10 CFR 50.90

Palo Verde Nuclear Generating Station

David Mauldin
Vice President
Nuclear Engineering

Tel: 623-393-5553
Fax: 623-393-6077

Mail Station 7605
PO Box 52034
Phoenix, Arizona 85072-2034

102-05413-CDM/SAB/GAM
February 14, 2006

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

Dear Sirs:

Subject: Palo Verde Nuclear Generating Station (PVNGS)
Units 1, 2 and 3
Docket Nos. STN 50-528, 50-529, and 50-530
Request for Amendment to Technical Specification 3.6.3,
"Containment Isolation Valves"

Pursuant to 10 CFR 50.90, Arizona Public Service Company (APS) hereby requests an operating license amendment to revise the PVNGS Technical Specifications (TS). The proposed amendment would revise TS 3.6.3 to allow a blind flange to be used for containment isolation in each of the two flow paths of the 42 inch refueling purge valves in Modes 1 through 4 without remaining in TS 3.6.3 Condition D. APS requests approval of the proposed amendment by December 31, 2006 with an implementation period of 90 days.

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).

No commitments are being made to the NRC by this letter. If you have any questions, please contact Thomas N. Weber at (623) 393-5764.

Sincerely,

David Mauldin

CDM/SAB/GAM

Enclosures:

1. Notarized affidavit
2. APS's evaluation of the proposed change(s)

Attachments:

1. Proposed Technical Specification Changes (mark-up)
2. Proposed Technical Specification pages (retyped)
3. Changes to Technical Specification Bases pages
4. Changes to Technical Requirements Manual pages

cc:	B. S. Mallett	NRC Region IV Regional Administrator
	M. B. Fields	NRC NRR Project Manager
	G. G. Warnick	NRC Senior Resident Inspector for PVNGS
	A. V. Godwin	Arizona Radiation Regulatory Agency (ARRA)

ENCLOSURE 1

AFFIDAVIT

STATE OF ARIZONA)
) ss.
COUNTY OF MARICOPA)

I, David Mauldin, represent that I am Vice President Nuclear Engineering, Arizona Public Service Company (APS), that the foregoing document has been signed by me on behalf of APS with full authority to do so, and that to the best of my knowledge and belief, the statements made therein are true and correct.

David Mauldin

Sworn To Before Me This 14th Day Of February, 2006.

Notary Public

SUSIE LYNN ERGISH
Notary Public - Arizona
Maricopa County
My Comm. Expires Jul 14, 2007

Notary Commission Stamp

ENCLOSURE 2

ARIZONA PUBLIC SERVICE COMPANY'S EVALUATION OF PROPOSED AMENDMENT TO TECHNICAL SPECIFICATION 3.6.3

Subject: Request for Amendment to Technical Specification 3.6.3, "Containment Isolation Valves"

1.0 DESCRIPTION

This letter is a request from Arizona Public Service Company (APS) to amend Appendix A Technical Specifications (TS) of Operating Licenses NPF-41, NPF-51, and NPF-74 for Palo Verde Nuclear Generating Station (PVNGS) Units 1, 2, and 3, respectively.

The proposed amendment would revise TS 3.6.3 to allow a blind flange to be used for containment isolation in each of the two flow paths of the 42 inch refueling purge valves in Modes 1 through 4 without remaining in TS 6.3.6 Condition D. Currently, TS 3.6.3, Required Action D.1 allows a blind flange to be used to isolate a containment purge valve flow path when one or both of the purge valves in that flow path is not within leakage limits. Due to the difficulty of keeping the 42 inch refueling purge valves within leakage limits, blind flanges are used at PVNGS to meet TS 3.6.3, Required Action D.1. Although TS 3.6.3 Required Action D.1 has no time limit, this change is being pursued so that the plant will not have to remain in Condition D as a normal situation.

Associated changes to the TS Bases and Technical Requirements Manual (TRM) are also proposed.

2.0 PROPOSED CHANGE

The proposed changes are:

- Change Limiting Condition for Operation (LCO) 3.6.3 from "Each containment isolation valve shall be operable" to "Each *required* containment valve shall be operable" (italics added).

- Add Note 5 to LCO 3.6.3 to specify the following:

  > "A 42 inch refueling purge valve is not a required containment isolation valve when its flow path is isolated with a blind flange tested in accordance with SR 3.6.1.1."

- Add "required" before containment isolation valve(s) in LCO 3.6.3 Actions A, B, C, and D, and to Surveillance Requirements (SRs) 3.6.3.1, 3.6.3.5, 3.6.3.6 and 3.6.3.7.

The TS bases will be revised (Attachment 3) to describe these changes and to specify that all containment isolation valves are considered to be required except for each 42 inch refueling purge valve when its flow path is isolated with a blind flange as allowed by Note 5 under LCO 3.6.3. In addition, the Technical Requirements Manual (TRM) will be revised (Attachment 4) to be consistent with the proposed TS changes and to describe that a 42 inch refueling purge valve is not required to be Type C tested when the valve is not required per Note 5 of LCO 3.6.3.

3.0 BACKGROUND

As described in the Bases for TS 3.6.3, the containment isolation valves form part of the containment pressure boundary and provide a means for fluid penetrations not serving accident consequence limiting systems to be provided with two isolation barriers that are closed on an automatic isolation signal. These isolation devices are either passive or active (automatic). Manual valves, de-activated automatic valves secured in their closed position (including check valves with flow through the valve secured), blind flanges, and closed systems are considered passive devices. Check valves, or other automatic valves designed to close without operator action following an accident, are considered active devices. Two barriers in series are provided for each penetration so that no single credible failure or malfunction of an active component can result in a loss of isolation or leakage that exceeds limits assumed in the safety analysis. One of these barriers may be a closed system.

