UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
611 RYAN PLAZA DRIVE, SUITE 400
ARLINGTON, TEXAS 76011-4005

February 28, 2005

Gregg R. Overbeck, Senior Vice
President, Nuclear
Arizona Public Service Company
P.O. Box 52034
Phoenix, AZ 85072-2034

SUBJECT: PALO VERDE NUCLEAR GENERATING STATION - NRC RADIATION SAFETY TEAM INSPECTION REPORT 05000528/2005009, 05000529/2005009, AND 05000530/2005009

Dear Mr. Overbeck:

On February 4, 2005, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Palo Verde Nuclear Generating Station, Units 1, 2, and 3, facility. The enclosed report documents the inspection findings, which were discussed at the conclusion of the inspection with Mr. J. Gaffney, Director, Radiation Protection, and other members of your staff.

The inspection examined activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. The team reviewed selected procedures and records, observed activities, and interviewed personnel. Specifically, the team evaluated the inspection areas within the Radiation Protection Strategic Performance Area that are scheduled for review every two years. These areas are:

- Radiation Monitoring Instrumentation
- Radioactive Gaseous and Liquid Effluent Treatment and Monitoring Systems
- Radioactive Material Processing and Transportation
- Radiological Environmental Monitoring Program and Radioactive Material Control Program

This inspection report documents one NRC-identified and two self-revealing, non-cited violations of very low safety significance (Green). However, because the findings were of very low safety significance and they were entered into your corrective action program, the NRC is treating these findings as non-cited violations consistent with Section VI.A of the NRC Enforcement Policy. Additionally, one licensee-identified violation which was determined to be of very low safety significance is listed in this report. If you contest any non-cited violation in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington DC 20555-0001; with copies to the Regional Administrator, U.S. Nuclear Regulatory Commission Region IV, 611 Ryan Plaza Drive, Suite 400, Arlington, Texas 76011-4005; the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, Washington DC 20555-0001; and the NRC Resident Inspector at the Palo Verde Nuclear Generating Station, Units 1, 2, and 3, facility.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response (if any) 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).

Sincerely,

//RA//

Michael P. Shannon, Chief
Plant Support Branch
Division of Reactor Safety

Dockets: 50-528
50-529
50-530
Licenses: NPF-41
NPF-51
NPF-74

Enclosure:
NRC Inspection Report
w/attachment: Supplemental Information

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RITS Coordinator **(KEG)**

Only inspection reports to the following:
DRS STA **(DAP)**
J. Dixon-Herrity, OEDO RIV Coordinator **(JLD)**
Assisting PV Site Secretary **(VLH)**

SISP Review Completed: Yes ADAMS: Yes ☐ No Initials: _ltr_____
Publicly Available ☐ Non-Publicly Available ☐ Sensitive Non-Sensitive

R:_PV\2005\PV2005009RP-Team-ltr.wpd

RIV:PSB\SHP	PSB\HP	PSB\HP	PSB\HP	C:PSB
LTRicketson:jlh	BDBaca	DRCarter	BKTharakan	MPShannon
/RA/	/RA/	/RA/	/RA/	/RA/
2/23/05	2/24/05	2/24/05	2/23/05	2/24/05

DRP\D	C:PSB			
TWPruett	MPShannon			
/RA/	/RA/			
2/25/05	2/28/05			

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U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

Dockets:	50-528, 50-529, 50-530
Licenses:	DPR-41, NPF-51, NPF-74
Report:	05000528/2005009, 05000529/2005009, 05000530/2005009
Licensee:	Arizona Public Service Company
Facility:	Palo Verde Nuclear Generating Station, Units 1, 2, and 3
Location:	5951 S. Wintersburg Tonopah, Arizona
Dates:	January 31 through February 4, 2005
Inspectors:	Larry Ricketson, P.E., Senior Health Physicist, Plant Support Branch Bernadette D. Baca, Health Physicist, Plant Support Branch Daniel R. Carter, Health Physicist, Plant Support Branch Binesh K.Tharakan, Health Physicist, Plant Support Branch
Approved By:	Michael P. Shannon, Chief, Plant Support Branch Division of Reactor Safety

Enclosure

SUMMARY OF FINDINGS

IR 05000528/2005009; 05000529/2005009; 05000530/2005009; 01/31/05 - 02/04/05; Palo Verde Nuclear Generating Station; Radiation Monitoring Instrumentation and Protective Equipment, Radioactive Material Transportation, Radioactive Material Control Program, Cross-Cutting Areas

The report covered a one week period of inspection on site by a team of four region-based inspectors. Three findings of very low safety significance (Green) were identified. The significance of most findings is indicated by their color (Green, White, Yellow, Red) using IMC 0609, "Significance Determination Process". Findings for which the Significance Determination Process does not apply may be "Green" or be assigned a severity level after NRC management review. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 3, dated July 2000.

