009

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

SUBJECT: PALO VERDE NUCLEAR GENERATING STATION, UNITS 1, 2, AND 3 -
ISSUANCE OF AMENDMENTS RE: REVISION TO TECHNICAL
SPECIFICATION 3.5.5, "REFUELING WATER TANK (RWT)" (TAC NOS.
ME0132, ME0133, AND ME0134)

Dear Mr. Edington:

The U.S. Nuclear Regulatory Commission (NRC) has issued the enclosed Amendment No. 177 to Facility Operating License No. NPF-41, Amendment No. 177 to Facility Operating License No. NPF-51, and Amendment No. 177 to Facility Operating License No. NPF-74 for the Palo Verde Nuclear Generating Station (PVNGS), Units 1, 2, and 3, respectively. The amendments consist of changes to the Technical Specifications (TSs) in response to your application dated November 13, 2008.

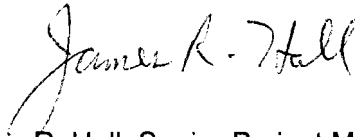
The amendments modify TS 3.5.5, "Refueling Water Tank (RWT)," for PVNGS, Units 1 and 3 to increase the minimum required RWT level indications and the corresponding borated water volumes in TS Figure 3.5.5-1, "Minimum Required RWT Volume," by 3 percent. In addition, the proposed amendments would incorporate editorial changes to TS Figure 3.5.5-1 for PVNGS, Units 1, 2, and 3, to provide consistent formatting of the RWT volumetric values provided in the figure.

R. Edington

- 2 -

A copy of the related Safety Evaluation is also enclosed. The Notice of Issuance will be included in the Commission's next biweekly *Federal Register* notice.

Sincerely,

A handwritten signature in black ink that reads "James R. Hall". The signature is written in a cursive style with a large initial "J" and a long, sweeping underline.

James R. Hall, Senior Project Manager
Plant Licensing Branch IV
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. STN 50-528, STN 50-529,
and STN 50-530

Enclosures:

1. Amendment No. 177 to NPF-41
2. Amendment No. 177 to NPF-51
3. Amendment No. 177 to NPF-74
4. Safety Evaluation

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

ARIZONA PUBLIC SERVICE COMPANY, ET AL.

DOCKET NO. STN 50-528

PALO VERDE NUCLEAR GENERATING STATION, UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 177
License No. NPF-41

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by the Arizona Public Service Company (APS or the licensee) on behalf of itself and the Salt River Project Agricultural Improvement and Power District, El Paso Electric Company, Southern California Edison Company, Public Service Company of New Mexico, Los Angeles Department of Water and Power, and Southern California Public Power Authority dated November 13, 2008, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

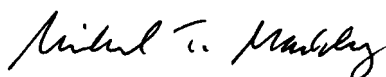
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and Paragraph 2.C(2) of Facility Operating License No. NPF-41 is hereby amended to read as follows:

- (2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 177, and the Environmental Protection Plan contained in Appendix B, are hereby incorporated into this license. APS shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan, except where otherwise stated in specific license conditions.

3. This license amendment is effective as of the date of issuance and shall be implemented within 60 days of the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Michael T. Markley, Chief
Plant Licensing Branch IV
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Facility Operating
License No. NPF-41 and
Technical Specifications

Date of Issuance: October 21, 2009



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

ARIZONA PUBLIC SERVICE COMPANY, ET AL.

DOCKET NO. STN 50-529

PALO VERDE NUCLEAR GENERATING STATION, UNIT 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 177
License No. NPF-51

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by the Arizona Public Service Company (APS or the licensee) on behalf of itself and the Salt River Project Agricultural Improvement and Power District, El Paso Electric Company, Southern California Edison Company, Public Service Company of New Mexico, Los Angeles Department of Water and Power, and Southern California Public Power Authority dated November 13, 2008, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

Enclosure 2

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and Paragraph 2.C(2) of Facility Operating License No. NPF-51 is hereby amended to read as follows:

- (2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 177, and the Environmental Protection Plan contained in Appendix B, are hereby incorporated into this license. APS shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan, except where otherwise stated in specific license conditions.

3. This license amendment is effective as of the date of issuance and shall be implemented within 60 days of the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Michael T. Markley, Chief
Plant Licensing Branch IV
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Facility Operating
License No. NPF-51 and
Technical Specifications

Date of Issuance: October 21, 2009



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

ARIZONA PUBLIC SERVICE COMPANY, ET AL.

