10 CFR 50.55a(f)(5)
10 CFR 50.55a(a)(3)

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Palo Verde Nuclear Generating Station

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102-05771-DCM/GAM/RJR
November 28, 2007

ATTN: Document Control Desk
U.S. Nuclear Regulatory Commission
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
Response to the Request for Additional Information Regarding the Third 10-Year Interval for the Pump and Valve Inservice Testing Program

By letter no.102-05732, dated August 13, 2007, Arizona Public Service (APS) submitted the revised Palo Verde Nuclear Generating Station (PVNGS) pump and valve inservice testing (IST) program for the third 10-year interval for Units 1, 2, and 3 pursuant to 10 CFR 50.55a(f)(5)(i).

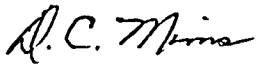
By letter dated October 9, 2007, the NRC provided to APS a request for additional information (RAI) pertaining to requests for relief associated with the PVNGS IST program submittal. Although the RAI letter identified the APS submittal date as July 20, 2006, the actual submittal date was August 13, 2007. Enclosure 1 contains APS's response to the NRC's request.

While developing the response to the requested information, APS determined that instrumentation capable of meeting Code vibration requirements can be obtained. Additionally, a review of the vibration data taken on smooth-running pump candidates showed that entry into the "Alert Range" would be infrequent. As a result of these reviews, APS is withdrawing IST Relief Requests PRR-06 and PRR-07. Enclosure 2 to this letter contains a revised program summary. Relief Requests PRR-03, PRR-05 and VRR-01 have been revised to reflect the responses to the NRC request and are attached to Enclosure 2. The revised third 10-year IST program will be submitted to the NRC when completed.

A047
NRR

This letter contains no new commitments. If you have any questions about this change, please telephone Glenn A. Michael at (623) 393-5750.

Sincerely,



DCM/GAM/RJR/

Enclosure 1 APS's Response to the NRC Request for Additional Information
Enclosure 2 Revised Palo Verde Pump and Valve Inservice Testing Program Summary

Attachments - Revised Third 10-Year Interval Pump and Valve Inservice Testing Program Relief Requests PRR-03, PRR-05 and VRR-01

cc: E. E. Collins, Jr. NRC Region IV Regional Administrator
M. T. Markley NRC NRR Project Manager
G. G. Warnick NRC Senior Resident Inspector for PVNGS

Enclosure 1

APS's Response to the NRC Request for Additional information

APS's Response to the NRC's Request for Additional Information

NRC QUESTION

1. Relief Request PRR-03 [pump relief request (PRR) 3]

   Request No. PRR-03-01

   Please confirm that during the quarterly tests, vibration measurements will be performed in accordance with ISTB-3540, "Manual Valves."

APS RESPONSE

The relief request has been revised to include the following statement for clarification: "Vibration measurements will be performed quarterly in accordance with ISTB-3540." Please note that ISTB-3540 is titled "Vibration," not "Manual Valves."

NRC QUESTION

2. Relief Request PRR-05

   Request No. PRR-05-01

   Please confirm that during the quarterly tests, vibration measurements will be performed in accordance with ISTB-3540.

APS RESPONSE

The relief request has been revised to include the following statement for clarification: "Vibration measurements will be performed quarterly in accordance with ISTB-3540."

NRC QUESTION

3. Relief Request PRR-06

   The Nuclear Regulatory Commission (NRC) has learned that, due to technology advancement and research work performed in the field of instrumentation, vibration-measuring transducers meeting the Code provisions can be easily procured from various suppliers at a reasonably low cost. The NRC also presented a paper entitled, "Pump Vibration Measuring Instruments (Transducers) Issue," during the Ninth NRC/ASME Symposium on Valve and Pump Testing in July 2006. This paper is included in NUREG/CP-0151, Vol. 6, July 2006 (ADAMS Accession No. ML072700042).