A. NRC-Identified and Self-Revealing Findings

Cornerstone: Emergency Preparedness

- Green. The team identified a non-cited violation of Technical Specification 5.4.1 because a reactor operator failed to have self-contained breathing apparatus corrective lens inserts readily available while on duty. The corrective lenses were located in a locker outside of the control room envelope. The operator had not been trained on the requirement.

  The finding is greater than minor because it was associated with an Emergency Preparedness cornerstone attribute (emergency response organization readiness) and it affected the associated cornerstone objective because the failure to have corrective lenses could have impaired the operator's ability to see the control boards and take proper actions. Using the Emergency Preparedness Significance Determination Process, the team determined the finding to be of very low safety significance because: (1) it was a failure to comply with a technical specification-required procedure, but (2) it did not affect a risk-significant planning standard. The finding was placed into the licensee's corrective action program (Section 2OS3).

Cornerstone: Public Radiation Safety

- Green. The team reviewed a self-revealing, non-cited violation of 10 CFR 71.5, which occurred when the licensee failed to ship radioactive material correctly. A radioactive shipment classified as an "excepted package-limited quantity" exceeded the external dose rate limitation of 0.5 millirem per hour because licensee personnel failed to ensure that the package contents could not shift during transportation. The package recipient identified dose rates of 0.8 millirems per hour on the exterior surface of the package and notified the licensee of the problem.

  The finding is greater than minor because it was associated with a Public Radiation Safety cornerstone attribute (human performance) and it affected the associated cornerstone objective because the failure to correctly ship radioactive material decreases the licensee's

assurance that the public will not receive unnecessary dose. However, this finding cannot be evaluated by the Public Radiation Safety Significance Determination Process because it does not involve radioactive shipments classified as Schedule 5 through 11, as described in NUREG-1660, and it does not fit traditional enforcement. Therefore, the finding was reviewed by NRC management and determined to be of very low safety significance. Additionally, this finding had cross-cutting aspects associated with human performance (personnel). The individual directly contributed to the finding when the licensee's shipper failed to ensure that the package contents could not shift. The finding was placed into the licensee's corrective action program (Section 2PS2).

- Green. The team reviewed a self-revealing, non-cited violation of Technical Specification 5.4.1, which occurred when the licensee failed to prevent radioactive material from leaving the radiological controlled area and the protected area. A tape measure worn on the lanyard of a radiation protection technician was not evaluated for the presence of radioactive material before its release from the radiological controlled area. The licensee discovered the radioactive material when the individual was whole body counted; however, the discovery was fortuitous because the licensee's procedural guidance did not specify that items, such as the lanyard, be worn consistently during the whole body counting process. The quantity of radioactive material on the tape measure would have been identified by the licensee's cabinet radiation detectors had the radiation protection technician used one as required.

  The finding is greater than minor because it was associated with a Public Radiation Safety cornerstone attribute (human performance) and it affected the associated cornerstone objective because the failure to control radioactive material decreases the licensee's assurance that the public will not receive unnecessary dose. Using the Public Radiation Safety Significance Determination Process, the team determined that the finding had very low safety significance because: (1) it was was a radioactive material control finding, (2) it was not a transportation finding, (3) it did not result in public dose greater than 0.005 rem, and (4) the number of occurrences was not greater than five. Additionally, this finding had cross-cutting aspects associated with human performance (personnel). The individual directly contributed to the finding when the radiation protection technician failed to use the established process to evaluate the tool for radioactive contamination. The finding was placed into the licensee's corrective action program (Section 2PS3).

B. Licensee-Identified Violations

A violation of very low safety significance, which was identified by the licensee has been reviewed by the inspectors. Corrective actions taken or planned by the licensee have been entered into the licensee's corrective action program. This violation and corrective actions are listed in Section 4OA7 of this report.

