UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
612 EAST LAMAR BLVD, SUITE 400
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July 2, 2010

Mr. Ross T. Ridenoure
Senior Vice President and
Chief Nuclear Officer
Southern California Edison Company
San Onofre Nuclear Generating Station
P.O. Box 128
San Clemente, CA 92674-0128

SUBJECT: SAN ONOFRE NUCLEAR GENERATING STATION – NRC INTEGRATED INSPECTION REPORT 05000361/2010002 and 05000362/2010002 - ERRATA

Dear Mr. Ridenoure:

Please find enclosed a revision to a non-cited violation originally issued in NRC Inspection Report 5000361/2010002 and 05000362/2010002; dated May 4, 2010. These changes are needed to properly revise the violation of Technical Specification 5.8.2 vice 5.8.3.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, and its enclosure, will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records 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/

Ryan E. Lantz, Chief
Project Branch D
Division of Reactor Projects

Docket Nos. 50-361
50-362

License Nos. NPF-10 NPF-15

Enclosure:
ERRATA to NRC Inspection Report 05000361/2010002 and 05000362/2010002 pages 9 and 36-38

Attachment:
NRC Inspection Report 05000361/2010002 and 05000362/2010002

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SUNSI Rev Compl.	☑ Yes ☐ No	ADAMS	☑ Yes ☐ No	Reviewer Initials	DBA
Publicly Avail	☑ Yes ☐ No	Sensitive	☐ Yes ☑ No	Sens. Type Initials	DBA

SPE: RPBD	C:DRS/PSB1	C:DRP		
DAllen	GEWerner	RLantz		
/RA/	***/DAP for/***	***/RA/***		
7/2 /10	7/2 /10	7/2 /10		

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Cornerstone: Occupational Radiation Safety

- Green. The inspectors identified a noncited violation of Technical Specification 5.8.2 for the failure of radiation protection personnel to provide a locked door sufficient to prevent unauthorized entry into an area with radiation doses greater than 1.0 rem in 1 hour at 30 centimeters. Specifically, from February 2004 through March 17, 2010, the locked door that radiation protection personnel provided for the access ladder and installed ladder extension to the upper refueling cavity was not adequate to prevent unauthorized access when the door was being used as the means to control access to an individual high radiation area in the lower cavity where the maximum measured radiation dose rate was 2.8 rem per hour. The inspectors determined that with the ladder extension installed on the back side of the ladder, the controls the licensee had in place to impede access to the refueling cavity could have been easily circumvented. On March 17, 2010, radiation protection personnel removed the ladder extension which sufficiently impeded access to the back side of the ladder. This issue was entered into the licensee's corrective action program as Nuclear Notifications NNs 200793188 and 200837345.

  The finding is greater than minor because it is associated with the program and process attribute of the Radiation Safety Cornerstone and directly affected the associated cornerstone objective of ensuring the adequate protection of the worker health and safety from exposure to radiation from radioactive material during routine civilian nuclear reactor operation. Using Manual Chapter 0609, Appendix C, "Occupational Radiation Safety Significance Determination Process," this finding is determined to have very low safety significance because it did not involve: (1) an ALARA planning or work control issue, (2) an overexposure, (3) a substantial potential for overexposure, or (4) an impaired ability to assess dose. The inspectors determined that since the licensee had not recently re-evaluated the locked high radiation area controls associated with this ladder; this finding did not represent current plant performance, and therefore, did not have a crosscutting aspect associated with it (Section 1R20).

1. Controls for Locked High Radiation Area

Introduction. The inspectors identified a noncited violation of Technical Specification 5.8.2 for the failure of radiation protection personnel to provide a locked door sufficient to prevent unauthorized entry into an area with radiation doses greater than 1.0 rem in 1 hour at 30 centimeters.

Description. On February 12, 2010, while touring the Unit 2 containment building, the inspectors noted that the access ladder, with extension installed, to the upper refueling cavity was being used as the means to control access to a locked high radiation area in the lower refueling cavity. The inspectors noted that the ladder had a safety cage around it, a locked swing door to restrict access inside of the safety cage, and a locked high radiation sign was attached to the swing door. However, the inspectors noted that there was nothing in place on the back side of the ladder to restrict access.