Request No. PRR-06-01

In the APS submittal section entitled, "Reason for Request," there is no mention of any hardship and/or reason for not using or installing the Code-required vibration measuring transducers with specified ranges from one-third minimum pump shaft rotational speed to at least 1000 Hertz. Please provide sufficient information relating to the hardship or unusual difficulty associated with complying with the Code.

APS RESPONSE

Research has determined that APS is in possession of the necessary vibration instruments and has the means to calibrate vibration probes to meet the ASME Code requirements. APS is withdrawing IST Relief Request PRR-06.

NRC QUESTION

4. Relief Request PRR-07

Request No. PRR-07-01

In the APS submittal section entitled, "Components Affected," the licensee included all pumps as smooth-running pumps, even though some of the pumps have a vibration reading greater than 0.05 inches per second (in/sec). Please note that relief can be only applicable to pumps with vibration values less than or equal to 0.05 in/sec. NUREG/CP-0152, "Proceedings of the Fourth NRC/ASME Symposium on Valve and Pump Testing," Session 4, pages 4-32, July 1996, "Smooth-Running Pumps," states that, "If licensees intend to submit alternative requests to use minimum reference values, the request should be pump specific and include justification as to how the current inservice testing methodology will detect pump degradation." The NRC staff position is to review relief requests on a case-by-case basis for specific requirements of the Code. Therefore, please revise the relief request to remove the pump(s) that have vibration readings greater than 0.05 in/sec.

APS RESPONSE

A review of the vibration data taken on smooth-running pump candidates showed that entry into the "Alert Range" would be infrequent. As a result, APS is withdrawing IST Relief Request PRR-07.

NRC QUESTION

Request No. PPR-07-02

In the APS submittal section entitled, "Proposed Alternative and Basis for Use," the licensee provides historical vibration test data of various pumps at Palo Verde, Unit 1, and states that Unit 2 and Unit 3 data are similar to Unit 1.

(1) Please explain how it is possible to have similar vibration readings for similar pumps (at different locations) at Palo Verde, Units 1, 2, and 3;

(2) If the measured vibration values for similar pumps at Units 1, 2, and 3 are in the same magnitude, then please provide the actual data and revise the relief request to include only smooth-running pumps with vibration values less than or equal to 0.05 in/sec; and

(3) For Palo Verde, Unit 1, the provided historical vibration data shows that some of the pumps' vibration readings are taken at the motor, and axial vibration readings for some pumps are not measured. Please explain how the requirements for vibration measurement, as specified in ISTB-3540, are achieved.

APS RESPONSE

(1) It is not unusual for pumps with similar designs, service conditions, and maintenance practices to have similar vibration characteristics.

(2) APS is withdrawing IST Relief Request PRR-07. Therefore this data is not required.

(3) The Low Pressure Safety Injection (LPSI) Pumps (SIA-P01 and SIB-P01) and Containment Spray (CS) Pumps (SIA-P03 and SIB-P03) are vertical centrifugal pumps (not vertical line shaft pumps) therefore they are monitored per paragraph ISTB 3540(a). The thrust bearings are enclosed in the motor housing, and are not accessible. Therefore axial measurements are not taken.

The LPSI pumps have an accessible pump-bearing housing where vibration measurements are taken at orthogonal directions perpendicular to the rotating shaft in accordance with ISTB-3540(a).

The CS pump is a "close coupled" pump. The pump radial bearing is located in the lower portion of the motor housing. Renewable casing rings maintain pump running clearances. Therefore, vibration measurements are taken on the lower motor housing support plate at orthogonal directions perpendicular to the rotating shaft.

The Essential Spray Pond Pumps (SPA-P01 and SPB-P01) are vertical line shaft pumps. For these pumps the vibration measurements are taken on the upper motor-bearing housing in three approximately orthogonal directions, one of which is the axial direction, as required by ISTB-3540(b).

As stated above, APS is withdrawing IST Relief Request PRR-07.

