



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
1600 EAST LAMAR BOULEVARD
ARLINGTON, TEXAS 76011-4511

May 7, 2018

Mr. Robert Bement
Executive Vice President, Nuclear/CNO
Mail Station 7602
Arizona Public Service Company
P.O. Box 52034
Phoenix, AZ 85072-2034

SUBJECT: PALO VERDE NUCLEAR GENERATING STATION – NRC INTEGRATED
INSPECTION REPORT 05000528/2018001, 05000529/2018001, AND
05000530/2018001

Dear Mr. Bement:

On March 31, 2018, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Palo Verde Nuclear Generating Station Units 1, 2, and 3. On April 11, 2018, the NRC inspectors discussed the results of this inspection with Mr. Jack Cadogan and other members of your staff. The results of this inspection are documented in the enclosed report.

NRC inspectors documented one finding of very low safety significance (Green) in this report. This finding involved a violation of NRC requirements. The NRC is treating this violation as a non-cited violation (NCV) consistent with Section 2.3.2.a of the Enforcement Policy.

If you contest the violation or significance of the NCV, 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, Region IV; the Director, Office of Enforcement; and the NRC resident inspector at the Palo Verde Nuclear Generating Station.

If you disagree with a cross-cutting aspect assignment in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your disagreement, to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001; with copies to the Regional Administrator, Region IV; and the NRC resident inspector at the Palo Verde Nuclear Generating Station.

This letter, its enclosure, and your response (if any) will be made available for public inspection and copying at <http://www.nrc.gov/reading-rm/adams.html> and at the NRC Public Document Room in accordance with 10 CFR 2.390, "Public Inspections, Exemptions, Requests for Withholding."

Sincerely,

/RA/

Geoffrey B. Miller, Chief
Project Branch D
Division of Reactor Projects

Docket Nos. 50-528, 50-529, 50-530
License Nos. NPF-41, NPF-51, NPF-74

Enclosure:

Inspection Report 05000528/2018001,
05000529/2018001, 05000530/2018001

w/ Attachment:

1. Supplemental Information
2. Occupational Radiation Safety
Inspection Item Request

**U.S. NUCLEAR REGULATORY COMMISSION
Inspection Report**

Docket Numbers: 05000528, 05000529, 05000530

License Numbers: NPF-41, NPF-51, NPF-74

Report Numbers: 05000528/2018001, 05000529/2018001, and 05000530/2018001

Enterprise Identifier: I-2018-001-0013

Licensee: Arizona Public Service Company

Facility: Palo Verde Nuclear Generating Station

Location: 5801 South Wintersburg Road, Tonopah, AZ 85354

Inspection Dates: January 1, 2018 to March 31, 2018

Inspectors: C. Peabody, Senior Resident Inspector
D. Reinert, PhD, Resident Inspector
D. You, Resident Inspector
L. Carson, Senior Health Physicist
S. Hedger, Emergency Preparedness Inspector

Approved By: Geoffrey B. Miller, Chief, Project Branch D, Division of Reactor Projects

SUMMARY

The U.S. Nuclear Regulatory Commission (NRC) continued monitoring the licensee's performance by conducting an integrated inspection at Palo Verde Nuclear Generating Station, Units 1, 2, and 3, in accordance with the Reactor Oversight Process. The Reactor Oversight Process is the NRC's program for overseeing the safe operation of commercial nuclear power reactors. Refer to <https://www.nrc.gov/reactors/operating/oversight.html> for more information. NRC and self-revealed findings, violations, and additional items are summarized in the table below.

List of Findings and Violations

Inadequate Post Maintenance Test Instructions for Diesel Fuel Oil Transfer Pump			
Cornerstone	Significance	Cross-cutting Aspect	Report Section
Mitigating Systems	Green NCV 05000528/2018001-01 Closed	[H.12] – Human Performance, Avoid Complacency	71111.12 – Maintenance Effectiveness
The inspectors reviewed a self-revealed, Green, non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the failure to prescribe appropriate work instructions for maintenance on the Unit 1 diesel fuel oil transfer pump A. Specifically, following power cable maintenance on November 9, 2017, the instructions for conducting a post-maintenance test for the transfer pump were inadequate to detect a high resistance connection in the associated motor control center.			

PLANT STATUS

Unit 1 began the inspection period at rated thermal power. On February 15, 2018, the unit automatically tripped from full power when a control system failure caused a loss of generator field excitation. The unit was restarted on February 19, 2018, and remained at or near rated thermal power for the remainder of the inspection period.

Units 2 and 3 operated at or near rated thermal power for the entire inspection period.

INSPECTION SCOPES

Inspections were conducted using the appropriate portions of the inspection procedures (IPs) in effect at the beginning of the inspection unless otherwise noted. Currently approved IPs with their attached revision histories are located on the public website at <http://www.nrc.gov/reading-rm/doc-collections/insp-manual/inspection-procedure/index.html>. Samples were declared complete when the IP requirements most appropriate to the inspection activity were met consistent with Inspection Manual Chapter (IMC) 2515, "Light-Water Reactor Inspection Program - Operations Phase." The inspectors performed plant status activities described in IMC 2515 Appendix D, "Plant Status" and conducted routine reviews using IP 71152, "Problem Identification and Resolution." The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel to assess licensee performance and compliance with Commission rules and regulations, license conditions, site procedures, and standards.

REACTOR SAFETY

71111.04 - Equipment Alignment

Partial Walkdown (3 Samples)

The inspectors evaluated system configurations during partial walkdowns of the following systems/trains:

- (1) Unit 1 containment spray system B on January 4, 2018
- (2) Unit 2 auxiliary feedwater system A on January 30, 2018
- (3) Unit 3 control building heating ventilation and air conditioning B on March 16, 2018

Complete Walkdown (1 Sample)

The inspectors evaluated system configurations during a complete walkdown of the Unit 3 containment spray system on January 18, 2018.

71111.05AQ - Fire Protection Annual/Quarterly

Quarterly Inspection (5 Samples)

The inspectors evaluated fire protection program implementation in the following selected areas:

- (1) Unit 3 main turbine operating deck and bearings area, Fire Zones 9 and 10, on January 4, 2018

- (2) Unit 2 control room, Fire Zone 17, on January 19, 2018
- (3) Unit 2 containment spray pump A room and adjacent corridor, Fire Zones 30A and 88A, on January 23, 2018
- (4) Unit 1 high pressure safety injection pump B room, Fire Zone 31B on February 2, 2018
- (5) Unit 3 vital switchgear room A, Fire Zone 5A, on February 8, 2018

71111.07 - Heat Sink Performance

Heat Sink (1 Sample)

The inspectors evaluated Unit 1 diesel generator A lube oil and jacket water heat exchanger performance on February 21, 2018.

