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Palo Verde Nuclear Generating Station

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102-06129-DCM/GAM
February 05, 2010

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, 50-529 and 50-530
Response to December 23, 2009, Request for Additional Information Regarding the Scoping and Screening Audit for the Review of the PVNGS License Renewal Application

By letter dated December 23, 2009, the NRC issued a request for additional information (RAI) related to the PVNGS license renewal application (LRA). Enclosed is APS's response to the December 23, 2009, RAI, with the exception of a response to RAI 2.1-3, Issue (2). The response to RAI 2.1-3, Issue (2), will be submitted by March 5, 2010, as agreed to by Lisa Regner, NRC License Renewal Project Manager for PVNGS, on January 29, 2010.

APS makes no commitments in this letter. Should you need further information regarding this submittal, please contact Russell A. Stroud, Licensing Section Leader, at (623) 393-5111.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on 2/5/10
(date)

Sincerely,

D. C. Mims

DCM/RAS/GAM/gat

A138
NRR

Enclosure: Response to December 23, 2009, Request for Additional Information Regarding the Scoping and Screening Audit for the Review of the PVNGS License Renewal Application

cc:

E. E. Collins Jr.	NRC Region IV Regional Administrator
J. R. Hall	NRC NRR Project Manager
R. I. Treadway	NRC Senior Resident Inspector for PVNGS
L. M. Regner	NRC License Renewal Project Manager
G. A. Pick	NRC Region IV (electronic)

ENCLOSURE

Response to December 23, 2009, Request for Additional Information Regarding the Scoping and Screening Audit for the Review of the PVNGS License Renewal Application

NRC RAI 2.1-1

Background:

Pursuant to Title 10 of the *Code of Federal Regulations* (10 CFR) Part 54.4(a), the applicant must consider the following plant systems, structures, and components (SSCs) within the scope of license renewal:

(1) SSCs which are those relied upon to remain functional during and following design-basis events (as defined in 10 CFR 50.49(b)(1)) to ensure the following functions:

(i) The integrity of the reactor coolant pressure boundary;
(ii) The capability to shut down the reactor and maintain it in a safe shutdown condition; or
(iii) The capability to prevent or mitigate the consequences of accidents which could result in potential offsite exposures comparable to those referred to in 10 CFR 50.34(a)(1), 10 CFR 50.67(b)(2), or 10 CFR 100.11, as applicable.

(2) All nonsafety-related SSCs whose failure could prevent satisfactory accomplishment of any of the functions identified above.

(3) All SSCs relied on in safety analyses or plant evaluations to perform a function that demonstrates compliance with the Commission's regulations for fire protection (10 CFR 50.48), environmental qualification (10 CFR 50.49), pressurized thermal shock (10 CFR 50.61), anticipated transients without scram (10 CFR 50.62), and station blackout (10 CFR 50.63).

License Renewal Application (LRA), Section 1.5, "Application Structure," states:

> PVNGS Unit 1, Unit 2, and Unit 3 [Palo Verde Nuclear Generating Station, Unit Nos. 1, 2, and 3] are constructed of similar materials with similar environments. Unless otherwise noted throughout this application, plant systems and structures discussed in this application apply to PVNGS Units 1, 2 and 3.

LRA Section 2.1.3.1, "Mechanical System Scoping Methodology," states:

> Unit 1 P&IDs [piping and instrumentation drawings] or combined unit P&ID(s) were marked-up to show the license renewal boundary. PVNGS uses combined unit P&IDs to depict all three units on a single P&ID. When Unit 1 P&IDs were used, Unit 2 and Unit 3 P&IDs were reviewed to confirm the similarity of the boundaries/interfaces and the absence of unit specific differences. Component level scoping results from the plant equipment database also confirmed P&ID information for each unit's boundaries/interfaces and components within the license renewal boundary.

Issue:

During review of the LRA and the performance of the scoping and screening methodology audit, performed on-site October 19 - 22, 2009, the staff determined that although differences exist between the three units, the applicant had provided a single set of license renewal drawings to assist the staff in performing its review. The staff's review of license renewal drawing LR-PVNGS-CT-01-M-CTP-001 identified a vent and drain valve, which is present only in Unit 2, but which is not identified or described in the LRA.

Request:

The staff requests that the applicant:

(1) Provide a description of the process used to identify and document the differences in SSC configurations between the three units.