NRC QUESTION

5. Relief Request VRR 01 [valve relief request (VRR) 1]

RAI VRR-01-01

Relief request VRR-01 lists 14 implementation clarifications to American Society of Mechanical Engineers (ASME) Code Case OMN-1, "Alternative Rules for Preservice and Inservice Testing of Certain Electric Motor-Operated Valve Assemblies in Light Water Reactor Power Plants." It is not clear to the NRC staff why these 14 implementation clarifications to OMN-1 are discussed in relief request VRR-01. The NRC review of these implementation clarifications is not required at this time, unless they involve a proposed alternative to or relief from the inservice testing requirements in 10 CFR 50.55a(f). Please describe and provide justification for any alternatives to or relief from the requirements in OMN-1 or any other condition(s) as specified in Regulatory Guide 1.192, "Operation and Maintenance Code Case Acceptability, ASME OM Code," for implementation of OMN-1.

APS RESPONSE

The relief request has been revised to remove the 14 implementation clarifications. These 14 implementation clarifications will now be listed in PVNGS IST program procedure, 73DP-9XI01, "Pump and Valve Inservice Testing Program - Component Tables."

ENCLOSURE 2

Revised Palo Verde Pump and Valve Inservice Testing Program Summary

Palo Verde Pump and Valve Inservice Testing Program Summary

Section 50.55a of Title 10 of the *Code of Federal Regulations* (10 CFR), requires that inservice testing (IST) of certain American Society of Mechanical Engineers (ASME) Code Class 1, 2, and 3 pumps and valves be performed at 120-month (10-year) IST program intervals in accordance with the specified ASME Code incorporated by reference in the regulations, except where alternatives have been authorized or relief has been requested by the licensee and granted by the Nuclear Regulatory Commission (NRC or the Commission) pursuant to paragraphs (a)(3)(i), (a)(3)(ii), or (f)(5)(iii) of 10 CFR 50.55a. In accordance with 10 CFR 50.55a(f)(4)(ii), Arizona Public Service Company (APS) is required to comply with the requirements of the latest edition and addenda of the ASME Code incorporated by reference in the regulations 12 months prior to the start of each 120-month IST program interval. In accordance with 50.55a(f)(4)(iv), inservice tests of pumps and valves may meet the requirements set forth in subsequent editions and addenda that are incorporated by reference in 10 CFR 50.55a(b), subject to NRC approval. Portions of editions or addenda may be used provided that all related requirements of the respective editions and addenda are met.

The Palo Verde Nuclear Generating Station (PVNGS) Pump and Valve Inservice Testing Program was developed in accordance with the 2001 Edition with the (w/) 2003 Addenda of the ASME OM Code. The Palo Verde third 10-year IST interval for all three units begins on January 15, 2008.

The attachment to this enclosure contains the revised relief requests required for the third interval. The revised third 10-year IST program will be submitted to the NRC when completed.

Relief Requests PRR-02 and VRR-01 are being submitted under the provision of 10 CFR 50.55a(a)(3)(i), wherein the proposed alternatives would provide an acceptable level of quality and safety.

Relief Requests PRR-01, PRR-03, PRR-04 and PRR-05 are being submitted under the provisions of 10 CFR 50.55a(f)(5)(iii), wherein inservice testing is impractical for the facility.

The attached APS requests demonstrate that: (1) the proposed alternatives provide an acceptable level of quality and safety; (2) compliance would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety; or (3) conformance is impractical for the facility.

APS requests approval of the relief requests prior to the start of the third inservice testing interval which will begin on January 15, 2008.

Attachment

Revised Third 10-Year Interval Pump and Valve Inservice Testing Program Relief Requests

PRR-03, PRR-05 and VRR-01

PUMP RELIEF REQUEST PRR-03

Relief Request In Accordance with 10 CFR 50.55a(f)(5)(iii)
-- Inservice Testing Impracticality –

LPSI Pump Flow Rate Measurement

ASME Components Affected

Pump ID	Pump Description	Code Class	Pump Group
SIA-P01	Low Pressure Safety Injection (LPSI) Pump	2	A
SIB-P01	Low Pressure Safety Injection (LPSI) Pump	2	A

Component/System Function:

LPSI pumps SIA-P01 and SIB-P01 provide low-pressure coolant injection of borated water into the reactor coolant system under accident conditions. They also provide shutdown cooling flow post-accident and during normal reactor startup and shutdown.