Containment isolation occurs upon receipt of a high containment pressure signal or a low pressurizer pressure signal. The containment isolation signal closes automatic containment isolation valves in fluid penetrations not required for operation of engineered safety feature systems in order to prevent leakage of radioactive material. Upon actuation of safety injection, automatic containment isolation valves also isolate systems not required for containment or RCS heat removal. Other penetrations are isolated by the use of valves in the closed position or blind flanges. As a result, the containment isolation valves (and blind flanges) help ensure that the containment atmosphere will be isolated in the event of a release of radioactive material to containment atmosphere from the RCS following a design basis accident (DBA).

The operability requirements for containment isolation valves help ensure that containment is isolated within the time limits assumed in the safety analysis. Therefore, the operability requirements provide assurance that the containment function assumed in the accident analysis will be maintained.

The purge valves were designed for intermittent operation, providing a means of removing airborne radioactivity caused by minor RCS leakage prior to personnel entry into containment. There are two sets of purge valves: 42 inch refueling purge valves and 8 inch power access purge valves. Each set has two inlet valves and two outlet valves. The refueling and power access supply and exhaust lines are each supplied with inside and outside containment isolation valves but share common supply and exhaust headers.

The 42 inch refueling purge valves are designed for purging the containment atmosphere to the unit stack while introducing filtered makeup from the outside to provide adequate ventilation for personnel comfort when the unit is shut down during refueling operations and maintenance. Motor operated isolation valves are provided inside and outside the containment. The valves are operated manually from the control

room. The valves will close automatically upon receipt of a containment purge isolation actuation signal and a containment isolation actuation signal. Because of their large size, the 42 inch refueling purge valves are not qualified for automatic closure from their open position under DBA conditions. Therefore, the 42 inch refueling purge valves are maintained closed in MODES 1, 2, 3, and 4 to ensure the containment boundary is maintained. This proposed TS change would allow the containment boundary to be maintained by isolating the refueling purge flow path with a blind flange instead of relying on the closed purge valves.

The proposed changes would revise TS 3.6.3 to allow a blind flange to be used for containment isolation in Modes 1 through 4 in each of the two 42 inch refueling purge valve flow paths without relying on the valves or remaining in TS 3.6.3 Condition D. The blind flanges use two separate concentric O-rings to provide two barriers in series so that no single credible failure or malfunction can result in a loss of isolation or leakage that exceeds limits assumed in the safety analysis. The blind flanges would be leak rate tested in accordance with the containment leakage rate testing program that is required by TS SR 3.6.1.1 and TS 5.5.16 and verified in accordance with TS SR 3.6.3.3.

Currently, TS 3.6.3, Required Action D.1 allows a blind flange to be used to isolate a purge valve flow path when one or both of the purge valves in that flow path is not within leakage limits. Due to the difficulty of keeping the 42 inch purge valves within leakage limits, blind flanges are used at PVNGS to meet TS 3.6.3, Required Action D.1. Although TS 3.6.3 Required Action D.1 has no time limit, this change is being pursued so that the plant will not have to remain in TS 3.6.3 Condition D as a normal situation. Extended operation in TS 3.6.3 Condition D beyond a refueling cycle was identified by the NRC as a Severity Level IV noncited violation in Inspection Report 05000528/2004003, 05000529/2004003, 05000530/2004003, dated August 9, 2004, for failure to correct a nonconforming condition in a timely manner (NCV 05000528; 05000529; 05000530/2004003-02, "Containment Purge Penetration NonConformance").

4.0 TECHNICAL ANALYSIS

The proposed changes would add a Note to TS 3.6.3 to allow a blind flange to be used for containment isolation in each of the two flow paths of the 42 inch refueling purge valves without relying on the valves or remaining in TS 3.6.3 Condition D. The blind flange would use two separate concentric O-rings to provide two barriers in series so that no single credible failure or malfunction can result in a loss of isolation or leakage that exceeds limits assumed in the safety analysis.

Blind flanges located outside containment are currently used to provide containment isolation for the 42 inch refueling purge valve flow paths in accordance with Required Action D.1 of TS 3.6.3. These same flanges would be used to provide the refueling purge valve flow path isolation that would be allowed by the proposed Note to TS 3.6.3. The blind flanges are leak rate tested in accordance with the containment leakage rate

testing program that is required by TS SR 3.6.1.1 and TS 5.5.16. As described in PVNGS procedures 73ST-9CL06 and 73ST-9CL10, the blind flanges are leak rate tested after every installation by pressurizing the space between the O-rings through a test connection and measuring the leakage. In addition, the outboard 42 inch refueling purge valve packing leakage is measured by pressurizing the stuffing box through the leak off line after flange installation and after any maintenance on the packing. The sum of the individual leakage rates is compared to the acceptance criteria. The blind flanges are verified to be in position at a frequency of 31 days in accordance with TS SR 3.6.3.3 by procedure 40ST-9ZZ13.

The proposed changes will have no impact on UFSAR accident analyses because the containment isolation assumed in the analyses will continue to be provided by the blind flanges instead of the refueling purge valves. Since the blind flanges use two separate concentric O-rings to provide two barriers in series, no single credible failure or malfunction can result in a loss of isolation or leakage that exceeds limits assumed in the safety analysis.

The proposed changes do not affect the requirements of or compliance with LCO 3.9.3, Containment Penetrations, Refueling Operations.

5.0 REGULATORY ANALYSIS

5.1 No Significant Hazards Consideration

The proposed changes would revise Section 3.6.3 of the Palo Verde Nuclear Generating Station (PVNGS) Technical Specifications (TSs) to allow a blind flange to be used for containment isolation in Modes 1 through 4 in each of the two flow paths of the 42 inch refueling purge valves without relying on the valves or remaining in TS 3.6.3 Condition D. The proposed changes do not affect the requirements of or compliance with Limiting Condition for Operation (LCO) 3.9.3, Containment Penetrations, Refueling Operations.

APS has evaluated whether or not a significant hazards consideration is involved with the proposed amendment(s) by focusing on the three standards set forth in 10 CFR 50.92, "Issuance of amendment," as discussed below:

1. Does the proposed change involve a significant increase in the probability or consequences of an accident previously evaluated?