(2) Provide a list of any differences of SSCs included within the scope of license renewal and any structures or component subject to aging management review, between the three units.

(3) Provide a description of the process used to identify and document the difference in material and environments between similar structures or components between the three units.

The staff requests that the applicant perform a review of the issue and indicate if the review concludes that use of the scoping methodology precluded the identification of SSCs which should have included within the scope of license renewal in accordance with 10 CFR 54.4(a). Describe any additional scoping evaluations to be performed to address the 10 CFR 54.4(a) criteria. As part of your response, list any additional SSCs included within the scope as a result of your efforts, and list those structures and components for which aging management reviews were conducted or any additional information related to material and environment combinations. For each structure and component, describe the aging management programs, as applicable, to be credited for managing the identified aging effects.

APS Response to RAI 2.1-1

The scoping and screening methodology was reviewed with respect to the issue identified. It was determined that the methodology did not preclude identification of SSCs which should have been included in the scope of license renewal. The specific valve in question, although not on the Unit 1 boundary drawing used for PVNGS, was noted on the boundary drawing as existing in Unit 2 only. The valve was included in the PVNGS License Renewal Database Management Tool (LRDMT), and was evaluated for aging management. The process described below was determined to have appropriately addressed this valve.

Request (1) response

Mechanical scoping and screening for PVNGS was accomplished using the STARS Center of Business Project Instructions developed for mechanical scoping and screening. The scoping and screening process used the PVNGS Site Work Management System (SWMS) (i.e., plant equipment database) and the LRDMT. SWMS contains the PVNGS plant components for the three units. SWMS was used for development of the LRDMT. The LRDMT was used to evaluate and document the results of scoping and screening mechanical component evaluations for PVNGS units 1, 2, and 3. The LRDMT contains each plant component's intended function(s), material type, and internal and external environments for in-scope components. While there are not specific boundary drawings for electrical and structural, similar SSCs for Units 1, 2, and 3 were included in the LRDMT and evaluated for aging management.

PVNGS Piping and Instrumentation Drawings (P&ID) were used with the LRDMT for scoping and screening of mechanical components. For each mechanical system, P&IDs for units 1, 2, and 3 were reviewed for obvious differences. The most representative P&ID was selected for development of the license renewal boundary drawing and was used as the "working" drawing for scoping and screening of components. After in-scope license renewal boundaries were established on a plant system P&ID, each in-scope component on the P&ID was checked off, and scoping and screening information was entered into the LRDMT (component by component). After all in-scope components were checked off on the "working" P&ID, any unevaluated components in the LRDMT were reconciled. Some of these components were shown on other interfacing drawings and had to be evaluated accordingly for being in-scope of license renewal. Components that were clearly out of scope based on the P&ID in-scope boundaries and SWMS research were not included in-scope in the LRDMT. Any remaining LRDMT system components were evaluated and determined whether or not to be within the scope of license renewal based on SWMS and current licensing basis (CLB) research. Some of these components were minor unit differences. Each of these unit difference components were then evaluated for intended function, material type, and internal and external environments and documented in the LRDMT on a component by component basis. Thus, all mechanical components in the LRDMT (i.e., SWMS) were accounted for and evaluated for license renewal whether the component was applicable to one, two, or three units.

In cases where a mechanical system had unit differences for in-scope components, system boundary drawings were sometimes modified to show the unit-specific components with a note explaining additional unit-specific components are in-scope, as was the case for the valve noted in this RAI on boundary drawing LR-PVNGS-CT-01-M-CTP-001. Whether unit-specific components have been shown on the boundary drawings or not, the unit-specific components have been appropriately scoped and screened as described above.

Unit differences are identified and documented as described in the general discussion above. The differences are contained in the LRDMT, and affected components scoped and screened as discussed above. There is no separate reporting or documenting of these minor unit differences since it is inherent in the scoping and screening methodology that mechanical system components are evaluated individually and determined to be, or not to be, within the scope of license renewal.

Request (2) response

A list of plant mechanical component unit differences for in-scope systems is provided below in Table RAI 2.1-1. The list identifies 92 plant Component IDs in 16 plant systems that do not have a component (of that ID) installed in all PVNGS units. Not all cases were investigated as to the reason for the minor component differences, but typically the component additions were to address startup issues on a unit-unique basis.