Applicable Code Edition and Addenda:

ASME OM Code 2001 Edition w/2003 Addenda

Applicable Code Requirement(s):

ISTB-3300, "Reference Values," ISTB-3300(e)(2), "Reference values shall be established within ± 20% of pump design flow for the Group A and Group B tests, if practicable. If not practicable, the reference point flow rate shall be established at the highest practical flow rate."

ISTB-5221, "Group A Test Procedure," "Group A tests shall be conducted with the pump operating at a specified reference point. The test parameter value identified in Table ISTB-3000-1 shall be determined and recorded as required by this paragraph."

ISTB-5221(b), "The resistance of the system shall be varied until the flow rate equals the reference point. The differential pressure shall then be determined and compared to its reference value. Alternatively, the flow rate shall be varied until the differential pressure equals the reference point and the flow rate determined and compared to the reference flow rate value."

ISTB-5221(c), "Where it is not practical to vary system resistance, flow rate and pressure shall be determined and compared to their respective reference values."

PUMP RELIEF REQUEST PRR-03

Impracticality of Compliance:

The Code requires the Group A reference point flow rate to be established at the highest practical flow rate and operate the pump at a specified reference point (i.e., fix the flow to a specified value). It is impractical to meet this requirement since this is a fixed resistance recirculation path of approximately 180 gpm with limited capability permanent plant flow instrumentation. The installed instrumentation is a 0-5000 gpm ultrasonic flowmeter with ± 5% accuracy and does not meet the 2% instrument requirements of Table ISTB-3500-1 for pump testing. The use of an ultrasonic flowmeter with 2% accuracy was evaluated and determined impractical due to the difficulty in establishing an application specific 2% calibration on the SI mini-flow piping. To establish the fixed resistance the minimum flow recirculation line contains a flow orifice and a normally open motor-operated valve and solenoid isolation valve. Allowing the flow to remain fixed by the orifice resistance increases the potential for repeatable test results and degradation monitoring rather than attempting to change the resistance based on ultrasonic flowmeter readout fluctuations. When the pump operates on minimum flow recirculation, the specified reference point is essentially achieved by the fixed resistance. With this understanding, there is little value added in replacing the existing 0-5000 gpm, ± 5% ultrasonic flowmeter, or adding instrumentation that meets IST-3510 requirements. The fixed resistance methodology is repeatable from test to test and accomplishes the same result as if flow were being measured and recorded.

Burden Caused by Compliance:

During normal plant operation, the LPSI pumps cannot develop sufficient discharge pressure to overcome RCS pressure and allow flow through the safety injection headers. Thus, during quarterly testing, LPSI flow is routed through a minimum flow recirculation line to the refueling water tanks. The minimum-flow recirculation flowpath is a fixed resistance circuit containing a flow-limiting orifice capable of passing only a small fraction (approx. 180 gpm) of the design flow (4200 gpm). The permanent plant 0-5000 gpm, ± 5% accuracy, flow instrumentation (permanently mounted ultrasonic flowmeter) has only limited capability, and its accuracy does not meet Table ISTB-3500-1 flow rate 2% accuracy requirements. The use of an ultrasonic flowmeter with 2% accuracy was evaluated and determined to be impractical due to the difficulty in establishing an application specific 2% calibration on the SI mini-flow piping.

The LPSI pumps are categorized as Group A since they are normally used to provide shutdown cooling flow during shutdown operations, and occasionally for recirculating the refueling water tank when the unit is at power. Little degradation is expected during plant operation. Thus, the alternate testing will adequately monitor these pumps to ensure continued operability and availability for accident mitigation.

Modifying the minimum flow recirculation line to provide flow indication to meet the ± 2% accuracy requirement as specified in Table ISTB-3500-1 adds little value since the flow is fixed and differential pressure is used to monitor degradation.