The inspectors questioned the adequacy of the access control method being used by the licensee. Specifically, the ladder had an extension installed that could be used to readily access the back side of the ladder, and with nothing in place to restrict access, it appeared that the back side of the ladder was easily accessible. As such, the inspectors questioned whether the current configuration of the ladder with the extension installed was a failure of the licensee to provide a locked door sufficient to prevent unauthorized entry into the refueling cavity. The inspectors informed the licensee of their concerns. The licensee initiated Nuclear Notification NN 200793188 to capture this concern in the corrective action program.

The licensee's initial determination was that the back side of the ladder was sufficiently controlled. The inspectors questioned this determination and initiated discussions with the NRC Office of Nuclear Reactor Regulation.

The inspectors determined that the method of controlling access to the back side of the ladder was inadequate. Specifically, the controls the licensee had in place could have been easily circumvented, and as such, the inspectors determined that the licensee had failed to appropriately control access to the lower refueling cavity where there was an area where the maximum measured radiation dose rate was 2.8 rem per hour. On March 17, 2010, radiation protection personnel removed the ladder extension which appropriately impeded access to the back side of the ladder.

Analysis. The failure to provide a locked door sufficient to prevent unauthorized entry into an area with radiation doses greater than 1.0 rem in 1 hour was a performance deficiency. The finding is greater than minor because it is associated with the program and process attribute of the Radiation Safety Cornerstone and directly affected the associated cornerstone objective of ensuring the adequate protection of the worker health and safety from exposure to radiation from radioactive material during routine civilian nuclear reactor operation. Using Manual Chapter 0609, Appendix C, "Occupational Radiation Safety Significance Determination Process," this finding is determined to have very low safety significance because it did not involve: (1) an ALARA planning or work control issue, (2) an overexposure, (3) a substantial potential for overexposure, or (4) an impaired ability to assess dose. The inspectors determined that since the licensee had not recently re-evaluated the locked high radiation area controls associated with this ladder, this finding was not representative of current plant performance, and therefore, did not have a crosscutting aspect associated with it.

Enforcement. Technical Specifications 5.8.2 requires, in part, that areas that are accessible to personnel and that have radiation levels greater than 1 rem in 1 hour at 30 centimeters from the radiation source shall be provided with locked doors to prevent unauthorized entry. Contrary to the above, from February 2004 through March 17, 2010, radiation protection personnel failed to provide a locked door sufficient to prevent unauthorized entry into a locked high radiation area in the lower refueling cavity where the maximum measured radiation dose rate was 2.8 rem per hour. Because this violation is of very low safety significance and it was entered into the licensee's corrective action program as Nuclear Notifications NNs 200793188 and 200837345, this violation is being treated as a noncited violation consistent with Section VI.A of the NRC Enforcement Policy: NCV 05000361/2010002-08, "Failure to Appropriately Control Access to a Locked High Radiation Area."

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May 4, 2010

Mr. Ross T. Ridenoure
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San Clemente, CA 92674-0128

SUBJECT: SAN ONOFRE NUCLEAR GENERATING STATION – NRC INTEGRATED INSPECTION REPORT 05000361/2010002 and 05000362/2010002

Dear Mr. Ridenoure:

On March 24, 2010, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your San Onofre Nuclear Generating Station, Units 2 and 3 facility. The enclosed integrated inspection report documents the inspection findings, which were discussed on March 23, 2010, with you, and other members of your staff.

The inspections 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 inspectors reviewed selected procedures and records, observed activities, and interviewed personnel.

This report documents 12 NRC identified findings and two self-revealing findings of very low safety significance (Green). All of these findings were determined to involve violations of NRC requirements. Additionally, three licensee-identified violations, which were determined to be of very low safety significance, are listed in this report. However, because of the very low safety significance and because they are entered into your corrective action program, the NRC is treating these findings as noncited violations, consistent with Section VI.A.1 of the NRC Enforcement Policy. If you contest the violations or the significance of the noncited violations, 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, D.C. 20555-0001, with copies to the Regional Administrator, U.S. Nuclear Regulatory Commission, Region IV, 612 E. Lamar Blvd, Suite 400, Arlington, Texas, 76011-4125; the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555-0001; and the NRC Resident Inspector at the San Onofre Nuclear Generating Station facility. In addition, if you disagree with the characterization of any finding 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 Regional Administrator, Region IV, and the NRC

