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U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Mail Station: P1-37
Washington, DC 20555-0001

Dear Sir:

**Subject: Palo Verde Nuclear Generating Station (PVNGS)
Units 1, 2, and 3
Docket Nos. STN 50-528/529/530
Annual Environmental Operating Report 2003**

Enclosed please find a copy of the Annual Environmental Operating Report for 2003. This report covers the operation of PVNGS Units 1, 2, and 3 during 2003, and is being submitted pursuant to Section 5.4.1 of Appendix B to the Operating License.

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

Sincerely,

SAB/TNW/CJJ/kg

Enclosure

cc: B. S. Mallett (all w/o enclosure)
M. B. Fields
N. L. Salgado
A. V. Godwin

A member of the STARS (Strategic Teaming and Resource Sharing) Alliance
Callaway • Comanche Peak • Diablo Canyon • Palo Verde • South Texas Project • Wolf Creek

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I. INTRODUCTION

The Palo Verde Nuclear Generating Station (PVNGS) is located in Maricopa County, Arizona, approximately 50 miles west of the Phoenix metropolitan area. The PVNGS site comprises approximately 4080 acres. Site elevations range from 890 feet above mean sea level at the southern boundary to 1030 feet above mean sea level at the northern boundary. The station consists of three pressurized water reactor electrical generating units. Units 1 and 3 have a rated thermal power of 3876 MW per Unit. Unit 2 has a rated thermal power of 3990 MW.

PVNGS was issued low power operating licenses NPF-34, NPF-46 and NPF-65 for Units 1, 2 and 3 by the United States Nuclear Regulatory Commission (NRC) on December 31, 1984, December 9, 1985, and March 25, 1987, respectively. The Unit 1 full power operating license NPF-41 was issued June 1, 1985. The Unit 2 full power operating license NPF-51 was issued April 24, 1986. The Unit 3 full power operating license NPF-74 was issued November 25, 1987. Appendix B to these operating licenses is entitled the "Environmental Protection Plan (Non Radiological)". The Environmental Protection Plans (EPP) of each of the current operating licenses are identical.

The EPP purpose is to provide for protection of environmental values during construction and operation of the nuclear facility. The principal objectives of the EPP are as follows:

- (1) Verify that the station is operated in an environmentally acceptable manner, as established by the FES (Final Environmental Statement) and other NRC environmental impact assessments.
- (2) Coordinate NRC requirements and maintain consistency with other Federal, State and Local requirements for environmental protection.
- (3) Keep NRC informed of the environmental effects of facility construction and operation and actions taken to control those effects.

This Annual Environmental Operating Report is required by Section 5.4.1 of the EPP. This report describes the activities during a specific calendar year related to the PVNGS EPP. For purposes of this report, references to the EPP are considered to be the EPP of NPF-41, NPF-51, and NPF-74.

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II. ENVIRONMENTAL MONITORING SUMMARIES AND ANALYSIS

A. Cultural Resources

Section 4.2.1 of the EPP requires that an archaeological survey be performed when final alignment of the PVNGS-to-Saguaro transmission line is completed. As of the date of this report, plans for this transmission line have been indefinitely suspended. Therefore, there has been no activity with regard to this requirement of the EPP.

B. Terrestrial Ecology Monitoring

As communicated in a letter from William F. Conway, APS, to NRC, dated December 30, 1991, the salt deposition monitoring program was discontinued at the end of 1991.

III. PLANT DESIGN AND OPERATION CHANGES

Section 3.1 of the EPP allows changes in station design or operation or the performance of tests or experiments affecting the environment provided that such changes, tests, or experiments do not involve an unreviewed environmental question and do not involve a change to the EPP. Changes, tests, or experiments in which all measurable non-radiological effects are confined to the on-site areas previously disturbed during site preparation and plant construction or in which the environment is not affected are exempt from the evaluation and reporting requirements of Section 3.1.

Section 3.2 of the EPP also exempts changes, tests, or experiments, which are required to comply with other Federal, State, or local environmental regulations.

Twelve (12) design and operation changes were evaluated in 2003 to determine if they involved either an unreviewed environmental question or constituted a change in the EPP. Table III-1 summarizes the results of these evaluations. None of these changes involved an unreviewed environmental question or a change in the EPP.

IV. EPP NON-COMPLIANCES

There were no instances of non-compliance with the EPP identified during 2003.

V. NON-ROUTINE REPORTS

There were no non-routine reports required by Section 5.4.2 of the EPP submitted during 2003.

