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102-04574-SAB/TNW/GAM
May 22, 2001

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Mail Station P1-37
Washington, DC 20555-0001

Dear Sirs:

**Subject: Palo Verde Nuclear Generating Station (PVNGS)
Units 1, 2, and 3
Docket Nos. STN 50-528/529/530
Technical Specifications Bases Revision 11 Update**

Pursuant to PVNGS Technical Specification (TS) 5.5.14, "Technical Specifications Bases Control Program," Arizona Public Service Company (APS) is submitting changes to the TS Bases incorporated into Revision 11, implemented on May 23, 2001. The Revision 11 insertion instructions and replacement pages are provided in the Enclosure.

No commitments are being made to the NRC by this letter.

Should you have any questions, please contact Scott A. Bauer at (623) 393-5978.

Sincerely,

SAB/TNW/GAM/kg

Enclosure: PVNGS Technical Specification Bases Revision 11
Insertion Instructions and Replacement Pages

cc: E. W. Merschoff (all w/o enclosure)
L. R. Wharton
J. H. Moorman

ADD1

PVNGS

Palo Verde Nuclear Generating Station

Units 1, 2, and 3

Technical Specification Bases

Revision 11
May 23, 2001



ENCLOSURE

**PVNGS
Technical Specification Bases
Revision 11**

**Insertion Instructions and
Replacement Pages**

PVNGS Technical Specifications Bases
Revision 11
Insertion Instructions

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B 2.1.1-4	0	B 3.1.5-3	0
B 2.1.1-5	0	B 3.1.5-4	0
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B 2.1.2-2	0	B 3.1.5-6	0
B 2.1.2-3	0	B 3.1.5-7	1
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B 3.7.12-4	10	B 3.8.1-34	6
B 3.7.13-1	0	B 3.8.1-35	6
B 3.7.13-2	0	B 3.8.1-36	6
B 3.7.13-3	0	B 3.8.1-37	6
B 3.7.13-4	0	B 3.8.1-38	6
B 3.7.13-5	0	B 3.8.1-39	6
B 3.7.14-1	0	B 3.8.1-40	6
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B 3.8.3-4	0	B 3.9.1-1	0
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B 3.8.4-2	0	B 3.9.2-4	1
B 3.8.4-3	0	B 3.9.3-1	0
B 3.8.4-4	2	B 3.9.3-2	0
B 3.8.4-5	2	B 3.9.3-3	0
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B 3.8.4-7	2	B 3.9.3-5	1
B 3.8.4-8	2	B 3.9.4-1	0
B 3.8.4-9	2	B 3.9.4-2	1
B 3.8.4-10	2	B 3.9.4-3	0
B 3.8.4-11	2	B 3.9.4-4	0
B 3.8.5-1	1	B 3.9.5-1	0
B 3.8.5-2	1	B 3.9.5-2	1
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BASES (continued)

LCO
(continued)

Each containment isolation valve shall be demonstrated OPERABLE prior to returning the valve to service after maintenance, repair, or replacement work is performed on the valve or its associated actuator, control, or power circuit.

This LCO provides assurance that the containment isolation valves and purge valves will perform their designed safety functions to minimize the loss of reactor coolant inventory and establish the containment boundary during accidents.

APPLICABILITY

In MODES 1, 2, 3, and 4, a DBA could cause a release of radioactive material to containment. In MODES 5 and 6, the probability and consequences of these events are reduced due to the pressure and temperature limitations of these MODES. Therefore, the containment isolation valves are not required to be OPERABLE in MODE 5. The requirements for containment isolation valves during MODE 6 are addressed in LCO 3.9.3, "Containment Penetrations."

ACTIONS

The ACTIONS are modified by a Note allowing penetration flow paths, except for 42 inch purge valve penetration flow paths, to be unisolated intermittently under administrative controls. This allowance also applies to the operation of manual vents, drains, and test connections, including those within the 42" purge valve penetrations (i.e. only the 42" purge valves themselves are excluded). Manual vent, drain and test connection valves within a penetration may be opened under administrative control on only one side of the containment wall. The opening of a manual vent, drain and test connection valve on both sides of the containment wall provides a direct bypass of the containment barrier and would necessitate entry into the appropriate ACTION for the INOPERABLE penetration. These administrative controls consist of stationing a dedicated operator at the valve controls, who is in continuous communication with the control room. In this way, the penetration can be rapidly isolated when a need for containment isolation is indicated. Due to the size of the containment refueling purge line penetration and the fact that those penetrations exhaust directly from the containment atmosphere to the environment, these valves may not be opened under administrative controls.

