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Generating Station

**10 CFR 50.59**

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December 17, 2003

U. S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Mail Station P1-37  
Washington, DC 20555

Dear Sirs:

**Subject: Palo Verde Nuclear Generating Station (PVNGS)  
Units 1, 2, & 3  
Docket Nos. STN 50-528/529/530  
10 CFR 50.59 Report (January-December 2002)**

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 a brief summary of the evaluation required by 10 CFR 50.59(d)(1) for each change. This report contains all evaluations written during 2002, regardless of the implementation status of the evaluated action.

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,

*TN Weber for  
SA Bauer*

SAB/TNW/CJJ/kg

Enclosure

cc: B. S. Mallett  
M. B. Fields  
N. L. Salgado

A member of the **STARS** (Strategic Teaming and Resource Sharing) Alliance

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**ENCLOSURE**

**PALO VERDE NUCLEAR GENERATING STATION**

**ACRONYM/ABBREVIATION DEFINITION SHEET**

**AND**

**10 CFR 50.59 REPORT**

**JANUARY - DECEMBER 2002**

## Acronym/Abbreviation Definition Sheet

ASGT	- Asymmetric Steam Generator Transient
CALC -	Calculation
CE	- Combustion Engineering
CEA	- Control Element Assembly
CENTS	- Combustion Engineering Nuclear Transient Simulation
CESEC	- Computer Code used to Simulate the Nuclear Steam Supply System
CoC	- Certification of Compliance
CPC	- Core Protection Calculator
DMWO	- Design Modification Work Order
DW	- Demineralized Water System
EC	- Essential Chilled Water
EW	- Essential Cooling Water
FWLB	- Feedwater Line Break
kV	- Kilovolt
LDCR	- Licensing Document Change Request
LOCV	- Loss of Condenser Vacuum
LOP	- Loss of Offsite Power
NRC	- Nuclear Regulatory Commission
PROC	- Procedure
PUR	- Power Uprate
PVNGS	- Palo Verde Nuclear Generating Station
RSG	- Replacement Steam Generator
SDC	- Shutdown Cooling
SG	- Steam Generator
SGTR	- Steam Generator Tube Rupture
SGTRLOP	- Steam Generator Tube Rupture with Loss of Offsite Power Event
TMOD	- Temporary Modification
UFSAR	- Update Final Safety Analysis Report
WO	- Work Order

**10 CFR 50.59 Annual Report (January – December 2002)**

Log Number	Doc Type	Doc Number	Description	Summary
E-02-00001	PROC	43OP-3EW02 R23	The proposed procedure revision provides instructions to "Feed and Bleed" the EW System to improve system chemistry while maintaining the EW System OPERABLE. The Feed and Bleed is accomplished by maintaining adequate level in the EW Surge Tank via normal make-up flow (DW) while manually draining EW, either from the Essential Chiller (EC) or the SDC Heat Exchanger. Operators will maintain constant communication capability with the Control Room while in attendance at the EW Surge Tank and selected EW Drain throughout the draining evolution.	This change does not require prior NRC approval in accordance with 10CFR50.59(c)(1).
E-02-00003	LDCR	02-F002	This proposed revision to the UFSAR will reflect revised grid stability study results showing the effect of synchronizing the new Redhawk and Arlington Valley generating stations to the 525 kV transmission system near Palo Verde.	This change does not require prior NRC approval in accordance with 10CFR50.59(c)(1).
E-02-00006	LDCR	01-F059	This proposed revision to UFSAR section 15.4.8 (Control Element Assembly Ejection) Analysis of Record Calculation was revised for Unit 2 Cycle 11. Part of this revision included using the CENTS computer code in accordance with License Amendment 137 and Generic Letter 83-11, Supplement 1.	This change does not require prior NRC approval in accordance with 10CFR50.59(c)(1).
E-02-00007	CALC	A-PV2-FE-0156 R2	The current CESEC based ASGT analysis has been revised with the new CENTS based ASGT Analysis, and will be implemented for reloads beginning with Cycle 11. Use of the CENTS has been approved for PVNGS in accordance with License Amendment 137 and Generic Letter 83-11 Supplement 1 Guidelines.	This change does not require prior NRC approval in accordance with 10CFR50.59(c)(1).
E-02-00008	CALC	A-PV2-FE-154 R1	This CALC will be revised to replace CESEC based analyses "Verification of CPC Filters Penalties (for Unit 2 Cycle 7)" with CENTS based "Verification of PVNGS CPC Dynamic Filters Coefficients for RSG and Power Uprate".	This change does not require prior NRC approval in accordance with 10CFR50.59(c)(1).
E-02-00009	PROC	Various	Various procedures will be revised regarding the use of a Temporary Reactor Vessel Cover. The evaluation addresses the general use of a Temporary Reactor Vessel Cover during refueling outages.	This change does not require prior NRC approval in accordance with 10CFR50.59(c)(1).

