UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
611 RYAN PLAZA DRIVE, SUITE 400
ARLINGTON, TEXAS 76011-8064

December 29, 2000

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

SUBJECT: ARIZONA PUBLIC SERVICE COMPANY - NRC INSPECTION
REPORT NO. 50-528/00-13; 50-529/00-13; 50-530/00-13

Dear Mr. Overbeck:

On December 8, 2000, the NRC completed an inspection at your Palo Verde Nuclear Generating Station, Units 1, 2, and 3. The enclosed report documents the inspection findings, which were discussed on December 8, 2000, with Mr. D. Mauldin and other members of your staff.

This inspection was an examination of 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. Within these areas, the inspection consisted of selected examination of procedures and representative records, observations of activities, and interviews with personnel.

Based on the results of this inspection, the NRC has identified an issue that was evaluated under the risk significance determination process as having very low safety significance (green). The NRC has also determined that a violation is associated with this issue. This violation is being treated as a Non-Cited Violation, consistent with Section VI.A of the Enforcement Policy. The Non-Cited Violation is described in the subject inspection report. If you contest the violation or significance of the Non-Cited Violation, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the 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, and the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001 and the NRC Resident Inspector at Palo Verde Nuclear Generating Station, Units 1, 2, and 3.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and enclosure will be 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/NRC/ADAMS/index.html (the Public Electronic Reading Room).

Should you have any questions concerning this inspection, we will be pleased to discuss them with you.

Sincerely,

/**RA**/

Claude E. Johnson, Chief
Engineering and Maintenance Branch
Division of Reactor Safety

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

Enclosures:
NRC Inspection Report No.
50-528/00-13; 50-529/00-13; 50-530/00-13

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SRI:EMB	RI:EMB	RI:EMB	SRI:EMB
CJPaulk/lmb	CAClark	RWDeese	JEWhittemore
/**RA**/	/**RA**/ **T**	/**RA**/	/**RA**/ **T**
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RI:RI:PB1	C:EMB	C:PBD	C:EMB
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ENCLOSURE

U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

Docket Nos.:	50-528; 50-529; 50-530
License Nos.:	NPF-41; NPF-51; NPF-74
Report No.:	50-528/00-13; 50-529/00-13; 50-530/00-13
Licensee:	Arizona Public Service Company
Facility:	Palo Verde Nuclear Generating Station, Units 1, 2, and 3
Location:	5951 S. Wintersburg Road Tonopah, Arizona
Dates:	November 13 through December 8, 2000
Team Leader:	C. J. Paulk, Senior Reactor Inspector Engineering and Maintenance Branch
Inspectors:	C. A. Clark, Reactor Inspector Engineering and Maintenance Branch
	R. W. Deese, Reactor Inspector Engineering and Maintenance Branch
	T. L. Hoeg, Resident Inspector Project Branch 1, Region I
Accompanying Personnel:	J. L. Taylor, Reactor Inspector Engineering and Maintenance Branch
	M. Shlyamberg, Contractor NuEnergy, Inc.
Approved By:	Claude E. Johnson, Chief Engineering and Maintenance Branch Division of Reactor Safety

SUMMARY OF FINDINGS

Palo Verde Nuclear Generating Station, Units 1, 2, and 3
NRC Inspection Report No. 50-528/00-13; 50-529/00-13; 50-530/00-13

IR 05000528/00-13; 05000529/00-13; 05000530/00-13; on 11/13-12/08/2000; Arizona Public Service Company; Palo Verde Nuclear Generating Station, Units 1, 2, and 3; Inspection of Safety System Design and Performance Capability Report; one green finding was identified.

The inspection was conducted by four region-based inspectors, one resident inspector, and one contractor. The inspection identified one green finding that was a non-cited violation. The significance of the finding is indicated by its color (Green) using IMC 0609, “Significance Determination Process."

Inspector Identified Finding

Cornerstone: Mitigating Systems

- Green. The outlet isolation valve to the Train B dc equipment room cooler was found by licensee personnel to be fully closed on two occasions and partially closed on a third occasion within an 8-week period (August 25 through October 25, 1998). The failure to identify the condition on August 25, 1998, as a significant adverse condition; to identify the root cause; and to take corrective actions to prevent recurrence was identified as a violation of Criterion XVI of Appendix B to 10 CFR Part 50.