Request (3) response

As discussed above, unit-difference components were found based on the P&ID review and SWMS/LRDMT reconciliation. These components were then evaluated on an individual component basis. Each component was researched through SWMS, P&IDs, component drawings, component specifications, etc., to determine the material type and appropriate environments on a one for one component basis. The results were documented in the LRDMT for each of these components.

Conclusion

The review of the scoping and screening methodology concluded that the methodology did not preclude identification of SSCs which should have been included in the scope of license renewal. PVNGS Units 1, 2, and 3 components have been included in the appropriate component type/material/environment groups for aging evaluation management. No additional SSCs were added to the scope of license renewal based on this review.

Table RAI 2.1-1
PVNGS Component Level Unit Differences

System LRID	Component ID	Plant System	Component Type	Description of Differences
AF	PAFBV072	Auxiliary Feedwater	Valve	Removed from U3
AF	PAFBV150	Auxiliary Feedwater	Valve	Installed in U2 only
AF	PAFNV170	Auxiliary Feedwater	Valve	Installed in U2 only
CH	PCHAV242	Chemical and Volume Control	Valve	Removed from U2 & U3
CH	PCHAVZ19	Chemical and Volume Control	Valve	Removed from U1 & U3

Table RAI 2.1-1
PVNGS Component Level Unit Differences

System LRID	Component ID	Plant System	Component Type	Description of Differences
CH	PCHBV243	Chemical and Volume Control	Valve	Removed from U2 & U3
CH	PCHEV244	Chemical and Volume Control	Valve	Removed from U2 & U3
CH	PCHNL924	Chemical and Volume Control	Piping	Removed from U1 & U3
CH	PCHNL924A	Chemical and Volume Control	Piping	Removed from U1 & U3
CH	PCHNL924B	Chemical and Volume Control	Piping	Removed from U1 & U3
CH	PCHNL925A	Chemical and Volume Control	Piping	Removed from U1 & U3
CH	PCHNL925B	Chemical and Volume Control	Piping	Removed from U1 & U3
CH	PCHNL926A	Chemical and Volume Control	Piping	Removed from U1 & U3
CH	PCHNL926B	Chemical and Volume Control	Piping	Removed from U1 & U3
CH	PCHNV421	Chemical and Volume Control	Valve	Removed from U2 & U3
CH	PCHNVR71	Chemical and Volume Control	Valve	Removed from U2 & U3
CT	PCTAV202	Condensate Transfer and Storage	Valve	Installed in U2 only
CT	PCTBV200	Condensate Transfer and Storage	Valve	Installed in U2 only
DF	PDFNV080	Diesel Generator Fuel Oil Storage and Transfer	Valve	Installed in U3 only
DG	JDGATW0349	Diesel Generator	Piping	Thermowell installed in U3 only
DG	JDGATW0350	Diesel Generator	Piping	Thermowell installed in U3 only
DS	JDSNFIT0737	Domestic Water	Flow Indicator	Removed from U2
DS	PDSNV515	Domestic Water	Valve	Removed from U1
DS	PDSNV516	Domestic Water	Valve	Removed from U1
DS	PDSNVB05	Domestic Water	Valve	Removed from U1
DS	PDSNVB06	Domestic Water	Valve	Installed in U2 & U3
DS	PDSNVB07	Domestic Water	Valve	Installed in U2 & U3
DS	PDSNVB08	Domestic Water	Valve	Installed in U2 & U3
EC	JECBXCV0016A	Essential Chilled Water	Valve	Removed from U2
EC	JECBXCV0016B	Essential Chilled Water	Valve	Removed from U2
EC	PECAV230	Essential Chilled Water	Valve	Installed in U1 only