Proposed Alternative and Basis for Use:

During plant operation, quarterly Group A pump testing for pumps SIA-P01 and SIB-P01 shall be conducted at mini-flow conditions using the minimum flow recirculation line fixed resistance of approximately 180 gpm to establish the specified reference point. Subsection ISTB, ISTB-5200(b)(1) allows the use of bypass test loops to be used for Group A tests. The flow rate through the loop is established at the highest practical flow rate of approximately 180 gpm in accordance with ISTB-3300(e)(2). Flow rate will not be measured or recorded. To monitor for degradation, pump differential pressure shall be determined and compared to its reference value and the associated range as specified in Table ISTB-5200-1.

Pumps SIA-P01 and SIB-P01 will be comprehensively tested in accordance with ISTB-5123, "Comprehensive Test Procedure," on a biennial (2-year) frequency as specified in Table ISTB-3400-1.

Pumps SIA-P01 and SIB-P01 are infrequently used pumps. Little degradation is expected during plant power operation when the pumps are idle except for limited operations and testing. Testing the pumps within ± 20% of design flow on a 2-year frequency provides additional information regarding the condition of the pumps.

Vibration measurements will be performed quarterly in accordance with ISTB-3540.

Conclusion:

10 CFR50.55a(f)((5)(iii) states:

"If the licensee has determined that conformance with certain code requirements is impractical for its facility, the licensee shall notify the Commission and submit, as specified in § 50.4 information to support the determination."

The information provided in this request supports the determination that it is impractical to meet the Code requirements to establish the Group A reference point flow rate at the highest practical flow rate and operate the pump at a specified reference point (i.e., fix the flow to a specified value) since this is a fixed resistance recirculation path with limited capability permanent plant flow instrumentation.

Duration of Proposed Alternative:

The proposed alternative identified in this 10 CFR 50.55a Request shall be utilized during the third 10-year IST Interval.

Precedents:

Complies with NRC GL 89-04, Position 9. A similar 10 CFR 50.55a Request (PRR-05) was previously authorized for Palo Verde pursuant to 10 CFR 50.55a(f)(6)(i) for Interval 2 per NRC Safety Evaluation dated July 8, 1999. (TAC NOS. MA0757, MA0758 and MA0759) (ADAMS Accession No. 9907150128)

PUMP RELIEF REQUEST PRR-05

Relief Request In Accordance with 10 CFR 50.55a(f)(5)(iii)
-- Inservice Testing Impracticality –

Containment Spray Pump Flow Rate Measurement

ASME Components Affected

Pump ID	Pump Description	Code Class	Pump Group
SIA-P03	Containment Spray (CS) Pump	2	A
SIB-P03	Containment Spray (CS) Pump	2	A

Component/System Function:

CS pumps SIA-P03 and SIB-P03 deliver borated water to the containment spray headers, providing containment cooling and pressure control during accident conditions. The CS pumps can also be lined up to provide flow for shutdown cooling.

Applicable Code Edition and Addenda:

ASME OM Code 2001 Edition w/2003 Addenda

Applicable Code Requirement(s):

ISTB-3300, "Reference Values," ISTB-3300(e)(2), "Reference values shall be established within ± 20% of pump design flow for the Group A and Group B tests, if practicable. If not practicable, the reference point flow rate shall be established at the highest practical flow rate."

ISTB-5221, "Group A Test Procedure," "Group A tests shall be conducted with the pump operating at a specified reference point. The test parameter value identified in Table ISTB-3000-1 shall be determined and recorded as required by this paragraph."

ISTB-5221(b), "The resistance of the system shall be varied until the flow rate equals the reference point. The differential pressure shall then be determined and compared to its reference value. Alternatively, the flow rate shall be varied until the differential pressure equals the reference point and the flow rate determined and compared to the reference flow rate value."

ISTB-5221(c), "Where it is not practical to vary system resistance, flow rate and pressure shall be determined and compared to their respective reference values."