71111.11 - Licensed Operator Requalification Program and Licensed Operator Performance

Operator Requalification (1 Sample)

The inspectors observed and evaluated risk informed completion time program and 10 CFR 50.69 program classroom training on January 31, 2018.

Operator Performance (1 Sample)

The inspectors observed and evaluated operator performance synchronizing the Unit 1 main generator to the grid following a reactor trip caused by a fault in the main generator excitation system on February 19, 2018.

The inspectors observed and evaluated operator response to Unit 3 loss of A channel indication for main steam and feedwater isolation valves, MSIV-170, 171, 180, 181, and FWIV-174, 177, on February 27, 2018.

71111.12 - Maintenance Effectiveness

Routine Maintenance Effectiveness (2 Samples)

The inspectors evaluated the effectiveness of routine maintenance activities associated with the following equipment and/or safety significant functions:

- (1) Reach rod operator gear box maintenance on safety injection valves SI-184 and SI-185 in Units 2 and 3
- (2) Diesel fuel oil transfer pump predictive engineering cable testing

71111.13 - Maintenance Risk Assessments and Emergent Work Control (5 Samples)

The inspectors evaluated the risk assessments for the following planned and emergent work activities:

- (1) Unit 1 elevated risk due to failure of emergency core cooling system A combined minimum flow recirculation valve SIA-UV660 on January 4, 2018

- (2) Unit 1 emergent risk due to diesel generator A unexpectedly shutdown during a surveillance run on January 5, 2018
- (3) Unit 3 elevated risk due to planned maintenance on containment spray pump A atmospheric dump valves SG-179A and SG-184A, and low pressure safety injection valve SI-687 January 29, 2018 through February 4, 2018
- (4) Unit 1 elevated risk due to diesel generator A super outage on February 26, 2018
- (5) Unit 2 elevated risk due to diesel generator B super outage on March 19, 2018

71111.15 - Operability Determinations and Functionality Assessments (9 Samples)

The inspectors evaluated the following operability determinations and functionality assessments:

- (1) Unit 2 abnormal trend for containment sump level transmitter, RDL-411, on January 3, 2018
- (2) Unit 1 essential spray pond A pressure relief valves lifting during pump starts on January 25, 2018
- (3) Unit 3 containment spray discharge to shutdown cooling heat exchanger valve, SI-685, failed to re-open during breaker maintenance on January 31, 2018
- (4) Unit 1 diesel generator B fuel oil leak from cylinder 8L fuel oil jerk pump on February 13, 2018
- (5) Unit 1 calculated qualified life of safety injection combined header isolation valves, SI-660 and SI-659, on February 23, 2018
- (6) Unit 3 loss of indication of the train A main steam isolation valves and feedwater isolation valves (MSIV-170, 171, 180, 181 and FWIV-174, 177) on February 27, 2018
- (7) Unit 1 auxiliary feedwater bypass motor operated valves SG-138A and SG-139A T-drains on March 6, 2018
- (8) Unit 1 essential cooling water pump A oil samples appear to contain metal or debris on March 7, 2018
- (9) Unit 2 steam generator sodium concentration increase on March 12, 2018

71111.18 - Plant Modifications (1 Sample)

The inspectors evaluated the following temporary or permanent modifications:

- (1) Unit 1 480V electrical breaker for containment spray to low pressure safety cross-connect valve, SI-696, replacement with General Electrical model Spectra breaker per Design Equivalent Change 01035 on March 15, 2018

71111.19 - Post Maintenance Testing (6 Samples)

The inspectors evaluated the following post maintenance tests:

- (1) Unit 1 emergency core cooling system A combined minimum flow recirculation valve SIA-UV660 following limit switch adjustment on January 4, 2018
- (2) Unit 1 diesel generator A cooldown relay, power supply, and test hand switch replacement following an unplanned cooldown during a monthly surveillance run on January 9, 2018
- (3) Unit 3 containment spray pump A test following breaker maintenance on February 6, 2018
- (4) Unit 3 30-volt power supply replacement for lost indication to main steam isolation valves on February 28, 2018
- (5) Unit 2 essential cooling water pump A test and flow balance following planned maintenance to calibrate motor overcurrent relays and replace a high discharge pressure switch on March 20, 2018
- (6) Unit 2 diesel generator A emergency mode simulated engineered safeguards features fast start test following online maintenance outage on March 23, 2018

71111.20 - Refueling and Other Outage Activities (1 Sample)

The inspectors evaluated activities from February 15 - 19, 2018, for the Unit 1 forced outage due to an unplanned reactor trip caused by a fault in the main generator excitation circuitry.

71111.22 - Surveillance Testing

The inspectors evaluated the following surveillance tests:

Routine (6 Samples)

- (1) Unit 1 diesel fuel oil transfer pump A inservice test on January 24, 2018
- (2) Unit 1 atmospheric dump valve 178 stroke time testing on February 9, 2018
- (3) Unit 2 containment leakage type "B and C" testing, SR 3.0.3 entry for missed surveillance on February 28, 2018
- (4) Unit 3 diesel fuel oil transfer pump A inservice test on March 7, 2018
- (5) Unit 3, essential chiller A vibration analysis on March 8, 2018
- (6) Unit 1 containment spray pump B inservice test on March 22, 2018

In-service (1 Sample)

- (1) Unit 2 containment spray pump A inservice test on March 1, 2018

71114.02 - Alert and Notification System Testing (1 Sample)

The inspectors evaluated the maintenance and testing of the alert and notification system between May 1, 2016 – February 20, 2018.

71114.03 - Emergency Response Organization Staffing and Augmentation System (1 Sample)

The inspectors evaluated the readiness of the Emergency Response Organization between May 1, 2016 – February 20, 2018. Inspectors also evaluated the licensee's ability to staff their emergency response facilities in accordance with emergency plan commitments.

71114.04 - Emergency Action Level and Emergency Plan Changes (1 Sample)

The inspectors evaluated the 10 CFR 50.54(q) emergency plan change process and practices between May 1, 2016 – February 20, 2018. The evaluation reviewed screenings and evaluations documenting the implementation of this process. The review of the change process documentation does not constitute NRC approval.