Response: No.

The probability of an accident previously evaluated would not be affected by the proposed changes to allow the use of blind flanges for containment isolation in each of the two 42 inch refueling purge valve flow paths. The blind flanges are passive components that could not initiate an accident.

The consequences of an accident previously evaluated would not be increased because the blind flanges would provide containment isolation assumed in the accident analyses instead of the 42 inch refueling purge valves. The blind flanges are passive devices not susceptible to an active failure or malfunction that could result in a loss of isolation or leakage that exceeds limits assumed in the safety analysis. The blind flanges are leak rate tested in accordance with the containment leakage rate testing program that is required by TS surveillance requirement (SR) 3.6.1.1 and TS 5.5.16. The blind flanges are sealed using two separate concentric O-rings and are leak rate tested after installation by pressurizing the space between the O-rings through a test connection and measuring the leakage. In addition, the outboard 42 inch refueling purge valve packing leakage is measured by pressurizing the stuffing box through the leak off line after flange installation and after any maintenance on the packing. The sum of the individual leakage rates is compared to the acceptance criteria. The blind flanges are verified to be in position at a frequency of 31 days in accordance with TS SR 3.6.3.3.

Therefore, the proposed change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. Does the proposed change create the possibility of a new or different kind of accident from any accident previously evaluated?

Response: No.

A new or different kind of accident from any accident previously evaluated would not be created by the proposed changes to allow the use of blind flanges for containment isolation in each of the two 42 inch refueling purge valve flow paths. The blind flanges are passive components that could not create an accident.

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

3. Does the proposed change involve a significant reduction in a margin of safety?

Response: No.

No margin of safety is affected by the proposed changes to allow the use of blind flanges for containment isolation in each of the two 42 inch refueling purge valve flow paths. The blind flanges would provide containment isolation assumed in the accident analyses instead of the 42 inch refueling purge valves. The blind flanges are passive devices not susceptible to an active failure or malfunction that could result in a loss of isolation or leakage that exceeds limits assumed in the safety analysis. The blind flanges are leak rate tested in accordance with the

containment leakage rate testing program that is required by TS SR 3.6.1.1 and TS 5.5.16. The blind flanges are leak rate tested after installation by pressurizing the space between the O-rings through a test connection and measuring the leakage. In addition, the outboard 42 inch refueling purge valve packing leakage is measured by pressurizing the stuffing box through the leak off line after flange installation and after any maintenance on the packing. The sum of the individual leakage rates is compared to the acceptance criteria. The blind flanges are verified to be in position at a frequency of 31 days in accordance with SR 3.6.3.3.

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

Based on the above discussion, APS concludes that the proposed amendment(s) present 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.

5.2 Applicable Regulatory Requirements/Criteria

Applicable Regulatory Requirement	Compliance
10 CFR 50.36(c)(2)(ii)(C), Technical Specifications, Limiting Conditions for Operation, Criterion 3.	Currently, TS 3.6.3, Action D allows a blind flange to be used to isolate a purge valve flow path of when one or both of the purge valves in that flow path is not within leakage limits. This proposed change to TS 3.6.3 will allow a blind flange to be used for containment isolation in each of the two 42 inch refueling purge valve flow paths without relying on the valves or remaining in the TS Action. The blind flanges will provide the containment integrity accident mitigation function instead of the valves, and therefore will continue to meet the criteria of 10 CFR 50.36(c)(2)(ii)(C).

Applicable Regulatory Requirement	Compliance
10 CFR 50, Appendix A: GDC 16, *Containment design; GDC* 50, *Containment design basis; GDC* 51, *Fracture prevention of containment pressure boundary;* GDC 52, *Capability for containment leakage rate testing;* and 53, *Provisions for containment testing and inspection*	When a blind flange is used to isolate a 42 inch refueling purge flow path, that containment penetration will comply with the containment requirements of GDC 16, GDC 50, GDC 51, and GDC 52 and GDC 53.
10 CFR 50, Appendix A: GDC 54, *Piping systems penetrating containment* and GDC 56, *Primary containment isolation*	When a blind flange is used to isolate a 42 inch refueling purge flow path, that containment penetration is not subject to GDC 54 and GDC 56. These GDC apply to containment penetrations that rely on valves for isolation, which would not apply when a blind flange is used.
10 CFR 50, Appendix J, Primary Reactor Containment Leakage Testing for Water-Cooled Power Reactors – Type B tested	The 42 inch refueling purge valve flow paths' blind flanges will be Type B tested in accordance with 10 CFR 50, Appendix J.

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.

6.0 ENVIRONMENTAL CONSIDERATION

A review has determined that the proposed amendment would change a requirement with respect to installation or use of a facility component located within the restricted area, as defined in 10 CFR 20, or would change an inspection or surveillance requirement. However, the proposed amendment does not involve (i) a significant hazards consideration, (ii) a significant change in the types or significant increase in the amounts of any effluent that may be released offsite, or (iii) a significant increase in individual or cumulative occupational radiation exposure. Accordingly, the proposed amendment meets the eligibility criterion for categorical exclusion set forth in 10 CFR 51.22(c)(9). Therefore, pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the proposed amendment.