Resident Inspector at San Onofre Nuclear Generating Station. The information you provide will be considered in accordance with Inspection Manual Chapter 0305.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, and its enclosure, will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records 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/ Donald B. Allen for

Ryan E. Lantz, Chief
Project Branch D
Division of Reactor Projects

Docket Nos. 50-361; 50-362
License Nos. NPF-10, NPF-15

Enclosure:
NRC Inspection Report 05000361/2010002 and 05000362/2010002
w/Attachment: Supplemental Information

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Publicly Avail	☑ Yes ☐ No	Sensitive	☐ Yes ☑ No	Sens. Type Initials	DBA

RI:DRP	RI:DRP	SRI:DRP	C:DRS/OB	C:DRS/EB1
JReynoso	JJosey	GWarnick	MHaire	TFarnholtz
/DAllen for E/	***/DAllen for E/***	***/RA/***	***/DAllen for/***	***/RML for/***
5/3 /10	5/3 /10	5/3/10	4/29/10	4/29/10
C:DRS/EB2	C:DRS/PSB1	C:DRS/PSB2	C:DRP	
NO'Keefe	MShannon	GWerner	RLantz	
/RA/	***/JLarsen for/***	***/RA/***	***/DAllen for/***	
4/28/10	4/29/10	4/29/10	4/30/10	

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U.S. NUCLEAR REGULATORY COMMISSION

REGION IV

Docket:	50-361, 50-362
License:	NPF-10, NPF-15
Report:	05000361/2010002 and 05000362/2010002
Licensee:	Southern California Edison Co. (SCE)
Facility:	San Onofre Nuclear Generating Station, Units 2 and 3
Location:	5000 S. Pacific Coast Hwy San Clemente, California
Dates:	January 1, 2010 through March 24, 2010
Inspectors:	D. Allen, Senior Project Engineer P. Elkmann, Senior Emergency Preparedness Inspector J. Josey, Resident Inspector J. Reynoso, Resident Inspector B. Rice, Reactor Engineer W. Schaup, Project Engineer G. Warnick, Senior Resident Inspector
Approved By:	Ryan E. Lantz Chief, Project Branch D Division of Reactor Projects

SUMMARY OF FINDINGS

IR 05000361/2010002, 05000362/2010002; 01/01/2010 – 03/24/2010; San Onofre Nuclear Generating Station, Units 2 & 3; Integ Resid & Reg Report; Fire Prot, Maint Effect, Maint Risk & Em Work, Op Eval, Postmaint Test, Ref Outages, Id.& Res.of Prob, Event F/U

The report covered a 3-month period of inspection by resident inspectors and an announced baseline inspection by a regional based inspector. Fourteen Green noncited violations of significance were identified. The significance of most findings is indicated by their color (Green, White, Yellow, or Red) using Inspection Manual Chapter 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 4, dated December 2006.

A. NRC-Identified Findings and Self-Revealing Findings

Cornerstone: Initiating Events

- Green. The inspectors identified three examples of a noncited violation of Technical Specification 5.5.1.1.d, for the failure of contractor and station personnel to properly implement the requirements of a station fire protection procedure for control of hot work activities. Specifically, between January 4 and March 17, 2010, three examples were identified where contractor and station personnel failed to properly implement the requirements of procedure SO123-XV-1.41, "Control of Ignition Sources," Revision 14, Steps 6.2.1 and 6.4.1.3. Specifically, contractor and station personnel failed to ensure that combustible materials were covered or removed from the ignition source. Following the inspectors' identification of each example, the licensee immediately stopped the hot work activities and restored compliance with the requirements of procedure SO123-XV-1.41. This issue was entered into the licensee's corrective action program as Nuclear Notifications NNs 200729747, 200746059 and 200835830.