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TABLE III - 1
SUMMARY OF ENVIRONMENTAL EVALUATIONS PERFORMED DURING 2003
FOR PLANT DESIGN AND OPERATION CHANGES

Log #	Title	Description	Analysis	Interpretation	Evaluation
03-014	WO 2448498 and 2444414	WRSS April 2003 Pipeline & Manhole Inspection and Repair	Maintenance activities associated with the inspection and repair require the use of portable combustion equipment, earth moving operations, and abrasive blasting / coating operations. These activities can increase airborne emissions. Maintenance and repair will also disturb offsite areas.	<p>The FES does not address portable emission sources. The equipment purchased / rented / contracted will be permitted in accordance with county regulations.</p> <p>The earth moving activities associated with the construction of the facility were discussed in the FES and no adverse environmental impacts were identified. The scope of the proposed work activities would be less than those already evaluated in the FES. Therefore, there are no adverse impacts as long as activities are conducted in accordance with county regulations.</p> <p>The FES does not address abrasive blasting / coating operations. There are no adverse impacts as long as activities are conducted in accordance with county regulations.</p> <p>The offsite area that is disturbed is within the construction right of way of areas disturbed during initial construction. The FES identifies that routine maintenance may occur in these areas.</p>	There was no unreviewed environmental question because the equipment operation and maintenance activities will be conducted in accordance with county regulations. In addition, the area to be disturbed was previously identified in the FES.

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SUMMARY OF ENVIRONMENTAL EVALUATIONS PERFORMED DURING 2003
FOR PLANT DESIGN AND OPERATION CHANGES

Log #	Title	Description	Analysis	Interpretation	Evaluation
03-018	T-MOD 2581784	T-Mod cooling tower fan replacement for performance testing	Changes to cooling tower operation or equipment could affect offsite impacts evaluated in the FES and drift-monitoring program.	The FES identifies that based on current cooling tower design, there are no adverse environmental impacts identified. The proposed change does not change the fan design airflow rate or velocity and, therefore, will not affect cooling tower operations. The modification is considered a like-for-like replacement.	The design change is a like-for-like replacement of existing equipment already evaluated in the FES. The change, therefore, will have no adverse environmental impact as previously determined in the FES.
03-019	DFWO 2580193	Remove Cooling Tower Louvers and Cut Tower Basin Wall	The louver removal and cutting of the tower basin wall has the potential to affect emissions from the cooling towers.	The FES and salt drift monitoring program identified impacts associated with cooling tower drift. Cooling tower operation was previously reviewed. The scope of work caused no real change to cooling tower operation. The scope of work performed and the number of louvers removed would not cause a significant increase in emissions and the original impact assessments remained valid.	There was no unreviewed environmental question because the scope of work performed would not cause any significant increase in emissions. The towers will continue to be operated in accordance with county regulations.
03-022	WDP-SL-645	Install automated Sprinkler System in Sludge Landfill that uses Reservoir Water	Installing a sprinkler system that uses Water Storage Reservoir water for dust control has the potential to affect effluents released to the environment.	The use of WRF treated effluent for dust control is not expressly identified in the FES. However, Reservoir seepage is mentioned in the FES – Construction and no adverse environmental impacts were identified. The installation of a sludge landfill sprinkler system and the use of Reservoir effluent for general site dust control do not exceed the effluent discharge rate already evaluated in the FES – Construction. Therefore, there are no adverse impacts as long as activities are conducted in accordance with state and county regulations.	There was no unreviewed environmental question because the equipment operation and maintenance activities will be conducted in accordance with state county regulations.

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SUMMARY OF ENVIRONMENTAL EVALUATIONS PERFORMED DURING 2003
FOR PLANT DESIGN AND OPERATION CHANGES**

Log #	Title	Description	Analysis	Interpretation	Evaluation
03-034	WO 2576168	Sludge Landfill Clearing	Land clearing activities associated with operation, maintenance and use of the site Sludge Landfill involves earth-moving operations. These activities can increase airborne emissions. Land clearing is performed to open a new area for sludge disposal.	<p>The earth moving activities associated with the construction of the facility were discussed in the FES and no adverse environmental impacts were identified. The scope of the proposed work activities would be less than those already evaluated in the FES. Therefore, there are no adverse impacts as long as activities are conducted in accordance with county regulations.</p> <p>With respect to land use, the potential to disturb archeological sites or harm endangered vegetation / animals were evaluated. The actual construction site was inspected and no archeological or endangered species of plants / animals were identified.</p>	There was no unreviewed environmental question because the equipment operation and maintenance activities will be conducted in accordance with county regulations. In addition, the area to be disturbed was previously identified in the FES.