DOCKET NO. STN 50-530

PALO VERDE NUCLEAR GENERATING STATION, UNIT 3

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 177
License No. NPF-74

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by the Arizona Public Service Company (APS or the licensee) on behalf of itself and the Salt River Project Agricultural Improvement and Power District, El Paso Electric Company, Southern California Edison Company, Public Service Company of New Mexico, Los Angeles Department of Water and Power, and Southern California Public Power Authority dated November 13, 2008, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

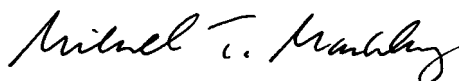
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and Paragraph 2.C(2) of Facility Operating License No. NPF-74 is hereby amended to read as follows:

- (2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 177, and the Environmental Protection Plan contained in Appendix B, are hereby incorporated into this license. APS shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan, except where otherwise stated in specific license conditions.

3. This license amendment is effective as of the date of issuance and shall be implemented within 60 days of the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Michael T. Markley, Chief
Plant Licensing Branch IV
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Facility Operating
License No. NPF-74 and
Technical Specifications

Date of Issuance: October 21, 2009

ATTACHMENT TO LICENSE AMENDMENT NOS. 177, 177, AND 177

FACILITY OPERATING LICENSE NOS. NPF-41, NPF-51, AND NPF-74

DOCKET NOS. STN 50-528, STN 50-529, AND STN 50-530

Replace the following pages of the Facility Operating Licenses Nos. NPF-41, NPF-51, and NPF-74, and Appendix A Technical Specifications with the attached revised pages. The revised pages are identified by amendment number and contain marginal lines indicating the areas of change.

Operating Licenses

REMOVE

INSERT

Replace Page 5 of Facility Operating License No. NPF-41 with the attached Page 5.

Replace Page 6 of Facility Operating License No. NPF-51 with the attached Page 6.

Replace Page 4 of Facility Operating License No. NPF-74 with the attached Page 4.

Technical Specifications

REMOVE

INSERT

3.5.5-3

3.5.5-3

(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 177, and the Environmental Protection Plan contained in Appendix B, are hereby incorporated into this license. APS shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan, except where otherwise stated in specific license conditions.

(3) Antitrust Conditions

This license is subject to the antitrust conditions delineated in Appendix C to this license.

(4) Operating Staff Experience Requirements

Deleted

(5) Post-Fuel-Loading Initial Test Program (Section 14, SER and SSER 2)*

Deleted

(6) Environmental Qualification

Deleted

(7) Fire Protection Program

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 prior 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.

(8) Emergency Preparedness

Deleted

*The parenthetical notation following the title of many license conditions denotes the section of the Safety Evaluation Report and/or its supplements wherein the license condition is discussed.

(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 177, and the Environmental Protection Plan contained in Appendix B, are hereby incorporated into this license. APS shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan, except where otherwise stated in specific license conditions.

(3) Antitrust Conditions

This license is subject to the antitrust conditions delineated in Appendix C to this license.

(4) Operating Staff Experience Requirements (Section 13.1.2, SSER 9)*

Deleted

(5) Initial Test Program (Section 14, SER and SSER 2)

Deleted

(6) Fire Protection Program

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 prior 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.

(7) Inservice Inspection Program (Sections 5.2.4 and 6.6, SER and SSER 9)

Deleted

(8) Supplement No. 1 to NUREG-0737 Requirements

Deleted

*The parenthetical notation following the title of many license conditions denotes the section of the Safety Evaluation Report and/or its supplements wherein the license condition is discussed.

(1) Maximum Power Level

Arizona Public Service Company (APS) is authorized to operate the facility at reactor core power levels not in excess of 3876 megawatts thermal (100% power) through operating cycle 13, and 3990 megawatts thermal (100% power) after operating cycle 13, in accordance with the conditions specified herein.

(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 177, and the Environmental Protection Plan contained in Appendix B, are hereby incorporated into this license. APS shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan, except where otherwise stated in specific license conditions.

(3) Antitrust Conditions

This license is subject to the antitrust conditions delineated in Appendix C to this license.

(4) Initial Test Program (Section 14, SER and SSER 2)

Deleted

(5) Additional Conditions

The Additional Conditions contained in Appendix D, as revised through Amendment No. 171, are hereby incorporated into this license. The licensee shall operate the facility in accordance with the Additional Conditions.