71114.05 - Maintenance of Emergency Preparedness (1 Sample)

The inspectors evaluated the maintenance of the emergency preparedness program between May 1, 2016 – February 20, 2018. The evaluation reviewed activations of the emergency plan, the conduct of drills and exercises, licensee audits and assessments, and the maintenance of equipment important to emergency preparedness.

71114.06 - Drill Evaluation

Emergency Planning Drill (1 Sample)

The inspectors evaluated a full-scale emergency preparedness drill on February 13, 2018.

RADIATION SAFETY

71124.02 - Occupational As Low As Reasonably Achievable (ALARA) Planning and Controls

Radiological Work Planning (1 Sample)

The inspectors evaluated the licensee's radiological work planning by reviewing the following activities:

- (1) RWP 2017-9-1016, RMC Operations and Routine Tasks
- (2) RWP 2018-1-1523, Temporary Mat Insulation Fiber Inspection
- (3) RWP 2017-3002, Reactor Destack/Restack
- (4) RWP 2017-3015, Cavity Decontamination
- (5) RWP 2017-3039, 10-Year In-Service Inspection Vessel

Verification of Dose Estimates and Exposure Tracking Systems (1 Sample)

The inspectors evaluated dose estimates and exposure tracking.

71124.04 - Occupational Dose Assessment

Source Term Characterization (1 Sample)

The inspectors evaluated the licensee's source term characterization.

External Dosimetry (1 Sample)

The inspectors evaluated the licensee's external dosimetry program.

Internal Dosimetry (1 Sample)

The inspectors evaluated the licensee's internal dosimetry program.

Special Dosimetric Situations (1 Sample)

The inspectors evaluated the licensee's performance for special dosimetric situations.

OTHER ACTIVITIES – BASELINE

71151 - Performance Indicator Verification (15 Samples)

The inspectors verified licensee performance indicators submittals listed below:

- (1) IE01: Unplanned Scrams per 7000 Critical Hours Sample (January 1, 2017 – December 31, 2017)
- (2) IE03: Unplanned Power Changes per 7000 Critical Hours Sample (January 1, 2017 – December 31, 2017)
- (3) IE04: Unplanned Scrams with Complications (USwC) Sample (January 1, 2017 – December 31, 2017)
- (4) MS05: Safety System Functional Failures (SSFFs) Sample (April 1, 2017 – December 31, 2017)
- (5) EP01: Drill/Exercise Performance (DEP) Sample (January 1, 2017 – December 31, 2017)
- (6) EP02: Emergency Response Organization (ERO) Drill Participation Sample (January 1, 2017 – December 31, 2017)
- (7) EP03: Alert and Notification System (ANS) Reliability Sample (January 1, 2017 – December 31, 2017)

71152 - Problem Identification and Resolution

Annual Follow-up of Selected Issues (1 Sample)

The inspectors reviewed the licensee's implementation of its corrective action program related to the following issues:

- (1) Multiple failures of diesel generator underfrequency protective relay on March 26, 2018

71153 - Follow-up of Events and Notices of Enforcement Discretion

Events (1 Sample)

The inspectors evaluated the Unit 1 reactor trip following a loss of main generator excitation and licensee's response on February 15 - 16, 2018.

INSPECTION RESULTS

Inadequate Post Maintenance Test Instructions for Diesel Fuel Oil Transfer Pump			
Cornerstone	Significance	Cross-cutting Aspect	Report Section
Mitigating Systems	Green NCV 05000528/2018001-01 Closed	[H.12] – Human Performance, Avoid Complacency	71111.12 – Maintenance Effectiveness
<p>The inspectors reviewed a self-revealed, Green, non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the failure to prescribe appropriate work instructions for maintenance on the Unit 1 diesel fuel oil transfer pump A. Specifically, following power cable maintenance on November 9, 2017, the instructions for conducting a post-maintenance test for the transfer pump were inadequate to detect a high resistance connection in the associated motor control center.</p>			
<p><u>Description:</u> On November 12, 2017, the licensee was conducting a 24-hour surveillance test run of Unit 1 diesel generator (EDG) A. The EDG was fully loaded at 10:19 a.m. which began the 24-hour test period. At 10:53 a.m., control room operators received a fuel oil transfer pump A inoperable equipment status alarm. The diesel fuel oil transfer pump A did not start on a diesel fuel oil day tank low level signal. Operators manually unloaded and stopped the EDG a few minutes later and declared the Unit 1 EDG A inoperable due to its inability to run for its design basis mission time and began troubleshooting the failed fuel oil transfer pump.</p> <p>Licensee electricians took electrical resistance readings across the connections in the motor control center for the fuel oil transfer pump breaker. The electricians identified that the direct cause of the transfer pump failure was a high variable resistance secondary stab connection in the motor control center cubicle. The electricians removed the breaker and cleaned and adjusted the connection. Electricians reinstalled the breaker and confirmed an acceptable as left connection resistance of less than 0.2 ohms. The diesel fuel oil transfer pump was successfully retested with a 20 minute functional run and the Unit 1 EDG A was declared operable following the successful completion of the 24-hour surveillance run on November 14, 2017.</p>			

The licensee's apparent cause investigation determined that the diesel fuel oil transfer pump breaker had been removed from service for periodic predictive maintenance on November 9, 2017, under work order 4685719. During this maintenance activity licensee engineers disconnected the diesel fuel oil transfer pump motor power and control cables for megger testing. Cable lug screw connections attach each of these cables to the secondary stab connections on the movable motor breaker and the stationary motor control center chassis. Cable connections on the secondary stab connections are removed for testing, and then following testing, the cables are re-landed onto the secondary stabs of the breaker and motor control center chassis. The licensee's work planners had not recognized the possibility that removing and re-landing the cables on the lug screw connections had the potential to disturb the motor control center secondary stab connections.

The post-maintenance test associated with the cable testing was a momentary start of the diesel fuel oil transfer pump. The transfer pump's control switch was held in the start position for only a few seconds. The licensee's apparent cause investigation identified that nonintrusive as-left quantitative resistance checks could have been used to assess the integrity of the secondary stab connections. The licensee performs similar checks when performing individual breaker cubicle preventative maintenance tasks that actively remove and re-test the individual motor control center bucket. Such a check was the method used by the electricians to initially diagnose the breaker failure. However, no such quantitative resistance check was specified in the cable testing work order.