  The finding is greater than minor because if left uncorrected, the practice of conducting hot work in a manner that allows uncontrolled combustibles to be within the procedurally specified exclusion area would have the potential to lead to a more significant safety concern, in that, it could result in a fire in or near risk important equipment. The finding is associated with the Initiating Events Cornerstone. The inspectors determined that Manual Chapter 0609, Appendix F, "Fire Protection Significance Determination Process," does not address the potential risk significance of shutdown fire protection findings, and Appendix G, "Shutdown Operations Significance Determination Process," does not address fire protection findings, and therefore could not be applied to shutdown plant conditions. Because of this, the inspectors used Manual Chapter 0609, Appendix M, "Significance Determination Process Using Qualitative Criteria." The NRC management review was performed by using the Manual Chapter

0609, Appendix F, Phase 1 Worksheet, to establish a bounding analysis. Using the bounding analysis, the finding is determined to have very low safety significance because the finding represented a low degradation rating, in that, it did not have any significant effect on the likelihood that a fire might occur, or that a fire which does occur might not be promptly suppressed. This finding had a crosscutting aspect in the area of human performance associated with work practices, in that, the licensee failed to define and effectively communicate expectations regarding procedural compliance and personnel following procedures [H.4(b)] (Section 1R05).

- Green. The inspectors identified a noncited violation of 10 CFR 50.65(a)(4), "Requirements for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants," involving multiple instances where operations and work control personnel failed to adequately assess and implement appropriate risk management activities. Specifically, between February 18, and February 23, 2010, operations and work control personnel failed to adequately assess and manage the increase in risk associated with maintenance activities in the electrical switchyard. Following the inspectors' identification of the findings, the licensee adequately assessed and managed the increase in risk for the maintenance activities. This issue was entered into the licensee's corrective action program as Nuclear Notifications NNs 200801929 and 200805635.

  The finding is greater than minor since it was similar to both more than minor Examples 7.e and 7.f in NRC Inspection Manual Chapter 0612, Appendix E, "Examples of Minor Issues," because when the activities were correctly assessed plant procedures required risk management actions to be taken. The finding is associated with the Initiating Events Cornerstone. The inspectors determined that the licensee does not maintain a shutdown probabilistic risk analysis model, and as such, an incremental core damage probability cannot be estimated for the plant conditions that existed at the time of the performance deficiency. For this reason, the inspectors determined that Manual Chapter 0609, Appendix K, "Maintenance Risk Assessment and Risk Management Significance Determination Process," Flowchart 2, could not be used to determine the risk significance the finding. Using the qualitative review process of Manual Chapter 0609, Appendix M, "Significance Determination Process Using Qualitative Criteria," the finding is determined to have very low safety significance because the finding did not result in any additional loss of defense in depth systems. This finding has a crosscutting aspect in the area of human performance associated with the work practices because the licensee failed to define and effectively communicate expectations regarding procedural compliance and that personnel follow procedures [H.4(b)] (Section 1R13).

Cornerstone: Mitigating Systems

- Green. The inspectors identified a noncited violation of 10 CFR 50.65(b)(2)(ii) for the licensee's failure to appropriately scope the steam driven auxiliary feedwater pump trench eductor in the maintenance rule monitoring program. Specifically,

from the inception of the facilities monitoring program through March 2010, the licensee failed to properly scope the steam drive auxiliary feedwater pump trench educator. The eductors prevent water from accumulating in the trench because water in contact with the pump's steam supply piping would cause condensation of the steam in the pipe. Condensation would cause the turbine to over speed, which would render the pump incapable of performing its specified safety function. This issue was entered into the licensee's corrective action program as Nuclear Notification NN 200765185.

The finding is greater than minor because it is associated with the equipment performance attribute of the Mitigating Systems Cornerstone and directly affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheets, the finding is determined to have very low safety significance because the finding: (1) is not a design or qualification issue confirmed not to result in a loss of operability or functionality; (2) did not represent an actual loss of safety function of the system or train; (3) did not result in the loss of one or more trains of nontechnical specification equipment; and (4) did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. The inspectors determined that since the scoping of the systems had occurred more than 2 years in the past, and the opportunity to reevaluate system scoping had not occurred recently, that the finding did not represent current plant performance and therefore did not have a crosscutting aspect associated with it (Section 1R12).