Impracticality of Compliance:

The Code requires the Group A reference point flow rate to be established at the highest practical flow rate and operate the pump at a specified reference point (i.e., fix the flow to a specified value). It is impractical to meet this requirement since this is a fixed resistance recirculation path of approximately 190 gpm with limited capability permanent plant flow instrumentation. The installed instrumentation is a 0-5000 gpm ultrasonic flowmeter with ± 5% accuracy and does not meet the 2% instrument requirements of Table ISTB-3500-1 for pump testing. The use of an ultrasonic flowmeter with 2% accuracy was evaluated and determined impractical due to the difficulty in establishing an application specific 2% calibration on the SI mini-flow piping. To establish the fixed resistance the minimum flow recirculation line contains a flow orifice and a normally open motor-operated valve and solenoid isolation valve. Allowing the flow to remain fixed by the orifice resistance increases the potential for repeatable test results and degradation monitoring rather than attempting to change the resistance based on ultrasonic flowmeter readout fluctuations. When the pump operates on minimum flow recirculation, the specified reference point is essentially achieved by the fixed resistance. With this understanding, there is little value added in replacing the existing 0-5000 gpm, ± 5% ultrasonic flowmeter, or adding instrumentation that meets IST-3510 requirements. The fixed resistance methodology is repeatable from test to test and accomplishes the same result as if flow were being measured and recorded.

Burden Caused by Compliance:

Modifying the minimum flow recirculation line to provide flow indication to meet the ± 2% accuracy requirement as specified in Table ISTB-3500-1 adds little value since the flow is fixed at approximately 190 gpm and differential pressure is used to monitor degradation. The permanent plant 0-5000 gpm, ± 5% accuracy, flow instrumentation (permanently mounted ultrasonic flowmeter) has only limited capability, and its accuracy does not meet Table ISTB-3500-1 flow rate 2% accuracy requirements. The use of an ultrasonic flowmeter with 2% accuracy was evaluated and determined impractical due to the difficulty in establishing an application specific 2% calibration on the SI mini-flow piping.

The normal containment spray flow path cannot be used for testing the CS pumps without spraying down the inside of the containment building and risking damage to important equipment. The RCS injection portion of the shutdown cooling flow path cannot be used for testing during plant operation because the CS pumps are unable to develop sufficient discharge pressure to overcome RCS pressure.

The minimum-flow recirculation flowpath is a fixed resistance circuit containing a flow-limiting orifice capable of passing only a small fraction (approx. 190 gpm) of the design flow (3890 gpm). The permanent plant 0-5000 gpm, ± 5% accuracy, flow instrumentation (permanently mounted ultrasonic flowmeter) has only limited capability, and its accuracy does not meet Table ISTB-3500-1 flow rate 2% accuracy requirements. A larger recirculation flowpath is available; however, this requires an

alternate line up and the same limited capability flow instrument exists in this portion of the recirculation line.

The larger recirculation flowpath is capable of carrying higher flow, but routine surveillance testing at less than the full flow reference value is not practical because of the pump rumble range (1800-2800 gpm). Testing in or near the rumble range is not practical because of the potential for equipment damage. Testing at flow rates above the rumble range (> 2800 gpm) is not practical because flow velocities in the recirculation piping would exceed the design criteria.

The CS pumps are categorized as Group A since they are normally used to provide shutdown cooling flow during shutdown operations. Little degradation is expected during plant operation. Thus, the alternate testing will adequately monitor these pumps to ensure continued operability and availability for accident mitigation.

Proposed Alternative and Basis for Use:

During plant operation, quarterly Group A pump testing for pumps SIA-P03 and SIB-P03 shall be conducted at mini-flow conditions using the minimum flow recirculation line fixed resistance of approximately 190 gpm to establish the specified reference point. ISTB-5200(b)(1) allows the use of bypass test loops to be used for Group A tests. The flow rate through the loop is established at the highest practical flow rate of approximately 190 gpm in accordance with ISTB-3300(e)(2). Flow rate will not be measured or recorded. To monitor for degradation, pump differential pressure shall be determined and compared to its reference value and the associated range as specified in Table ISTB-5200-1.

