

February 12, 2010

LICENSEE: Arizona Public Service Company  
FACILITY: Palo Verde Nuclear Generating Station, Units 1, 2, and 3  
SUBJECT: SUMMARY OF TELEPHONE CONFERENCE CALL HELD ON  
JANUARY 13, 2010, BETWEEN THE U.S. NUCLEAR REGULATORY  
COMMISSION AND ARIZONA PUBLIC SERVICE COMPANY, CONCERNING  
DRAFT REQUEST FOR ADDITIONAL INFORMATION PERTAINING TO THE  
PALO VERDE NUCLEAR GENERATING STATION, UNITS 1, 2, AND 3,  
LICENSE RENEWAL APPLICATION

The U.S. Nuclear Regulatory Commission (the staff) and representatives of Arizona Public Service Company (the applicant) held a telephone conference call on January 13, 2010, to discuss and clarify the staff's draft request for additional information (RAI) concerning the Palo Verde Nuclear Generating Station, Units 1, 2, and 3, license renewal application. The telephone conference call was useful in clarifying the intent of the staff's draft RAI.

Enclosure 1 provides a listing of the participants and Enclosure 2 contains a listing of the draft questions discussed with the applicant, including a brief description on the status of the items.

The applicant had an opportunity to comment on this summary.

*/RA/*

Lisa M. Regner, Sr. Project Manager  
Projects Branch 2  
Division of License Renewal  
Office of Nuclear Reactor Regulation

Docket Nos. 50-528, 50-529, and 50-530

Enclosures:  
As stated

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DATE	1/15/10	1/22/10	2/5/10	2/12/10

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Memorandum to Arizona Public Service Company from L. Regner dated February 12, 2010

SUBJECT: SUMMARY OF TELEPHONE CONFERENCE CALL HELD ON  
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RidsNrrDciCsgb Resource

RidsNrrDraAfpb Resource

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RidsNrrDeEeeb Resource

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RidsNrrDssSbpb Resource

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**TELEPHONE CONFERENCE CALL  
PALO VERDE NUCLEAR GENERATING STATION, UNITS 1, 2, AND 3  
LICENSE RENEWAL APPLICATION**

**LIST OF PARTICIPANTS  
JANUARY 13, 2010**

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STARS

**DRAFT REQUESTS FOR ADDITIONAL INFORMATION  
PALO VERDE NUCLEAR GENERATING STATION, UNITS 1, 2, AND 3  
LICENSE RENEWAL APPLICATION**

**JANUARY 13, 2010**

The U.S. Nuclear Regulatory Commission (the staff) and representatives of Arizona Public Service Company (the applicant) held a telephone conference call on January 13, 2010, to discuss and clarify the following draft request for additional information (RAI) concerning the Palo Verde Nuclear Generating Station, Units 1, 2, and 3 (PVNGS), license renewal application (LRA).

**DRAFT RAI 3.1.2.2.6-1**

License renewal application (LRA) Table 3.1.2-1 lists the affected reactor pressure vessel (RPV) internals with the aging effect of loss of fracture toughness due to neutron irradiation embrittlement and void swelling (an aging effect discussed in LRA Section 3.1.2.2.6). These RPV internals are presented in the following with their corresponding Generic Aging Lessons Learned (GALL) Report Table IV.B3 line items: Reactor Vessel and Internals Core Support Structure (RVI CSS) Core Shroud Assembly (item IV.B3-12); RVI CSS Core Support Barrel Assembly (item IV.B3-16); and Core Support Barrel Snubber Assembly (nickel and stainless steel), RVI CSS Lower Support Structure Assembly, and RVI In-Core Instrumentation (ICI) Support Structure (item IV.B3-20). However, the LRA table did not specifically list core shroud assembly bolts (item IV.B3-10) and tie rods (item IV.B3-12) under this aging effect. Confirm that the unit core shroud assemblies are welded structures that do not have bolts and tie rods. Further, clarify why the LRA table did not specifically list the core support plate, fuel alignment pins, and core support column bolts as part of the GALL Report Table Item IV.B3-20 under this aging effect.