The post-maintenance test was not written in accordance with station procedure 30DP-9WP04, "Post-Maintenance Testing Development," Revision 19, Step 4.1.1, which states, in part, that the post-maintenance test shall ensure that equipment performs its intended function when returned to service following maintenance, that a new deficiency has not been created, and that the equipment will function as designed for safe and reliable plant operation. The act of de-terminating and re-terminating the diesel fuel oil transfer pump cable for testing created new failure deficiency by disturbing electrical continuity and creating a high resistance condition at the secondary stab connection that impacted EDG operability. The post-maintenance test following the cable testing maintenance was not adequate to ensure that a new deficiency had not been created.

Corrective Action: The licensee has taken corrective action to revise the work instructions for performing future cable testing to include quantitative resistance retests when re-terminating motor control center secondary stab connections. As an interim measure, the inspectors confirmed that all safety-related 480V electrical breakers that have been subject to this cable testing have performed satisfactorily during subsequent diesel generator surveillance testing.

Corrective Action Reference: Condition Report 17-16497

Performance Assessment:

Performance Deficiency: The licensee's failure to prescribe appropriate retest activities following predictive maintenance on diesel fuel oil transfer pump cables is a performance deficiency.

Screening: The performance deficiency is more-than-minor and a finding because it is associated with the equipment performance attribute of the mitigating systems cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, on November 9, 2017, the licensee performed cable testing that disturbed the power cables for the Unit 1 diesel fuel

oil transfer pump A. Without an appropriate post-maintenance test, this activity rendered the Unit 1 diesel generator A inoperable.

Significance: The inspectors performed the initial significance determination using NRC Inspection Manual Chapter 0609, Appendix A, "Significance Determination Process for Findings at Power," Exhibit 2, "Mitigating Systems Screening Questions" and determined that the finding was of very low safety significance (Green) because the finding did not represent an actual loss of safety function of a single train for greater than its technical specification allowed outage time.

Cross-cutting Aspect: The finding has a cross-cutting aspect in the area of human performance associated with the avoid complacency aspect. Specifically, licensee work planners did not consider potential undesired consequences associated with disturbing the power cables leads, instead relying on past successful tests [H.12].

Enforcement:

Violation: Title 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," requires, in part, that activities affecting quality be prescribed by documented instructions, procedures, or drawings, of a type appropriate to the circumstances and be accomplished in accordance with these instructions, procedures, or drawings.

Contrary to the above, on November 9, 2017, the licensee performed maintenance on the Unit 1 diesel fuel oil transfer pump A, an activity affecting quality to which Appendix B applies, without documented instructions, procedures, or drawings of a type appropriate to the circumstances. Specifically, work order 4685719 did not include appropriate testing to ensure the maintenance was successful and the pump was returned to service, and as a result, the Unit 1 diesel generator A was rendered inoperable from November 9, 2017 to November 14, 2017.

Disposition: This violation is being treated as a non-cited violation consistent with Section 2.3.2.a of the Enforcement Policy.

EXIT MEETINGS AND DEBRIEFS

The inspectors verified no proprietary information was retained or documented in this report.

On February 16, 2018, the inspector presented the radiation safety inspection results to Ms. M. Lacal, Senior Vice President, Regulatory and Oversight, and other members of the licensee staff.

On March 2, 2018, the inspector provided a debrief for the emergency preparedness program inspection to Mr. M. McLaughlin, Vice President, Operations Support, and other members of the licensee staff. On March 29, 2018, the inspector communicated the inspection results telephonically to Mr. T. Weber, Acting Director, Nuclear Regulatory Affairs, and other members of the licensee staff.

On April 11, 2018, the inspector presented the quarterly resident's inspection results to Mr. J. Cadogan, Senior Vice President, Site Operations, and other members of the licensee staff.

SUPPLEMENTAL INFORMATION

DOCUMENTS REVIEWED

Section 1R04: Equipment Alignment

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
40ST-9AF07	Auxiliary Feedwater Pump AFA-P01 Monthly Valve Alignment	6
40ST-9SI13	LPSI and CS System Alignment Verification	33

Condition Reports (CRs)

16-17321 17-03027

Drawings

<u>Number</u>	<u>Title</u>	<u>Revision</u>
03-M-HJP-001	P&I Diagram Control Building HVAC	14
03-M-HJP-002	P&I Diagram Control Building HVAC	14
03-M-SIP-001	P&I Diagram Safety Injection & Shutdown Cooling System	49
03-P-SIF-0207	Auxiliary Building Isometric Safety Injection System LPSI & Cont. Spray Discharge	6
03-P-SIF-0201	Auxiliary Building Isometric Safety Injection System ESF Pump Suction Lines	7

Miscellaneous

<u>Number</u>	<u>Title</u>	<u>Revision</u>
STM-30D	System Training Manual Volume 30D: Control Building HVAC System (HJ)	6

Section 1R05: Fire Protection

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
14FT-9FP70	Appendix R & Former Tech Spec Penetration Seal Surveillance	13

Condition Reports (CRs)

17-03870 18-00999

Miscellaneous

<u>Number</u>	<u>Title</u>	<u>Revision/Date</u>
	PVNGS Pre-Fire Strategies Manual	26
13-MM-0650	Fire Protection & Spray System Sub	007
13-MS-A083	NFPA Code Applicability and Conformance Review	007
4834415	Fire Safety Component Condition Record	November 3, 2016
4834430	Fire Safety Component Condition Record	November 3, 2016
4843902	Fire Safety Component Condition Record	December 6, 2016
	Unit 3 Tamper/Vital/Security Tour – Post 31	February 7, 2018
4971714	Open Door/Hatch/Floor Plug Permit	January 29, 2018
4971687	Open Door/Hatch/Floor Plug Permit	January 29, 2018

Section 1R07: Heat Sink Performance

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
73DP-9ZZ21	Heat Exchanger Visual Inspection	6
73DP-9ZZ11	Heat Exchanger Program	15

Condition Reports (CRs)

18-03133 18-03138 18-03139

Work Orders (WOs)

4591574 4591575 4667054 4667055 4667098

Section 1R11: Licensed Operator Requalification Program and Licensed Operator Performance

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
40OP-9MB01	Main Generation and Excitation	63
40DP-9OP02	Conduct of Operations	72

