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NUCLEAR REGULATORY COMMISSION
REGION IV
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March 3, 2008

Randall K. Edington
Executive Vice President, Nuclear
and Chief Nuclear Officer
Arizona Public Service Company
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SUBJECT: ANNUAL ASSESSMENT LETTER - PALO VERDE NUCLEAR GENERATING STATION (NRC INSPECTION REPORTS 05000528/2008001, 05000529/2008001, 05000530/2008001)

Dear Mr. Edington:

On February 6, 2008, the NRC staff completed its performance review of the Palo Verde Nuclear Generating Station (PVNGS). Our technical staff reviewed performance indicators for the most recent quarter and inspection results for the period from January 1 through December 31, 2007. Based on extensive NRC inspections and your self assessment activities, the causes for the performance problems at PVNGS are understood and a performance improvement plan has been developed. Therefore, in addition to verifying the continued safe operation of PVNGS, the focus of NRC inspections this year will be to evaluate the effectiveness of your actions to improve performance as documented in the February 15, 2008, revised Confirmatory Action Letter.

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.

Overall, PVNGS Units 1, 2, and 3 operated in a manner that preserved public health and safety. The NRC continues to assess the performance of PVNGS as being in the Multiple/Repetitive Degraded Cornerstone column (Column 4) of the NRC's Action Matrix. Technically, only Unit 3's performance is in Column 4, as described below; however, we are evaluating your corrective actions to address performance issues for the entire site, since the root and contributing causes for the White and Yellow findings are programmatic and site-wide. Plant performance for Units 1 and 2 for the most recent quarter was within the Degraded Cornerstone column of the NRC's Action Matrix based on one Yellow finding, open since the fourth quarter of 2004, in the Mitigating Systems cornerstone. The finding involved a significant section of containment sump safety injection piping that was void of water at all three PVNGS units, which could have impacted the ability of the emergency core cooling system to perform its safety function. Plant performance for Unit 3 for the most recent quarter was in Column 4 of the NRC's

Action Matrix based on one Yellow finding (discussed above), and one White finding, in the Mitigating Systems cornerstone, associated with the failure of the Unit 3, Train A Emergency Diesel Generator K-1 relay.

The NRC increased regulatory oversight of PVNGS in response to your entering Column 4 of the NRC's Action Matrix through increased inspections and NRC management involvement in monitoring activities at PVNGS. Regarding the increased inspections, in addition to performing baseline inspections, the NRC has performed Inspection Procedure (IP) 95003, "Supplemental Inspection for Repetitive Degraded Cornerstones, Multiple Degraded Cornerstones, Multiple Yellow Inputs, or One Red Input." The results of this inspection indicated that your facility was being operated safely. However, the IP 95003 inspection team determined that a number of longstanding performance issues at the facility have resulted in a decline in safety performance. Based on the insights developed by the IP 95003 inspection, and recent observations, the NRC concluded that your self assessments during the past year have been effective in identifying the causes for the performance problems and developing detailed action plans to address these longstanding performance issues.

For the seventh consecutive assessment letter since March 2, 2005, we have advised you of substantive crosscutting issues in the areas of human performance and problem identification and resolution. During this assessment, we have concluded that the substantive crosscutting issues should remain open because your previous corrective actions to affect performance improvement in these areas have not been effective, as reflected in the continued NRC identification of a substantial number of findings.

During this assessment period, the NRC identified 36 Green findings and 1 Severity Level IV violation 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 components involving decision making (instances of the failure to use systematic decision making, and instances of the failure to use conservative assumptions in decision making); work control (instances of the failure to appropriately plan work activities by incorporating risk insights and job site conditions); and work practices (instances of the failure to communicate human error prevention techniques and proper documentation of activities). Past crosscutting themes were identified in the component of resources (instances of failure to provide accurate procedures and work instructions), and work practices (instances of procedural compliance issues). The number of findings in the resources component and the work practices component associated with procedural accuracy and compliance did not meet the criteria for a substantive crosscutting theme; however, the criteria to close these crosscutting themes has not been met since corrective actions have not demonstrated sustained improved performance. Examples of human performance findings include: multiple instances of failing to establish preventative maintenance and key performance parameters to ensure safety-related systems can perform their design function; instances of failing to perform technically adequate operability determinations 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.