  The finding was of very low safety significance because all mitigation systems remained operable, barrier integrity was not challenged, and the licensee entered the finding into the corrective action program (Section 1R21.3.b).

Report Details

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity

Introduction

A safety system design and performance capability inspection was performed at Palo Verde Nuclear Generating Station to verify that the initial design and subsequent modifications have preserved the design basis of selected systems and related support systems. Additionally, the inspection effort served to monitor the capability of the selected systems to perform the design basis functions. This inspectable area verifies aspects of the initiating events, mitigating systems, and barrier integrity cornerstones.

The probabilistic risk analysis for Palo Verde Nuclear Generating Station is based on the capability of the as-built safety systems to perform their intended safety functions successfully. The area and scope of the inspection were predetermined by reviewing the licensee's probabilistic risk analysis to identify the risk-dominant systems, structures, and components, ranked by importance, and their potential contribution to dominant accident sequences and/or initiators. The inspection team reviewed in detail the spray ponds, the essential cooling water and essential chilled water systems. The primary review prompted a parallel review of support and interfacing systems, such as, electrical power.

The objective of this inspection was to assess the adequacy of calculations, analyses, other engineering documents, and engineering and operating practices that were used to support the performance of the spray ponds, the essential cooling water and essential chilled water systems and the necessary support systems during normal, abnormal, and accident conditions. The inspection was performed by a team of inspectors that consisted of a team leader, Region IV inspectors, a Region I resident inspector, and a contractor. Acceptance criteria utilized by the NRC inspection team included the Palo Verde Nuclear Generating Station technical specifications, applicable sections of the Final Safety Analysis Report (FSAR), applicable industry codes, and industry initiatives implemented by the licensee's programs.

1R21 Safety System Design and Performance Capability

.1 System Requirements

a. Inspection Scope

The team reviewed the following attributes for the spray ponds, and the essential cooling water and essential chilled water systems: process medium (water, air, electrical signal), energy sources (electrical and air), control systems, and equipment protection. The team reviewed calculations to determine the ability of the selected systems to provide adequate cooling under design conditions. The team also evaluated operator actions by review of normal, abnormal, and emergency operating procedures, and by verification that instrumentation and alarms were available to operators for

making necessary decisions. The review also considered requirements and commitments identified in the FSAR, technical specifications, design basis documents, and plant drawings. The purpose of these reviews was to verify that the spray ponds, and the essential cooling water and essential chilled water systems' needs were met.

b. Findings

No findings were identified.

.2 System Condition and Capability

a. Inspection Scope

The team reviewed periodic testing procedures (listed in Attachment 1) and results to verify that the design requirements were demonstrated by the performance of tests. The team also verified the environmental qualification of a sample of system components for operation under design environmental conditions and assumed operating parameters (e.g., voltage, speed, and power).

The team also reviewed each system's operations by conducting system walkdowns, review of normal, abnormal, and emergency operating procedures; and review of the FSAR, technical specifications, design calculations, drawings, and procedures.

b. Findings

No findings were identified.

.3 Identification and Resolution of Problems

a. Inspection Scope

The team reviewed a sample of problems identified by the licensee in the corrective action program to evaluate the effectiveness of corrective actions related to design issues. The team also reviewed Procedure 90DP-0IP10, "Condition Reporting," Revision 9. The specific corrective action documents that were sampled and reviewed by the team are listed in the attachment to this report. Inspection Procedure 71152, "Identification and Resolution of Problems," was used as guidance to perform this part of the inspection.

The scope of issues contained in the reports reviewed included:

- The disposition of technical specification interpretations to address system and component operability.
- The identification and correction of configuration control events and errors.
- The identification and correction of issues related to testing failures.

- The identification and corrective action associated with personnel errors, primarily in the operations area.

The team also conducted interviews with corrective action program personnel in order to assess the effectiveness of program trending and correction of common events and failures, in particular, the plant configuration control area.

b. Findings

On August 25 and on October 22, 1998, during the performance of a monthly surveillance that verified the flow path for essential chilled water to the Train B dc equipment room essential room cooler, Valve ECB-V214, “DC Equipment Room Essential Air Cooling Unit Chilled Water Outlet,” was found closed. On October 28, 1998, Valve ECB-V214 was found partially closed. The licensee had identified all of these failures on Condition Reports/Deficiency Resolutions (CRDRs) that were determined not to be significant.