REPORT DETAILS

2. RADIATION SAFETY
Cornerstones: Occupational Radiation Safety [OS] and Public Radiation Safety [PS]

2OS3 Radiation Monitoring Instrumentation and Protective Equipment (71121.03)

a. Inspection Scope

This area was inspected to determine the accuracy and operability of radiation monitoring instruments that are used for the protection of occupational workers and the adequacy of the program to provide self-contained breathing apparatus to workers. The team used the requirements in 10 CFR Part 20 and the licensee's procedures required by technical specifications as criteria for determining compliance. The team interviewed licensee personnel and reviewed:

- Calibration of area radiation monitors associated with transient high and very high radiation areas and post-accident monitors used for remote emergency assessment
- Calibration of portable radiation detection instrumentation, electronic alarming dosimetry, and continuous air monitors used for job coverage
- Calibration of whole body counting equipment and radiation detection instruments utilized for personnel and material release from the radiologically controlled area
- Self-assessments and audits
- Corrective action program reports since the last inspection
- Calibration expiration and source response check currency on radiation detection instruments staged for use
- The licensee's capability for refilling and transporting self-contained breathing apparatus air bottles to and from the control room and operations support center during emergency conditions, status of self-contained breathing apparatus staged and ready for use in the plant and associated surveillance records, and personnel qualification and training
- Qualification documentation for onsite personnel designated to perform maintenance on the vendor-designated vital components, and the vital component maintenance records for self-contained breathing apparatus units

Either because the conditions did not exist or an event had not occurred, no opportunities were available to review the following items:

- Licensee Event Reports
- Licensee action in cases of repetitive deficiencies or significant individual deficiencies

The inspector completed 9 of the required 9 samples.

b. Findings

Introduction. The team identified a non-cited violation of Technical Specification 5.4.1, when a licensed reactor operator failed to have his self-contained breathing apparatus corrective lenses readily available while on duty. The violation had very low safety significance.

Description. On February 2, 2005, a team member interviewed a licensed reactor operator in Unit 3 to determine if the individual understood and met the requirements for donning a self-contained breathing apparatus. During the interview, the team member determined that the operator required corrective lenses. The operator had been provided with corrective lenses designed to be worn with a self-contained breathing apparatus; however, these lenses were kept in the operator's locker, which was located outside of the control room envelope. According to the licensee, "readily available" meant "on the operator's person or in the control room." The team also determined that the licensee failed to inform the operator about this requirement. In April 2000, licensed reactor operators were provided information related to this requirement during continuing training. However, this particular operator was an auxiliary operator at the time and did not receive his reactor operator license until August 2003. Consequently, the operator was never trained on this requirement as were the other operators.

Analysis. The failure to have respirator corrective lenses readily available while on duty in the control room is a performance deficiency. The finding is greater than minor because it was associated with an Emergency Preparedness cornerstone attribute (emergency response organization readiness) and it affected the associated cornerstone objective because the failure to have corrective lenses could have impaired the operator's ability to see the control boards and take proper actions. Using the Emergency Preparedness Significance Determination Process, the team determined the finding to be of very low safety significance because: (1) it was a failure to comply with a technical specification-required procedure, but (2) it did not affect a risk-significant planning standard.

Enforcement. Technical Specification 5.4.1 requires that written procedures be established, implemented, and maintained covering the applicable procedures recommended in Regulatory Guide 1.33, Revision 2, Appendix A, February 1978. Appendix A, Section 7.e(5), recommends procedures for respiratory protection. Emergency Plan Implementing Procedure 08, Emergency Plan Administration, Revision 13, Section 8.4, required all personnel who require corrective lenses always have their corrective lenses for self-contained breathing apparatus readily available while on duty. This requirement was violated when a licensed reactor operator did not have corrective lenses for use with self-contained breathing apparatus readily available while on duty. The finding was documented in the licensee's corrective action program by Condition Report/Disposition Request 2773944. Because this violation was of very low safety significance and was entered into the licensee's corrective action program, it is

being treated as an non-cited violation, consistent with Section VI.A of the NRC Enforcement Policy: NCV 05000530/2005009-01, Failure to maintain corrective lenses readily available.