During this assessment, the NRC identified 21 examples of Green findings and 1 example of an Apparent Violation which was preliminarily determined to be a White finding, with crosscutting aspects in the problem identification and resolution area. These findings involved the Initiating

Events, Mitigating Systems and Emergency Preparedness cornerstones. Crosscutting themes were identified in the components of corrective actions (instances of failure to identify degraded conditions, and instances of inadequate evaluations and extent of condition reviews); and operating experience (instances of failing to implement and institutionalize operating experience). Many of the findings involved instances of treating the symptoms rather than identifying the causes, a lack of technical rigor in assessing problems, not adequately determining the extent of the problems when they were identified, and not correcting problems. These performance deficiencies have resulted in long-standing, degraded safety-related systems and components; repetitive events and conditions; latent failures of safety-related equipment; and insufficiently controlled work instructions. The Apparent Violation is still under review and involved your failure to correct a performance deficiency associated with a risk significant emergency planning standard within a time appropriate to its significance. The preliminary results of our review were provided in a letter to you dated February 1, 2008. The final safety significance will be determined following the Regulatory Conference and the final results will be provided by separate correspondence.

On June 21, 2007, we issued a Confirmatory Action Letter to Arizona Public Service Company (APS) to confirm initial actions and the approach to address these actions, based on the reviews completed prior to that point (ML071720526). APS submitted the PVNGS Site Integrated Improvement Plan to the NRC on December 31, 2007 (ML080180149). On February 15, 2008, the NRC issued a revised Confirmatory Action Letter (ML080460653). The revised Confirmatory Action Letter incorporated actions to address performance insights identified by your assessment activities and our IP 95003 Supplemental Inspection, and actions described in your improvement plan. The NRC has determined that the actions described in the revised Confirmatory Action Letter need to be satisfactorily implemented to address the fundamental causes for performance problems at PVNGS.

The NRC has performed periodic inspections, to evaluate your progress in addressing both substantive crosscutting issues. Throughout 2007, the results of our inspections determined that APS implemented some corrective actions to address these issues; however, the actions were not completely effective. This is the same performance status noted in our March 2 and August 31, 2007, assessment letters. During the December 19, 2007, public meeting, we discussed APS's progress and your performance improvement initiatives in response to these substantive crosscutting issues as they relate to PVNG's Site Integrated Improvement Plan. In a letter dated December 31, 2007, APS described the actions being taken or planned to address the substantive crosscutting issues, as well as other performance areas, through the Site Integrated Business Plan and Site Integrated Improvement Plan (ML080180149). The NRC will evaluate the effectiveness of your improvement efforts through the baseline inspection program, and through periodic Confirmatory Action Letter follow-up inspections. The substantive crosscutting issues will remain open until we determine that corrective actions have been effective and resulted in demonstrated sustained improved performance, there are no new greater than green findings, and there are a small number of green findings with common crosscutting themes.

The NRC has issued Confirmatory Orders requiring APS and one of its former senior reactor operators to take corrective actions following an incident in which the individual falsified a computer record (ML072920552 and ML072920535). Several Confirmatory Order required actions have been completed and the NRC plans to inspect these actions within the year.

The enclosed inspection plan details the inspections, except those related to physical protection, scheduled through June 30, 2009. The NRC will be implementing Temporary

Instruction 2515/166, "Pressurized Water Reactor Containment Sump Blockage," in Unit 2. We plan to address underlying performance deficiencies associated with both the Yellow and White findings, discussed above, during our periodic Confirmatory Action Letter follow-up inspections and assessments. We plan to inspect required actions of the Confirmatory Orders, discussed above, during the year. 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 midcycle 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.qov/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 Troy Pruett at (817) 860-8173 with any questions you may have regarding this letter or the inspection plan.

Sincerely,

Elmo E. Collins
Regional Administrator

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50-529
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NPF-51
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Palo Verde Inspection/Activity Plan

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Palo Verde
Inspection / Activity Plan
03/01/2008 - 06/30/2009

