



Palo Verde Nuclear  
Generating Station

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102-05618-SAB/TNW/CJJ  
December 22, 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, & 3  
Docket Nos. STN 50-528/529/530  
Annual 10 CFR 50.59, 10 CFR 72.48 and Commitment Change Report  
(January – December 2005)**

Pursuant to 10 CFR 50.59(d)(2), Arizona Public Service Company is submitting the enclosed report. This report contains a brief description of each change and the conclusion of the evaluation required by 10 CFR 50.59(d)(1) for each change. This report contains all evaluations written during 2005, regardless of the implementation status of the evaluated action.

There were no changes per 10 CFR 72.48(d)(1) required to be reported during 2005.

There was one NRC Commitment clarification made during 2005 which is also described in the enclosure.

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

Sincerely,

SAB/TNW/CJJ/gt

Enclosure

cc: B. S. Mallett (all w/enclosure)  
M. B. Fields  
G. G. Warnick

IE47

**ENCLOSURE**

**PALO VERDE NUCLEAR GENERATING STATION**

**ACRONYM/ABBREVIATION LIST,**

**10 CFR 50.59 REPORT JANUARY – DECEMBER 2005,**

**AND**

**COMMITMENT CLARIFICATION - 2005**

## ACRONYM/ABBREVIATION LIST

|          |   |  |
|----------|---|--|
| ALARA    | - | As Low As Reasonably Achievable                                    |
| ASME     | - | American Society of Mechanical Engineers                           |
| Calc.    | - | Calculation  |
| COLSS    | - | Core Operating Limit Supervisory System                            |
| CPC      | - | Core Protection Calculator   |
| CRDR     | - | Condition Report/Disposition Request                               |
| CVCS HUT | - | Chemical Volume and Control System Hold Up Tank                    |
| DMWO     | - | Design Modification Work Order                                     |
| EDC      | - | Engineering Document Change  |
| EOP      | - | Emergency Operating Procedure                                      |
| IA       | - | Instrument Air   |
| IOSGADV  | - | Inadvertent Opening of a Steam Generator<br>Atmospheric Dump Valve |
| LDCR     | - | Licensing Document Change Request                                  |
| LOCA     | - | Loss of Coolant Accident   |
| LOF      | - | Loss of Flow   |
| MS       | - | Main Steam   |
| NC       | - | Nuclear Cooling  |
| PVNGS    | - | Palo Verde Nuclear Generating Station                              |
| RAS      | - | Recirculation Actuation Signal                                     |
| RCS      | - | Reactor Coolant System   |
| RMI      | - | Reflective Metal Insulation  |
| RSG      | - | Replacement Steam Generator  |
| RTD      | - | Resistance Temperature Detector                                    |
| SAFDL    | - | Specified Acceptable Fuel Design Limit                             |
| SDC      | - | Shutdown Cooling   |
| SG       | - | Steam Generator  |
| TMOD     | - | Temporary Modification Work Order                                  |
| TS       | - | Technical Specifications   |
| UFSAR    | - | Updated Final Safety Analysis Report                               |

## 10 CFR 50.59 Annual Report (January - December 2005)

| Log       | Doc Type  | Doc Number        | Description  | Summary  |
|-----------|-----------|-------------------|--|--|
| E-05-0001 | Procedure | 40OP-9SI02.R49    | This procedure revision altered the Safety Injection pump stand-by line-up so that the lines between the containment sump and the Safety Injection pump suction, as well as the Containment RAS sumps themselves, remain filled with borated water during normal power operation.  | This change does not require prior NRC approval in accordance with 10CFR50.59(c)(1). |
| E-05-0002 | LDCR      | 04-F005 & 04-F019 | This evaluation addressed the application of a new approved evaluation method to PVNGS Units 1 & 3 to provide a consistent evaluation method for all PVNGS units. The methodology separated the IOSGADV event from LOF from SAFDL event, thus established a more appropriate evaluation of IOSGADV event while creating a new safety analysis for a "composite" limiting infrequent event. The method was approved for PVNGS Unit 2 by TS Amendment #149.            | This change has been previously approved by the NRC TS Amendment #149.               |
| E-05-0003 | LDCR      | 05-F008           | This modification implements the changes from DMWO 2739742 (Unit 3 only) into Units 1 and 2. The modification installed piping, isolation valves and supports to facilitate the filling, draining, venting, and testing of the post-LOCA recirculation piping located upstream of the recirculation check valves, PSIAV205 and PSIAV206. The modification also upgraded various materials on valves JSIAUV0673 and JSIBUV0675 to more corrosion resistant materials. | This change does not require prior NRC approval in accordance with 10CFR50.59(c)(1). |
| E-05-0004 |           |                   | Canceled   |  |
| E-05-0005 | EDC       | 2005-00211        | This EDC updated vendor calculation A-PV2-FE-0164 (PVNGS Subcritical Main Steam Line Break Return to Power for RSG/Uprate Scenario) to take into account errors documented in CRDR 2595572. Specifically, the initial power level and steam generator level used in the vendor calculation were not the most limiting, however crediting a higher RWT boron concentration resulted in impact to the conclusion.  | This change does not require prior NRC approval in accordance with 10CFR50.59(c)(1). |
| E-05-0006 |           |                   | Canceled   |  |
| E-05-0007 | DFWO      | 2745267           | This modification applied an approved epoxy coating on inside and outside concrete surfaces of D ring and Reactor Cavity walls replaced during Steam Generator outage 2R11.  | This change does not require prior NRC approval in accordance with 10CFR50.59(c)(1). |