Enclosure 2
APS' Evaluation of Proposed
Amendment to TS 3.6.3

Attachment 1

Proposed Technical Specification Changes (mark-up)

Pages:

3.6.3-1
3.6.3-2
3.6.3-3
3.6.3-4 (for information – no changes)
3.6.3-5
3.6.3-6

3.6 CONTAINMENT SYSTEMS

3.6.3 Containment Isolation Valves

LCO 3.6.3 Each **required** containment isolation valve shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTIONS

----------NOTES----------

1. Penetration flow paths except for 42 inch purge valve penetration flow paths may be unisolated intermittently under administrative controls.
2. Separate Condition entry is allowed for each penetration flow path.
3. Enter applicable Conditions and Required Actions for system(s) made inoperable by containment isolation valves.
4. Enter applicable Conditions and Required Actions of LCO 3.6.1, "Containment," when leakage results in exceeding the overall containment leakage rate acceptance criteria.
5. **A 42 inch refueling purge valve is not a required containment isolation valve when its flow path is isolated with a blind flange tested in accordance with SR 3.6.1.1.**

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. ---------NOTE--------- Only applicable to penetration flow paths with two **required** containment isolation valves. ---------- One or more penetration flow paths with one **required** containment isolation valve inoperable except for purge valve leakage not within limit.	A.1 Isolate the affected penetration flow path by use of at least one closed and de-activated automatic valve, closed manual valve, blind flange, or check valve with flow through the valve secured. AND	4 hours

(continued)

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. (continued)	A.2 --------NOTE-------- Isolation devices in high radiation areas may be verified by use of administrative means. ---------- Verify the affected penetration flow path is isolated.	Once per 31 days for isolation devices outside containment AND Prior to entering MODE 4 from MODE 5 if not performed within the previous 92 days for isolation devices inside containment
B. ---------NOTE--------- Only applicable to penetration flow paths with two **required** containment isolation valves. ---------- One or more penetration flow paths with two **required** containment isolation valves inoperable except for purge valve leakage not within limit.	B.1 Isolate the affected penetration flow path by use of at least one closed and de-activated automatic valve, closed manual valve, or blind flange.	1 hour

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. ---------NOTE--------- Only applicable to penetration flow paths with only one **required** containment isolation valve and a closed system. ---------- One or more penetration flow paths with one **required** containment isolation valve inoperable.	C.1 Isolate the affected penetration flow path by use of at least one closed and de-activated automatic valve, closed manual valve, or blind flange. AND C.2 --------NOTE--------- Isolation devices in high radiation areas may be verified by use of administrative means. ---------- Verify the affected penetration flow path is isolated.	4 hours Once per 31 days
D. One or more penetration flow paths with one or more **required** containment purge valves not within purge valve leakage limits.	D.1 Isolate the affected penetration flow path by use of at least one closed and de-activated automatic valve with resilient seals, or blind flange. AND	24 hours (continued)

ACTIONS

CONDITION	REQUIRED ACTION		COMPLETION TIME
D. (continued)	D.2	--------NOTE-------- Isolation devices in high radiation areas may be verified by use of administrative means. ----------	
		Verify the affected penetration flow path is isolated.	Once per 31 days for isolation devices outside containment AND Prior to entering MODE 4 from MODE 5 if not performed within the previous 92 days for isolation devices inside containment
	AND		
	D.3	Perform SR 3.6.3.6 for the resilient seal purge valves closed to comply with Required Action D.1.	Once per 92 days
E. Required Action and associated Completion Time not met.	E.1	Be in MODE 3.	6 hours
	AND		
	E.2	Be in MODE 5.	36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.3.1	Verify each **required** 42 inch purge valve is sealed closed except for one purge valve in a penetration flow path while in Condition D of this LCO.	31 days
SR 3.6.3.2	Verify each 8 inch purge valve is closed except when the 8 inch purge valves are open for pressure control, ALARA or air quality considerations for personnel entry, or for Surveillances that require the valves to be open.	31 days
SR 3.6.3.3	----------NOTE---------- Valves and blind flanges in high radiation areas may be verified by use of administrative means. ---------- Verify each containment isolation manual valve and blind flange that is located outside containment and not locked, sealed or otherwise secured and is required to be closed during accident conditions is closed, except for containment isolation valves that are open under administrative controls.	31 days

(continued)

SURVEILLANCE REQUIREMENTS (continued)

	SURVEILLANCE	FREQUENCY
SR 3.6.3.4	----------NOTE---------- Valves and blind flanges in high radiation areas may be verified by use of administrative means. ---------- Verify each containment isolation manual valve and blind flange that is located inside containment and not locked, sealed or otherwise secured and required to be closed during accident conditions is closed, except for containment isolation valves that are open under administrative controls.	Prior to entering MODE 4 from MODE 5 if not performed within the previous 92 days
SR 3.6.3.5	Verify the isolation time of each **required** automatic power operated containment isolation valve is within limits.	In accordance with the Inservice Testing Program
SR 3.6.3.6	Perform leakage rate testing for **required** containment purge valves with resilient seals.	184 days AND Within 92 days after opening the valve
SR 3.6.3.7	Verify each **required** automatic containment isolation valve that is not locked, sealed, or otherwise secured in position, actuates to the isolation position on an actual or simulated actuation signal.	18 months

Enclosure 2
APS' Evaluation of Proposed
Amendment to TS 3.6.3

Attachment 2

Proposed Technical Specification Changes (retyped)]

Pages:

3.6.3-1
3.6.3-2
3.6.3-3
3.6.3-5
3.6.3-6

3.6 CONTAINMENT SYSTEMS

3.6.3 Containment Isolation Valves

LCO 3.6.3 Each required containment isolation valve shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTIONS

----------NOTES----------

1. Penetration flow paths except for 42 inch purge valve penetration flow paths may be unisolated intermittently under administrative controls.
2. Separate Condition entry is allowed for each penetration flow path.
3. Enter applicable Conditions and Required Actions for system(s) made inoperable by containment isolation valves.
4. Enter applicable Conditions and Required Actions of LCO 3.6.1, "Containment," when leakage results in exceeding the overall containment leakage rate acceptance criteria.
5. A 42 inch refueling purge valve is not a required containment isolation valve when its flow path is isolated with a blind flange tested in accordance with SR 3.6.1.1.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. ---------NOTE--------- Only applicable to penetration flow paths with two required containment isolation valves. ---------- One or more penetration flow paths with one required containment isolation valve inoperable except for purge valve leakage not within limit.	A.1 Isolate the affected penetration flow path by use of at least one closed and de-activated automatic valve, closed manual valve, blind flange, or check valve with flow through the valve secured. AND	4 hours