(6) Mitigation Strategy License Condition

APS shall develop and maintain strategies for addressing large fires and explosions and that include the following key areas:

(a) Fire fighting response strategy with the following elements:

1. Pre-defined coordinated fire response strategy and guidance.
2. Assessment of mutual aid fire fighting assets.
3. Designated staging areas for equipment and materials.
4. Command and control.
5. Training of response personnel.

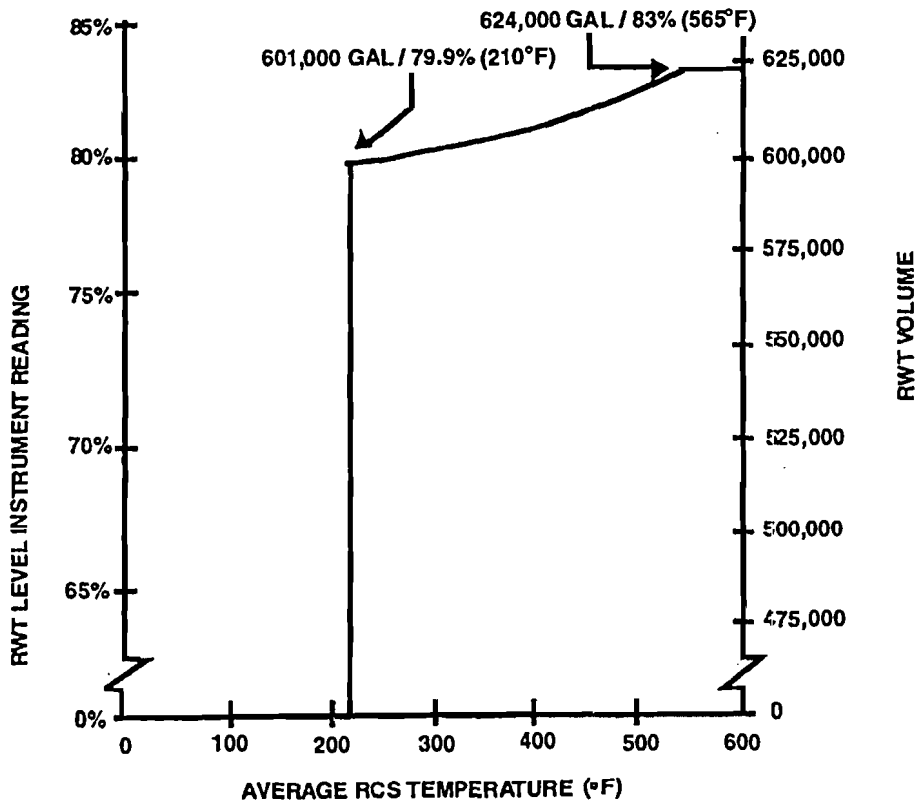


FIGURE 3.5.5-1
Minimum Required RWT Volume



UNITED STATES
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WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 177 TO FACILITY OPERATING LICENSE NO. NPF-41,
AMENDMENT NO. 177 TO FACILITY OPERATING LICENSE NO. NPF-51, AND
AMENDMENT NO. 177 TO FACILITY OPERATING LICENSE NO. NPF-74
ARIZONA PUBLIC SERVICE COMPANY, ET AL.
PALO VERDE NUCLEAR GENERATING STATION, UNITS 1, 2, AND 3
DOCKET NOS. STN 50-528, STN 50-529, AND STN 50-530

1.0 INTRODUCTION

By letter dated November 13, 2008 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML083370161), Arizona Public Service Company (APS, the licensee), submitted a license amendment request (LAR) to change the Technical Specifications (TS) for the Palo Verde Nuclear Generating Station (PVNGS) Units 1, 2, and 3. The LAR includes proposed changes to increase the minimum water level and corresponding volume in the refueling water tank (RWT) in TS 3.5.5, "Refueling Water Tank (RWT)," by three percent for Units 1 and 3. The proposed changes would establish revised limits on the minimum required water volume in the RWT for Units 1 and 3 to ensure that the engineered safety feature (ESF) pumps and the new containment recirculation sump strainers for each unit will meet their design functions during loss-of-coolant accidents (LOCAs). In addition, the proposed revision would incorporate editorial changes to TS Figure 3.5.5-1, "Minimum Required RWT Volume," for Units 1, 2, and 3, to provide consistent formatting of the RWT volumetric values provided in the figure.

