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 SUBJECT: Application for amends to licenses NPF-41, NPF-51 & NPF-74, D  
 revising TS section 3.6.3, table 3.6-1 deleting type C  
 testing requirements for eight valves. S  
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Arizona Public Service Company

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WILLIAM F. CONWAY  
EXECUTIVE VICE PRESIDENT  
NUCLEAR

161-04574-WFC/JCO

January 16, 1992

Docket Nos. 50-528/529/530

U. S. Nuclear Regulatory Commission  
Attn: Document Control Desk  
Mail Station P1-37  
Washington, D. C. 20555

Reference: APS Letter 161-04155-WFC/DAF, dated September 09, 1991

Dear Sirs:

Subject: Palo Verde Nuclear Generating Station (PVNGS)  
Units 1, 2, and 3  
Proposed Technical Specification Amendment to  
Section 3.6.3, Table 3.6-1  
File: 92-056-026; 92-005-419.05

Arizona Public Service Company (APS) is requesting an amendment to Table 3.6-1 of Technical Specification Section 3.6.3. This request will delete the Type C testing requirements for eight valves.

Provided in the attachment to this letter, for the proposed Technical Specification amendment, are the following:

- A. Description of the Proposed Amendment Request
- B. Purpose of the Technical Specification
- C. Need for the Technical Specification Amendment
- D. Safety Analysis of the Proposed Technical Specification Amendment
- E. No Significant Hazards Consideration Determination
- F. Environmental Impact Consideration Determination
- G. Marked-Up Technical Specification Change Pages

Pursuant to 10 CFR 50.91(b)(1), a copy of this request is being forwarded to the Arizona Radiation Regulatory Agency.

The amendment will impact the two refueling outages scheduled at PVNGS for 1992. APS is requesting that the NRC complete the review of the amendment in order to support the PVNGS Unit 3 refueling outage scheduled to begin during September 1992.

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U. S. Nuclear Regulatory Commission  
Attn: Document Control Desk  
Page 2

If you should have any questions, please contact Michael E. Powell of my staff  
at (602) 340-4981.

Sincerely,



WFC/JCO/jco

Attachment

cc: J. B. Martin  
D. H. Coe  
A. C. Gehr  
A. H. Gutterman  
P. J. Weeden



STATE OF ARIZONA     )  
                              ) ss.  
COUNTY OF MARICOPA   )

I, W. F. Conway, represent that I am Executive Vice President - Nuclear, that the foregoing document has been signed by me on behalf of Arizona Public Service Company with full authority to do so, that I have read such document and know its contents, and that to the best of my knowledge and belief, the statements made therein are true and correct.

W. F. Conway  
W. F. Conway

Sworn To Before Me This 16 Day Of January, 1992.

Linda B. Spell  
Notary Public

My Commission Expires

June 5, 1992





ATTACHMENT

A. Description of the Proposed Amendment Request

The proposed Technical Specification amendment adds a reference to a footnote to eight valves listed in Table 3.6-1. The footnote excludes these valves from 10 CFR 50, Appendix J, Type C testing.

Shutdown cooling Train A containment isolation valves SIC-UV 653, SIA-UV 655, SIA-HV 691, and relief valve SIA-PSV 179 (Penetration 27), and Train B containment isolation valves SID-UV 654, SIB-UV 656, SIB-HV 690, and relief valve SIB-PSV 189 (Penetration 26) remain closed during an accident, and therefore, do not meet the criteria for Appendix J, Type C testing.

B. Purpose of the Technical Specification

Technical Specification 3.6.3 ensures that containment isolation valves specified in Table 3.6-1 are operable. The operability of the automatic containment isolation valves ensures that the containment atmosphere will be isolated from the outside environment in the event of either a release of radioactive material to the containment atmosphere or the pressurization of the containment. Table 3.6-1 reflects the design requirements of GDC 54 through GDC 57 of 10 CFR 50, Appendix A. Containment isolation within the time limits specified for those isolation valves designed to close automatically ensures that the release of radioactive material to the environment will be consistent with the assumptions used in the analyses for a LOCA.

Section 4.6.3.5 states, "The isolation valves specified in Sections E, F, and G of Table 3.6-1 shall be demonstrated OPERABLE . . . . Valves secured (locked, sealed, or otherwise prevented from unintended operation) in their actuated position are considered operable pursuant to this specification."