| Log       | Doc Type  | Doc Number     | Description  | Summary  |
|-----------|-----------|----------------|--|--|
| E-05-0008 | DMWO      | 2541291        | This modification covers activities performed during U1R12 [U3R13], which will facilitate steam generator replacement. These include modifications to existing platforms, addition of new platforms, platform beam connection upgrade, removal of polar crane access walkway support brackets, concrete wall cutting/restoration and the addition of a new permanent steel formwork plate.   | This change does not require prior NRC approval in accordance with 10CFR50.59(c)(1). |
| E-05-0009 | DMWO      | 2513158        | The insulation of the reactor vessel upper head was replaced with a new design at Unit 1 under DMWO 2251358. Testing determined the insulation did not meet Regulatory Guide 1.36. This evaluation was performed to justify the potentially non-conforming insulation remaining installed for the remainder of the operating cycle.  | This change does not require prior NRC approval in accordance with 10CFR50.59(c)(1). |
| E-05-0010 | PROCEDURE | 72ST-9RX03.R11 | This revision to appendix B of the procedure revised the azimuthal tilt calculation with COLSS out of service.   | This change does not require prior NRC approval in accordance with 10CFR50.59(c)(1). |
| E-05-0011 | DFWO      | 2788561        | This DFWO is a Use-As-Is disposition for missing parts potentially left in the refueling pool. The proposed activity evaluated the potential impact of 5 fastening devices found missing from the refueling machine hoisting frame. These devices consist of two 1/4" bolts, one 3/8" bolt, one 3/8" nut, and one 3/8" washer.   | This change does not require prior NRC approval in accordance with 10CFR50.59(c)(1). |
| E-05-0012 | DMWO      | 2541285        | This modification was to the large bore piping systems and associated supports that are necessary to accommodate steam generator replacements in Units 1 and 3 during U1R12 and U3R13, respectively. A new large bore secondary piping system, recirculation, and associated valves will also be installed to facilitate use of the new recirculation feature of the replacement steam generator (RSG) design. Modifications to the Main Steam (MS) whip restraints will be made to accommodate the taller RSGs. In addition, modifications will be made due to increased loads resulting from steam generator replacement and power uprate. | This change does not require prior NRC approval in accordance with 10CFR50.59(c)(1). |
| E-05-0013 | PROCEDURE | 73TI-9CH04     | This procedure will obtain plant data during specified pump suction flow path manipulations in order to determine plant configurations that cannot support the CH-536 charging pump suction path to be an operable boron path.   | This change does not require prior NRC approval in accordance with 10CFR50.59(c)(1). |
| E-05-0014 | DFWO      | 2788561        | This DFWO is a Use-As-Is disposition for missing finger from tele-detector. The debris is ~ 2" long by ~ 1/4" wide the ~ 1 mm thick and made of a copper alloy. The debris could have fallen on top of fuel assemblies in the reactor vessel.  | This change does not require prior NRC approval in accordance with 10CFR50.59(c)(1). |

| <b>Log</b> | <b>Doc Type</b> | <b>Doc Number</b> | <b>Description</b>  | <b>Summary</b>   |
|------------|-----------------|-------------------|---|--|
| E-05-0015  |                 |                   | Canceled  |  |
| E-05-0016  | LDCR            | 05-F023           | This revision to the UFSAR modified Table 9.3-3 to state that CVCS HUT mode of sampling is now Local Sampling at 2 locations equivalent to existing (old) method listed on sheet 10 of 11.  | This change does not require prior NRC approval in accordance with 10CFR50.59(c)(1). |
| E-05-0017  | DMWO            | 2541022           | This DMWO addresses process/performance design requirements and regulatory requirements associated with only the design and fabrication of the Units 1 and 3 steam generators, their internals, supports, and cold leg elbows. Sufficient design information is included to assure that design intent, scope and approval are adequate and are in compliance with applicable design requirements and regulatory criteria. | This change does not require prior NRC approval in accordance with 10CFR50.59(c)(1). |
| E-05-0018  |                 |                   | Canceled  |  |
| E-05-0019  |                 |                   | Canceled  |  |
| E-05-0020  | DMWO            | 2540917           | This is the Master DMWO for Power Uprate. This DMWO addresses all engineering documentation and products necessary to support the process/performance, safety analyses, radiological analyses and topical issues for design bases for the power uprate.   | This change does not require prior NRC approval in accordance with 10CFR50.59(c)(1). |
| E-05-0021  | DFWO            | 2809648           | This DFWO was an Accept-As-Is disposition of a short-term excursion above the Design Temperature, as described in the UFSAR, of 700 F for the pressurizer. It has been determined that all pressure boundary aspects of the pressurizer meet the ASME Section III code stress limits, with the use of stress intensity values as permitted in Relief Request 33.  | This change does not require prior NRC approval in accordance with 10CFR50.59(c)(1). |
| E-05-0022  | TMOD            | 2785294           | This TMOD provided temporary instrument air (IA) compressors during the replacement of the permanent compressors under DMWO 2693912 for Unit 3.   | This change does not require prior NRC approval in accordance with 10CFR50.59(c)(1). |
| E-05-0023  |                 |                   | Canceled  |  |
| E-05-0024  | DMWO            | 2358951           | This modification permanently removed the Gas Stripper radiation monitor and its support equipment from service. This modification resulted in a change to the UFSAR (LDCR 05-F038). The UFSAR was updated to remove the reference to Radiation Monitor DJCHNRYSH0265.  | This change does not require prior NRC approval in accordance with 10CFR50.59(c)(1). |
| E-05-0025  |                 |                   | Canceled  |  |