The team noted that without chilled water flow, the cooling unit for the dc equipment room would not perform its required safety function to maintain the licensing basis limiting room temperature. In addition, the team noted that the Individual Plant Examination stated that the most sensitive solid state equipment located in the dc equipment rooms would operate at 104°F (40°C) but would begin to fail at 122°F (50°C).

The team found that the loss of the essential chilled water flow path was a significant condition adverse to quality. Procedure 90DP-0IP10, "Condition Reporting," Revision 9, provided the detailed administrative guidance for identifying, reporting, and addressing issues and events that require corrective action. Appendix G, "Condition Classification Guide," provided the detailed guidance for determining the significance of the problem identified in a CRDR. Appendix G, Step 2.c, identified significant adverse conditions as “[a]lignment or calibration errors (such as valve mispositioning or miscalibration of setpoints) that resulted in a potential failure of equipment to perform its intended function.” A note in the appendix stated that failures in single or multi-train systems are typically not considered significant as long as the safety function could still be accomplished. However, the same note says that an event is potentially significant if a failure or condition can affect the operability of components in other safety systems. The team concluded that this CRDR should have been classified as significant because this failure could have affected the operability of components in other several other safety systems (e.g., safety-related dc electrical equipment).

Because the licensee did not view the initial condition as significant, a root cause analysis was not performed and actions were not formulated to prevent recurrence. Licensee personnel also determined that the second event, complicated by a third event when the valve was found partially closed 3 days later, was neither significant nor reportable. The failure to identify the closed valve as a significant adverse condition allowed the condition to occur two other times, increasing the overall risk.

In all cases the valve was immediately repositioned to restore the flow path. While no cause was determined, the three incidents were reported to security. Security personnel set up a video camera and surveillance was conducted for a period of time. No subsequent occurrences have been observed.

The team reviewed the Group 1 questions in Appendix B of NRC Inspection Manual Chapter 0610*, "Power Reactor Inspection Reports," issued October 6, 2000, to determine if this was more than a minor issue. The team determined that the closed valve constituted a credible impact on safety because of its contribution to risk and the effect on the Train B dc electrical equipment. As such, the team was directed to the Group 2 questions. The team determined that the closed valve affected the operability and availability of a train of a mitigating system (Train B of dc electrical equipment). As a result of this determination, the team evaluated the closed valve through the significance determination process. The team answered no to all questions for mitigating systems. Therefore, the finding was found to be of very low safety significance (GREEN).

The team found the failure to identify the closed valve as significant on August 25, 1998, a violation of Procedure 90DP-0IP10. This was based on the affect on the operability of components in other safety systems (i.e., Train B dc electrical equipment affects a number of different systems). As a result of this finding, licensee personnel initiated CRDR 234698 to review the "[p]otential improper CRDR classification" for CRDR 2-8-0246. The failure to correctly identify the condition on August 25, 1998, as a significant adverse condition; to identify the root cause of the condition; and to take corrective actions to prevent recurrence was identified as a violation of Criterion XVI of Appendix B to 10 CFR Part 50 (50-529/0013-01).

This violation is associated with an inspection finding that is characterized by the Significance Determination Process as having very low risk significance (i.e., green) and is being treated as a Non-Cited Violation, consistent with Section VI.A.1 of the NRC Enforcement Policy. This violation is in the licensee's corrective action programas CRDR 234698.

.4 System Walkdowns

a. Inspection Scope

The team performed walkdowns of the spray ponds, the essential cooling water and essential chilled water systems, and portions of the support systems. The walkdowns focused on the installation and configuration of piping, components, and instruments; the placement of protective barriers and systems; the susceptibility to flooding, fire, or other environmental concerns; physical separation; provisions for high energy line break; accessibility for operator action; and the conformance of the currently installed configuration of the systems with the design and licensing bases.

b. Findings

No findings were identified.