Log Number	Doc Type	Doc Number	Description	Summary
E-02-00010	LDCR	01-F059	This revision to the UFSAR revises the Hot Zero Power/Subcritical CEA Withdrawal Events safety analyses and incorporates the CENTS code. Use of the CENTS code has been approved for PVNGS in accordance with License Amendment 137 and Generic Letter 83-11, Supplement 1 guidelines.	This change does not require prior NRC approval in accordance with 10CFR50.59(c)(1).
E-02-00011	LDCR	01-F059	This revision to the UFSAR revises the CEA Withdrawal at Power safety analyses and incorporates the CENTS code. Use of the CENTS code has been approved for PVNGS in accordance with License Amendment 137 and Generic Letter 83-11, Supplement 1 guidelines.	This change does not require prior NRC approval in accordance with 10CFR50.59(c)(1).
E-02-00012	LDCR	01-F059	This revision to the UFSAR revises the Full-Length CEA Drop safety analyses and incorporates the CENTS code. Use of the CENTS code has been approved for PVNGS in accordance with License Amendment 137 and Generic Letter 83-11, Supplement 1 guidelines.	This change does not require prior NRC approval in accordance with 10CFR50.59(c)(1).
E-02-00013	CALC	CN-TAS-01-7 R0	This calculation analyzes the Reload Analysis Methodology Reactor Power Cutback Events using the CENTS code. Use of the CENTS code has been approved for PVNGS in accordance with License Amendment 137 and Generic Letter 83-11, Supplement 1 guidelines.	This change does not require prior NRC approval in accordance with 10CFR50.59(c)(1).
E-02-00014	LDCR	01-F056	This revision to the UFSAR incorporates new and revised Increase in Heat Removal by Secondary Systems safety analyses and incorporates the CENTS code. Use of the CENTS code has been approved for PVNGS in accordance with License Amendment 137 and Generic Letter 83-11, Supplement 1 guidelines.	This change does not require prior NRC approval in accordance with 10CFR50.59(c)(1).
E-02-00015	LDCR	01-F061	This revision to the UFSAR revises Section 15.6.2, Double-Ended Break of a Letdown Line Outside Containment as a result of the replacement of the CESEC computer code with the CENTS code. Use of the CENTS code has been approved for PVNGS in accordance with License Amendment 137 and Generic Letter 83-11, Supplement 1 guidelines.	This change does not require prior NRC approval in accordance with 10CFR50.59(c)(1).
E-02-00016	LDCR	01-F057	This revision to the UFSAR revised Section 15.2.3, Loss of Condenser Vacuum and Section 15.2.8, Feedwater Line Break Events. This 50.59 provides justification for the new LOCV and FWLB analyses using the CENTS computer code. Use of the CENTS code has been approved for PVNGS in accordance with License Amendment 137 and Generic Letter 83-11, Supplement 1 guidelines.	This change does not require prior NRC approval in accordance with 10CFR50.59(c)(1).

Log Number	Doc Type	Doc Number	Description	Summary
E-02-00017	WO	2459122, 2497620, 2497616, 2501516	This modification dealt with temporary installation of thermal loggers to obtain equipment and ambient temperature data for Equipment Qualification purposes.	This change does not require prior NRC approval in accordance with 10CFR50.59(c)(1).
E-02-00018	LDCR	02-F061	This revision to the UFSAR revised the SGTR and SGTRLOP safety analyses using the CENTS code. Use of the CENTS code has been approved for PVNGS in accordance with License Amendment 137 and Generic Letter 83-11, Supplement 1 guidelines.	This change does not require prior NRC approval in accordance with 10CFR50.59(c)(1).
E-02-00020	LDCR	02-F031	This revision to the UFSAR updated Sections 3.1.16 and 15.4.1 to correctly list the peak fuel centerline temperature limit.	Prior NRC approval was granted in association with LDCR 02-T003, which changed the peak linear heat rate safety limit to a peak fuel centerline temperature safety limit. (License Amendment #145)
E-02-00021	TMOD	2549067	This Temporary Modification supported operations procedure changes that are required to locally control one of the letdown backpressure control valves on-line with normal letdown in service.	This change does not require prior NRC approval in accordance with 10CFR50.59(c)(1).
E-02-00023	LDCR	02-T004, -R007, -F040	These LDCRs are the result of Site Chemistry/Radiological Monitoring organizational changes. Organizational changes are in process that will re-align the Radiological Monitoring programs and personnel, and make other organizational changes within the Site Chemistry Department.	This change does not require prior NRC approval in accordance with 10CFR50.59(c)(1).
E-02-00024	LDCR	02-F033	This revision to the UFSAR addressed changes to Section 15E.2. A new Analysis of Record was performed for the Feedwater Line Break (FWLB) with Loss of Offsite Power (LOP) and Single Failure event described in UFSAR 15E.2 as a result of CRDRs 2469198 and 2529756, utilizing the CENTS computer code.	The revised FWLB with LOP and Single Failure Event was submitted for NRC review and approval as part of the Unit 2 Power Uprate License Amendment Request (APS Letter 102-04866 to NRC dated 11/21/2002). License Amendment 149 was issued on September 29, 2003.
E-02-00025	PROC	42OP-2EC02 R34	This procedure revision provides instructions to "feed and bleed" the EC system to improve system chemistry while maintaining the EC system operable.	This change does not require prior NRC approval in accordance with 10CFR50.59(c)(1).