**Discussion:** The applicant indicated that the question is clear. This draft question will be sent in a formal RAI.

**DRAFT RAI 3.1.2.2.12-1**

LRA Table 3.1.2-1 identified the following GALL Report Table IV.B3 items under cracking due to stress corrosion cracking (SCC) and irradiation-assisted SCC (IASCC): IV.B3-2, IV.B3-11, IV.B3-15, IV.B3-21, and IV.B3-28. However, for this aging mechanism, the LRA table does not cover all RPV internals listed under the GALL Report Table IV.B3 items listed above. Clarify the disposition of the core support plate and core support column of the lower internal assembly (IV.B3-21) and the fuel alignment plate, the fuel alignment plate guide lugs, and guide lug inserts of the upper internals assembly (IV.B3-28).

**Discussion:** The applicant indicated that the question is clear. This draft question will be sent in a formal RAI.

ENCLOSURE 2

### **DRAFT RAI 3.1.2.2.15-1**

LRA Table 3.1.2-1 identified the following GALL Report Table IV.B3 items under changes in dimension due to void swelling for stainless steel and nickel alloy RPV internals exposed to reactor coolant: IV.B3-4, IV.B3-13, IV.B3-14, IV.B3-19, and IV.B3-27. However, for this aging mechanism, the LRA table does not cover all RPV internals listed under the GALL Table IV.B3 items listed above. Clarify the disposition of the core support plate, fuel alignment pins, and core support column bolts of the lower internal assembly (IV.B3-19) and the fuel alignment plate, the fuel alignment plate guide lugs, and guide lug inserts of the upper internals assembly (IV.B3-27). Further, discuss the relationship between RVI ICI Support Structures (identified in LRA Table 3.1.2-1) and the core support plate, fuel alignment pins, and core support column bolts of the lower internal assembly (listed in the GALL Table IV.B3).

**Discussion:** The applicant indicated that the question is clear. This draft question will be sent in a formal RAI.

### **DRAFT RAI 4.7.5-1**

LRA Section 4.7.5 references the WCAP-15973-P report, “Low Alloy Steel Component Analysis Supporting Small Diameter Alloy 600/690 Nozzle Repair/Replacement Program,” and concludes, “[t]he bounding case for general corrosion in pressurizer heater sleeves in WCAP-15973-P gives an estimated repair life of 194 years; therefore the analysis is not a time limited aging analysis (TLAA), and is valid for the period of extended operation.”

The staff’s evaluation of the general corrosion analysis supporting half-nozzle repairs of small-diameter Alloy 600/690 nozzles was documented in the safety evaluation dated October 4, 2004, for the WCAP-15973-P report. The staff’s evaluation of the plant-specific application of the WCAP-15973-P report, including its corrosion analysis, to pressurizer heater sleeves, was documented in an safety evaluation dated November 5, 2004, for Relief Request 29. The plant-specific application was approved for the second 10-year inservice inspection interval. Since the corrosion results were time dependent and the time period accepted and approved by the staff was only the second 10-year inservice inspection interval, the corrosion analysis is a TLAA.

Address the five conditions under “4.1 General Corrosion Assessment” of the October 2004, safety evaluation for the WCAP-15973-P report to demonstrate the plant-specific applicability of the WCAP to PVNGS, for the period of extended operation. Also, provide the Updated Final Safety Analysis Report Supplement for this TLAA.

**Discussion:** Based on the discussion with the applicant, the staff revised the question as shown below. The revised question will be sent as a formal RAI.

LRA Section 4.7.5 references WCAP-15973-P, “Low Alloy Steel Component Analysis Supporting Small Diameter Alloy 600/690 Nozzle Repair/Replacement Program,” and concludes, “[t]he bounding case for general corrosion in pressurizer heater sleeves in WCAP-15973-P gives an estimated repair life of

194 years; therefore the analysis is not a time-limited aging analysis (TLAA), and is valid for the period of extended operation.”

The staff’s evaluation of the general corrosion analysis supporting half-nozzle repairs of small-diameter Alloy 600/690 nozzles was documented in the safety evaluation (SE) dated January 12, 2005, for the WCAP-15973-P report. Please identify the plant-specific submittal addressing the general corrosion in support of the half-nozzle repairs installed in the pressurizer heater sleeves. Since the corrosion results are time dependent, unless they were evaluated and approved in an SE for a period of time covering the period of extended operation, they should be evaluated now as a TLAA. Please also provide the Updated Final Safety Analyses Report Supplement for this TLAA.

Palo Verde Nuclear Generating Station,  
Units 1, 2, and 3

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