C. Need for the Technical Specification Amendment

The testing consists of isolating, venting and draining each penetration back to the Low Pressure Safety Injection pumps, then pressurizing the piping with air. If any valve exceeds the required leak rate, the valve must be stroked dry to seat it properly and the test repeated. Dry stroking the valves increases the wear of the valve internals, necessitating more frequent repairs. This is particularly the case with valves SIA-UV 655 and SIB-UV 656 because they are installed horizontally. The shutdown cooling system (SCS) is a radioactively contaminated system. Venting and draining operations increase the possibility of increased personnel exposure. Additional radioactive waste is generated.

The amendment to the Technical Specification will reduce the length of Palo Verde Nuclear Generating Station (PVNGS) refueling outages, will reduce the amount of radioactive waste generated, will reduce the potential for personnel exposure, and will reduce wear and tear from dry stroking the valves.

10 CFR 50, Appendix J, III.D.3 requires that Type C tests be performed during each reactor shutdown for refueling but in no case at intervals greater than two years. The subject valves are tested every refueling. The testing is burdensome and unnecessary. On average, the testing adds four days of critical path time per penetration to the refueling schedule.



The proposed amendment will not change the periodic leak testing for valves SIC-UV 653 and SID-UV 654. These valves will still be periodically leak tested with water to meet the surveillance requirements of Technical Specification 3.4.5.2 "Operational Leakage".

D. Safety Analysis of the Proposed Technical Specification Amendment

The subject valves do not meet the requirement for Type C testing in 10 CFR 50, Appendix J, II.H. Section II.H states that containment isolation valves that require Type C testing include those that:

"1. Provide a direct connection between the inside and outside atmospheres of the primary reactor containment under normal operation, such as purge and ventilation, vacuum relief, and instrument valves".

The subject valves in the shutdown cooling lines do not provide a direct connection between the inside and outside atmospheres. The shutdown cooling system is used during plant cooldown and heatup below 300° F and 400 psia in the Reactor Coolant System (RCS). The system is normally filled with water except for draining to perform required maintenance.

During plant heatup, the SCS is in operation and water flows through the shutdown cooling lines. The SCS is isolated from the RCS before the RCS is heated to 300° F and pressurized to 400 psia. SIA-UV 655 and SIA-HV 691 in Train A, and SIB-UV 656 and SIB-HV 690 in Train B are closed. The valves are closed with water flowing through the lines. SIA-UV 655 and SIB-UV 656 are interlocked such that they cannot be opened above 395 psi RCS pressure. SIC-UV 653 is closed to isolate SIA-PSV 179; SID-UV 654 is closed to isolate SIB-PSV 189. The power supply disconnects are opened for SIC-UV 653 and SID-UV 654. Therefore, the shutdown cooling lines are filled with water, and the lines are isolated on both sides of containment penetrations 26 and 27.

Currently, SIA-UV655 and SIB-UV656 will automatically close at an RCS pressure of 500 psia. Arizona Public Service Company (APS) has requested removal of this automatic closure feature. Reference 1 is APS' request for that Technical Specification change.

During plant cooldown, plant operators ensure that the shutdown cooling lines are filled with water prior to opening the isolation valves to connect the SCS with the RCS. Below 300° F and 400 psia in the RCS, SIA-UV 655, SIA-HV 691 and SIC-UV 653 in Train A, and SIB-UV 656, SIB-HV 690 and SID-UV 654 in Train B can be opened.

The SCS is not operated in Modes 1, 2, and 3 and is isolated from the RCS. The lines are filled with water. The subject valves are closed.

Following a Loss of Coolant Accident (LOCA), the SCS may be used for long term cooling (see UFSAR section 6.3.3.4). The SCS will be used if RCS pressure can be maintained above 538 psi, indicating a small break LOCA. The SCS will be connected to the RCS using the same procedures as used for a normal plant cooldown. A large break LOCA is indicated if the RCS pressure cannot be maintained above 538 psi. The SCS would not be used, the subject valves would remain closed and therefore the lines would remain filled with water.



The SCS is designed Seismic Category 1 and protected from missiles due to pipe breaks or pipe whips. The system is not liable to rupture as a result of a LOCA.