Table RAI 2.1-1
PVNGS Component Level Unit Differences

System LRID	Component ID	Plant System	Component Type	Description of Differences
EC	PECAV231	Essential Chilled Water	Valve	Installed in U1 only
EC	PECAV430	Essential Chilled Water	Valve	Removed from U1
EC	PECAV431	Essential Chilled Water	Valve	Removed from U1
EC	PECBV228	Essential Chilled Water	Valve	Installed in U1 only
EC	PECBV229	Essential Chilled Water	Valve	Installed in U1 only
EC	PECBV432	Essential Chilled Water	Valve	Installed in U2 & U3
EC	PECBV433	Essential Chilled Water	Valve	Installed in U2 & U3
EW	PEWAL201	Essential Cooling Water	Piping	Removed from U1 & U2
EW	PEWAV344	Essential Cooling Water	Valve	Removed from U1 & U2
EW	PEWBL202	Essential Cooling Water	Piping	Removed from U1 & U2
EW	PEWBV345	Essential Cooling Water	Valve	Removed from U1 & U2
HJ	MHJNE07	HVAC - Control Building	Heater	Installed in U1 only
HJ	MHJNE08	HVAC - Control Building	Heater	Installed in U2 & U3
HJ	MHJNE09	HVAC - Control Building	Heater	Installed in U2 & U3
PC	PPCNV150	Spent Fuel Pool Cooling and Clean Up	Valve	Installed in U2 only
RC	JRCDTW0121X	Reactor Coolant	Thermowell	Installed in U2 only
RC	PRCEL069	Reactor Coolant	Class 1 Piping <= 4in	Removed from U1
RC	PRCEV214	Reactor Coolant	Valve	Removed from U1 & U2
RC	PRCEV215	Reactor Coolant	Valve	Removed from U1 & U2
RC	PRCEV216	Reactor Coolant	Valve	Removed from U1 & U2
RC	PRCNV064	Reactor Coolant	Valve	U1 only - check valve internals removed
RC	PRCNV065	Reactor Coolant	Valve	U1 only - check valve internals removed
RC	PRCNV066	Reactor Coolant	Valve	U1 only - check valve internals removed
RD	PRDAV163	Radioactive Waste Drains	Valve	Removed from U1
RD	PRDAV684	Radioactive Waste Drains	Valve	Removed from U2 & U3

Table RAI 2.1-1
PVNGS Component Level Unit Differences

System LRID	Component ID	Plant System	Component Type	Description of Differences
RD	PRDAV685	Radioactive Waste Drains	Valve	Removed from U2 & U3
SC	PSCNVK73	Secondary Chemical Control	Valve	Installed in U3 only
SG	PSGEL362	Main Steam	Piping	Removed from U2 & U3
SG	PSGEV444	Main Steam	Valve	Installed in U1 only
SG	PSGEV445	Main Steam	Valve	Installed in U1 only
SG	PSGEV946	Main Steam	Valve	Installed in U2 only
SG	PSGNL257	Main Steam	Piping	Removed from U2
SG	PSGNL260	Main Steam	Piping	Removed from U2
SG	PSGNL261	Main Steam	Piping	Removed from U2
SG	PSGNL265	Main Steam	Piping	Removed from U2
SG	PSGNL267	Main Steam	Piping	Removed from U2
SG	PSGNL269	Main Steam	Piping	Removed from U2
SG	PSGNL271	Main Steam	Piping	Removed from U2
SI	PSIAL076A	Safety Injection and Shutdown Cooling	Piping	Removed from U1
SI	PSIAL105B	Safety Injection and Shutdown Cooling	Piping	Removed from U1
SI	PSIEV557	Safety Injection and Shutdown Cooling	Valve	Installed in U1 only
SI	PSIEV558	Safety Injection and Shutdown Cooling	Valve	Installed in U1 only
SI	PSIEV559	Safety Injection and Shutdown Cooling	Valve	Installed in U1 only
SI	PSIEV566	Safety Injection and Shutdown Cooling	Valve	Installed in U1 only
SS	JSSNFO0096	Nuclear Sampling Systems	Orifice	Installed in U2 & U3
SS	JSSNHV0002A	Nuclear Sampling Systems	Valve	Installed in U2 & U3
SS	JSSNHV0003A	Nuclear Sampling Systems	Valve	Installed in U2 & U3
SS	JSSNHV0032A	Nuclear Sampling Systems	Valve	Installed in U2 & U3
SS	PSSNV310	Nuclear Sampling Systems	Valve	Installed in U1 only
SS	PSSNV311	Nuclear Sampling Systems	Valve	Installed in U1 only
SS	PSSNV818	Nuclear Sampling Systems	Valve	Installed in U1 only