.5 Design Review

a. Inspection Scope

The team reviewed the design to verify that the systems would function as required under accident conditions. The review included design assumptions, calculations, boundary conditions, and models. The team also performed single failure reviews of individual components to determine the potential effects of such failures on the capability of the systems to perform their safety functions. Instrumentation was reviewed to verify its appropriateness for the applications and its setpoints with regard to the function it was required to perform. Additionally, the team performed informal analyses in several areas to verify that design values were correct and appropriate. Documentation reviewed included drawings, procedures, calculations, safety evaluation reports, CRDRs, and maintenance work orders identified in the attachment, as well as, the technical specifications, and the FSAR. The purpose of the reviews was to determine whether the design bases of the systems were met by the installed and tested configurations.

b. Findings

No findings were identified.

.6 Safety System Testing

a. Inspection Scope

The team reviewed the program and procedures for testing and inspecting the safety-related valves and pumps in the spray ponds, the essential cooling water and essential chilled water systems. The reviewed records included flow balancing and startup testing results; pump manufacturer pump curves; pump and valve inservice test records; and heat exchanger cleaning, testing, and performance records. Interviews were conducted with engineering testing personnel. Completed test procedures were examined to validate that the testing methodology and parameters used in testing would assure that an accurate comparison against the design and licensing bases could be made.

b. Findings

No findings were identified.

4 OTHER ACTIVITIES (OA)

4OA6 Management Meetings

Exit Meeting Summary

On December 8, 2000, the team leader presented the inspection results to Mr. D. Mauldin and other members of licensee management at the conclusion of the onsite inspection. The licensee's management acknowledged the findings presented.

The inspectors asked the licensee's management whether any materials examined during the inspection should be considered proprietary. The licensee's representatives noted that no proprietary information had been reviewed by the team.

A re-exit was conducted on December 28, 2000, with Mr. M. Sontag and other licensee representatives to inform the licensee of the identification of a non-cited violation.

ATTACHMENT 1

PARTIAL LIST OF PERSONS CONTACTED

Licensee

R. Buzard, Senior Consultant, Regulatory Affairs
A. Davé, Senior Engineer, Design Engineering
D. Fan, Department Leader, Design Engineering
F. Gowers, Site Representative, El Paso Electric
R. Henry, Site Representative, Salt River Project
M. Hodge, Section Leader, Nuclear Engineering Mechanical
A. Krainik, Director, Regulatory Affairs
D. Mauldin, Vice President, Engineering and Support
M. Powell, Department Leader, Design Engineering
B. Ramey, Section Leader, Inservice Testing
M. Winson, Director, Nuclear Engineering

NRC

J. Moorman, Senior Resident Inspector
G. Warnick, Resident Inspector

LIST OF BASELINE INSPECTIONS PERFORMED

71111-21 Safety System Design and Performance Capability

ITEM OPENED

Item Opened and Closed

529/0013-01 NCV Failure to identify conditions as significant adverse conditions in accordance with Procedure 90DP-0IP10 which contributed to repeat failures (Section 1R21.3b.).

DOCUMENTS REVIEWED

CALCULATIONS

NUMBER	DESCRIPTION	REVISION
01-MC-EW-502	Essential Cooling Water System - ECWS Pump Loop - Train B	3
01-MC-SP-200	Unit One Ultimate Heat Sink Capacity Verification	0

CALCULATIONS

NUMBER	DESCRIPTION	REVISION
13-JC-EW-200	Eval of Adequacy of ECWS Surge Tank Level Setpoints	3
13-JC-EW-A02	EW Surge Tank Level Curve Calculation	0
13-MC-DG-411	DG Heat Exchanger Minimum Flow Rate vs. Inlet SP Water Temperature	1
13-MC-EC-0501	Essential Chilled Water System ESF Pump Room Air Handling Unit Train A	4
13-MC-EC-200	Hydraulic Analysis of the EC System using the MINET Computer Program	3
13-MC-EC-252	EC Water Requirements and Chiller Sizing	7
13-MC-EC-253	EC System & Control Room Temperature Rise Study	3
13-MC-EC-452	Minimum Chilled Water Flows and Pressure Differential for Essential Air Handling Units	1
13-MC-EC-453	Estimated Room Temperatures as a Result of Low Chilled Water Flow	1
13-MC-EC-501	Aux Bldg Essential Chilled Water Sys ESF Pump Room AHU Train B El 40'- 70'	5
13-MC-EC-502	Essential Chilled Water System	6
13-MC-EW-305	EW System Hydraulic Calculation	2
13-MC-HA-052	Auxiliary Building Essential Cooling System Heat Load Calculation	5
13-MC-HJ-003	HJ System Heat Load and Equipment Selection Calculation	2
13-MC-HS-008	Spray Pond Pumphouse Ventilation	1
13-MC-SP-306	MINET Hydraulic Calculation of SP System	3
13-MC-SP-307	SP/EW System Thermal Performance Analysis	2
13-NC-SP-006	Volume of Water in Essential Spray Pond	1, 2
13-NC-SP-0200	Ultimate Heat Sink Water Consumption Analysis	1