"2. Are required to close automatically upon receipt of a containment isolation signal in response to controls intended to effect containment isolation".

None of the subject valves receives a containment isolation signal. SIA-PSV 179 and SIB-PSV 189 are spring-loaded and self actuated relief valves. SIA-HV 691, SIA-UV 655, SIC-UV 653, SIB-UV 690, SIB-UV 656 and SID-UV 654 are operator controlled manual power-operated valves, closed during normal plant operations. The power supply disconnects are open for SIC-UV 653 and SID-UV 654.

"3. Are required to operate intermittently under postaccident conditions".

Following a LOCA, the long term cooling method must be determined. The SCS can be utilized if the RCS pressure can be maintained above 538 psi. In long term cooling, the SCS isolation valves will be opened and left open to initiate longterm cooling. The valves will not be operated intermittently.

"4. Are in main steam and feedwater piping and other systems which penetrate containment of direct-cycle boiling water power reactors".

This statement does not apply. The PVNGS reactors are pressurized water reactors, not boiling water reactors.

Therefore, Appendix J Type C testing is not applicable to the subject valves. Similar valves at other Combustion Engineering plants are not subject to Type C testing.

There is no change in the margin of safety. Each shutdown cooling line contains two motor-operated valves, on the containment side of the penetration, which are closed during normal operation. Single valve failure does not affect the integrity of the containment building due to the redundancy of double isolation valve protection. The NRC staff found this acceptable when reviewing valve closure times in Section 6.2.4 of NUREG-0857. One valve in each line is interlocked such that it cannot be opened with pressurizer pressure greater than 395 psi. The shutdown cooling lines are normally filled with water, except for maintenance during refueling.

#### E. No Significant Hazards Consideration Determination

The Commission has provided standards for determining whether a no significant hazards consideration exists as stated in 10 CFR 50.92. A proposed amendment to an operating license for a facility involves a no significant hazards consideration if operation of the facility in accordance with a proposed amendment would not: (1) Involve a significant increase in the probability or consequences of an accident previously evaluated, (2) Create the possibility of a new or different kind of accident from any accident previously evaluated, or (3) Involve a significant reduction in a margin of safety.



A discussion of these standards as they relate to the amendment request follows:

Standard 1 -- Involve a significant increase in the probability or consequences of an accident previously evaluated.

The proposed amendment does not affect the probability or consequences of an accident previously evaluated because no change is made to the operation or configuration of the subject valves. The worst single failure for a large break LOCA is the failure of one low pressure safety injection pump to start. The proposed amendment does not affect this failure. The subject valves remain closed and the penetration filled with water during the accident. The worst single failure for a small break LOCA is the failure of one of the emergency diesels to start. Again, the proposed amendment does not affect this failure.

Following a LOCA, the long term cooling method must be selected within eight hours after the event. If the break is determined to be a large break LOCA, shutdown cooling cannot be used, the subject valves will remain closed and the penetration will remain filled with water. If the break is determined to be a small break LOCA, shutdown cooling can be the selected long term cooling method. While in operation, the SCS will remain filled with water, initially from the refueling water tank, then from the containment sump in the recirculation mode.

Standard 2 -- Create the possibility of a new or different kind of accident from any accident previously evaluated.

The proposed amendment does not create the possibility of a new or different kind of accident from any accident previously evaluated. The operation of the valves in all modes is unchanged by the proposed amendment.

Standard 3 -- Involve a significant reduction in a margin of safety.

The proposed amendment does not reduce the margin of safety. The valves do not meet the criteria for Type C testing. Double valve isolation is still provided.

F. Environmental Impact Consideration Determination

The proposed amendment deletes the Type C testing requirements for eight valves.

Arizona Public Service Company has determined that the proposed amendment involves no change in the amount or type of any effluent that may be released offsite, and there is no increase in individual or cumulative occupational radiation exposure. As such, operation of PVNGS Units 1, 2, and 3 in accordance with the proposed amendment does not involve an environmental impact.

G. Marked-Up Technical Specification Change Pages

PVNGS Unit 1  
Table 3.6-1  
p. 29, 32

PVNGS Unit 2  
Table 3.6-1  
p. 29, 32

PVNGS Unit 3  
Table 3.6-1  
p. 29, 32