Table RAI 2.1-1
PVNGS Component Level Unit Differences

System LRID	Component ID	Plant System	Component Type	Description of Differences
SS	PSSNV840	Nuclear Sampling Systems	Valve	Installed in U1 only
SS	PSSNV841	Nuclear Sampling Systems	Valve	Installed in U1 only
SS	PSSNV842	Nuclear Sampling Systems	Valve	Installed in U1 only
SS	PSSNV843	Nuclear Sampling Systems	Valve	Installed in U1 only
SS	PSSNV844	Nuclear Sampling Systems	Valve	Installed in U1 only
SS	PSSNV847	Nuclear Sampling Systems	Valve	Installed in U1 only
SS	PSSNV848	Nuclear Sampling Systems	Valve	Installed in U1 only
SS	PSSNV850	Nuclear Sampling Systems	Valve	Installed in U1 only
WC	PWCNV600	Normal Chilled Water	Valve	Installed in U1 only
WC	PWCNV601	Normal Chilled Water	Valve	Installed in U1 only

NRC RAI 2.1-2

Background:

Pursuant to 10 CFR 54.4(a)(2), the applicant must consider all nonsafety-related SSCs, within the scope of license renewal, whose failure could prevent the satisfactory accomplishment of safety-related functions, as described in 10 CFR 54.4(a)(1).

Issue:

During the scoping and screening methodology audit, performed on-site October 19 - 22, 2009, the staff determined, through a review of the 10 CFR 54.4(a)(2) implementing document, that the applicant had not included certain fluid-filled, nonsafety-related SSCs, adjacent to safety-related SSCs, within the scope of license renewal. The applicant's basis for not including the nonsafety-related SSCs was information contained in the applicant's "Moderate Energy Crack Evaluation," document.

Request:

The staff requests that the applicant perform a review of the issue and provide the following:

(1) The basis for the applicant's determination that the Moderate Energy Crack Evaluation is part of the current licensing basis (CLB).

(2) A description and analysis of the pertinent information contained in the Moderate Energy Crack Evaluation which provides the basis for the conclusion that failure of the nonsafety-related, fluid filled SSCs could not prevent the satisfactory accomplishment of safety-related functions for SSCs relied on to remain functional during and following a design basis event.

(3) The nonsafety-related SSCs which were not included within the scope of license renewal on the basis of information contained in the Moderate Energy Crack Evaluation.

Indicate if the review concludes that use of the scoping methodology precluded the identification of nonsafety-related SSCs that could interact with safety-related SSCs, and which were not specifically exempted by the CLB, and therefore should have been considered within the scope of license renewal in accordance with 10 CFR 54.4(a)(2). Describe any additional scoping evaluations to be performed to address the (a)(2) criteria. As part of your response, list any additional SSCs included within the scope as a result of your efforts, and list those structures and components for which aging management reviews were conducted. For each structure and component, describe the aging management programs, as applicable, to be credited for managing the identified aging effects

APS Response to RAI 2.1-2

Request (1) response

PVNGS UFSAR Table 3.6-3 provides the methods of protection of safety-related systems from the effects of high and moderate energy line breaks. The methods specified in the table are layout, enclosure, and redundancy. The PVNGS design basis includes analyses to support these methods. A moderate energy crack evaluation was prepared to verify, in part, that the protection methods specified in the PVNGS UFSAR were met. Therefore, results of the moderate energy crack evaluation included in the UFSAR table are part of the current licensing basis (CLB) as defined in 10 CFR 54.3.

Request (2) response

The following paragraphs summarize information contained in the moderate energy crack evaluation that provides the basis to determine that failure of the nonsafety-related fluid-filled SSCs could not prevent the satisfactory accomplishment of safety-related functions for SSCs relied on to remain functional during and following a design basis event and relevant components are not in scope of license renewal for criteria (a)(2):

(a) The primary method of protection from postulated piping failure is the separation of essential systems and components from fluid system piping. At PVNGS, the separation method is achieved by utilizing separate compartments to enclose redundant trains of safe shutdown equipment. For a moderate energy line crack/break in a given fire zone, the effects are limited to the equipment in the fire zone. The fire barriers and seals also serve as water spray barriers.

(b) For each fire zone, the moderate energy crack evaluation identifies whether there are any safety-related and safe shutdown equipment in the zone. If there is no safety-related and/or safe shutdown equipment in the zone, it is determined that a spray in this zone does not challenge the safe shutdown capability of the plant.