A second Note has been added to provide clarification that, for this LCO, separate Condition entry is allowed for each penetration flow path. This is acceptable, since the Required Actions for each Condition provide appropriate compensatory actions for each inoperable containment

(continued)

BASES

ACTIONS
(continued)

isolation valve. Complying with the Required Actions may allow for continued operation, and subsequent inoperable containment isolation valves are governed by subsequent Condition entry and application of associated Required Actions.

The ACTIONS are further modified by a third Note, which ensures that appropriate remedial actions are taken, if necessary, if the affected systems are rendered inoperable by an inoperable containment isolation valve.

A fourth Note has been added that requires entry into the applicable Conditions and Required Actions of LCO 3.6.1 when leakage results in exceeding the overall containment leakage limit.

A.1 and A.2

In the event one containment isolation valve in one or more penetration flow paths is inoperable except for purge valve leakage not within limit (refer to Action D), the affected penetration flow path must be isolated. The method of isolation must include the use of at least one isolation barrier that cannot be adversely affected by a single active failure. Isolation barriers that meet this criterion are a closed and de-activated automatic valve, a closed manual valve, a blind flange, and a check valve with flow through the valve secured. Compliance with this Action is established via: 1) Administrative controls (i.e. clearance) on the de-activated automatic valve, closed manual valve, blind flange, or check valve, and 2) Administrative controls (i.e. clearance or Locked Valve/Breaker/Component Control lock) on vents, drains, and test connections located within the containment penetration. Instruments (i.e. flow/pressure transmitters) located within the penetration that are not removed from service for maintenance nor open to the atmosphere are considered a closed loop portion of the associated penetration; therefore, isolation valves associated with instruments meeting this criteria need not be isolated nor otherwise administratively controlled to comply with the requirements of this Action. For penetrations isolated in accordance with Required Action A.1, the device used to isolate the penetration should be the closest available one to containment. Required Action A.1 must be completed within the 4 hour Completion Time. The 4 hour Completion

(continued)

BASES

ACTIONS

A.1 and A.2 (continued)

Time is reasonable, considering the time required to isolate the penetration and the relative importance of supporting containment OPERABILITY during MODES 1, 2, 3, and 4.

For affected penetration flow paths that cannot be restored to OPERABLE status within the 4 hour Completion Time and that have been isolated in accordance with Required Action A.1, the affected penetration flow paths must be verified to be isolated on a periodic basis. This is necessary to ensure that containment penetrations required to be isolated following an accident and no longer capable of being automatically isolated will be in the isolation position should an event occur. This Required Action does not require any testing or device manipulation. Rather, it involves verification, through a system walkdown, that those isolation devices outside containment and capable of being mispositioned are in the correct position. The Completion Time of "once per 31 days for isolation devices outside containment" is appropriate considering the fact that the devices are operated under administrative controls and the probability of their misalignment is low. For the isolation devices inside containment, the time period specified as "prior to entering MODE 4 from MODE 5 if not performed within the previous 92 days" is based on engineering judgment and is considered reasonable in view of the inaccessibility of the isolation devices and other administrative controls that will ensure that isolation device misalignment is an unlikely possibility.

Condition A has been modified by a Note indicating that this Condition is only applicable to those penetration flow paths with two containment isolation valves. For penetration flow paths with only one containment isolation valve and a closed system, Condition C provides appropriate actions.

Required Action A.2 is modified by a Note that applies to isolation devices located in high radiation areas and allows these devices to be verified closed by use of administrative means. Allowing verification by administrative means is considered acceptable, since access to these areas is typically restricted. Therefore, the probability of misalignment of these devices, once they have been verified to be in the proper position, is small.

(continued)

BASES

ACTIONS
(continued)

B.1

With two containment isolation valves in one or more penetration flow paths inoperable except for purge valve leakage not within limit (refer to Action D), the affected penetration flow path must be isolated within 1 hour. The method of isolation must include the use of at least one isolation barrier that cannot be adversely affected by a single active failure. Isolation barriers that meet this criterion are a closed and de-activated automatic valve, a closed manual valve, and a blind flange. Compliance with this Action is established via: 1) Administrative controls (i.e. clearance) on the de-activated automatic valve, closed manual valve, or blind flange, and 2) Administrative controls (i.e. clearance or Locked Valve/Breaker/Component Control lock) on vents, drains, and test connections located within the containment penetration. Instruments (i.e. flow/pressure transmitters) located within the penetration that are not removed from service for maintenance nor open to the atmosphere are considered a closed loop portion of the associated penetration; therefore, isolation valves associated with instruments meeting this criteria need not be isolated nor otherwise administratively controlled to comply with the requirements of this Action. The 1 hour Completion Time is consistent with the ACTIONS of LCO 3.6.1. In the event the affected penetration is isolated in accordance with Required Action B.1, the affected penetration must be verified to be isolated on a periodic basis per Required Action A.2, which remains in effect. This periodic verification is necessary to assure leak tightness of containment and that penetrations requiring isolation following an accident are isolated. The Completion Time of once per 31 days for verifying each affected penetration flow path is isolated is appropriate considering the fact that the valves are operated under administrative controls and the probability of their misalignment is low.