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
40AL-9RK6A	Panel B06A Alarm Responses	18

Condition Reports (CRs)

18-02797	18-02593	18-03215
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Miscellaneous

<u>Number</u>	<u>Title</u>	<u>Date</u>
	Current Alarm Status Report	February 16, 2018

Section 1R12: Maintenance Effectiveness

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
32MT-9ZZ74	Molded Case Circuit Breaker Test	48
30DP-9WP04	Post-Maintenance Testing Development	19

Condition Reports (CRs)

17-08025-005	17-08025	17-16497
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Work Orders (WOs)

4925959	4925966	4925967	4925969	4685719
4788985				

Section 1R13: Maintenance Risk Assessments and Emergent Work Control

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
40DP-9AP21	Protected Equipment	7
70DP-0RA05	Assessment and Management of Risk when Performing Maintenance in Modes 1 and 2	23
40MT-9ZZ01	Operations Maintenance Activities	5
40DP-9RS01	Operations Department Online Nuclear Risk Management Mode 1 and 2	4

Condition Reports (CRs)

18-00249 185-00136 18-00336 18-02544

Miscellaneous

<u>Number</u>	<u>Title</u>	<u>Date</u>
	Scheduler's Evaluation for PV Unit 1	January 4, 2018
	Scheduler's Evaluation for PV Unit 1	February 23, 2018
	Scheduler's Evaluation for PV Unit 3	February 1, 2018
	Scheduler's Evaluation for PV Unit 2	March 19, 2018
Unit 3	Archived Operator Logs	January 29, 2018 – February 4, 2018

Section 1R15: Operability Determinations and Functionality Assessments

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
40ST-9ZZm1	Operations Mode 1 Surveillance Logs	71
40AL-9RK6A	Panel B06A Alarm Responses	18
74DP-9CY04	Systems Chemistry Specifications	94

Condition Reports (CRs)

17-18475 12-01397 17-17856 13-01198 18-03127
17-16393 18-03215 18-03291 18-02839 18-01610
18-02334 3127427 18-02468 18-03980

Miscellaneous

<u>Number</u>	<u>Title</u>	<u>Revision/Date</u>
03-E-SGF-023	Control Wiring Diagram Main Steam Isolation Valves	11
18-02334-003	Engineering Evaluation	February 15, 2018
4428056	Adverse CRDR	July 19, 2013
	EQ Program Manual	26

Section 1R18: Plant Modifications

Condition Reports (CRs)

18-04116

Work Orders (WOs)

4989102

Miscellaneous

<u>Number</u>	<u>Title</u>	<u>Date</u>
DEC-01035	Design Equivalent Change	April 12, 2017

Section 1R19: Post-Maintenance Testing

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
40OP-9CH12	Refueling Water Tank (RWT) Operations	41
32MT-9ZZ13	Testing and Calibration of 121FC66K01A Time Overcurrent Relays	4
32MT-9ZZ17	Testing and Calibration of 12PJC11AV1A Instantaneous Overcurrent Relays	4
40OP-9EW02	Essential Cooling Water System (EW) Train B	26
40ST-9DG01	Diesel Generator A Test	49
73ST-9DG08	Class 1E Diesel Generator Load Reject 24 Hour Rated Load and Hot Start Test Train B	13
40ST-9DG02	Diesel Generator B Test	54

Condition Reports (CRs)

18-00136	18-00197	18-01931	18-00210	18-00290
18-00336	18-00377	18-00346	18-04731	18-04732

Work Orders (WOs)

4964492	4822983	4981967	4726747	4821113
4847651	4965079	4972486	4847637	

Drawings

<u>Number</u>	<u>Title</u>	<u>Revision</u>
01-E-DGB-007	Elementary Diagram: Diesel Engine Control	15
01-E-DGF-007	Control Wiring Diagram: Diesel Engine	13
13-M018-00141	Control Schematic (Starting Sequence Control)	25

Miscellaneous

<u>Number</u>	<u>Title</u>	<u>Revision/Date</u>
18-00210-004	Engineering Evaluation: EDG 1A Unexpected Cooldown during Surveillance Run 1/5/2018	January 8, 2018

Section 1R20: Refueling and Other Outage Activities

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
40OP-9MB01	Main Generation and Excitation	63

Section 1R22: Surveillance Testing

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
73DP-9CL02	Containment Leakage Rate Testing Program	33
73ST-9XI20	Atmospheric Dump Valves – Inservice Test	47
73ST-9SI06	Containment Spray Pumps and Check valves – Inservice Test	42
73ST-9DF01	Diesel Fuel Oil Transfer Pumps – Inservice Test	34
40DP-9OP06	Operations Department Repetitive Task Program	130
73ST-9SI06	Containment Spray Pumps and Check Valves- Inservice Test	42

Condition Reports (CRs)

16-15793 18-03304 18-01314 18-03825

Work Orders (WOs)

4822921 4840032 4843076 4843390

Miscellaneous

<u>Number</u>	<u>Title</u>	<u>Revision/Date</u>
13-JC-SI-0215	Containment Spray Pump Discharge Flow Indication Loops Uncertainty Calculation	18
18-01314-002	Engineering Evaluation: ADV 178 Fast Stroke Time	January 26, 2018
18-03304-002	Engineering Evaluation: SR 3.0.3 Evaluation for SB-200, 202, and 205	March 2, 2018

Section 1EP2: Alert and Notification System Testing

Miscellaneous Documents

<u>Number</u>	<u>Title</u>	<u>Date</u>
ID/Letter Number: 240-02802	Palo Verde Nuclear Generating Station Alert and Notification System (ANS) FEMA 350 Report – May 2017	May 26, 2017
	Palo Verde Nuclear Generating Station, Alert and Notification System (ANS), FEMA 350 Report	May 2017
	Palo Verde Nuclear Generating Station Siren Operating Manual	November 2015 January 4, 2018
	Letter from FEMA Region IX to Director, Division of Emergency Management, State of Arizona	September 19, 2017
	State of Arizona/Maricopa County Offsite Emergency Response Plan, Palo Verde Nuclear Generating Station	November 2017
	The Maricopa County Sheriff's Office Emergency Response to Palo Verde Nuclear Generating Station	August 2016

Work Orders (WOs)