The U.S. Nuclear Regulatory Commission (NRC) issued License Amendment No. 169 for PVNGS Unit 2, on May 9, 2008 (ADAMS Accession No. ML081270305). The NRC staff issued that amendment on an exigent basis, approving a similar change to TS 3.5.5 to increase the RWT minimum water level by three percent for Unit 2. At the time, Unit 2 was shut down for a refueling outage, and the licensee had just completed a re-evaluation of the TS minimum RWT levels for the new containment sump strainers that identified the need to increase the levels. The minimum RWT water level issue was not known when the new containment sump strainers for Units 1 and 3 were installed during their 2007 outages. However, as a result of the discovery of this issue, APS is administratively controlling the RWT minimum levels in Units 1 and 3 at three percent above current TS Figure 3.5.5-1 levels, pending NRC approval of the proposed conforming TS change.

2.0 REGULATORY EVALUATION

Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50 establishes the fundamental regulatory requirements with respect to the domestic licensing of nuclear production and utilization facilities. Specifically, Appendix A, "General Design Criteria [GDC] for Nuclear Power Plants," to 10 CFR Part 50 provides, in part, the necessary design, fabrication, construction, testing, and performance requirements for structures, systems, and components important to safety. The GDC relevant to the NRC staff's review of this LAR are:

- GDC 13, "Instrumentation and control," which requires that "instrumentation shall be provided to monitor variables and systems over their anticipated ranges for normal operation, for anticipated operational occurrences, and for accident conditions as appropriate to assure adequate safety, including those variables and systems that can affect the fission process, the integrity of the reactor core, the reactor coolant pressure boundary, and the containment and its associated systems. Appropriate controls shall be provided to maintain these variables and systems within prescribed operating ranges."
- GDC 16, "Containment design," which requires that "Reactor containment and associated systems shall be provided to establish an essentially leak-tight barrier against the uncontrolled release of radioactivity to the environment and to assure that the containment design conditions important to safety are not exceeded for as long as postulated accident conditions require."
- GDC 20, "Protection system functions," which requires that the "protection system shall be designed (1) to initiate automatically the operation of appropriate systems including the reactivity control systems, to assure that specified acceptable fuel design limits are not exceeded as a result of anticipated operational occurrences and (2) to sense accident conditions and to initiate the operation of systems and components important to safety. "
- GDC 35, "Emergency core cooling," which requires that "a system to provide abundant emergency core cooling shall be provided," and that suitable redundancy exists so that the system safety function can be accomplished assuming a single failure.
- GDC 38, "Containment heat removal," which requires that "a system to remove heat from the reactor containment shall be provided," and that suitable redundancy exists so that the system safety function can be accomplished assuming a single failure.

The following NRC regulations, guidance and generic communications were also considered by the NRC staff. These requirements and guidance documents are directed to nuclear power plant licensees to ensure that water sources are available for long-term cooling, that minimum water volumes are established for emergency core cooling and containment spray systems (ECCS and CSS, respectively), and that adequate water level is available for the containment

sump strainers to function in the containment recirculation mode for the full spectrum of design-basis accidents.

- The regulations in 10 CFR 50.36, "Technical specifications," state, "Each applicant for a license authorizing operation of a production or utilization facility shall include in his application proposed technical specifications in accordance with the requirements of this section." Specifically, 10 CFR 50.36(c)(3) states, "Surveillance requirements are requirements relating to test, calibration, or inspection to assure that the necessary quality of systems and components is maintained, that facility operation will be within safety limits, and that the limiting conditions for operation will be met."
- 10 CFR 50.46(b)(5), "Long-term cooling," requires that the ECCS must be designed so that its calculated cooling performance maintains core temperatures at an acceptably low value and removes decay heat for the extended period of time required following postulated LOCAs.
- NRC Regulatory Guide (RG) 1.82, Revision 3, "Water Sources for Long-Term Recirculation Cooling Following a Loss-of-Coolant Accident," November 2003 (ADAMS Accession No. ML033230306), describes methods acceptable to the NRC staff for implementing NRC requirements with respect to the sumps and suppression pools performing the functions of water sources for emergency core cooling, containment heat removal, or containment atmosphere clean up.
- NRC Regulatory Guide (RG) 1.105, Revision 3, "Setpoints for Safety-Related Instrumentation," dated December 1999 (ADAMS Accession No. ML993560062), describes a method acceptable to the NRC staff for complying with the NRC's regulations for ensuring that setpoints for safety-related instrumentation are initially within and remain within the TS limits.
- NRC Generic Letter (GL) 2004-02, "Potential Impact of Debris Blockage on Emergency Recirculation during Design Basis Accidents at Pressurized-Water Reactors," dated September 13, 2004 (ADAMS Accession No. ML042360586), and Generic Safety Issue (GSI) 191, "Assessment of Debris Accumulation on PWR Sump Performance," are directed to licensees to ensure that post-accident debris blockage will not impede or prevent the operation of the ECCS and CSS recirculation mode during LOCAs for which sump recirculation is required.