| Log       | Doc Type  | Doc Number         | Description  | Summary  |
|-----------|-----------|--------------------|--|--|
| E-05-0026 |           |                    | Canceled   |  |
| E-05-0027 | DMWO      | 2651111            | This modification and associated UFSAR revision (LDCR 04-F031) will remove NC low flow switch JNCNFSL0613 and will relocate the associated isolation interlock with CH-UV523 to a new temperature switch JCHNTS0224-2.   | This change does not require prior NRC approval in accordance with 10CFR50.59(c)(1). |
| E-05-0029 | TMWO      | 2826217            | This modification was for the temporary installation and use of a portable temporary laundry skid interface to PVNGS Unit 1.   | This change does not require prior NRC approval in accordance with 10CFR50.59(c)(1). |
| E-05-0030 |           |                    | Canceled   |  |
| E-05-0031 | ABB       | V-99-060           | This activity changed the fuel tube cladding dimensional tolerances and tolerances of form beginning with Palo Verde Batch 3L fuel.  | This change does not require prior NRC approval in accordance with 10CFR50.59(c)(1). |
| E-05-0032 | CALC      | FS-03-C00-1996-007 | This evaluation revised a Proprietary Unit 3 Nuclear Fuel Basis document. There were alignment issues between the fuel center guide tube and the lower end fitting.  | This change does not require prior NRC approval in accordance with 10CFR50.59(c)(1). |
| E-05-0033 | DMWO      | 2754516            | This modification installed a welded attachment in the Unit 1 SDC suction line nozzle to suppress vortex generated acoustic vibration.   | This change does not require prior NRC approval in accordance with 10CFR50.59(c)(1). |
| E-05-0035 | ABB       | V-99-017           | This evaluation was for ABB V-99-017, Transmittal of Final PV2L Manufacturing Documentation, Enclosure D. Two batch PV2L Uranium Erbium oxide fuel pellet lots, C976JK Sublot A and C977JK Sublot B, contained pellets with high sintered density. The estimated upper confidence limits of these lots exceeded the high sintered density specification limit of 97% Theoretical Density (TD) by a small amount. This excess was 0.2% TD and was accommodated via accepted DCR 5321-98-2082-H-1. | This change does not require prior NRC approval in accordance with 10CFR50.59(c)(1). |
| E-05-0036 | Procedure | 40AO-9ZZ01         | This procedure revision added a New Standard Appendix (103) for RCS Makeup and Emergency Boration for use with the EOP's based on Engineering Study for use of CHE-HV-536. This evaluation also applies to various other procedure changes also based on the same Engineering Study.   | This change does not require prior NRC approval in accordance with 10CFR50.59(c)(1). |
| E-05-0037 | TMOD      | 2849895            | This temporary modification will substitute non-class RTD 2JRCNTE0111X for Class 1E RDT 2JRCDTE0112HD as the Reactor Coolant System (RCS) Loop-1 Hot-Leg temperature input to the Unit 2 Core Protection Calculator (CPC) Channel-D.   | This change does not require prior NRC approval in accordance with 10CFR50.59(c)(1). |

## Commitment Clarification – 2005

The below commitment clarification was made on November 18, 2005:

In response to GL 89-13 letter 102-02678 dated October 1, 1993 had the following statement:

" . . . The SP system is also monitored for total system flow and heat exchanger pressure drop on a monthly basis."

The intent of the pressure drop monitoring was only for the EW heat exchanger and not the other heat exchangers cooled by the SP system. The justification for this clarification is that at the time the letter was issued the EW heat exchanger was the only heat exchanger being monitored for pressure drop. Since the letter clearly indicates that monitoring was already in place and since only the EW heat exchanger was being monitored at that time this clarification is justified.