474965/0

Section 1EP3: Emergency Response Organization Staffing and Augmentation

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
EP-0902	Notifications	10
EP-0901	Classifications	10
40AL-9RK7C	Panel B07C Alarm Responses	15
40AO-9ZZ21	Acts of Nature	37
79IS-9SM01	Analysis of Seismic Event	27

Miscellaneous Documents

<u>Number</u>	<u>Title</u>	<u>Date</u>
240-02799 JF/MA	2017 1 st Quarter – Emergency Preparedness Augmentation Drill Report	March 21, 2017
240-02803 CS/MA	2017 2 nd Quarter – Emergency Preparedness Augmentation Drill Report	June 6, 2017
240-02797	2017 3 rd Quarter – Emergency Preparedness Augmentation Drill Report (After Hours)	July 25, 2017
240-02808	2017 3 rd Quarter – Emergency Preparedness Augmentation Drill Report	September 6, 2017
240-02817 CS/ma	2017 4 th Quarter – Emergency Preparedness Augmentation Drill Report	December 13, 2017
240-02790 JF/MA	2016 2 nd Quarter – Emergency Preparedness Augmentation Drill Report	June 23, 2016
240-02791 JF/MA	2016 3 rd Quarter – Emergency Preparedness Augmentation Drill Report	August 3, 2016
240-02798	December 5, 2016, Alert Event Report	January 17, 2017

Section 1EP4: Emergency Action Level and Emergency Plan Changes

Procedure

<u>Number</u>	<u>Title</u>	<u>Revision</u>
16DP-0EP22	Emergency Plan Maintenance	11, 12

Miscellaneous Documents

<u>Number</u>	<u>Title</u>	<u>Date</u>
Evaluation Tracking Number 2017-001E	Replace the Meteorological Instrumentation and Data Transmission System (MDTS)	August 8, 2017
Evaluation Tracking Number 2017-003E	EP-0900, Rev. 16	August 17, 2017
Evaluation Tracking Number 2017-004E	EP-0901, Rev. 10	August 21, 2017
Screening Tracking Number 2017-002S	74RM-9EF42, Radiation Monitor Alarm Setpoint Determination, Rev. 30	April 16, 2017
Screening Tracking Number 2017-022S	Procedure EP-0901, Classifications, Added New EALs form EPLAN R60, Revise PV Proc Format	August 20, 2017

Miscellaneous Documents

<u>Number</u>	<u>Title</u>	<u>Date</u>
Screening Tracking Number 2017-014S	EP-905, Revision 9, Protective Actions	June 7, 2017
Screening Tracking Number 2017-023S	DMWO 3452940 Palo Verde Nuclear Generating Station Radio Replacement Project	September 8, 2017
Screening Tracking Number 2017-029S	40AO-9ZZ18 R018 Fire Outside Control Room	September 26, 2017
EPM Tracking Number 2015-006S	DEC-00720 Allow Solar-Charged Offsite Sirens to Replace AC-Charged Offsite Sirens	February 18, 2015

Section 1EP5: Maintenance of Emergency Preparedness

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
01DP-0AP12	Condition Reporting Process	28
01DP-0AP12-01	Condition Reporting Process Administrative Guide	4
EP-0905	Protective Actions	9
EP-0902	Notifications	8, 9, 10
16DP-0EP31	Emergency Preparedness Equipment Out-of-Service	9
16DP-0EP27	Emergency Preparedness Equipment Testing	10
16DP-0EP28	Emergency Facility/Kit Inventories and Inspections	5

Condition Reports (CRs)

16-08461	16-09213	16-11134	16-11930	16-12640	16-13501
16-14593	16-14934	16-16710	17-02188	17-03147	17-03149
17-03202	17-03605	17-03721	17-03736	17-03826	17-03828
17-03829	17-03884	17-04633	17-06893	17-08328	17-10906
17-10949	17-11437	17-13663	17-14927	17-15449	17-15797
17-15884	17-16771	17-17091	17-17218	17-17739	17-18443
18-03244					

Miscellaneous Documents

<u>Number</u>	<u>Title</u>	<u>Revision/Date</u>
KLD TR-983	Palo Verde Nuclear Generating Station, 2017 Population Update Analysis	December 7, 2017
KLD TR-895	Palo Verde Nuclear Generating Station, 2016 Population Update Analysis	December 8, 2016
	Updated Review of Palo Verde Nuclear Generating Station Emergency Plan 2016 Letters of Agreement	September 29, 2016
Letter # 240-02819	2017 Review of Palo Verde Nuclear Generating Station Emergency Plan Letters of Agreement	December 26, 2017
NAD Audit 2016-010	Nuclear Assurance Department (NAD) Audit Plan and Report, 2016-010, Emergency Preparedness	December 14, 2016
	Palo Verde Nuclear Generating Station After Action Report/Improvement Plan, Exercise Date – June 1, 2017, Radiological Emergency Preparedness Program	August 18, 2017
ID: 240-02806	2017 Onsite Contaminated Injury/Health Physics Drill Report (Revised)	June 23, 2017
ID: 240-02816	2017 Health Physics Drill Report (November 2017)	December 12, 2017
ID: 240-02818	1709 ERO Mini Drill – ERO Blue Team (December 2017)	December 21, 2017
NAD Audit 2017-008	Nuclear Assurance Department (NAD) Audit Plan and Report, 2017-008, Emergency Preparedness	January 25, 2018
240-02812 CS/MA	1704 and 1705 ERO Mini Drills – ERO White Team and Green Team (June and July 2017)	October 18, 2017
240-02813 CS/MA	1706 ERO Mini Drill – ERO Gold Team (July 2017)	October 18, 2017
240-02814 TW/MA	1707 ERO Mini Drill – ERO Red Team (August 2017) Revision 1	October 18, 2017
	Emergency Response Facility Telephone Book, 1 st Quarter Edition 2018	January 1, 2018
240-02801 JF/MA	1702 IPZ Evaluated Exercise – ERO White Team (March 2017)	April 6, 2017
240-02797 JF/MA	1608 ERO Mini Drill – ERO Red Team (December 2016)	January 4, 2017
240-02792 JF/MA	1604 and 1605 ERO Drills	September 14, 2016
240-02793 JF/MA	1606 ERO Mini Drill – ERO Green Team (September 2016)	October 4, 2016