Pumps SIA-P03 and SIB-P03 will be comprehensively tested in accordance with ISTB-5223, "Comprehensive Test Procedure," on a biennial (2-year) frequency as specified in Table ISTB-3400-1.

Pumps SIA-P03 and SIB-P03 are infrequently used pumps. Little degradation is expected during plant power operation when the pumps are idle except for limited operations and testing. Testing the pumps within ± 20% of design flow on a 2-year frequency provides additional information regarding the condition of the pumps.

Vibration measurements will be performed quarterly in accordance with ISTB-3540.

Conclusion:

10 CFR50.55a(f)((5)(iii) states:

"If the licensee has determined that conformance with certain code requirements is impractical for its facility, the licensee shall notify the Commission and submit, as specified in § 50.4 information to support the determination."

The information provided in this request supports the determination that it is impractical to meet the Code requirements to establish the Group A reference point flow rate at the highest practical flow rate and operate the pump at a specified reference point (i.e., fix the flow to a specified value) since this is a fixed resistance recirculation path with limited capability permanent plant flow instrumentation.

Duration of Proposed Alternative:

The proposed alternative identified in this 10 CFR 50.55a Request shall be utilized during the third 10-year IST Interval.

Precedents:

Complies with NRC GL 89-04, Position 9. A similar 10 CFR 50.55a Request (PRR-11) was previously authorized for Palo Verde pursuant to 10 CFR 50.55a(f)(6)(i) for Interval 2 per NRC Safety Evaluation dated July 8, 1999. (TAC NOS. MA0757, MA0758 and MA0759) (ADAMS Accession No. 9907150128)

VALVE RELIEF REQUEST VRR_01

Proposed Alternative In Accordance with 10 CFR 50.55a(a)(3)(i)
On the basis that the proposed alternative provides an acceptable level of quality and safety.

Code Case OMN-1 - MOV Exercising and Stroke Timing

Component(s) Affected:

Motor-operated valve assemblies currently included in the Palo Verde Nuclear Generating Station (PVNGS) Motor-Operated Valve (MOV) Program

Component/System Function: Various

Applicable Code Edition and Addenda:

ASME OM Code 2001 Edition w/2003 Addenda

Applicable Code Requirement(s):

ISTA-3130, "Application of Codes Cases", ISTA-3130(b) states, Code Cases shall be applicable to the edition and addenda specified in the test plan.

Subsection ISTC "Inservice Testing of Valves in Light-Water Reactor Nuclear Power Plants" (Portions associated with testing Motor-Operated Valves)

Regulatory Guide 1.192, Operation and Maintenance Code Case Acceptability, ASME OM Code, dated June 2003 states that licensees may use Code Case OMN-1, "Alternative Rules for Preservice and Inservice Testing of Certain Electric Motor-Operated Valve Assemblies in Light-Water Reactor Power Plants," Revision 0, in lieu of the provisions for stroke-time testing in Subsection ISTC of the 1995 Edition up to and including the 2000 Addenda of the ASME OM Code when applied in conjunction with the provisions for leakage rate testing in, as applicable, ISTC 4.3 (1995 Edition with the 1996 and 1997 Addenda) and ISTC-3600 (1998 Edition with the 1999 and 2000 Addenda). In addition, licensees who continue to implement Section XI of the ASME BPV Code as their Code of Record may use OMN-1 in lieu of the provisions for stroke-time testing specified in Paragraph 4.2.1 of ASME/ANSI OM Part 10 as required by 10 CFR 50.55a(b)(2)(vii) subject to the conditions in this Regulatory Guide (RG) 1.192. Licensees who choose to apply OMN-1 are required to apply all its provisions.

The relevant provisions are as follows:

(1) The adequacy of the diagnostic test interval for each motor-operated valve (MOV) must be evaluated and adjusted as necessary, but not later than 5 years or three refueling outages (whichever is longer) from initial implementation of OMN-1.