DESIGN CHANGES

NUMBER	DESCRIPTION	REVISION
2LM-EW-036	EW System Heat Exchanger Sleeving	0
10J-EW-030	EW System Surge Tank Pressure Switch Replacement	0
10M-EW-027	EW System Flow Orifice Replacement	0

DRAWINGS

NUMBER	DESCRIPTION	REVISION
AO-M-DSF-001	Water Reclamation Plant Basic Flow Diagram - Domestic Water System	6
AO-M-TBF-001	Basic Flow Diagram - Cooling Tower Make Up and Blowdown System	5
01-M-ECP-001	P&I Diagram Essential Chilled Water System	29
01-M-EWP-001	Piping and Instrumentation Diagram	26
01-M-SPP-001	P&I Diagram Essential Spray Pond System, Sheets 1 and 2	31
01-M-SPP-002	P&I Diagram Essential Spray Pond System	11
02-M-ECP-001	Essential Chilled Water System	25
02-M-EWP-001	Essential Cooling Water System	24
02-M-SPP-001	P&I Diagram - Essential Spray Pond System	32
02-M-SPP-002	P&I Diagram - Essential Spray Pond System	9
2-SMH-S-3	2" Normally Closed Solenoid Motor Operated Valve	E
03-M- ECP-001	Essential Chilled Water System	21
03-M-SPP-001	Essential Spray Pond System	30
03-M-SPP-002	Essential Spray Pond System	8
03-P-DWF-202	Auxiliary Bldg. Isometrics Demineralized Water System Levels 1, 2, 3 & 4	3
13-10407-MO71-46	EW Heat Exchanger Tube Layout	0
13-J-083-001	Demineralized Water Data	2

DRAWINGS

NUMBER	DESCRIPTION	REVISION
13-M-DWF-002	Basic Flow Diagram Demineralized Water	3
13-N-HSD-001	Safety Function Diagram - Essential Spray Pond Pumphouse HVAC System Composite	0
13-N-SPD-001	Safety Function Diagram - Essential Spray Pond System Composite	1
13-N-ZZD-001	Shutdown Logic and Safety Function Diagram	0

ENGINEERING REPORTS

NUMBER	DESCRIPTION	REVISION
EER 88-EW-022	Engineering Evaluation Report EW Surge Tank Valve	0
EER 89-EW-009	Engineering Evaluation Request EW System Man-way	0
EER 92-QJ-002	Temporary Freeze Protection	December 4, 1992

PROCEDURES

NUMBER	DESCRIPTION	REVISION
	Underground Piping Project Establish Priorities and Inspection Program for Palo Verde Nuclear Generating Station Units 1, 2 & 3	1
33ST-9HJ04	Testing of the Control Room Emergency Air Temperature Control system	1, 2
33TI-9EC02	Essential Ventilation Cooling Coil Performance Data Collection	1, 2
40AO-9ZZ21	Acts of Nature	6
40DP-9ZZ17	Control of Doors, Hatches and Floor Plugs	19
40EP-9E001	Standard Post Trip Actions	4
40EP-9E002	Reactor Trip	2
40EP-9E003	Loss of Coolant Accident	8

PROCEDURES

NUMBER	DESCRIPTION	REVISION
40EP-9E008	Blackout	2
40OP-9OP06	“A” Train Essential Cooling Water System Leak Test	45
40OP-9SI01	Shutdown Cooling Initiation	20
40OP-9ZZ17	Cold Weather Protection	16, 17
40ST-9EC03	Essential Chilled Water & Ventilation Systems Inoperable Action Surveillance	11
40ST-9ZZM1	Operations Mode 1 Surveillance Logs	3
40ST-9ZZM3	Operations Mode 3 Surveillance Logs	0
41OP-1EW01	Essential Cooling Water System Operation	24
42ST-2EC01	Essential Chilled Water Verification	8
43AL-3ES2A	Control Room Annunciator Panels Alarm Response	17
70TI-9EW01	Thermal Performance Analysis of EW Heat Exchangers	4
73DP-9ZZ10	EW Heat Exchanger Thermal Analysis Guidelines	3
73ST-9EW01	EW Surveillance Test	14
73ST-9SP01	Essential Spray Pond Pumps-Inservice Test	13
73ST-9XI23	CP, EW, IA, and NC Valves Inservice Testing	4
7TD-0ZZ03	System Engineering Handbook	0
90DP-0IP10	Condition Reporting	9
EPIP-01	Satellite Technical Support Center Actions	7