- Green. The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the licensee's failure to properly implement procedure requirements to ensure that applicable risk significant operating experience was entered into the corrective action program for timely evaluation. Specifically, on December 17, 2009, the operating experience review committee failed to properly implement the requirements of procedure SO23-XV-40, "Sharing Industry Information," Revision 1. An industry operating experience report review determined the operating experience was not applicable and was distributed as information only; not requiring any action. The same industry operating experience was later determined to be applicable by the probabilistic risk assessment group, and interim compensatory measures were initiated on February 10, 2010, to address the issues. This issue was entered into the licensee's corrective action program as Nuclear Notifications NN 200805879.

  The finding is greater than minor because it is associated with the procedure quality attribute of the Mitigating Systems Cornerstone and affects the associated cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheets, the finding is determined to have very low safety significance

because the finding: (1) is not a design or qualification issue confirmed not to result in a loss of operability or functionality; (2) did not represent an actual loss of safety function of the system or train; (3) did not result in the loss of one or more trains of nontechnical specification equipment; and (4) did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. This finding has a crosscutting aspect in the area of human performance associated with decision-making because the operating experience review committee did not use a systematic process when making a safety significant decision, to ensure safety is maintained and obtaining interdisciplinary inputs and reviews on risk-significant decisions [H.1(a)] (Section 1R13).

- Green. The inspectors identified two examples of a noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instruction, Procedures, and Drawing," for the failure of operations personnel to follow procedures to approve and document operability determinations using adequate or technically correct information. Specifically, on January 15, and January 22, 2010, operations personnel failed to follow procedure SO123-XV-52, "Functionality Assessments and Operability Determinations," Revision 14, in that, the documented bases for operability for degraded conditions did not adequately support the basis for an operability position taken by the licensee. Following the inspectors' identification of the issues, operations personnel performed new operability determinations to provide adequate bases for operability. This issue was entered into the licensee's corrective action program as Nuclear Notifications NNs 200765208 and 200753880.

  The finding is greater than minor because, if left uncorrected, inadequate operability determinations would have the potential to lead to a more significant safety concern. Specifically, the failure to recognize that risk significant equipment is in a potentially inoperable condition and as such, may not be able to perform its specified safety function would not be recognized and accounted for by operators. The finding is associated with the Mitigating Systems Cornerstone. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheets, the finding is determined to have very low safety significance because the finding: (1) is not a design or qualification issue confirmed not to result in a loss of operability or functionality; (2) did not represent an actual loss of safety function of the system or train; (3) did not result in the loss of one or more trains of nontechnical specification equipment; and (4) did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. This finding has a crosscutting aspect in the area of problem identification and resolution associated with the corrective action program because the licensee failed to thoroughly evaluate problems such that the resolutions addressed causes and extent of conditions as necessary [P.1(c)] (Section 1R15).

- Green. A self-revealing Green noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was identified for failure of maintenance planning personnel to develop and specify an adequate

postmaintenance test in the work instructions used to perform maintenance on the backup nitrogen regulator for the component cooling water surge tank. Specifically, on October, 25, 2009, Maintenance Order MO 800335873 did not specify postmaintenance testing instructions that would verify that nitrogen supply valve PCV 5403 would perform satisfactorily in service, following calibration, and properly control surge tank pressure during changes in surge tank levels. This issue was entered into the licensee's corrective action program as Nuclear Notifications NNs 200766430 and 200887764.

The finding is greater than minor because it is associated with the procedure quality attribute of the Mitigating Systems Cornerstone and affects the associated cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Furthermore, the finding is similar to more than minor example 3.i in NRC Inspection Manual Chapter 0612, Appendix E, "Examples of Minor Issues," in that, an extensive engineering evaluation was required to verify that the component cooling water system remained capable of performing its safety function during a design basis earthquake. Using the Manual Chapter 0609, Appendix G, "Shutdown Operations Significance Determination Process," Phase 1 guidance, the finding is determined to have very low safety significance because the finding did not result in an increase in the likelihood of a loss of reactor coolant system inventory, degrade the ability to add reactor coolant system inventory, or degrade the ability to recover decay heat removal. This finding has a crosscutting aspect in the area of human performance associated with work practices because maintenance planning personnel failed to follow procedures to develop adequate work instructions to perform maintenance on safety-related equipment [H.4(b)] (Section 1R19).