(continued)

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. (continued)	A.2 --------NOTE-------- Isolation devices in high radiation areas may be verified by use of administrative means. ---------- Verify the affected penetration flow path is isolated.	Once per 31 days for isolation devices outside containment AND Prior to entering MODE 4 from MODE 5 if not performed within the previous 92 days for isolation devices inside containment
B. ---------NOTE--------- Only applicable to penetration flow paths with two required containment isolation valves. ---------- One or more penetration flow paths with two required containment isolation valves inoperable except for purge valve leakage not within limit.	B.1 Isolate the affected penetration flow path by use of at least one closed and de-activated automatic valve, closed manual valve, or blind flange.	1 hour

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. ---------NOTE--------- Only applicable to penetration flow paths with only one required containment isolation valve and a closed system. ---------- One or more penetration flow paths with one required containment isolation valve inoperable.	C.1 Isolate the affected penetration flow path by use of at least one closed and de-activated automatic valve, closed manual valve, or blind flange.	4 hours
	AND	
	C.2 --------NOTE--------- Isolation devices in high radiation areas may be verified by use of administrative means. ---------- Verify the affected penetration flow path is isolated.	Once per 31 days
D. One or more penetration flow paths with one or more required containment purge valves not within purge valve leakage limits.	D.1 Isolate the affected penetration flow path by use of at least one closed and de-activated automatic valve with resilient seals, or blind flange.	24 hours
	AND	

(continued)

SURVEILLANCE REQUIREMENTS

	SURVEILLANCE	FREQUENCY
SR 3.6.3.1	Verify each required 42 inch purge valve is sealed closed except for one purge valve in a penetration flow path while in Condition D of this LCO.	31 days
SR 3.6.3.2	Verify each 8 inch purge valve is closed except when the 8 inch purge valves are open for pressure control, ALARA or air quality considerations for personnel entry, or for Surveillances that require the valves to be open.	31 days
SR 3.6.3.3	----------NOTE---------- Valves and blind flanges in high radiation areas may be verified by use of administrative means. ---------- Verify each containment isolation manual valve and blind flange that is located outside containment and not locked, sealed or otherwise secured and is required to be closed during accident conditions is closed, except for containment isolation valves that are open under administrative controls.	31 days

(continued)

SURVEILLANCE REQUIREMENTS (continued)

	SURVEILLANCE	FREQUENCY
SR 3.6.3.4	----------NOTE---------- Valves and blind flanges in high radiation areas may be verified by use of administrative means. ---------- Verify each containment isolation manual valve and blind flange that is located inside containment and not locked, sealed or otherwise secured and required to be closed during accident conditions is closed, except for containment isolation valves that are open under administrative controls.	Prior to entering MODE 4 from MODE 5 if not performed within the previous 92 days
SR 3.6.3.5	Verify the isolation time of each required automatic power operated containment isolation valve is within limits.	In accordance with the Inservice Testing Program
SR 3.6.3.6	Perform leakage rate testing for required containment purge valves with resilient seals.	184 days AND Within 92 days after opening the valve
SR 3.6.3.7	Verify each required automatic containment isolation valve that is not locked, sealed, or otherwise secured in position, actuates to the isolation position on an actual or simulated actuation signal.	18 months

Enclosure 2
APS' Evaluation of Proposed
Amendment to TS 3.6.3

Attachment 3

Changes to Technical Specification Bases Pages

Pages:

B 3.6.3-2
B 3.6.3-3
B 3.6.3-4
B 3.6.3-7
B 3.6.3-8
B 3.6.3-9
B 3.6.3-12
B 3.6.3-13
B 3.6.3-14
B 3.6.3-15
B 3.6.3-16
B 3.6.3-18
B 3.6.3-19

BACKGROUND (continued)

The OPERABILITY requirements for containment isolation valves help ensure that containment is isolated within the time limits assumed in the safety analysis. Therefore, the OPERABILITY requirements provide assurance that the containment function assumed in the accident analysis will be maintained. **All containment isolation valves are considered to be required except for each 42 inch refueling purge valve when its flow path is isolated with a blind flange as allowed by Note 5 under LCO 3.6.3.**

The purge valves were designed for intermittent operation, providing a means of removing airborne radioactivity caused by minor RCS leakage prior to personnel entry into containment. There are two sets of purge valves: refueling purge valves and power access purge valves. The refueling and power access supply and exhaust lines are each supplied with inside and outside containment isolation valves but share common supply and exhaust headers.

The refueling purge valves are designed for purging the containment atmosphere to the unit stack while introducing filtered makeup from the outside to provide adequate ventilation for personnel comfort when the unit is shut down during refueling operations and maintenance. Motor operated isolation valves are provided inside and outside the containment. The valves are operated manually from the control room. The valves will close automatically upon receipt of a containment purge isolation actuation signal and a containment isolation actuation signal. Because of their large size, the refueling purge valves are not qualified for automatic closure from their open position under DBA conditions. Therefore, the refueling purge valves are maintained closed in MODES 1, 2, 3, and 4 **or the flow paths of the refueling purge valves are isolated with blind flanges** to ensure the containment boundary is maintained

Open refueling purge valves, or a failure of the power access purge valves to close, following an accident that releases contamination to the containment atmosphere would cause a significant increase in the containment leakage rate.

APPLICABLE SAFETY ANALYSES

The containment isolation valve LCO was derived from the assumptions related to minimizing the loss of reactor coolant inventory and establishing the containment boundary during major accidents. As part of the containment boundary, containment isolation valve OPERABILITY supports leak tightness of the containment. Therefore, the safety analysis of any event requiring isolation of containment is applicable to this LCO.