3.0 TECHNICAL EVALUATION

Following a LOCA, the RWT supplies borated water to the high-pressure safety injection and CSS prior to automatic switchover to the containment recirculation sumps. For post-LOCA recirculation, at a specified RWT level, pump suction for the high-pressure safety injection and CSS pumps is automatically switched from the RWT to the containment recirculation sumps by a recirculation actuation signal (RAS) from the engineered safety features actuation system (ESFAS). The containment recirculation sumps are located on the lowest floor in the containment building and are physically separated to preclude simultaneous damage to both sumps.

In response to GL 2004-02, the licensee installed new, larger containment recirculation sump strainers. The licensee reevaluated the containment flooding calculations and associated minimum RWT water levels to account for the new strainers. For the majority of pipe break locations in the containment, the existing TS minimum RWT water levels and corresponding water volumes were verified adequate to ensure sufficient flood level for sump strainer submergence and ESF pump operation. However, a more limiting break scenario was identified that results in the current TS minimum RWT levels for Units 1 and 3, as currently shown in TS Figure 3.5.5-1, "Minimum Required RWT Volume," being non-conservative. This may result in the sump strainers not being fully submerged post-LOCA at the time of the RAS for this break scenario. To ensure that the containment recirculation sump strainers would be submerged at the time of the RAS, APS determined that the RWT minimum water level and corresponding volume needed to be increased.

The limiting break scenario of concern is a small-break LOCA involving a break at the top of the pressurizer. This break has a limited cross section, which limits the spillage from the reactor coolant system (RCS) to the containment floor and results in the RCS pressure remaining above 600 pounds per square inch absolute (psia). This high system pressure would prevent the injection of water from the safety injection tanks.

The licensee's evaluation of this scenario limits the water source available to flood the containment recirculation sumps to the volume of water in the RWT and considers potential flood volume losses from water diverted to the chemical volume and control system and water postulated to be held on wetted surfaces and delayed in containment. The containment recirculation sump strainers were designed based on a minimum flood level elevation of 84 feet, 6 inches, which is approximately 2 inches above the top of the strainers. This minimum flood level ensures that the strainers are submerged to prevent vortexing and that adequate net positive suction head is available to support continued ESF pump operation after the switchover to recirculation. The evaluation shows that the minimum flood level equates to 543,200 gallons of water at 600 degrees Fahrenheit (°F) delivered from the RWT to the RCS and containment prior to the RAS for the small-break scenario. To ensure the required volume of water is available, the minimum RWT indicated level is conservatively set at 83 percent of scale at 600 °F. This indicated level conservatively considers instrument inaccuracies for the indicators used to verify RWT level, the switchover for RAS, and the average RCS temperature. In addition, the licensee evaluated the impact of this proposed TS change on post-LOCA sump pH and found that the current calculated maximum post-LOCA sump pH remains bounding for the proposed increase in the TS minimum RWT water level.

The licensee calculated the RWT minimum level and corresponding volume using a calculation methodology that is consistent with RG 1.105. The calculation uses the square-root-sum-of-the-squares method and includes bias uncertainties, bistable uncertainties, indicator uncertainties, temperature variations, and drift.

The licensee also provided information concerning the surveillance procedures for RWT level and volume. The licensee performs periodic surveillances to verify that specific settings are within an acceptable range. The As-Left tolerance band is the acceptance criteria for the As-Left value. If the As-Found value is within the As-Left tolerance band, the calibration would be considered acceptable. Any values found to be outside the As-Left tolerance band must be

reset to a value within the As-Left tolerance band for the surveillance to be completed satisfactorily. If the As-Found value associated with a setpoint with an Allowable Value in TS exceeds the Allowable Value, then the channel would be declared inoperable and the associated TS action requirements followed. If the As-Found value is outside the predefined As-Found tolerance band, but the instrument channel is functioning as expected and can be reset to within the As-Left tolerance band, then the channel would be returned to service and the event entered into the licensee's Corrective Action Program for further evaluation and trending. If at any time it cannot be determined that an instrument is functioning as required, the instrument would be declared inoperable and the associated TS action requirements followed.