- Green. The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the failure of licensee personnel to follow procedure SO123-XV-50.CAP-1, "Writing Nuclear Notifications for Problem Identification and Resolution," Revision 2, and enter conditions adverse to quality into the corrective action program. Specifically, between January 4 and March 14, 2010, the inspectors identified multiple instances, including two programs, where licensee personnel were aware of the existence of conditions adverse to quality, but failed to appropriately enter them into the corrective action program without being prompted by the inspectors. This issue was entered into the licensee's corrective action program as Nuclear Notifications NNs 200778816 and 200780926.

  The finding is greater than minor because it was similar to more than minor example 3.j in NRC Manual Chapter 0612, Appendix E, "Examples of Minor Issues," in that programmatic deficiencies were identified associated with this issue that would have the potential to lead to more significant safety concerns if left uncorrected. Specifically, contractor and licensee personnel's failure to enter conditions adverse to quality into the station corrective action program could result in the licensee's failure to recognize that risk significant equipment is in a

degraded or nonconforming condition, and as such, may not be able to perform its specified safety function. The finding is associated with the Mitigating Systems Cornerstone. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheets, the finding is determined to have very low safety significance because the finding: (1) is not a design or qualification issue confirmed not to result in a loss of operability or functionality; (2) did not represent an actual loss of safety function of the system or train; (3) did not result in the loss of one or more trains of non-technical specification equipment; and (4) did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. This finding has a crosscutting aspect in the area of problem identification and resolution associated with the corrective action program because the licensee failed to implement a corrective action program with a low threshold for identifying issues. This also includes identifying such issues completely, accurately, and in a timely manner commensurate with their safety significance [P.1(a)] (Section 4OA2).

- Green. The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the failure of maintenance personnel to follow Work Order 800195196 and provide appropriate oversight to transmission and distribution personnel while performing work in the electrical switchyard. Specifically, on February 26, 2010, maintenance personnel failed to follow Work Order 800195196, and procedure SO123-XV-15.3, "Temporary System Alteration and Restoration," Revision 17, to provide appropriate oversight of transmission and distribution personnel who were performing work in the plant switchyard, which resulted in the over torquing of nine bolts on the reserve auxiliary transformer circuit breakers. The licensee corrected the over torqued bolt condition. This issue was entered into the licensee's corrective action program as Nuclear Notifications NNs 200803364 and 200811993.

  The finding is greater than minor because circumventing procedural requirements, if left uncorrected, would have the potential to lead to a more significant safety concern, in that, more risk significant equipment could be rendered inoperable without the knowledge and approval of appropriate management or control room personnel. The finding is associated with the Mitigating Systems Cornerstone. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheets, the finding is determined to have a very low safety significance because the finding: (1) is not a design or qualification issue confirmed not to result in a loss of operability or functionality; (2) did not represent an actual loss of safety function of the system or train; (3) did not result in the loss of one or more trains of nontechnical specification equipment; and (4) did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. This finding has a crosscutting aspect in the area of human performance associated with work practices because maintenance personnel failed to ensure supervisory and management oversight of work activities, including contractors, such that nuclear safety was supported [H.4(c)] (Section 4OA2).

- Green. A self-revealing noncited violation of Technical Specification 5.5.1.1 was identified for the failure of operations personnel to follow procedures for operating the component cooling water system. Specifically, on January 27, 2010, operations personnel failed to follow the requirements of procedure SO123-2-17, "Component Cooling Water System Operation," Revision 31, while performing a planned drain down of the component cooling water surge tanks. Operations personnel failed to maintain the surge tank pressure, in accordance with procedure SO23-2-17, such that, component cooling water surge tank pressure was permitted to go low out of the expected operating range. As a result of this low surge tank pressure, operators declared the component cooling water and shutdown cooling train A systems inoperable. This issue was entered into the licensee's corrective action program as Nuclear Notification NN 200771367.

  The finding is greater than minor because the continued failure to follow procedures when operating safety-related plant equipment, if left uncorrected, would have the potential to lead to a more significant safety concern. The finding is associated with the Mitigating Systems Cornerstone. Using the Manual Chapter 0609, Appendix G, "Shutdown Operations Significance Determination Process," Phase 1 guidance, the finding is determined to have very low safety significance because the finding did not result in an increase in the likelihood of a loss of reactor coolant system inventory, degrade the ability to add reactor coolant system inventory, or degrade the ability to recover decay heat removal. This finding has a crosscutting aspect in the area of human performance associated with work practices because operations personnel failed to use proper human error prevention techniques and proceeded in the face of unexpected circumstances when operating the component cooling water system [H.4(a)] (Section 4OA3).