2PS1 Radioactive Gaseous and Liquid Effluent Treatment and Monitoring Systems (71122.01)

a. Inspection Scope

This area was inspected to ensure that the gaseous and liquid effluent processing systems are maintained so that radiological releases are properly mitigated, monitored, and evaluated with respect to public exposure. The team used the requirements in 10 CFR Part 20, 10 CFR Part 50 Appendices A and I, the Offsite Dose Calculation Manual, and the licensee's procedures required by technical specifications as criteria for determining compliance. The team interviewed licensee personnel and reviewed:

- The 2002 and 2003 radiological effluent release reports, changes to radiation monitor setpoint calculation methodology, anomalous sampling results, effluent radiological occurrence performance indicator incidents
- Gaseous and liquid release system component configurations
- Radioactive liquid and gaseous effluent release permits and dose projections to members of the public
- Changes made by the licensee to the ODCM, the liquid or gaseous radioactive waste system design, procedures, or operation since the last inspection
- Monthly, quarterly, and annual dose calculations
- Surveillance test results involving air cleaning systems and stack or vent flow rates
- Instrument calibrations of discharge effluent radiation monitors and flow measurement devices, effluent monitoring system modifications, effluent radiation monitor alarm setpoint values, and counting room instrumentation calibration and quality control
- Interlaboratory comparison program results
- Audits, self-assessments and corrective action reports performed since the last inspection

Either because the conditions did not exist or an event had not occurred, no opportunities were available to review the following items:

- Licensee event reports and special reports

- Abnormal releases

The inspector completed 10 of the required 10 samples.

b. Findings

No findings of significance were identified.

2PS2 Radioactive Material Processing and Transportation (71122.02)

a. Inspection Scope

This area was inspected to verify that the licensee's radioactive material processing and transportation program complies with the requirements of 10 CFR Parts 20, 61, and 71 and Department of Transportation regulations contained in 49 CFR Parts 171-180. The team interviewed licensee personnel and reviewed:

- The radioactive waste system description, recent radiological effluent release reports, and the scope of the licensee's audit program
- Liquid and solid radioactive waste processing systems configurations, the status and control of any radioactive waste process equipment that is not operational or is abandoned in place, changes made to the radioactive waste processing systems since the last inspection, and current processes for transferring radioactive waste resin and sludge discharges
- Radio-chemical sample analysis results for radioactive waste streams and use of scaling factors and calculations to account for difficult-to-measure radionuclides
- Shipment packaging, surveying, labeling, marking, placarding, vehicle checking, driver instructing, and disposal manifesting
- Shipping records for non-excepted package shipments
- Audits, state agency reports, self-assessments and corrective action reports performed since the last inspection

Either because the conditions did not exist or an event had not occurred, no opportunities were available to review the following items:

- Licensee event reports and special reports
- The inspector completed 6 of the required 6 samples.

b. Findings

Introduction. The team reviewed a self-revealing, non-cited violation of 10 CFR 71.5, which occurred when the licensee failed to ship radioactive material correctly. The violation had very low safety significance.

Description. On November 4, 2004, the licensee was notified about a problem with Shipment 04-SH-084. The radioactive shipment had been transported as an "excepted package-limited quantity." The notification came from the recipient of the shipment, who identified that the contact dose rate on the external surface of the package exceeded the limit allowed by regulation. The recipient measured a contact radiation level of 0.8 millirem per hour. The licensee's survey conducted before shipment indicated that the highest dose rate on the package was 0.3 millirem per hour. The licensee concluded that the package, which contained pressurizer welding equipment, had shifted position within the transport container, causing the external radiation dose rate to increase. The licensee's corrective action evaluation determined that the shipper had not used appropriate package/bracing material for the size and weight of the equipment that was shipped.

Analysis. The failure to ship limited quantity radioactive material in accordance with federal regulations is a performance deficiency. The finding is greater than minor because it was associated with a Public Radiation Safety cornerstone attribute (human performance) and it affected the associated cornerstone objective because the failure to correctly ship radioactive material decreases the licensee's assurance that the public will not receive unnecessary dose. However, this finding cannot be evaluated by the Public Radiation Safety Significance Determination Process because it does not involve radioactive shipments classified as Schedule 5 through 11, as described in NUREG-1660, "U.S. Specific Schedules of Requirements for Transport of Specified Types of Radioactive Material Consignments," and it does not fit traditional enforcement. Therefore, the finding was reviewed by NRC management and determined to be of very low safety significance. Additionally, this finding had cross-cutting aspects associated with human performance (personnel). The individual directly contributed to the finding when the licensee's shipper failed to ensure that the package contents did not shift.

