



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
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August 31, 2006

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**SUBJECT: MIDCYCLE PERFORMANCE REVIEW AND INSPECTION PLAN -
PALO VERDE NUCLEAR GENERATING STATION**

On August 9, 2006, the NRC staff completed its performance review of Palo Verde Nuclear Generating Station for the first half of the calendar year 2006 assessment cycle. Our technical staff reviewed performance indicators (PIs) for the most recent quarter and inspection results over the previous 12 months. The purpose of this letter is to inform you of our assessment of your safety performance during this period and our plans for future inspections at your facility in order for you to inform us of any planned inspections that may conflict with your plant activities.

This performance review and enclosed inspection plan do not include physical protection information. A separate letter designated and marked as "Official Use Only - Security Related Information" will include the physical protection review and resultant inspection plan.

Plant performance for the most recent quarter for all three units was within the Degraded Cornerstone column of the NRC's Action Matrix. This assessment is based on one Yellow finding, that has been open since the fourth quarter of 2004, in the Mitigating Systems Cornerstone involving a significant section of containment sump safety injection piping that was void of water at all three Palo Verde Nuclear Generating Station units.

Our March 2, 2006, annual assessment letter noted the results of the supplemental inspection that we conducted in 2005 in response to the Yellow finding. The NRC concluded that the Arizona Public Service Company had performed an adequate root cause evaluation of the design control violation associated with the Yellow finding; however, some of the corrective actions were narrowly focused, the implementation of some corrective actions had not been demonstrated to be fully effective at the time of this fall 2005 inspection, and monitoring criteria and reviews were not fully established to ensure that corrective actions were effective to prevent recurrence of risk significant performance issues. Consequently, we did not have assurance that your planned corrective actions were sufficient to address the causes for the Yellow finding.

In response to our request, the Arizona Public Service Company notified the NRC on April 15, 2006, of its readiness for the NRC to confirm through a followup 95002 supplemental inspection that the Arizona Public Service Company had completed the steps necessary to assure that the corrective actions are of sufficient scope to correct the performance deficiencies associated with the Yellow finding. An NRC inspection team conducted the onsite portion of the inspection the

week of July 24, 2006, and the results of the inspection will be documented in NRC Inspection Report 05000528; 05000529; 05000530/2006010. While it appears that the issues specifically associated with the voided emergency core cooling system piping have been effectively addressed, we have concluded that the corrective actions taken in response to the root causes and related programmatic concerns involving questioning attitude, technical rigor, and operability determinations have not been fully effective. Also, we have determined that the performance monitoring measures (e.g., metrics) necessary to fully assess the effectiveness of the corrective actions within these areas do not take into account all the relevant data.

In our annual assessment letter, dated March 2, 2005, our midcycle assessment letter, dated August 30, 2005, and our annual assessment letter, dated March 2, 2006, we advised you of substantive crosscutting issues in the areas of human performance and problem identification and resolution. The human performance area themes involved procedural compliance, procedural adequacy, and communications between engineering and operations personnel. The problem identification and resolution area themes involved identification, evaluation, and effectiveness of corrective actions of nonconforming conditions. We continued to identify findings in both crosscutting areas, which are summarized below. You should also note that we have added to the characterization of these substantive crosscutting issues to address the most recent revision of NRC Manual Chapter 0305, "Operating Reactor Assessment Program," dated June 22, 2006.

During this assessment period, the NRC identified a total of 24 examples of Green findings with crosscutting aspects in the human performance area. These findings involved the Initiating Events, Mitigating Systems, and Occupational Radiation Safety cornerstones. Crosscutting themes were identified in the following area components: (1) Decision-making (instances of not utilizing a systematic decision making process and instances of ineffective communication of decisions to personnel), and (2) Work Practices (instances of ineffective human error prevention techniques and instances of not following procedures). Examples include: multiple instances of failing to comply with Technical Specification requirements during the process of unit startup; failures to perform technically adequate operability evaluations for degraded and nonconforming conditions of safety-related systems and components; instances of failing to follow procedures which resulted in consequential plant impacts; and instances of failing to use other appropriate error prevention techniques which resulted in inappropriate system configurations, as well as other unintended, consequential impacts on plant systems and components. The crosscutting themes identified during this assessment are similar to those that have been identified in previous NRC assessments, particularly with respect to the themes of failure to follow procedures and ineffective interactions between engineering and operations personnel when assessing degraded and nonconforming conditions.