(continued)

APPLICABLE SAFETY ANALYSES

The DBAs that result in a release of radioactive material within containment are a Loss Of Coolant Accident (LOCA), a Main Steam Line Break (MSLB), a feedwater line break, and a control element assembly ejection accident. In the analysis for each of these accidents, it is assumed that containment isolation valves are either closed or function to close within the required isolation time following event initiation. This ensures that potential paths to the environment through containment isolation valves (including containment purge valves) are minimized. The safety analysis assumes that the refueling purge valves are closed at event initiation.

The DBA analysis assumes that, within 60 seconds after the accident, isolation of the containment is complete and leakage terminated except for the design leakage rate, L_a. The containment isolation total response time of 60 seconds includes signal delay, diesel generator startup (for loss of offsite power), and containment isolation valve stroke times.

The single failure criterion required to be imposed in the conduct of unit safety analyses was considered in the original design of the containment purge valves. Two valves in series on each purge line provide assurance that both the supply and exhaust lines could be isolated even if a single failure occurred. The inboard and outboard isolation valves on each line are provided with diverse power sources.

The refueling purge valves may be unable to close in the environment following a LOCA. Therefore, each of the refueling purge valves is required to remain sealed closed during MODES 1, 2, 3, and 4 **or the flow paths of the refueling purge valves are required to be isolated with blind flanges**. In this case, the single failure criterion remains applicable to the containment refueling purge valves due to failure in the control circuit associated with each valve. Again, the purge system valve design precludes a single failure from compromising the containment boundary as long as the system is operated in accordance with the subject LCO.

The power access purge valves are capable of closing under accident conditions. Therefore, they are allowed to be open for limited periods during power operation.

The OPERABILITY of main steam safety valves, main steam isolation valves, main feedwater isolation valves, and main steam atmospheric dump valves is covered by Specifications 3.7.1, 3.7.2, 3.7.3 and 3.7.4 respectively.

(continued)

APPLICABLE SAFETY ANALYSES (continued)

The containment isolation valves satisfy Criterion 3 of 10 CFR 50.36 (c)(2)(ii).

LCO

Required containment isolation valves, (CIVs) form a part of the containment boundary. A containment penetration is considered to be the area bounded by the inboard and outboard CIVs and includes all valves, piping, and connections within this boundary (e.g., vents, drains, and test connections) (Ref. 7). The containment isolation valve safety function is related to minimizing the loss of reactor coolant inventory and establishing the containment boundary during a DBA. The automatic power operated isolation valves are required to have isolation times within limits and to actuate on an automatic isolation signal. The refueling purge valves must be maintained sealed closed. The valves covered by this LCO are listed with their associated stroke times in the UFSAR (Ref. 1). The analyses assume the containment is isolated within 60 seconds following an isolation signal (CIAS).

All containment isolation valves are considered to be required except for each 42 inch refueling purge valve when its flow path is isolated with a blind flange tested in accordance with SR 3.6.1.1, as allowed by Note 5 under LCO 3.6.3. This is allowed because the blind flange, instead of the valve, provides the function of the containment boundary.

Required CIVs are considered OPERABLE for LCO 3.6.3 when they are closed (i.e., manual valves are closed, automatic valves are de-activated and secured in their closed position), blind flanges are in place, and closed systems are intact. The Steam Generating System and the Containment Pressure Monitoring System are the only credited closed systems at PVNGS. Placement of CIVs in this configuration may impact the operability of the associated system. If the required valve surveillances have lapsed for a CIV secured in its closed position, the CIV is considered OPERABLE for LCO 3.6.3 because it was OPERABLE when it isolated the penetration and it continues to perform its isolation function (Ref. 9). The passive isolation valves or devices are those listed in Reference 2.

The general actions for an inoperable CIV are to isolate the associated penetration with a component that is not susceptible to an active failure (i.e., a passive component). The appropriate LCO 3.6.3 Condition for each CIV is listed in TRM Table 7.0.300. In addition, isolation of an inoperable CIV should be made with a valve(s) having similar leakage criteria to preserve the overall containment leakage rate. For example, if a Type C tested CIV becomes inoperable, a Type C tested valve should be used for isolation purposes. If an inoperable Type C tested CIV cannot be isolated with another Type C tested valve, then another valve may be used to isolate the penetration per LCO 3.6.3, but engineering shall evaluate this condition to ensure the overall

(continued)

LCO (continued)

position to remain OPERABLE pursuant to LCO 3.6.3, the cause of the condition will be identified and corrected at the earliest opportunity.

Although system limitations preclude placing a number of "dual function" CIVs in the open position, the following valves are subject to being placed in the OPEN position and remaining OPERABLE pursuant to LCO 3.6.3 with administrative controls to prevent unintentional operation and retain the control room's remote-manual closure capability:

* Containment Hydrogen Monitoring CIVs: HPA-HV-007A, HPA-HV-007B, HPB-HV-008A, and HPB-HV-008B

* HPSI Injection Valves: SIB-UV-616, SIA-UV-617, SIB-UV-626, SIA-UV-627, SIB-UV-636, SIA-UV-637, SIB-UV-646, and SIA-UV-647

* LPSI Flow Control Valves: SIB-UV-615, SIB-UV-625, SIA-UV-635, and SIA-UV-645

* RCP Seal Injection Isolation Valve: CHB-HV-255

The following valves are normally OPEN and considered OPERABLE pursuant to LCO 3.6.3 with no additional actions required (i.e., Control Room remote-manual closure capability need not be maintained):

* Containment Pressure Monitoring CIVs: HCA-HV-074, HCB-HV-075, HCC-HV-076, and HCD-HV-077

* Normal Charging Line Isolation Valve: CHA-HV-524

For inoperable Appendix R credited valves secured in the closed position, actions must be taken per PVNGS Administrative Controls to ensure time limitations are not exceeded.

Required purge valves with resilient seals must meet additional leakage rate requirements. The other containment isolation valve leakage rates are addressed by LCO 3.6.1, "Containment," as Type C testing.