(2) When extending exercise test intervals for high risk MOVs beyond a quarterly frequency, licensees must ensure that the potential increase in Core Damage Frequency (CDF) and risk associated with the extension is small and consistent with the intent of the Commission's Safety Goal Policy Statement.

(3) When applying risk insights as part of the implementation of OMN-1, licensees must categorize MOVs according to their safety significance using the methodology described in Code Case OMN-3, "Requirements for Safety Significance Categorization of Components Using Risk Insights for Inservice Testing of LWR Power Plants," with the conditions discussed in RG 1.192 or use other MOV risk ranking methodologies accepted by the NRC on a plant specific or industry-wide basis with the conditions in the applicable safety evaluations.

Reason for Request:

Code Case OMN-1, Revision 0 provides alternative rules to those of OM Code, Subsection ISTC, for preservice and inservice testing to assess the operational readiness of certain electric motor-operated valve assemblies in light-water reactor power plants. However, RG 1.192 has not yet extended its use to the 2001 Edition w/2003 Addenda of the OM Code which is the basis for the planned third 10-year IST program at Palo Verde.

Proposed Alternatives and Basis for Use:

In lieu of the provisions for MOV testing in Subsection ISTC of the 2001 Edition w/2003 Addenda of the ASME OM Code, APS requests relief for the continued use of ASME Code Case OMN-1, Revision 0.

Pursuant to ASME Code Case OMN-1, Revision 0 and the guidelines provided in NUREG-1482, Revision 1, Section 4.2.5, PVNGS proposes to continue implementation of Code Case OMN-1 in lieu of the stroke-time provisions specified in ISTC-5120 for MOVs. Code Case OMN-1 has been determined by the NRC to provide an acceptable level of quality and safety when implemented in conjunction with the conditions imposed in RG 1.192.

Code Case OMN-1, R 0, should be considered acceptable for use with OM Code-2001 Edition w/2003 Addenda as the Code of record. Therefore, pursuant to 10 CFR 50.55a(a)(3)(i), PVNGS requests relief from the specific ISTC Code requirements identified in this relief request.

Conclusion:

10 CFR 50.55a(a)(3) states:

"Proposed alternatives to the requirements of paragraphs (c), (d), (e), (f), (g), and (h) of this section or portions thereof may be used when authorized by the Director of the Office of Nuclear Reactor Regulation. The applicant shall demonstrate that:

(i)The proposed alternatives would provide an acceptable level of quality and safety, or (ii)Compliance with the specified requirements of this section would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety."

The continued use of ASME Code Case OMN-1, Revision 0, as discussed in this relief request provides an acceptable level of quality and safety. Therefore, APS requests that the proposed alternative be authorized pursuant to 10 CFR 50.55a(a)(3)(i).

Duration of Proposed Alternatives:

The proposed alternative identified in this relief request shall be utilized during the third 10-year IST interval.

Precedents:

A similar 10 CFR 50.55a Request (VRR-12) was previously authorized for Palo Verde pursuant to 10 CFR 50.55a(a)(3)(i) for interval 2 per NRC Safety Evaluation dated July 8, 1999. (TAC NOS. MA0757, MA0758 and MA0759) (ADAMS Accession No. 9907150128)

References:

NUREG-1482, Revision 1, Section 4.2.5, "Alternatives to Stroke-Time Testing"

Regulatory Guide 1.192, "Operation and Maintenance Code Case Acceptability, ASME OM Code", Table 2, "Conditionally Acceptable OM Code Cases"

OM Code-2001 Edition w/2003 Addenda, Paragraph ISTC-5120, "Motor Operated Valves"

OM Code-2001 Edition w/2003 Addenda, Paragraph ISTA-3130, "Application of Code Cases"

Code Case OMN-1, Revision 0, "Alternative Rules for Preservice and Inservice Testing of Certain Electric Motor-Operated Valve Assemblies in LWR Power Plants"