CONDITION REPORTS / DEFICIENCY RESOLUTIONS

34471	54074	95722	118343	2-8-0280	9-8-0795
34573	54126	96315	234698	2-9-0057	9-8-0796
34846	61441	96357	2323253	2-9-0087	9-8-0884
35604	61442	97922	2324407	2-9-0088	9-8-1578
36307	61523	99282	1-8-0221	3-3-8224	9-8-1597
45144	61670	103503	1-8-0498	3-8-0017	9-8-1626
45327	61694	106742	1-9-0024	3-8-0304	9-9-0153
45328	61711	114987	1-9-0295	3-9-0028	9-9-0216
46000	92388	115774	2-8-0020	9-3-0422	9-9-0410
46009	92500	116238	2-8-0127	9-3-0517	9-9-0411
46179	93581	118179	2-8-0173	9-8-0794	9-9-Q097
53614	93820	118182	2-8-0246	9-8-0794	9-9-Q240
53960					

WORK ORDERS/WORK REQUESTS

225044	902417	1164016	1186681	1343334
229229	903478	1164091	1193438	1344109
270575	969521	1164092	1193915	1347231
369002	1121081	1165260	1194321	1347445
818598	1125912	1170716	1328072	1347446
818599	1141274	1182725	1332016	1348483
897517	1158543	1182727	1337514	2316913

MISCELLANEOUS DOCUMENTS

NUMBER	DESCRIPTION	REVISION
	2ND Quarter 2000, System Health Report - Essential Cooling Water System, Units 1, 2, and 3	N/A
	2ND Quarter 2000, System Health Report - Essential Spray Pond System, Units 1, 2, and 3	N/A
	3rd Quarter 2000, System Health Report - Essential Chiller System, Units 1, 2, and 3	N/A
	Design Basis Manual-Essential Spray Pond System	8
	Design Basis Manual-Essential Chilled Water System	9
	Design Basis Manual-Essential Cooling Water System	12
	Essential Spray Pond Chemical Addition & Corrosion Monitoring Focused Self-Assessment	October 12, 2000

MISCELLANEOUS DOCUMENTS

NUMBER	DESCRIPTION	REVISION
	PM Program Basis for AFW Pump Room Essential Air Cooling Unit (Train A&B)	December 20, 1999
13-JM-605	Nuclear Service Butterfly Valves Specification	9
13-MM-095	Bechtel Specification for Spray Pond Pumps	1
13-MM-185	ESPS Spray Nozzles Specification	5
161-02927-ACR/RAB/MWM	APS letter on Closure of NRC I&E Circular 78-13, "Inoperability of Service Water Pumps"	March 1, 1990
73ST-9EC01-3	12/04/00 - Unit 1 Surveillance Test Package for Train B	January 8, 1900
73ST-9EW01-3	12/04/00 - Unit 1 Surveillance Test Package for Train B	14
ANPP-18281-JMA/WFQ	APS letter on NUREG-0612	June 25, 1981
ANPP-18686-JMA/WFQ	APS letter responding to NUREG-0612	August 18, 1981
Audit 97-005	Engineering Team Inspection / Safety System Functional Inspection Audit	N/A
Audit 99-006	Technical Specifications Audit	N/A
IN 94-82	Concerns Regarding Essential Chiller Reliability During Periods of Low Cooling Water Temperature	12/05/94
IN 96-36	Degradation of Cooling Water System Due to Icing	June 12, 1996
IN 98-25	Loss of Inventory From Safety-Related, Closed-Loop Cooling Water Systems	July 18, 1998
LER 95-003-00	Loss of Both Trains of EW System	0
MEE-00805	Material Engineering Evaluation for Substitution Evaluation	0
O&MR 140	Water Hammer in the Emergency Service Water System	June 3, 1983
O&MR 422	Freezing of Safety-Related Process Piping and Systems Important to Plant Operations	October 25, 1996