Enforcement. 10 CFR 71.5 states, in part, that each licensee who transports licensed material on public highways shall comply with applicable requirements of the DOT regulations in 49 CFR parts 170 through 189. 49 CFR 173.421(a)(2) requires that excepted packages for limited quantities of radioactive material have a radiation level at any point on the external surface of the package which does not exceed 0.5 millirem per hour. However, the licensee failed to prepare the package so that it did not exceed the dose rate limit. The finding was documented in the licensee's corrective action program by Condition Report/Disposition Request 2751832. Because this violation was of very low safety significance and was entered into the licensee's corrective action program, it is being treated as a non-cited violation, consistent with Section VI.A of the NRC Enforcement Policy: NCV 05000528/0509-02; 05000529/0509-02; 05000530/0509-02, Failure to ship radioactive material correctly.

2PS3 Radiological Environmental Monitoring Program and Radioactive Material Control Program (71122.03)

a. Inspection Scope

This area was inspected to ensure that the radiological environmental monitoring program verifies the impact of radioactive effluent releases to the environment and sufficiently validates the integrity of the radioactive gaseous and liquid effluent release program; and that the licensee's surveys and controls are adequate to prevent the inadvertent release of licensed materials into the public domain. The team used the requirements in 10 CFR Part 20, 10 CFR Part 50, Appendix I, the Offsite Dose Calculation Manual, and the licensee's procedures required by technical specifications as criteria for determining compliance. The team interviewed licensee personnel and reviewed:

- Annual environmental monitoring reports and licensee event reports
- A sampling of air sampling stations and thermoluminescence dosimeter (TLD) monitoring stations
- Collection and preparation of environmental samples
- Operability, calibration, and maintenance of meteorological instruments
- Each event documented in the Annual Environmental Monitoring Report which involved a missed sample, inoperable sampler, lost TLD, or anomalous measurement
- Significant changes made by the licensee to the ODCM as the result of changes to the land census or sampler station modifications since the last inspection
- Calibration and maintenance records for air samplers, composite water samplers, and environmental sample radiation measurement instrumentation, quality control program, interlaboratory comparison program results, and vendor audits
- Locations where the licensee monitors potentially contaminated material leaving the radiological controlled area and the methods used for control, survey, and release from these areas
- Type of radiation monitoring instrumentation used to monitor items released, survey and release criteria of potentially contaminated material, radiation detection sensitivities, procedural guidance, and material release records
- Audits, self-assessments and corrective action reports performed since the last inspection

Either because the conditions did not exist or an event had not occurred, no opportunities were available to review the following items:

- Licensee event reports and special reports

The inspector completed 10 of the required 10 samples.

b. Findings

Introduction. The team reviewed a self-revealing, non-cited violation of Technical Specification 5.4.1, which occurred when the licensee failed to prevent radioactive material from leaving the radiological controlled area and the protected area. The violation had very low safety significance.

Description. A tape measure worn on the lanyard of a radiation protection technician was not evaluated for the presence of radioactive material before it was released from the radiological controlled area. The licensee discovered the radioactive material when the individual was whole body counted on July 9, 2003; however, the discovery was fortuitous because the licensee's procedural guidance did not specify that items, such as the lanyard, be worn consistently during the whole body counting process. The quantity of radioactive material on the tape measure would have been identified by the licensee's cabinet radiation detectors had the radiation protection technician used one as required before exiting the radiological controlled area.

Analysis. The failure to evaluate a tool being removed from the radiological controlled area for the presence of radioactive material is a performance deficiency. The finding is greater than minor because it was associated with a Public Radiation Safety cornerstone attribute (human performance) and it affected the associated cornerstone objective because the failure to control radioactive material decreases the licensee's assurance that the public will not receive unnecessary dose. Using the Public Radiation Safety Significance Determination Process, the team determined that the finding had very low safety significance because: (1) the finding was a radioactive material control finding, (2) it was not a transportation finding, (3) it did not result in public dose greater than 0.005 rem, and (4) the number of occurrences was not greater than five . (Two additional examples identified by the licensee are discussed in Section 4OA7.) Additionally, this finding had cross-cutting aspects associated with human performance (personnel). The individual directly contributed to the finding when the radiation protection technician failed to use the established process to evaluate the tool for radioactive contamination.