Condition B is modified by a Note indicating this Condition is only applicable to penetration flow paths with two containment isolation valves. Condition A of this LCO addresses the condition of one containment isolation valve inoperable in this type of penetration flow path.

(continued)

BASES

ACTIONS
(continued)

C.1 and C.2

With one or more penetration flow paths with one containment isolation valve inoperable, the inoperable valve must be restored to OPERABLE status or the affected penetration flow path must be isolated. The method of isolation must include the use of at least one isolation barrier that cannot be adversely affected by a single active failure. Isolation barriers that meet this criterion are a closed and de-activated automatic valve, a closed manual valve, and a blind flange. Compliance with this Action is established via: 1) Administrative controls (i.e. clearance) on the de-activated automatic valve, closed manual valve, or blind flange and 2) Administrative controls (i.e. clearance or Locked Valve/Breaker/Component Control lock) on vents, drains, and test connections located within the containment penetration. Instruments (i.e. flow/pressure transmitters) located within the penetration that are not removed from service for maintenance nor open to the atmosphere are considered a closed loop portion of the associated penetration; therefore, isolation valves associated with instruments meeting this criteria need not be isolated nor otherwise administratively controlled to comply with the requirements of this Action. A check valve may not be used to isolate the affected penetration. Required Action C.1 must be completed within the 4 hour Completion Time. The specified time period is reasonable, considering the relative stability of the closed system (hence, reliability) to act as a penetration isolation boundary and the relative importance of supporting containment OPERABILITY during MODES 1, 2, 3, and 4. In the event the affected penetration is isolated in accordance with Required Action C.1, the affected penetration flow path must be verified to be isolated on a periodic basis. This is necessary to assure leak tightness of containment and that containment penetrations requiring isolation following an accident are isolated. The Completion Time of once per 31 days for verifying that each affected penetration flow path is isolated is appropriate considering the valves are operated under administrative controls and the probability of their misalignment is low.

Condition C is modified by a Note indicating that this Condition is only applicable to those penetration flow paths with only one containment isolation valve and a closed system. This Note is necessary since this Condition is

(continued)

BASES

ACTIONS

C.1 and C.2 (continued)

written to specifically address those penetration flow paths which are neither part of the reactor coolant pressure boundary nor connected directly to the containment atmosphere (10 CFR 150, APP. A, GDC 57).

Required Action C.2 is modified by a Note that applies to valves and blind flanges located in high radiation areas and allows these devices to be verified closed by use of administrative means. Allowing verification by administrative means is considered acceptable, since access to these areas is typically restricted. Therefore, the probability of misalignment of these valves, once they have been verified to be in the proper position, is small.

D.1, D.2, and D.3

In the event one or more containment purge valves in one or more penetration flow paths are not within the purge valve leakage limits, purge valve leakage must be restored to within limits, or the affected penetration must be isolated. The method of isolation must be by the use of at least one isolation barrier that cannot be adversely affected by a single active failure. Isolation barriers that meet this criterion are a closed and de-activated automatic valve with resilient seals, or a blind flange. A purge valve with resilient seals utilized to satisfy Required Action D.1 must have been demonstrated to meet the leakage requirements of SR 3.6.3.6. Compliance with this Action is established via: 1) Administrative controls (i.e. clearance) on the de-activated automatic valve with resilient seals or blind flange, and 2) Administrative controls (i.e. clearance or Locked Valve/Breaker/Component Control lock) on vents, drains, and test connections located within the containment penetration. Instruments (i.e. flow/pressure transmitters) located within the penetration that are not removed from service for maintenance nor open to the atmosphere are considered a closed loop portion of the associated penetration; therefore, isolation valves associated with instruments meeting this criteria need not be isolated nor otherwise administratively controlled to comply with the requirements of this Action. The specified Completion Time is reasonable, considering that one containment purge valve remains closed so that a gross breach of containment does not exist.

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