Thirteen examples of Green findings and one Severity Level IV violation were identified in the corrective action component of the problem identification and resolution crosscutting area. These findings involved the Initiating Events, Mitigating Systems, and Emergency Preparedness cornerstones. Crosscutting themes identified in this component involved inadequate evaluations of problems and untimely implementation of corrective actions. Examples include: failures to address the extent of condition of problems; failures to fully evaluate problems resulting in repetitive or long-standing problems affecting safety systems and components; and failures to correct known degraded conditions in a timely manner. The

crosscutting themes identified during this assessment are similar to those that have been identified in previous NRC assessments, particularly with respect to inadequate evaluation of conditions adverse to quality, as well as inadequate and ineffective correction of problems.

During the assessment period, the NRC performed periodic inspections of your corrective actions to address both crosscutting areas. The results of our inspections show that you have taken some corrective actions to address these issues; however, these actions have not been completely effective, are still being developed, or are only partially implemented. In many cases, metrics and measures did not effectively monitor performance or performance trends. This is the same performance status noted in our March 2, 2006, assessment letter. Accordingly, we plan to continue to focus baseline inspections, as well as perform an additional problem identification and resolution inspection (as discussed in detail below), in order to assess your progress in implementing and verifying the effectiveness of your Integrated Improvement Plan as it relates to these two substantive crosscutting issues. The above crosscutting aspects will remain open until we determine that corrective actions implemented in accordance with your Integrated Improvement Plan have resulted in improved performance.

A meeting has been scheduled for September 7, 2006, in Arlington, Texas, to discuss your progress in implementing the actions within human performance and problem identification and resolution areas of your Integrated Improvement Plan, as well as corrective actions and performance measures for the root causes and related programmatic issues associated with the Yellow finding that relate to questioning attitude, technical rigor, and operability determinations. Other focus areas of the meeting will be a discussion of the status of corrective actions taken in response to your 2005 safety culture survey and initiatives to improve performance within operations.

The enclosed inspection plan details the inspections, including Temporary Instructions, except those related to physical protection, scheduled through March 31, 2008. In addition to the baseline inspections, NRC will be implementing Inspection Procedure 50001, "Steam Generator Replacement Inspection," relative to the planned replacement of the Unit 3 steam generators. As described in NRC Manual Chapter 0305, "Operating Reactor Assessment Program," an additional problem identification and resolution inspection should be considered when facilities enter the Degraded Cornerstone column of the NRC Action Matrix. Because of a lack of sufficient progress in addressing both the substantive crosscutting issues and the conclusion of the March 2006 Problem Identification and Resolution Inspection that performance declined in this area, we plan to conduct an additional problem identification and resolution inspection in early 2007 to further evaluate the effectiveness of your corrective actions in resolving the substantive crosscutting issues.

The inspection plan is provided to allow for the resolution of any scheduling conflicts and personnel availability issues well in advance of inspector arrival onsite. Routine resident inspections are not listed due to their ongoing and continuous nature. The inspections in the last 9 months of the inspection plan are tentative and may be revised at the end-of-cycle review.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be made available electronically for public inspection in the NRC Public

Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

If circumstances arise which cause us to change this inspection plan, we will contact you to discuss the change as soon as possible. Please contact Mr. Troy W. Pruett at (817) 860-8173 with any questions you may have regarding this letter or the inspection plan.