(continued)

BASES

LCO (continued)

Each **required** 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 **required** 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 note is also applicable to those penetrations isolated due to an inoperable containment isolation valve and to the operation of manual vents, drains, and test connections within a containment penetration boundary (including those within the 42" purge valve penetrations, but excluding the 42" purge valves themselves). Furthermore, this note is applicable to manual vents, drains, and test connections within the expanded boundaries of a penetration. Manual valves used to isolate a penetration and/or vent, drain and test connection valves within a penetration may be opened under administrative control on only one side of the containment wall. Opening manual valves on both sides of the containment wall such that the containment atmosphere is in direct communication with outside is not permitted. These administrative controls consist of stationing an operator at each opened valve control, who is in continuous communication with the control room, and can close the specified valve within 60 seconds; concurrent duties (as determined by the Shift Manager/CRS) do not adversely impact the 60-second criterion. In this way, the penetration can be rapidly isolated when a need for containment isolation is indicated.

(continued)

BASES

ACTIONS (continued)

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. As allowed per SR 3.6.3.1, this restriction does not preclude opening a single refueling purge valve such that the penetration remains isolated.

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 isolation valve. Complying with the Required Actions may allow for continued operation. A subsequent inoperable containment isolation valve in a different containment penetration is governed by subsequent Condition entry and application of the associated Required Actions. This Note is not applicable for a second problem identified in a penetration flow path that is already inoperable (i.e., a containment penetration had previously been identified as having an inoperable component); in that case, the initial time constraints are predicated on the first, initial inoperability of the applicable penetration.

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 fifth note has been added specifying that when the flow path of a 42 inch purge valve is isolated with a blind flange tested in accordance with SR 3.6.1.1, the valve is not a required containment isolation valve. This is allowed because the blind flange, instead of the valve, provides the function of the containment boundary.

A.1 and A.2

In the event one **required** 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 (including a de-activated non-automatic valve), a

(continued)

BASES

ACTIONS (continued)

B.1

With two **required** 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 (including a de-activated non-automatic valve), and a blind flange. Compliance with this Action is established via: 1) Administrative controls (i.e., permit) on the de-activated automatic valve, closed manual valve, or blind flange, and 2) Administrative controls (i.e., permit 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 **required** 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 (including a de-activated non-automatic valve), and a blind flange. Compliance with this Action is established via: 1) Administrative controls (i.e., permit) on the de-activated automatic valve, closed manual valve, or blind flange and 2) Administrative controls (i.e., permit 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. The only credited closed systems are the Steam Generating and the Containment Pressure Monitoring Systems. 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 50, 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 **required** 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., permit) on the de-activated automatic valve with resilient seals or blind flange, and 2) Administrative controls (i.e., permit 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.

(continued)

BASES

ACTIONS

D.1, D.2 and D.3 (continued)

In accordance with Required Action D.2, this penetration flow path must be verified to be isolated on a periodic basis. The periodic verification is necessary to ensure that containment penetrations required to be isolated following an accident, which are 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 valve manipulation. Rather, it involves verification, through a system walkdown, that those isolation devices outside containment capable of being mispositioned are in the correct position.

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.

For the **required** containment purge valve with a resilient seal that is isolated in accordance with Required Action D.1, SR 3.6.3.6 must be performed at least once every 92 days. This assures that degradation of the resilient seal is detected and confirms that the leakage rate of the containment purge valve does not increase during the time the penetration is isolated. The normal Frequency for SR 3.6.3.6, 184 days, is based on an NRC initiative, Generic Issue B-20 (Ref. 3). Since more reliance is placed on a single valve while in this Condition, it is prudent to perform the SR more often. Therefore, a Frequency of once per 92 days was chosen and has been shown to be acceptable based on operating experience.

E.1 and E.2

If the Required Actions and associated Completion Times are not met, the plant must be brought to a MODE in which the LCO does not apply. To achieve this status, the plant must be brought to at least MODE 3 within 6 hours and to MODE 5 within 36 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required plant conditions from full power conditions in an orderly manner and without challenging plant systems.

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.6.3.1

Each **required** 42 inch containment purge valve is required to be verified sealed closed at 31 day intervals. This Surveillance is designed to ensure that a gross breach of containment is not caused by an inadvertent or spurious opening of a containment purge valve. Detailed analysis of the refueling purge valves failed to conclusively demonstrate their ability to close during a LOCA in time to limit offsite doses. Therefore, these valves are required to be in the sealed closed position during MODES 1, 2, 3, and 4. A **required** containment purge valve that is sealed closed must have motive power to the valve operator removed. This can be accomplished by de-energizing the source of electric power. In this application, the term "sealed" has no connotation of leak tightness. The Frequency is a result of an NRC initiative, Generic Issue B-24 (Ref. 4), related to containment purge valve use during unit operations. This SR is not required to be met while in Condition D of this LCO. This is reasonable since the penetration flow path would be isolated.

SR 3.6.3.2

This SR ensures that the power access purge valves are closed as required or, if open, open for an allowable reason. If a purge valve is open in violation of this SR, the valve is considered inoperable. If the inoperable valve is not otherwise known to have excessive leakage when closed, it is not considered to have leakage outside of limits. The SR is not required to be met when the purge valves are open for pressure control, ALARA or air quality considerations for personnel entry, or for Surveillances that require the valves to be open. The power access purge valves are capable of closing in the environment following a LOCA. Therefore, these valves are allowed to be open for limited periods of time. The 31 day Frequency is consistent with other containment isolation valve requirements discussed in SR 3.6.3.3.

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.6.3.4 (continued)

administrative controls and the probability of their misalignment is low. Containment isolation valves that are open under administrative controls are not required to meet the SR during the time that they are open. This SR does not apply to valves that are locked, sealed, or otherwise secured in the closed position, since these were verified to be in the correct position upon locking, sealing or securing.

The Note allows valves and blind flanges located in high radiation areas 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 during MODES 1, 2, 3 and 4 for ALARA reasons. Therefore, the probability of misalignment of these containment isolation valves, once they have been verified to be in their proper position, is small.