Enforcement. Technical Specification 5.4.1 requires written procedures be established and implemented covering applicable procedures recommended in Regulatory Guide 1.33, Revision 2, Appendix A, February 1978. Regulatory Guide 1.33, Appendix A, Section 7.e, recommends procedures for the control of radioactivity for limiting materials released to the environment and limiting personnel exposure. Procedure 75RP-9RP09, "Release of Vehicles, Equipment, and Materials from the RCA," Section 3.2.2, requires

items that are to be unconditionally released be evaluated against the criteria in Appendix B. The acceptance criteria in Procedure 75RP-9RP09, Appendix B, for unconditional release is, "No Detectable Activity." The licensee violated this requirement when the tape measure worn on the lanyard of a radiation protection technician was not evaluated in a cabinet radiation detector. Because this failure is of very low safety significance and has been entered into the licensee's corrective action system as Condition Report/Disposition Request 2619162, this violation is being treated as an non-cited violation, consistent with Section VI.A of the NRC Enforcement Policy: NCV 05000528/0509-03; 05000529/0509-03; 05000530/0509-03, Failure to control radioactive material.

4. OTHER ACTIVITIES

4OA2 Problem Identification and Resolution

a. Inspection Scope

The team evaluated the effectiveness of the licensee's problem identification and resolution process with respect to the following inspection areas:

- Radiation Monitoring Instrumentation (Section 2OS3)
- Radioactive Gaseous and Liquid Effluent Treatment and Monitoring Systems (Section 2PS1)
- Radioactive Material Processing and Transportation (Section 2PS2)
- Radiological Environmental Monitoring Program and Radioactive Material Control Program (Section 2PS3)

a. Findings and Observations

No findings of significance were identified.

4OA4 Cross-Cutting Aspects of Findings

Section 2PS2 describes an issue with a human performance cross-cutting aspects which involved the failure to ship radioactive material correctly.

Section 2PS3 describes an issue with a human performance cross-cutting aspects which involved the failure to control radioactive material.

4OA6 Management Meetings

Exit Meeting Summary

On February 4, 2005, the team presented the inspection results to Mr. J. Gaffney, Director, Radiation Protection, and other members of the staff who acknowledged the

findings. The team confirmed that proprietary information was not provided or examined during the inspection.

4OA7 Licensee Identified Violation

The following finding of very low significance was identified by the licensee and is a violation of NRC requirements which meet the criteria of Section VI of the NRC Enforcement Policy, NUREG-1600 for being dispositioned as a non-cited violation.

Technical Specification 5.4.1 requires written procedures be established and implemented covering applicable procedures recommended in Regulatory Guide 1.33, Revision 2, Appendix A, February 1978. Regulatory Guide 1.33, Appendix A, Section 7.e, recommends procedures for the control of radioactivity for limiting materials released to the environment and limiting personnel exposure. Procedure 75RP-9RP09, "Release of Vehicles, Equipment, and Materials from the RCA," Section 3.2.2, requires the evaluation of items to be unconditionally released against criteria in Appendix B. Appendix B criteria for unconditional release is, "No Detectable Activity." However, the licensee identified two examples in which it violated this requirement. During an annual survey of Building E, conducted on June 6, 2003, the licensee discovered a survey instrument beta cap which was contaminated with fixed radioactive material. Additionally, on October 29, 2004, the licensee released a carbon analyzer to the hazardous material yard. Later the same day, chemistry personnel alerted radiation protection personnel to the fact that the device had contained reactor coolant and that it was likely to contain radioactive material. The licensee acknowledged that both items would have been identifiable by a frisker or cabinet radiation detector had they been used.

When processed through the Public Radiation Safety significance determination process, the finding is of very low safety significance because the finding was a radioactive material control issue, was not a transportation issue, public exposure was not greater than 5 millirem, and there were less than 5 occurrences.

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee

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J. Bungard, Section Leader, Radiation Protection
K. Coon, Technical Management Assistant, Radiation Protection
M. Czarnylas, Department Leader, Fire Protection Operations
T. Dickinson, Senior Technician, Radiation Protection
T. Dixon, Senior Radiological Monitoring Technician, Radiation Protection
S. Dodd, Fire Marshall, Fire Protection Operations
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M. Pest, Engineer, Maintenance Engineering
T. Philips, Senior Engineer, Operations Computer Services
C. Podgurski, Section Leader, Dosimetry/Technology
R. Routolo, Radiation Monitoring Section Leader, Radiation Protection
L. Smith, Meteorological System Engineer, Engineering
M. Wagner, Section Leader, Radiation Protection Operations

NRC

G. Warnick, Senior Resident Inspector
P. Benvenuto, Resident Inspector
J. Melfi, Resident Inspector

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

None

Opened and Closed During this Inspection

05000530/200509-01	NCV	Failure to maintain corrective lenses readily available (Section 2OS3)