Miscellaneous Documents

<u>Number</u>	<u>Title</u>	<u>Revision/Date</u>
240-02795 JF/MA	1609 Off-Hours Drive-in Augmentation Drill – (November 2016)	December 2, 2016
240-02796	2016 Health Physics Drill Report (November 2016)	December 7, 2016
Evaluation Report 16-11134	Evaluate Adding STSC ENS Communicator Duties to STSC Communicator	September 7, 2016
17-11437-002	Actual Event Investigation, Unit 3 Ammonia Sight glass Break	September 28, 2017
17-13663-001	Actual Event Investigation, Unit 2 Loss of Annunciators	October 11, 2017
Level 4 Evaluation Report 17- 15797-001	Default Values Used in Dose Assessment	November 30, 2017
Document No. 500599510	Master Agreement Between Arizona Public Service Company and Westinghouse Electric Company LLC for Goods and Services (Effective January 29, 2016 to December 31, 2018)	0
	Palo Verde Nuclear Generating Station After Action Report/Improvement Plan, Exercise Dates – March 7-8, 2017, Radiological Emergency Preparedness Program (REPP)	May 26, 2017
240-02789 JF/TW	2016 Health Physics Drill Report (Re-Demonstration)	June 9, 2016
240-02788 JF/MA	2016 Contaminated Injury/Health Physics Drill Report	April 22, 2016
	Palo Verde Nuclear Generating Station After Action Report/Improvement Plan, Exercise Date – November 16, 2016, Radiological Emergency Preparedness Program (REPP)	February 9, 2017
240-02787 JF/MA	1602 IPZ Exercise – ERO Green Team (March 2016)	March 25, 2016
	Palo Verde Nuclear Generating Station After Action Report/Improvement Plan, Exercise Date – November 16, 2016, Radiological Emergency Preparedness Program (REPP)	February 9, 2017
	Level 3 Evaluation Report 18-02668-002	March 22, 2018

Work Orders (WOs)

4782667	4783959/0	4787729/0	4787847/0	4836236
4836263/0	4860832/0	4862234/0	4862502/0	4885361/0
4889725/0	4896971/0	4901070	4916668/0	4918303/0
4918455/0	4937577/0	4947802/0		

Section 1EP6: Drill Evaluation

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
EP-0900	Emergency Response Organization (ERO) Position Checklists	16
EP-0901	Classifications	10

Condition Reports (CRs)

18-02352	18-02503	18-02655
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Section 2RS2: Occupational ALARA Planning and Controls

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
75DP-0RP03	ALARA Program Overview	06
75DP-0RP06	ALARA Committee	07
75DP-0RP08	Managing Radiological Risk	02
75RP-9RP02	Radiation Work Permits	31
75RP-9RP25	Temporary Shielding	14
75TD-9RP02	ALARA Work Planning	11

Audits and Self-Assessments

<u>Title</u>	<u>Date</u>
PVGS Integrated Performance Assessment Report Radiation Protection 2nd Quarter 2017	September 14, 2017
2016 Annual ALARA/Management Evaluation Report	June 23, 2017
2016 Annual Radiation Protection Program Summary Report	July 27, 2017

Condition Reports (CRs)

17-15502	17-15529	17-15802	17-16741	17-17944
17-18180	18-01890			

Radiation Work Permits/ALARA Reviews

<u>Number</u>	<u>Title</u>
RWP 2017-9-1016	RMC Operations and Routine Tasks
RWP 2018-1-1523	Temporary Mat Insulation Fiber Inspection
RWP 2017-3002	Reactor Destack/Restack
RWP 2017-3015	Cavity Decontamination
RWP 2017-3039	10-Year In-Service Inspection Vessel

Miscellaneous

<u>Title</u>	<u>Date</u>
ALARA 5-Year Plan 2015 - 2019	November 2015
1R20 Radiological Safety Summary In Perspective	November 7, 2017
2R20 Radiological Safety Summary In Perspective	May 9, 2017
3R19 Radiological Safety Summary In Perspective	November 10, 2016

Section 2RS4: Occupational Dose Assessment

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
75DP-0RP01	RP Program Overview	11
75DP-0RP06	Managing Radiological Risk	2
75RP-9ME23	Exposure Evaluation for Lost, Damaged, or Suspect Dosimetry, and Anticipated EPD Dose Rate Alarm	12
75RP-9ME24	Dosimetry Processing, Evaluation, and Documentation	5
75RP-9ME25	TLD Reader Calibration and Response Check	6
75RP-9RP03	Bioassay Analysis	10
75RP-9RP05	Contamination Dose Evaluation	7
75RP-9RP16	Special Dosimetry	24
75RP-9QE21	Calibration of Self-Indicating Dosimeters	13

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
75RP-9QE26	Operation and Verification of the Merlin Gerin Model CDM-21 Calibrator	10

Audits and Self-Assessments

<u>Title</u>	<u>Date</u>
2016 Annual ALARA/Management Evaluation Report	June 23, 2017
2016 Annual Radiation Protection Program Summary Report	July 27, 2017

Condition Reports (CRs)

17-14033	17-14127	17-14527	17-15700	18-01423
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Self-Reading Dosimeter Calibration Records

<u>Number</u>	<u>Title</u>	<u>Date</u>
837097	Self-Reading Dosimeter	September 8, 2017
836204	Self-Reading Dosimeter	September 9, 2017
833059	Self-Reading Dosimeter	September 30, 2017
810641	Self-Reading Dosimeter gamma/neutron	December 12, 2017
810633	Self-Reading Dosimeter gamma/neutron	December 12, 2017
810552	Self-Reading Dosimeter gamma/neutron	December 13, 2017

Miscellaneous

<u>Number</u>	<u>Title</u>	<u>Date</u>
2017	Multi-Pack TLD Results	2017
100536	NVLAP Accreditation Report	April 8, 2016
100536	NVLAP Proficiency Testing Results - TLD	May 2, 2016
100536	NVLAP Proficiency Testing Results-EPD	August 5, 2016
100536	NVLAP Accreditation Report	February 15, 2018
2017	Unit 1 Dry Active Waste	December 1, 2017
2017	Unit 2 Dry Active Waste	May 18, 2017
2016	Unit 3 Dry Active Waste	December 22, 2016
25116	Intake Dose Assessment	April 21, 2016

Miscellaneous

<u>Number</u>	<u>Title</u>	<u>Date</u>
47194	Personnel Dosimetry Processing Report	November 15, 2017

Section 40A1: Performance Indicator Verification

Miscellaneous

<u>Number</u>	<u>Title</u>	<u>Date</u>
2016-002-01	Licensee Event Report	June 27, 2017
2017-001-00	June 27, 2017	June 14, 2017
	Palo Verde Plant Computer PI ProcessBook	
	Palo Verde Control Room Logs (1/1/17 – 12/31/17)	

Section 40A2: Problem Identification and Resolution

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
40ST-9DG01	Diesel Generator A Test	49

Condition Reports (CRs)

17-15901	18-03517	17-15838	17-11155	17-09750
16-03783				

Section 40A3: Follow-up of Events and Notices of Enforcement Discretion

Condition Reports (CRs)

18-02544	18-02688	18-02664	18-02605	18-02716
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**The following items are requested for the
Occupational Radiation Safety Inspection
at Palo Verde Nuclear Generating Station, Units 1, 2, and 3
February 12 to 16, 2018
Integrated Report 2018001**

Inspection areas are listed in the attachments below.