SR 3.6.3.5

Verifying that the isolation time of each **required** automatic power operated containment isolation valve is within limits is required to demonstrate OPERABILITY. The isolation time test ensures the valve will isolate in a time period less than or equal to that assumed in the safety analysis. The isolation time and Frequency of this SR are in accordance with the Inservice Testing Program.

SR 3.6.3.6

For **required** containment purge valves with resilient seals, additional leakage rate testing beyond the test requirements of 10 CFR 50, Appendix J, Option B (Ref. 5), is required to ensure OPERABILITY. Industry operating experience has demonstrated that this type of seal has the potential to degrade in a shorter time period than do other seal types. Based on this observation and the importance of maintaining this penetration leak tight (due to the direct path between containment and the environment), a Frequency of 184 days was established as part of the NRC resolution of Generic Issue B-20, "Containment Leakage Due to Seal Deterioration" (Ref. 3).

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.6.3.6 (continued)

Additionally, this SR must be performed within 92 days after opening the valve. The 92 day Frequency was chosen recognizing that cycling the valve could introduce additional seal degradation (beyond that occurring to a valve that has not been opened). Thus, decreasing the interval (from 184 days) is a prudent measure after a valve has been opened.

SR 3.6.3.7

Required automatic containment isolation valves close on a containment isolation signal to prevent leakage of radioactive material from containment following a DBA. This SR ensures each **required** automatic containment isolation valve will actuate to its isolation position on an actual or simulated actuation signal. This Surveillance is not required for valves that are locked, sealed, or otherwise secured in the required position under administrative controls. The 18 month Frequency was developed considering it is prudent that this SR be performed only during a unit outage, since isolation of penetrations would eliminate cooling water flow and disrupt normal operation of many critical components. Operating experience has shown that these components usually pass this SR when performed on the 18 month Frequency. Therefore, the Frequency was concluded to be acceptable from a reliability standpoint.

REFERENCES

1. UFSAR, Section 6.2.4.
2. UFSAR, Section 6.2.6.
3. Generic Issue B-20.
4. Generic Issue B-24.
5. 10 CFR 50, Appendix J, Option B.
6. 10 CFR 50, Appendix A
7. CL Design Basis Manual
8. CRDR 106542
9. CRDR 232659

Enclosure 2
APS' Evaluation of Proposed
Amendment to TS 3.6.3

Attachment 4

Changes to Technical Requirements Manual Pages

Pages:

T5.0.500-16
T7.0.300.2

5.0.500 Programs and Manuals (continued)

5.0.500.14 Technical Specifications (TS) Bases Control Program

The purpose of the Technical Specifications Bases Control Program is to provide a means for processing changes to the Bases of the PVNGS ITS. Nuclear Regulatory Affairs is the program owner.

Program requirements are specified in ITS 5.5.14.

5.0.500.15 Safety Function Determination Program (SFDP)

The purpose of the Safety function Determination Program is to ensure that a loss of safety function is detected and appropriate actions taken. The PVNGS Operations group is the program owner.

Program requirements are specified in ITS 5.5.15.

5.0.500.16 Containment Leakage Rate Testing Program

The purpose of the Containment Leakage Rate Testing Program is to implement the required containment leakage rate testing. The PVNGS System Engineering group is the program owner.

In addition to the program requirements specified in ITS 5.5.16, the following also applies:

a. Demonstrate CONTAINMENT INTEGRITY after each closing of each penetration subject to Type B testing, except containment air locks, if opened following a Type A or B test, by leak rate testing in accordance with ITS 5.5.16.

b. Leakage rate acceptance criteria:

1. For the required 42 inch containment purge supply and exhaust isolation valves with resilient material seals measured leakage rate is less than or equal to 0.05 L_a when pressurized to P_a.

2. For 8 inch containment purge supply and exhaust isolation valves with resilient material seals measured leakage rate is less than or equal to 0.01 L_a when pressurized to P_a.

(continued)

T7.0 COMPONENT LISTS

(continued)

VALVE NO	ITS 3.6.3 Condition	PENETRATION	VALVES RECEIVING CONTAINMENT ISOLATION (CIAS)
SSA-UV 204	A	42A	Pressurizer liquid sample line
SSB-UV 202	A	42B	Pressurizer steam space sample line
SSA-UV 205	A	42B	Pressurizer steam space sample line
SSB-UV 200	A	42C	Hot leg sample line
SSA-UV 203	A	42C	Hot leg sample line
CHA-UV 560	A	44	Reactor Drain tank to pre-holdup ion exchanger
CHB-UV 561	A	44	Reactor Drain tank to pre-holdup ion exchanger
CHA-UV 580	A	45	Makeup to reactor drain tank
CHA-UV 715	A	45	Makeup to reactor drain tank post accident sampling sys
GRA-UV 001	A	52	RDT vent to WG surge tank
GRB-UV 002	A	52	RDT vent to WG surge tank
WCB-UV 63	A	60	Normal chilled water to containment ACU (inlet)
WCB-UV 61	A	61	Normal chilled water to containment ACU (outlet)
WCA-UV 62	A	61	Normal chilled water to containment ACU (outlet)

VALVE NO	ITS 3.6.3 Condition	PENETRATION	VALVES RECEIVING CONTAINMENT PURGE (CPIAS) [Also isolated on CIAS]
CPA-UV 002A	A[a]	56	Containment purge (inlet)
CPB-UV 003A	A[a]	56	Containment purge (inlet)
CPA-UV 002B	A[a]	57	Containment purge (outlet)
CPB-UV 003B	A[a]	57	Containment purge (outlet)
CPA-UV 004A	A	78	Containment purge (inlet)
CPB-UV 005A	A	78	Containment purge (inlet)
CPA-UV 004B	A	79	Containment purge (outlet)
CPB-UV 005B	A	79	Containment purge (outlet)

a. Type C testing is not required when the valve is not a required containment isolation valve per Note 5 of LCO 3.6.3.