Attachment

5000528/200509-02 5000529/200509-02 5000530/200509-02	NCV	Failure to ship radioactive material correctly (Section 2PS2)
5000528/200509-03 5000529/200509-03 5000530/200509-03	NCV	Failure to control radioactive material (Section PS3)

LIST OF DOCUMENTS REVIEWED

Section 2OS3: Radiation Monitoring Instrumentation and Protective Equipment

Audits, Self Assessments, and Surveillances

Audit 2004-013, Radiation Safety
National Voluntary Laboratory Accreditation Program Assessment, May 26, 2004
Self Assessment: Respiratory Maintenance Equipment Obsolescence, December 29, 2003

Condition Report/Disposition Requests

116576, 2600856, 2601332, 2620850, 2632440, 2641658, 2683535, 2686116, 2737503, 2743517, 2746472, 2746056, 2746629, 2752681, 2760588, 2771956, 2773944

Procedures

01DP-0IS08	PVNGS Respiratory Protection Equipment Usage, Revision 9
01DP-0IS09	Respiratory Fit Testing, Revision 8
01DP-0IS10	PVNGS Respiratory Protection Program, Revision 3
14DP-9IS01	Respiratory Equipment Maintenance Inspection and Repair, Revision 5
14DP-9IS03	Filling Breathing Air Cylinders, Revision 2
74ST-9SQ20	RU-1 Calibration Test, Revision 13
74ST-9SQ21	Radiation Monitoring Calibration Test for Baseline Process Monitors, Revision 12
74ST-9SQ22	Radiation Monitoring Calibration Test for Baseline Area Monitors, Revision 6
74ST-9SQ23	Radiation Monitoring Calibration Test for New Scope Area Monitors, Revision 7
75RP-9EQ04	Calibration of Neutron Dose Rate Instruments, Revision 4
75RP-9EQ06	Flow Calibration and Maintenance of Portable Air Samplers, Revision 5
75RP-9EQ13	Canberra Whole Body Counting System Calibration, Revision 3
75RP-9EQ16	Calibration, Response Check, and Troubleshooting of the Eberline PCM-1B Monitor, Revision 4
75RP-9EQ18	Calibration of Portable Count Rate Instrumentation, Revision 5
75RP-9EQ20	Calibration of Portable Gamma and Beta-Gamma Dose Rate Instruments, Revision 7
75RP-9EQ21	Calibration of Self-Indicating Dosimeters, Revision 6
75RP-9EQ22	Calibration of Counter Scalers, Revision 2
75RP-9EQ24	Calibration of the Eberline PCM-2 Contamination Monitor, Revision 8

75RP-9EQ27 Calibration and Response Check of the Eberline Model PM-7 Portal Monitor, Revision 4

Instrument Calibration Datasheets and Work Orders

Count Rate Instrument RM20 Serial Numbers: 643, 743, 930, 1113, 1660, 1687, 1713, 11151
Dose-Rate Instrument 40GL Serial Numbers: 13879, 13889, 14358
Dose-Rate Instrument 6112B Serial Numbers: 35671, 50792, 63724
Dose-Rate Instrument RO2 Serial Numbers: 3182, 3214, 3945, 3956, 42771

STWO 2524016, 2569074, 2580654, 2581101, 2594364, 2624124
WO 2569034, 2569071, 2569073, 2569112, 2569126, 2569127, 2618181, 2682446, 2699874, 2699892, 2712971

Section 2PS1: Radioactive Gaseous and Liquid Effluent Treatment and Monitoring Systems

Audits and Self-Assessments

Radiation Safety Audit 2004-013, November 19, 2004
Self-Assessment, Respiratory Maintenance Equipment Obsolescence, December 29, 2003
NUPIC JOINT AUDIT of NUCON International, Incorporated, Columbus, Ohio. NUPIC Audit Number 18623.