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SUMMARY OF ENVIRONMENTAL EVALUATIONS PERFORMED DURING 2003
FOR PLANT DESIGN AND OPERATION CHANGES

Log #	Title	Description	Analysis	Interpretation	Evaluation
03-036	PCWO 2626921	WRSS October 2003 Pipeline Refurbishment	Maintenance activities associated with the pipe section repair require the use of portable combustion equipment and earth moving operations. These activities can increase airborne emissions. Maintenance and repair will also disturb offsite areas.	<p>The FES does not address portable emission sources. The equipment purchased / rented / contracted will be permitted in accordance with county regulations.</p> <p>The earth moving activities associated with the construction of the facility were discussed in the FES and no adverse environmental impacts were identified. The scope of the proposed work activities would be less than those already evaluated in the FES. Therefore, there are no adverse impacts as long as activities are conducted in accordance with county regulations.</p> <p>The offsite area that is disturbed is within the right of way of areas disturbed during initial construction. The FES identifies that routine maintenance may occur in these areas.</p>	There was no unreviewed environmental question because the equipment operation and maintenance activities will be conducted in accordance with county regulations. In addition, the area to be disturbed was previously identified in the FES.
03-037	DFWO 2582205	Remove Cooling Tower Louvers and Cut Tower Basin Wall	The louver removal and cutting of the tower basin wall has the potential to affect emissions from the cooling towers.	The FES and salt drift monitoring program identified impacts associated with cooling tower drift. Cooling tower operation was previously reviewed. The scope of work caused no real change to cooling tower operation. The scope of work performed and the number of louvers removed would not cause a significant increase in emissions and the original impact assessments remained valid.	There was no unreviewed environmental question because the scope of work performed would not cause any significant increase in emissions. The towers will continue to be operated in accordance with county regulations.

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TABLE III - 1
SUMMARY OF ENVIRONMENTAL EVALUATIONS PERFORMED DURING 2003
FOR PLANT DESIGN AND OPERATION CHANGES

Log #	Title	Description	Analysis	Interpretation	Evaluation
03-042	DFWO 2608623	Remove Cooling Tower Louvers and Cut Tower Basin Wall	The louver removal and cutting of the tower basin wall has the potential to affect emissions from the cooling towers.	The FES and salt drift monitoring program identified impacts associated with cooling tower drift. Cooling tower operation was previously reviewed. The scope of work caused no real change to cooling tower operation. The scope of work performed and the number of louvers removed would not cause a significant increase in emissions and the original impact assessments remained valid.	There was no unreviewed environmental question because the scope of work performed would not cause any significant increase in emissions. The towers will continue to be operated in accordance with county regulations.
03-045	DFWO 2626882	Install Cooling Tower Cable Restraint System to prevent the outboard beams from falling off	The cable restraint system has the potential to affect emissions from the cooling towers.	The FES and salt drift monitoring program identified impacts associated with cooling tower drift. Cooling tower operation was previously reviewed. The scope of work caused no real change to cooling tower operation. The scope of work performed would not cause a significant increase in emissions and the original impact assessments remained valid.	There was no unreviewed environmental question because the scope of work performed would not cause any significant increase in emissions. The towers will continue to be operated in accordance with county regulations.
03-049	MEE 03695	Cooling Tower Fan Gearbox Substitution	Changes to cooling tower operation or equipment could affect offsite impacts evaluated in the FES and drift-monitoring program.	The FES identifies that based on current cooling tower design, there are no adverse environmental impacts identified. The proposed change does not change the fan design airflow rate or velocity and, therefore, will not affect cooling tower operations. The modification is considered a like-for-like replacement.	The design change is a like-for-like replacement of existing equipment already evaluated in the FES. The change, therefore, will have no adverse environmental impact as previously determined in the FES.

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TABLE III - 1
SUMMARY OF ENVIRONMENTAL EVALUATIONS PERFORMED DURING 2003
FOR PLANT DESIGN AND OPERATION CHANGES

Log #	Title	Description	Analysis	Interpretation	Evaluation
03-053	APP #P-3507-100388	Install on-site and off-site Monitoring Wells for APP Implementation	Maintenance activities associated with the well drilling activities require earth moving operations. These activities can increase airborne emissions. Well installation will also disturb offsite areas.	<p>The earth moving activities associated with the construction of the facility were discussed in the FES and no adverse environmental impacts were identified. The scope of the proposed work activities would be less than those already evaluated in the FES. Therefore, there are no adverse impacts as long as activities are conducted in accordance with county regulations.</p> <p>With respect to land use, the potential to disturb archeological sites or harm endangered vegetation / animals were evaluated. The actual construction site was inspected and no archeological or endangered species of plants / animals were identified.</p>	There was no unreviewed environmental question because the equipment operation and maintenance activities will be conducted in accordance with county regulations. In addition, the area to be disturbed was previously identified in the FES or is privately held property that was thoroughly inspected for environmental impacts.
03-054	DFWO 2650364	Replace nozzles in the CW Cooling Tower Distribution Deck	The nozzle replacement in the cooling tower distribution deck has the potential to affect emissions from the cooling towers.	The FES and salt drift monitoring program identified impacts associated with cooling tower drift. Cooling tower operation was previously reviewed. The scope of work caused no real change to cooling tower operation. The scope of work performed and the number of nozzles replaced would not cause a significant increase in emissions and the original impact assessments remained valid.	There was no unreviewed environmental question because the scope of work performed would not cause any significant increase in emissions. The towers will continue to be operated in accordance with county regulations.

* FES - Final Environmental Statement; ER-OL - Environmental Report, Operating License Stage