UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

October 15, 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 SEPTEMBER 22, 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 September 22, 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.

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

LIST OF PARTICIPANTS
SEPTEMBER 22, 2010

PARTICIPANT	AFFILIATION
Lisa Regner	U.S. Nuclear Regulatory Commission (NRC)
Allen Hiser	NRC
James Medoff	NRC
On Yee	NRC
Ching Ng	NRC
Angela Krainik	Arizona Public Service Company (APS)
Glenn Michael	APS
George Pilicy	APS
Winston Borrero	APS
Eugene Montgomery	APS
Doug Berg	APS
Mark Radspinner	APS
Rex Meeden	APS
Eric Blocher	Strategic Teaming and Resource Sharing (STARS) Alliance
Don Stevens	STARS
Richard Schaller	Utilities Service Alliance
David Gerber	Structural Integrity Associates (SIA)
Curt Carney	SIA

ENCLOSURE 1

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

SEPTEMBER 22, 2010

The U.S. Nuclear Regulatory Commission (the staff) and representatives of Arizona Public Service Company (the applicant) held a telephone conference call on September 22, 2010, to discuss and clarify the following draft requests for additional information (RAIs) concerning the Palo Verde Nuclear Generating Station, Units 1, 2, and 3, license renewal application (LRA).

DRAFT RAI 4.3-19

Background:
In LRA Section 4.7.4, the applicant dispositioned American Society of Mechanical Engineers (ASME) Code Section XI supplemental fatigue flaw growth or cycle-dependent fracture mechanics evaluations in accordance with Title 10 of the *Code of Federal Regulations* (10 CFR) Part 54.21(c)(1)(iii). The applicant proposed to use the cycle counting activities from its Metal Fatigue of Reactor Coolant Pressure Boundary Program to manage the effects of aging and verify the continued validity of these ASME Code Section XI analyses during the period of extended operation.

Issue:
The staff noted that the applicant's proposal to use cycle counting activities to verify the continued validity of these ASME Code Section XI analyses may be beyond the applicant's current licensing basis (CLB).

The staff noted that Technical Specifications (TS) 5.5.5 and Updated Final Safety Analysis Report (UFSAR), Section 3.9.1.1 discuss cycle tracking and counting against design limits and design calculations, but does not appear to discuss design transient tracking and counting for ASME Code Section XI supplement fatigue flaw growth or cycle dependent fracture mechanics evaluations.

Per TS 5.5.5 and UFSAR Section 3.9.1.1, cyclic and transient occurrences are tracked to ensure that components are maintained within the design limits. However, the applicant's cycle counting procedure does not discuss the types of analyses this requirement is applicable to or the action limits and corrective actions that may be taken for these fatigue related or fracture mechanics evaluations. The staff noted that these corrective actions should be specified in the applicant's procedures and the action limits and corrective actions should be associated with the specific type of analysis.

Request:
Clarify how design basis transient cycle tracking and counting activities are accounted for in the CLB for these types ASME Section XI supplemental fatigue flaw growth or cycle-dependent fracture mechanics evaluations.

Justify the use of design basis transient cycle tracking and counting activities as the basis to disposition the ASME Code Section XI analyses if the scope of the applicant's CLB does not include this activity.

Discussion: The applicant stated that it understood the question and will respond.

DRAFT Follow-up RAI 4.3-2

Background:
In its response to RAI 4.3-2, dated June 29, 2010, the applicant stated that there is a factor of five difference between the cumulative usage factors (CUFs) reported for the instrument nozzles at Unit 1 from those that are reported for the corresponding nozzles at Units 2 and 3 because of modeling and analysis methods and assumptions. The applicant stated that the differences include:

- the Unit 1 analysis used a more-conservative treatment of vortex shedding
- some model differences resulting in a slightly-different limiting location
- arithmetic instead of vector load addition at the limiting Unit 1 location

The applicant also stated the vortex shedding difference produced a larger number of assumed vortex shedding load cycles for Unit 1, which was a significant factor in the difference. Furthermore, the stress ranges in some cases were slightly lower in the analyses for Units 2 and 3 as compared to Unit 1, and a small reduction in stress range yields a significant reduction in CUF.

Issue:
The details associated with the differences that were described by the applicant in its response are unclear. Specifically, it is unclear if vortex shedding is accounted for in the fatigue analysis for Units 2 and 3 and why the Unit 1 analysis treat vortex shedding so conservatively. It is also not clear to the staff why the stress ranges were slightly lower for the analyses for Units 2 and 3 as compared to Unit 1.

Request:
a) Clarify which transients are affected by the vortex shedding effect.

b) Clarify if the Unit 2 and 3 analyses account for vortex shedding:

   - If yes, justify why it was treated less conservatively when compared to the Unit 1 fatigue analysis.
   - If not, justify why it does not need to be accounted for in the fatigue analyses.

c) Clarify and justify why the stress ranges were slightly lower for the analyses for Units 2 and 3 as compared to Unit 1.

Discussion: The applicant stated that it understood the question and will respond.

October 15, 2010

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/RA/

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DATE	9/28/10	10/5/10	10/15/10	10/15/10

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Memo to Arizona Public Service Company from Lisa M. Regner dated October 15, 2010

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