Condition Report/Disposition Requests

2590676, 2591719, 2592749, 2594216, 2597909, 2602380, 2604470, 2600811, 2616040, 2613854, 2627090, 2629690, 2633134, 2643128, 2649389, 2654042, 2685160, 2685679, 2682733, 2692275, 2693395, 2708943, 2709406, 2717676, 2721669, 2730195, 2736879, 2737390, 2737503, 2737841, 2741848, 2743208, 2748659, 2748876, 2741240, 2752681, 2760588

Procedures

33ST-9HF01 Surveillance Testing for the Aux/Fuel Building Nuclear Air Treatment System, Revision 8
33ST-9HF03 Carbon Analysis for the Aux/Fuel Building Nuclear Air Treatment System, Revision 5
33ST-9HJ02 Surveillance Testing of the Control Room Nuclear Air Treatment System, Revision 7
74DP-9CY08 Radiological Monitoring Program, Revision 13
74OP-9SC02 Sampling Instructions for Auxiliary Systems, Revision 22
74ST-9SQ01 Effluent Monitoring System Daily Surveillance Test, Revision 9
74ST-9SQ03 High Range Effluent Monitor Leak Rate Surveillance Test, Revision 6

74ST-9SQ06 Effluent Surveillance Test of RU-12 and FIT-33, Revision 6
74RM-9EF20 Gaseous Radioactive Release Permits and Offsite Dose Assessment, Revision 13
74RM-9EF23 Secondary System Liquid Discharge, Revision 12
74RM-9EF60 Radiation Monitoring System Sample Collection, Revision 22

74ST-9SQ12 Effluent Flowpath Process Flow Calibration, Revision 6
74ST-9SQ26 Radiation Monitoring Calibration Test for RU-143, Revision 11
74ST-9SQ27 Radiation Monitoring Calibration Test for RU-144, Revision 10
74ST-9SQ28 Radiation Monitoring Calibration Test for RU-145, Revision 9
74ST-9SQ29 Radiation Monitoring Calibration Test for RU-146, Revision 9

Surveillance Test Packages

2548194, 2548200, 2568569, 2568628, 2568851, 2572478, 2644566, 2569057

Miscellaneous

2002 Annual Effluents Report
2003 Annual Effluents Report

Section 2PS2: Radioactive Material Processing and Transportation

Audits and Self Assessments

Radiation Safety Audit 2004-013
DAW Self-Assessment, 3/31/2004
Nuclear Assurance Evaluation Report 03-0256
Nuclear Assurance Evaluation Report 04-0135

Condition Report/Disposition Requests

2566538, 2648988, 2651163, 2652080, 2658915, 2693308, 2712017

Procedures

76DP-0RP01 Radwaste Management Program Overview, Revision 2
76DP-0RP03 Radwaste Process Control Program, Revision 4
76DP-0RP04 Receipt and Shipment of Radioactive Material, Revision 3
76DP-0RP05 Radwaste Control and Management Activities, Revision 3
76RP-0RW03 Waste Stream Sampling and Database Maintenance, Revision 1
76DP-0RW05 Packaging and Classification of Radioactive Waste, Revision 3
76RP-0RW06 Packaging of Radioactive Material, Revision 2
76RP-0RW07 Shipping Radioactive Material, Revision 7
76RP-0RW12 PVNGS Resin Drying System, Revision 4

Licensees

NWS Technologies, LCC - 541
RACE, LCC - R-79273-D05
SONGS, NPE10

Certificates of Compliance

CWS 8-120B, 9168, Revision 14
RSM 10-142B, 9208, Revision 14

Shipment Packages

03-RW-005, 03-RW-010, 03-RW-021, 04-RW-022, 04-RW-031

Section 2PS3: Radiological Environmental Monitoring Program (REMP) And Radioactive Material Control Program

Audits and Assessments

Radiation Protection Self-Assessment - REMP Air Sampling
Radiation Safety Audit 2004-013

Condition Report/Disposition Requests

2608064, 2612126, 2619162, 2648988, 2731154, 2749492

Procedures

74DP-9CY08 Radiological Monitoring Program, Revision 13
74RM-0EN02 Radiological Environmental Air Sampling, Revision 17
74RM-0EN03 Radiological Environmental Sampling, Revision 22
74RM-0EN10 Weekly Radiological Environmental Sample Collection Verification, Revision 11
75RP-9RP09 Release of Vehicles, Equipment, and Material from Radiological Controlled Areas, Revision 22
77ST-9RG03 Meteorological System Calibration (Primary System), Revision 5
77ST-9RG02 Meteorological System Calibration (Redundant System), Revision 3

Miscellaneous

Annual Radiological Environmental Operating Report - 2003
Annual Radiological Environmental Operating Report - 2002

Palo Verde Nuclear Generating Station Offsite Dose Calculation Manual, Revision 19

Sampling collection records for locations 4, 6A, 14A, 15, 17A, 35, 40, 46, 49