Log Number	Doc Type	Doc Number	Description	Summary
E-02-00026			This 50.59 evaluates CENTS Code Version 02020. CENTS code was generically approved for all Westinghouse-CE plants in 1994. Since then, Westinghouse-CE has made a number of changes to the code. These can be categorized as: code cleanup, correction of errors, addition of new, optional features etc. This 50.59 addresses the changes made since initial NRC approval of the Code.	This change does not require prior NRC approval in accordance with 10CFR50.59(c)(1).
E-02-00027	LDCR	02-F025	This UFSAR revision changes Table 6.4.6-1 as a result of corrections to input data that were used to determine the volumetric flow rate from the steam generator steam space to the environment during hypothetical accidents.	This change does not require prior NRC approval in accordance with 10CFR50.59(c)(1).
E-02-00028	LDCR	02-F047	This proposed change would allow a deviation from the guidance provided in Regulatory Guide 1.25 regarding fuel rod pressurization. Reg. Guide 1.25 states that the "maximum fuel rod pressurization is 1200 psig". This proposed change would change this requirement to "maximum assembly average peak fuel rod pressurization is 1200 psig".	A License Amendment Request for this change was submitted to the NRC on August 22, 2003. Refer to APS letter 102-04990 to the NRC, dated August 22, 2003.
E-02-00029	CALC	13-NC-ZY-263 R7	This licensing evaluation is to determine if the new geometry created by the use of this cask (NAC-UMS CoC, Docket 72-1015) is within the original reviewed methodology for fuel handling accident as described in Chapter 15.7.4.1 of the UFSAR.	This change does not require prior NRC approval in accordance with 10CFR50.59(c)(1).
E-02-00030	LDCR	02-F050	This 50.59 involves updating the UFSAR to incorporate changes due to implementation of dry fuel storage and associated plant modifications, as well as implementing procedures for Dry Fuel Storage System operation.	This change does not require prior NRC approval in accordance with 10CFR50.59(c)(1).
E-02-00031	DMWO	221244	This modification deals with containment structural modifications. Plant modifications will be made during Unit 2 11 <sup>th</sup> refueling outage, which will facilitate steam generator replacement.	This change does not require prior NRC approval in accordance with 10CFR50.59(c)(1).

Log Number	Doc Type	Doc Number	Description	Summary
E-02-00032	DMWO	219978	This DMWO for PUR/RSG addresses process/performance design requirements, safety analyses, radiological analyses, topical issues, and regulatory requirements associated with the overall PUR/RSG project.	This evaluation is predicated on NRC approval of the APS License Amendment request to support replacement of steam generators and uprated power operations for Unit 2. Refer to APS Letter 102-04641 to NRC, dated December 21, 2001. All other aspects addressed by this evaluation do not require prior NRC approval in accordance with 10 CFR 50.59(c).(1).
E-02-00033	DMWO	234952	This DMWO supports design and fabrication activities for the Replacement Steam Generators for Unit 2.	License Amendment Number 149 was issued on September 29, 2003.
E-02-00034	DMWO	221242	This modification is for Steam Generator Large Bore Piping. Replacement of the Unit 2 steam generators during Unit 2 11 <sup>th</sup> refueling outage will require modification to the large bore secondary piping systems that are connected to them: Main Steam, Main Feedwater, Downcomer Feedwater and Blowdown. 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.	This change does not require prior NRC approval in accordance with 10CFR50.59(c)(1).
E-02-00035	DMWO	221935	This modification includes the addition of new power, control and instrumentation cables inside containment for future SG downcomer blowdown motor-operated valves.	This change does not require prior NRC approval in accordance with 10CFR50.59(c)(1).