Please provide the requested information on or before January 26, 2018.

Please submit this information using the same lettering system as below. For example, all contacts and phone numbers for Inspection Procedure 71124.01 should be in a file/folder titled "1- A," applicable organization charts in file/folder "1- B," etc.

If information is placed on *ims.certrec.com*, please ensure the inspection exit date entered is at least 30 days later than the onsite inspection dates, so the inspectors will have access to the information while writing the report.

In addition to the corrective action document lists provided for each inspection procedure listed below, please provide updated lists of corrective action documents at the entrance meeting. The dates for these lists should range from the end dates of the original lists to the day of the entrance meeting.

If more than one inspection procedure is to be conducted and the information requests appear to be redundant, there is no need to provide duplicate copies. Enter a note explaining in which file the information can be found.

If you have any questions or comments, please contact Louis Carson at (817) 200-1221 or louis.carson@nrc.gov.

PAPERWORK REDUCTION ACT STATEMENT

This letter does not contain new or amended information collection requirements subject to the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 et seq.). Existing information collection requirements were approved by the Office of Management and Budget, control number 3150-0011.

2. Occupational ALARA Planning and Controls (71124.02)

Date of Last Inspection: October 20, 2017

- A. List of contacts and telephone numbers for ALARA program personnel
- B. Applicable organization charts
- C. Copies of audits, self-assessments, and LERs, written since date of last inspection, focusing on ALARA
- D. Procedure index for ALARA Program
- E. Please provide specific procedures related to the following areas noted below. Additional Specific Procedures may be requested by number after the inspector reviews the procedure indexes.
 - 1. ALARA Program
 - 2. ALARA Committee
 - 3. Radiation Work Permit Preparation
- F. A summary list of corrective action documents (including corporate and sub-tiered systems) written since date of last inspection, related to the ALARA program. In addition to ALARA, the summary should also address Radiation Work Permit violations, Electronic Dosimeter Alarms, and RWP Dose Estimates

NOTE: The lists should indicate the significance level of each issue and the search criteria used. Please provide in document formats which are “searchable” so that the inspector can perform word searches.
- G. List of work activities greater than 1 rem, since date of last inspection, Include original dose estimate and actual dose.
- H. Site dose totals and 3-year rolling averages for the past 3 years (based on dose of record)
- I. Outline of source term reduction strategy
- J. If available, provide a copy of the ALARA outage report for the most recently completed outages for each unit
- K. Please provide your most recent Annual ALARA Report.

4. Occupational Dose Assessment (Inspection Procedure 71124.04)

Date of Last Inspection: January 22, 2016

- A. List of contacts and telephone numbers for the following areas:
 - 1. Dose Assessment personnel
- B. Applicable organization charts
- C. Audits, self-assessments, vendor or NUPIC audits of contractor support, and LERs written since date of last inspection, related to:
 - 1. Occupational Dose Assessment
- D. Procedure indexes for the following areas:
 - 1. Occupational Dose Assessment
- E. Please provide specific procedures related to the following areas noted below. Additional Specific Procedures will be requested by number after the inspector reviews the procedure indexes.
 - 1. Radiation Protection Program
 - 2. Radiation Protection Conduct of Operations
 - 3. Personnel Dosimetry Program
 - 4. Radiological Posting and Warning Devices
 - 5. Air Sample Analysis
 - 6. Performance of High Exposure Work
 - 7. Declared Pregnant Worker
 - 8. Bioassay Program
- F. List of corrective action documents (including corporate and sub-tiered systems) written since date of last inspection, associated with:
 - 1. National Voluntary Laboratory Accreditation Program (NVLAP)
 - 2. Dosimetry (TLD/OSL, etc.) problems
 - 3. Electronic alarming dosimeters
 - 4. Bioassays or internally deposited radionuclides or internal dose
 - 5. Neutron dose

NOTE: The lists should indicate the significance level of each issue and the search criteria used. Please provide in document formats which are “searchable” so that the inspector can perform word searches.
- G. List of positive whole body counts since date of last inspection, names redacted if desired
- H. Part 61 analyses/scaling factors
- I. The most recent National Voluntary Laboratory Accreditation Program (NVLAP) accreditation report or, if dosimetry is provided by a vendor, the vendor’s most recent results

SUBJECT: PALO VERDE NUCLEAR GENERATING STATION – NRC INTEGRATED INSPECTION REPORT 05000528/2018001, 05000529/2018001, AND 05000530/2018001 DATED MAY 7, 2018

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Electronic Distribution for Palo Verde Nuclear Generating Station

ADAMS ACCESSION NUMBER: ML18127A004

SUNSI Review: ADAMS: Non-Publicly Available Non-Sensitive Keyword:
 By: JDixon Yes No Publicly Available Sensitive NRC-002

OFFICE	DRP/SRI	DRP/RI	DRP/RI	C:DRS/EB1	C:DRS/EB2	C:DRS/OB
NAME	CPeabody	DReinert	DYou	TFarnholtz	JDrake	VGaddy
SIGNATURE	/RA/	/RA/	/RA/	/RA/	/RA/	/RA/
DATE	4/30/18	5/1/2018	5/1/18	04/30/2018	4/30/18	4/30/18
OFFICE	C:DRS/PS2	TL:IPAT	C:DRP/D			
NAME	HGepford	GGeorge	GMiller			
SIGNATURE	/RA/	/RA/	/RA/			
DATE	4/30/18	4/30/2018	5/7/18			

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