Sincerely,



Bruce S. Mallett
Regional Administrator

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50-529
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NPF-51
NPF-74

Enclosure:
Palo Verde Inspection/Activity Plan

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SUNSI Review Completed: TWP ADAMS: Yes No Initials: TWP
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BSMallett				
8/31/06				

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Unit Number	Inspection Activity	Title	No. of Staff on Site	Planned Dates Start End	Inspection Type	
1, 2, 3	HX SIT	- HEAT EXCHANGER SPECIAL INSPECTION	4	06/05/2006	09/08/2006	Event Response Insp
	IP 93812	Special Inspection				
	PIP	- PIP (HP AND PIR)	1	08/21/2006	08/25/2006	Baseline Inspections
1, 2, 3	IP 71152	Identification and Resolution of Problems				
1, 2, 3	SUP INSP	- 95002 SUPP FOLLOWUP INSP	3	07/24/2006	07/28/2006	Supplemental Program
	IP 95002	Inspection For One Degraded Cornerstone Or Any Three White Inputs In A Strategic Perform	1	09/01/2006	09/30/2006	Baseline Inspections
1, 2, 3	PIP REV	- PERFORMANCE IMPROVEMENT PLAN REVIEW	3	09/18/2006	09/22/2006	Baseline Inspections
	IP 71152	Identification and Resolution of Problems				
1, 2, 3	OB-RQ	- PV REQUALIFICATION INSP	3	10/01/2006	12/31/2006	Safety Issues
	IP 711111B	Licensed Operator Requalification Program				
1, 2, 3	TI169	- TI169 MSPI VERIFICATION	2	10/02/2006	12/31/2006	Baseline Inspections
	IP 2515/169	Mitigating Systems Performance Index Verification				
1, 2, 3	PIP	- PERFORMANCE IMPROVEMENT PLAN REVIEW	2	10/16/2006	10/20/2006	Baseline Inspections
	IP 71152	Identification and Resolution of Problems				
1, 2, 3	EB1-08P	- ISI U2 & TI 166	2	10/30/2006	11/03/2006	Safety Issues
	IP 711108P	Inservice Inspection Activities - PWR				
2	IP 2515/166	Pressurized Water Reactor Containment Sump Blockage [NRC GENERIC LETTER 2004-02				
2	IP 711108P	Inservice Inspection Activities - PWR				
3	SG REP	- U3 SG REPLACEMENT ACTIVITIES	1	01/01/2007	12/31/2007	Other Routine
	IP 50001	Steam Generator Replacement Inspection				
1, 2, 3	RP-ORS	- OCCUPATIONAL RADIATION SAFETY	1	01/08/2007	01/12/2007	Baseline Inspections
	IP 7112101	Access Control to Radiologically Significant Areas				
1, 2, 3	IP 7112102	ALARA Planning and Controls				
1, 2, 3	IP 71151	Performance Indicator Verification				
1, 2, 3	EB2-52B	- PIR INSPECTION	1	01/22/2007	01/26/2007	Baseline Inspections
	IP 71152B	Identification and Resolution of Problems				
1, 2, 3	IP 71152B	Identification and Resolution of Problems				
5	RP TEAM	- RADIATION SAFETY TEAM	5	02/05/2007	02/09/2007	Baseline Inspections
	IP 7112103	Radiation Monitoring Instrumentation and Protective Equipment				
1, 2, 3	IP 7112201	Radioactive Gaseous and Liquid Effluent Treatment and Monitoring Systems				
1, 2, 3	IP 7112202	Radioactive Material Processing and Transportation				
1, 2, 3	IP 7112203	Radiological Environmental Monitoring Program (REMP) And Radioactive Material Control P				
7	EB1-21	- CDB	7	02/26/2007	03/02/2007	Baseline Inspections
	IP 7111121	Component Design Bases Inspection				
1, 2, 3	IP 7111121	Component Design Bases Inspection				

This report does not include INPO and OUTAGE activities.
This report shows only on-site and announced inspection procedures.