(c) If it is determined that the only safety-related components in a fire zone are cable trays and conduit, the moderate energy crack evaluation concludes that a spray in this zone does not challenge the safe shutdown capability of the plant based on the design and test results of the safety-related cable insulation. Cable design specifications and installation specifications are reviewed in the analysis to support the conclusion that water intrusion is precluded from a spray in this fire zone.

(d) In some fire zones, the only safety-related equipment are electrical equipment cabinets. If a fluid-filled line in such a fire zone is located in the area where it is determined the safety-related components are protected by the cabinet and the water from a spray would not intrude into the cabinet to cause the enclosed components to fail, the moderate energy crack evaluation concludes that a spray in this zone does not challenge the safe shutdown capability of the plant.

(e) If it was determined that the only safety-related components in a fire zone that could be affected by spray are instruments, further evaluation was performed. If it was determined that the instruments were designed to be water resistant, the moderate energy crack evaluation determined that a spray would not cause the component to fail and the component would still maintain its intended functions.

The other conclusions of the moderate energy crack evaluation, such as spray on valves, piping, pumps and heat exchangers, were not credited to exclude the nonsafety-related SSCs from the scope of license renewal for spatial interactions. For example, there are safety-related piping systems included in the pipe tunnels between the yard

and the buildings. The piping arrangement drawings of the pipe tunnels were reviewed to determine the nonsafety-related SSCs that are included in scope for spatial interactions, and the conclusions in the moderate energy crack evaluation were not credited in the determination of the spatial interaction in the pipe tunnels. All nonsafety-related liquid-filled piping segments in the Containment and MSSS Building were assumed to have nonsafety affecting safety effects and were included in the scope per 10 CFR 54.4(a)(2).

Request (3) response

The nonsafety-related SSCs which were not included within the scope of license renewal were determined by the location in the fire zones as supported by the moderate energy crack evaluation, with the following exceptions. The nonsafety-related liquid-filled piping segments in the Containment and MSSS Building, which are included in scope for spatial interaction, and the nonsafety-related liquid-filled piping segments in the pipe tunnels between the yard and the buildings, which do not credit any analysis of the moderate energy crack evaluation. The information contained in the moderate energy crack evaluation as described in Item (2) above provided the basis for the determination. For each nonsafety-related SSC, the isometric drawings provide the information to determine which fire zone it is located in. This approach is applicable to all nonsafety-related SSCs in Auxiliary Building, Control Building, Diesel Generator Building, and Fuel Building.

Conclusion

The review concluded that the use of the scoping methodology did not preclude the identification of nonsafety-related SSCs that could interact with safety-related SSCs, and which were not specifically exempted by the CLB, and therefore should have been considered for inclusion within the scope of license renewal in accordance with criterion 10 CFR 54.4(a)(2). No additional scoping evaluations are required to be performed to address license renewal scoping criterion 10 CFR 54.4(a)(2). No additional SSCs were added to the scope of license renewal.

NRC RAI 2.1-3

Background:

Pursuant to 10 CFR 54.4(a)(2), the applicant must consider all nonsafety-related SSCs, within the scope of license renewal, whose failure could prevent the satisfactory accomplishment of safety-related functions, as described in 10 CFR 54.4(a)(1).

Issue:

During the scoping and screening methodology audit, performed on-site October 19 - 22, 2009, the staff determined that the following nonsafety-related SSCs had not been included within the scope of license renewal:

(1) Nonsafety-related pipe, attached to the safety-related penetration of the condensate tank.

(2) Nonsafety-related, abandoned containment spray chemical addition tanks, located in containment along with safety-related SSCs, for which the associated piping had been cut and capped but the tanks had not been verified to be dry. This applies to Units 1 and 3.

(3) Nonsafety-related, fluid-filled SSCs located within the turbine building and adjacent to a penetration into the safety-related main steam support structure.

(4) Nonsafety-related, fluid-filled SSCs located on the auxiliary building roof and adjacent to opening in the safety-related main steam support structure.