Unit Number	Inspection Activity	Title	No. of Staff on Site	Planned Dates Start	Planned Dates End	Inspection Type
	EB1-08U2	**- ISI PV U2 & TI 166 CLOSEOUT U2**	**2**			
2	IP 2515/166	Pressurized Water Reactor Containment Sump Blockage [NRC GENERIC LETTER 2004-02]		04/07/2008	04/11/2008	Safety Issues
2	IP 7111108P	Inservice Inspection Activities - PWR		04/07/2008	04/18/2008	Baseline Inspections
	RP-ORS2	**- OCCUPATIONAL RADIATION SAFETY - ACCESS**	**1**			
1, 2, 3	IP 7112101	Access Control to Radiologically Significant Areas		04/28/2008	05/02/2008	Baseline Inspections
1, 2, 3	IP 7112102	ALARA Planning and Controls		04/28/2008	05/02/2008	Baseline Inspections
1	IP 71151-OR01	Occupational Exposure Control Effectiveness		04/28/2008	05/02/2008	Baseline Inspections
3	IP 71151-PR01	RETS/ODCM Radiological Effluent		04/28/2008	05/02/2008	Baseline Inspections
	REQUAL	**- BIENNIAL REQUAL**	**5**			
1, 2, 3	IP 7111111B	Licensed Operator Requalification Program		08/25/2008	08/29/2008	Baseline Inspections
	RP-ORS3	**- OCCUPATIONAL RADIATION SAFETY - ALARA**	**1**			
1, 2, 3	IP 7112101	Access Control to Radiologically Significant Areas		09/29/2008	10/03/2008	Baseline Inspections
1, 2, 3	IP 7112102	ALARA Planning and Controls		09/29/2008	10/03/2008	Baseline Inspections
1	IP 71151-OR01	Occupational Exposure Control Effectiveness		09/29/2008	10/03/2008	Baseline Inspections
2	IP 71151-PR01	RETS/ODCM Radiological Effluent		09/29/2008	10/03/2008	Baseline Inspections
	EB1-08U1	**- INSERVICE INSPECTION ACTIVITIES PV U1**	**3**			
1	IP 7111108P	Inservice Inspection Activities - PWR		10/13/2008	10/24/2008	Baseline Inspections
	EXAM	**- INITIAL EXAMINATION**	**10**			
1	X02383	PALO VERDE UNIT 1-INITIAL EXAM (11/2008)		10/06/2008	10/10/2008	Not Applicable
1	X02383	PALO VERDE UNIT 1-INITIAL EXAM (11/2008)		11/10/2008	11/21/2008	Not Applicable
	EB1-17T	**- 50.59 / PERMANENT PLANT MODS**	**3**			
1, 2, 3	IP 7111102	Evaluation of Changes, Tests, or Experiments		11/17/2008	12/05/2008	Baseline Inspections
1, 2, 3	IP 7111117B	Evaluations of Changes, Tests, or Experiments & Permanent Plant Modifications		11/17/2008	12/05/2008	Baseline Inspections
	EB2-52B	**- BIENNIAL PI&R INSPECTION**	**2**			
1, 2, 3	IP 71152B	Identification and Resolution of Problems		12/08/2008	12/12/2008	Baseline Inspections
	RPTEAM	**- RADIATION SAFETY TEAM INSPECTION**	**9**			
1, 2, 3	IP 7112103	Radiation Monitoring Instrumentation and Protective Equipment		01/26/2009	01/30/2009	Baseline Inspections
1, 2, 3	IP 7112201	Radioactive Gaseous and Liquid Effluent Treatment and Monitoring Systems		01/26/2009	01/30/2009	Baseline Inspections
1, 2, 3	IP 7112202	Radioactive Material Processing and Transportation		01/26/2009	01/30/2009	Baseline Inspections
1, 2, 3	IP 7112203	Radiological Environmental Monitoring Program (REMP) And Radioactive Material Control Program		01/26/2009	01/30/2009	Baseline Inspections
	EP1	**- EP EXERCISE EVALUATION**	**3**			
1, 2, 3	IP 7111401	Exercise Evaluation		03/02/2009	03/06/2009	EP Baseline Inspection
1, 2, 3	IP 7111404	Emergency Action Level and Emergency Plan Changes		03/02/2009	03/06/2009	EP Baseline Inspection
1, 2, 3	IP 71151	Performance Indicator Verification		03/02/2009	03/06/2009	Baseline Inspections

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

Palo Verde
Inspection / Activity Plan
03/01/2008 - 06/30/2009

Unit Number	Inspection Activity	Title	No. of Staff on Site	Planned Dates Start	Planned Dates End	Inspection Type
	EB1-08	**- U3 INSERVICE INSPECTION**	**2**			
3	IP 7111108P	Inservice Inspection Activities - PWR		04/05/2009	05/15/2009	Baseline Inspections
	RP-ORS4	**- OCCUPATIONAL RADIATION SAFETY**	**1**			
1, 2, 3	IP 7112101	Access Control to Radiologically Significant Areas		04/13/2009	04/17/2009	Baseline Inspections
1, 2, 3	IP 7112102	ALARA Planning and Controls		04/13/2009	04/17/2009	Baseline Inspections
1, 2, 3	IP 71151	Performance Indicator Verification		04/13/2009	04/17/2009	Baseline Inspections
	EB1-21T	**- CDBI**	**7**			
1, 2, 3	IP 7111121	Component Design Bases Inspection		06/22/2009	06/26/2009	Baseline Inspections

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

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☒ Publicly Available ☐ Non-Publicly Available ☐ Sensitive ☒ Non-Sensitive
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02/25/2008	02/25/2008	02/25/2008	/ /2008	3/3/2008

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