MISCELLANEOUS DOCUMENTS

NUMBER	DESCRIPTION	REVISION
PM 228650	Inspect Spare Well Water Motors	September 20, 2000
PVNGS Tech Specs	Section 3.7.7 EW System	117
PVNGS Tech Specs	Section 3.7.7 EW System	0
PVNGS UFSAR	Section 9.2.2.1 EW System	10
Report 00-02	Metallurgical Failure Analysis Report - Unit 1 SP Piping	February 24, 2000
SEN 189	Water Hammer Causes Component Cooling Water System Rupture Disc Failure Following Safeguards Bus Loss of Power	1
SEN 5	Water Hammer in the Component Cooling System	0
SER 13-96	Screen House Repair Activities Result Potential Common-Cause Loss of Ultimate Heat Sink	0
SER 68-83, Supplement 1	Emergency Diesel Cooling System Lining Failures	0
SER 68-83	Essential Cooling Water System Piping Lining Failures	0
SER 96-81	Flooding of RHR Service Water/Emergency Equipment Cooling Pump Room	0
SOER 84-1	Cooling Water System Degradation Due to Aquatic Life	0
Volume 6	System Training Manual-Essential Spray Pond System (SP)	2
Volume 7	System Training Manual-Essential Cooling Water System	4
Volume 8	System Training Manual-Essential Chilled Water System	3
VTD-S445-0003	Installation, Operation, and Maintenance for Struthers Wells Corporation Essential Cooling Water Heat Exchangers	4

ATTACHMENT 2

NRC'S REVISED REACTOR OVERSIGHT PROCESS

The federal Nuclear Regulatory Commission (NRC) revamped its inspection, assessment, and enforcement programs for commercial nuclear power plants. The new process takes into account improvements in the performance of the nuclear industry over the past 25 years and improved approaches of inspecting safety performance at NRC licensed plants.

The new process monitors licensee performance in three broad areas (called strategic performance areas): reactor safety (avoiding accidents and reducing the consequences of accidents if they occur), radiation safety (protecting plant employees and the public during routine operations), and safeguards (protecting the plant against sabotage or other security threats). The process focuses on licensee performance within each of seven cornerstones of safety in the three areas:

Reactor Safety	Radiation Safety	Safeguards
•Initiating Events	•Occupational	•Physical Protection
•Mitigating Systems	•Public	
•Barrier Integrity		
•Emergency Preparedness		

To monitor these seven cornerstones of safety, the NRC used two processes that generate information about the safety significance of plant operations: inspections and performance indicators. Inspection findings will be evaluated according to their potential significance for safety, using the Significance Determination Process, and assigned colors of GREEN, WHITE, YELLOW or RED. GREEN findings are indicative of issues that, while they may not be desirable, represent very low safety significance. WHITE findings indicate issues that are of low to moderate safety significance. YELLOW findings are issues that are of substantial safety significance. RED findings represent issues that are of high safety significance with a significant reduction in safety margin.

Performance indicator data will be compared to established criteria for measuring licensee performance in terms of potential safety. Based on prescribed thresholds, the indicators will be classified by color representing varying levels of performance and incremental degradation in safety: GREEN, WHITE, YELLOW, and RED. GREEN indicators represent performance at a level requiring no additional NRC oversight beyond the baseline inspections. WHITE corresponds to performance that may result in increased NRC oversight. YELLOW represents performance that minimally reduces safety margin and requires even more NRC oversight. And RED indicates performance that represents a significant reduction in safety margin but still provides adequate protection to public health and safety.

The assessment process integrates performance indicators and inspection so the agency can reach objective conclusions regarding overall plant performance. The agency will use an Action Matrix to determine in a systematic, predictable manner which regulatory actions should be taken based on a licensee's performance. The NRC's actions in response to the significance (as represented by the color) of issues will be the same for performance indicators as for inspection findings. As a licensee's safety performance degrades, the NRC will take more and increasingly significant action, which can include shutting down a plan, as described in the Action Matrix.

More information can be found at: http://www.nrc.gov/NRR/OVERSIGHT/index.html.