The NRC staff reviewed the information provided by the licensee regarding instrument setpoints, tolerances, uncertainties, and the performance of surveillances. The licensee's calculation for minimum RWT level used the square-root-of-the-sum-of-the-squares method and meets the guidance of RG 1.105. The licensee's procedures would maintain the RWT minimum level and corresponding volume within the established tolerances to ensure that the instruments will be capable of performing their specified safety function.

The NRC staff has reviewed the licensee's proposed TS changes and supporting evaluation to increase the minimum required RWT levels and the corresponding borated water volumes in TS Figure 3.5.5-1 by 3 percent for PVNGS Units 1 and 3. The proposed changes comply with the requirements of 10 CFR 50.36(c)(3) and 10 CFR 50.46(b)(5) and GDCs 13, 16, 20, 35, and 38, and are consistent with the guidance of NRC GL 2004-02, RG 1.82, and RG 1.105. The proposed TS changes will assure that there is adequate water volume available in the containment to meet the functional requirements of the ESF pumps and the containment sump strainers for applicable design-basis accidents. These changes conform to the prior change approved by the NRC staff in Amendment No. 169 for PVNGS, Unit 2. In addition, the revisions to the labels in TS Figure 3.5.5-1 are editorial changes that will improve the clarity of the figure for PVNGS Units 1, 2, and 3. Therefore, the NRC staff has concluded that the proposed TS changes are acceptable.

4.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Arizona State official was notified of the proposed issuance of the amendment. The State official had no comments.

5.0 ENVIRONMENTAL CONSIDERATION

The amendments change a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. The NRC staff has determined that the amendments involve no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendments involve no significant hazards consideration, and there has been no public comment on such finding published in the *Federal Register* on December 30, 2008 (73 FR 79930). Accordingly, the amendments meet the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendments.

6.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that: (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 amendments will not be inimical to the common defense and security or to the health and safety of the public.

7.0 REFERENCES

1. D.C. Mims, Arizona Public Service Company, letter to U.S. Nuclear Regulatory Commission, "Request for Amendments to Technical Specification (TS) 3.5.5, Refueling Water Tank (RWT), to Increase the RWT Minimum Water Level for Units 1 and 3 and Incorporate Editorial Changes for Units 1, 2, and 3," dated November 13, 2008 (ADAMS Accession No. ML083370161).
2. U.S. Nuclear Regulatory Commission, Generic Letter 2004-02, "Potential Impact of Debris Blockage on Emergency Recirculation During Design Basis Accidents at Pressurized-Water Reactors," dated September 13, 2004 (ADAMS Accession No. ML042360586).
3. U.S. Nuclear Regulatory Commission, Regulatory Guide (RG) 1.105, Revision 3, "Setpoints for Safety-Related Instrumentation," dated December 1999 (ADAMS Accession No. ML993560062).
4. M. Markley, U.S. Nuclear Regulatory Commission, letter to R. Edington, Arizona Public Service Company, "Palo Verde Nuclear Generating Station, Unit 2 – Issuance of Exigent Amendment Re: Revised Minimum Water Level for Technical Specification 3.5.5, Refueling Water Tank (TAC No. MD8496)," dated May 9, 2008 (ADAMS Accession No. ML081270305).
5. D. Mims, Arizona Public Service Company, letter to U.S. Nuclear Regulatory Commission, "Supplemental Response to NRC Generic Letter 2004-02, 'Potential Impact of Debris Blockage on Emergency Recirculation During Design Basis Accidents at Pressurized-Water Reactors'," APS Letter No. 102-05819, dated February 29, 2008 (ADAMS Accession No. ML080710546).

Principal Contributors: B. Marcus
K. Desai

Date: October 21, 2009

R. Edington

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A copy of the related Safety Evaluation is also enclosed. The Notice of Issuance will be included in the Commission's next biweekly *Federal Register* notice.

Sincerely,

/RA/

James R. Hall, Senior Project Manager
Plant Licensing Branch IV
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. STN 50-528, STN 50-529,
and STN 50-530

Enclosures:

1. Amendment No. 177 to NPF-41
2. Amendment No. 177 to NPF-51
3. Amendment No. 177 to NPF-74
4. Safety Evaluation

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