Unit Number	Inspection Activity	Title	No. of Staff on Site	Planned Dates Start	Planned Dates End	Inspection Type
	EP1 - PV EP EXERCISE		2			
1, 2, 3	IP 7111401	Exercise Evaluation		03/05/2007	03/09/2007	Baseline Inspections
1, 2, 3	IP 7111404	Emergency Action Level and Emergency Plan Changes		03/05/2007	03/09/2007	Baseline Inspections
1, 2, 3	IP 711151	Performance Indicator Verification		03/05/2007	03/09/2007	Baseline Inspections
	EB1-08P - ISI U1		1			
1	IP 7111108P	Inservice Inspection Activities - PWR		04/02/2007	04/13/2007	Baseline Inspections
	RP-ORS - OCCUPATIONAL RADIATION SAFETY		1			
1, 2, 3	IP 7112101	Access Control to Radiologically Significant Areas		04/09/2007	04/09/2007	Baseline Inspections
1, 2, 3	IP 7112102	ALARA Planning and Controls		04/09/2007	04/09/2007	Baseline Inspections
1, 2, 3	IP 711151	Performance Indicator Verification		04/09/2007	04/09/2007	Baseline Inspections
	EXAM - INITIAL EXAM		4			
1	X02351	PV UNIT 1 - INITIAL EXAM (08/07)		07/09/2007	07/13/2007	Not Applicable
2	X02352	PV UNIT 2 - INITIAL EXAM (08/07)		07/09/2007	07/13/2007	Not Applicable
3	X02353	PV UNIT 3 - INITIAL EXAM (08/07)		07/09/2007	07/13/2007	Not Applicable
1	X02351	PV UNIT 1 - INITIAL EXAM (08/07)		07/30/2007	08/03/2007	Not Applicable
2	X02352	PV UNIT 2 - INITIAL EXAM (08/07)		07/30/2007	08/03/2007	Not Applicable
3	X02353	PV UNIT 3 - INITIAL EXAM (08/07)		07/30/2007	08/03/2007	Not Applicable
	EB2-05T - TRIENNIAL FIRE PROTECTION		5			
1, 2, 3	IP 7111105T	Fire Protection [Triennial]		07/23/2007	07/27/2007	Baseline Inspections
1, 2, 3	IP 7111105T	Fire Protection [Triennial]		08/13/2007	08/17/2007	Baseline Inspections
	EB1-08P - ISI U3		1			
3	IP 7111108P	Inservice Inspection Activities - PWR		10/01/2007	10/12/2007	Baseline Inspections
	RP-ORS - OCCUPATIONAL RADIATION SAFETY		1			
1, 2, 3	IP 7112101	Access Control to Radiologically Significant Areas		11/26/2007	11/30/2007	Baseline Inspections
1, 2, 3	IP 7112102	ALARA Planning and Controls		11/26/2007	11/30/2007	Baseline Inspections
1, 2, 3	IP 711151	Performance Indicator Verification		11/26/2007	11/30/2007	Baseline Inspections
	EP1 - EP PROGRAM		1			
1, 2, 3	IP 7111402	Alert and Notification System Testing		02/11/2008	02/15/2008	Baseline Inspections
1, 2, 3	IP 7111403	Emergency Response Organization Augmentation Testing		02/11/2008	02/15/2008	Baseline Inspections
1, 2, 3	IP 7111404	Emergency Action Level and Emergency Plan Changes		02/11/2008	02/15/2008	Baseline Inspections
1, 2, 3	IP 7111405	Correction of Emergency Preparedness Weaknesses and Deficiencies		02/11/2008	02/15/2008	Baseline Inspections
1, 2, 3	IP 711151	Performance Indicator Verification		02/11/2008	02/15/2008	Baseline Inspections
	EB2-07B - BIENNIAL HEAT SINK INSPECTION		1			
1, 2, 3	IP 7111107B	Heat Sink Performance		02/25/2008	02/29/2008	Baseline Inspections

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 This report shows only on-site and announced inspection procedures.