Request:

The staff requests that the applicant perform a review of these issues and provide the basis for not including nonsafety-related SSCs, attached or adjacent to safety-related SSCs, within the scope of license renewal in accordance with 10 CFR 54.4(a)(2). Indicate if the review concludes that use of the scoping methodology precluded the identification of nonsafety-related SSCs that could interact with safety-related SSCs, and which were not specifically exempted by your CLB, and therefore should have been considered within the scope of license renewal in accordance with 10 CFR 54.4(a)(2). Describe any additional scoping evaluations to be performed to address the (a)(2) criteria. As part of your response, list any additional SSCs included within the scope as a result of your efforts and list those structures and components for which aging management reviews were conducted. For each structure and component, describe the aging management programs, as applicable, to be credited for managing the identified aging effects.

APS Response to RAI 2.1-3

Issue (1) response

The non-highlighted nonsafety-related piping attached to the Condensate Storage Tank (CST) has been reviewed, and two of the six lines were added to the scope of license renewal based on criterion 10 CFR 54.4(a)(3). The scoping methodology did not preclude the identification of these two lines. These lines were identified as a result of correcting the tank level during the review. License Renewal boundary drawing LR-

PVNGS-CT-01-M-CTP-001 has been revised (Revision 3) to add the following LR Note 1 that provides the bases for the conclusion that the other four nonsafety-related piping lines attached to the CST are not within the scope of license renewal:

> "The tank penetrations are above the minimum required tank level, and therefore the piping and components are not required to maintain the tank pressure boundary. The pipe sizes are much smaller than the tank, and consequently impose no structural impact because they do not have a structural integrity function nor do the lines have a spatial interaction with safety-related components, and are not within the scope of license renewal based on criterion 10 CFR 54.4(a)(2). The tank penetrations are not associated with venting. Consequently, the piping and components are not within the scope of license renewal for SBO based on 10 CFR 54.4(a)(3)."

Issue (2) response

The response to RAI 2.1-3, Issue (2), will be submitted by March 5, 2010, as agreed to by Lisa Regner, NRC License Renewal Project Manager for PVNGS, on January 29, 2010.

Issue (3) response

During a site audit conducted for initial plant licensing, the NRC staff questioned the ability of a fire to spread through the unprotected wall opening between elevation 120 feet of the main steam support structure (MSSS) and the turbine building. The NRC question and APS response is documented in UFSAR Section 9A, Question 9A.121, and the response was accepted by the NRC in Section 9.5.1.3 of Supplement No. 6 to the PVNGS Safety Evaluation Report (NUREG-0857). In the response, APS indicated that the wall openings between the MSSS and the turbine building are unsealed to allow cooling of the hot piping anchor/support attachments at the concrete structure. A compartment devoid of in situ combustibles is located between zones 74A and 74B (formerly zone 74) of the MSSS and the turbine building. Ventilation exhaust fans use this compartment as a supply plenum to pull cooling air flow over the pipe support/anchors from the turbine building and the MSSS. The air flow is away from the safety-related equipment in zones 74A and 74B.

Based on this response, a failure of nonsafety-related, fluid-filled SSCs located within the turbine building and adjacent to a penetration will not result in any spray effect to the components in main steam support structure since the ventilation exhaust fans will pull air away from both the main steam support structure and the turbine building. Also, the safety related components inside the MSSS are environmentally qualified to maintain intended functions during a single area line break inside the MSSS (UFSAR Section 10.3). Therefore, there are no fluid filled SSCs located within the turbine building whose failure could prevent satisfactory accomplishment of safety-related functions as described in 10 CFR 54.4(a)(1).

Issue (4) response

The MSSS is a safety related Category I structure that provides shelter, protection, and support for the license renewal intended functions of the safety-related SSCs located inside the MSSS. The roofing membrane and the concrete and structural steel of the external walls, including any openings in the walls, are within scope of license renewal with license renewal intended functions of shelter, protection and support. The above grade portion of the MSSS is designed to be open to natural circulation of outside air (UFSAR 3.11.4) including the adjacent auxiliary building roof. The nonsafety-related fluid-filled SSCs located on the auxiliary building roof adjacent to the MSSS are evaluated as not within scope of license renewal based on criteria of 10 CFR 54.4(a)(2) leakage barrier considerations. This is because the walls of the MSSS, including any openings in the walls, are designed to be open to natural circulation of outside air and are evaluated as providing shelter, protection and support to any safety-related components inside the MSSS from rain and water spray arising from the failure of nonsafety-related fluid-filled SSCs on the auxiliary building roof.