Cornerstone: Barrier Integrity

- Green. The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," associated with the licensee's failure to adequately implement procedures SO123-I-3.7, "Refueling Foreign Material Exclusion Control," Revision 6, and SO123-I-1.18, "Foreign Material Exclusion," Revision 14. Specifically, between January 12, 2010, and February 23, 2010, multiple occasions were identified during Refueling Outage U2C16, where licensee personnel failed to implement appropriate foreign material exclusion controls in areas designated as Zone 1 foreign material exclusion areas. This issue was entered into the licensee's corrective action program as Nuclear Notifications NNs 200760484, 200742082, 200743834 and 200805961.

  The finding is greater than minor because it is associated with the human performance attribute of the Barrier Integrity Cornerstone and affects the cornerstone objective of providing reasonable assurance that physical barriers protect the public from radionuclide releases caused by accidents or events. Furthermore, the programmatic deficiencies that were identified associated with

this issue would have the potential to lead to a more significant safety concern, if left uncorrected. Specifically, licensee personnel's continued failure to implement appropriate foreign material exclusion controls would result in degradation and adverse impacts on materials and systems associated with the spent fuel pool or the reactor cavity. Using the Manual Chapter 0609, Appendix G, "Shutdown Operations Significance Determination Process," Phase 1 guidance, the finding is determined to have very low safety significance because the finding did not result in an increase in the likelihood of a loss of reactor coolant system inventory, degrade the ability to add reactor coolant system inventory, or degrade the ability to recover decay heat removal. This finding had a crosscutting aspect in the area of human performance associated with work practices because the licensee failed to define and effectively communicate expectations regarding procedural compliance which resulted in a failure to follow procedure by licensee personnel [H.4(b)] (Section 1R20).

Cornerstone: Occupational Radiation Safety

- Green. The inspectors identified a noncited violation of Technical Specification 5.8.3 for the failure of radiation protection personnel to appropriately barricade and conspicuously post an area that was accessible to personnel that could have resulted in radiation doses greater than 1.0 rem in 1 hour. Specifically, from February 2004 through March 17, 2010, the radiation personnel failed to appropriately barricade and conspicuously post the access ladder to the upper refueling cavity when it was being used as the means to control access to an individual high radiation area in the lower cavity where the maximum measured radiation dose rate was 2.8 rem per hour. The inspectors determined that the ladder was not appropriately barricaded and conspicuously posted, and as such the controls the licensee had in place were easily circumvented. On March 17, 2010, radiation protection personnel appropriately barricaded and conspicuously posted the access ladder to the upper refueling cavity. This issue was entered into the licensee's corrective action program as Nuclear Notifications NNs 200793188 and 200837345.

  The finding is greater than minor because it is associated with the program and process attribute of the Radiation Safety Cornerstone and directly affected the associated cornerstone objective of ensuring the adequate protection of the worker health and safety from exposure to radiation from radioactive material during routine civilian nuclear reactor operation. Using Manual Chapter 0609, Appendix C, "Occupational Radiation Safety Significance Determination Process," this finding is determined to have very low safety significance because it did not involve: (1) an ALARA planning or work control issue, (2) an overexposure, (3) a substantial potential for overexposure, or (4) an impaired ability to assess dose. The inspectors determined that since the licensee had not recently re-evaluated the locked high radiation area controls associated with this ladder; this finding did not represent current plant performance, and therefore, did not have a crosscutting aspect associated with it (Section 1R20).

Other Findings

- SL-IV. The inspectors identified a noncited violation of 10 CFR 50.72, "Immediate Notification Requirements for Operating Nuclear Power Reactors," for the licensee's failure to notify the NRC Operations Center within 8 hours following discovery of an event meeting the reportability criteria as specified. Specifically, on December 23, 2009, the licensee failed to notify the NRC Operations Center within 8 hours after the discovery of an event or condition that resulted in a condition where the spent fuel pool cooling system was prevented from fulfilling its safety function of residual heat removal with the complete core off loaded. This issue was entered into the licensee's corrective action program as Nuclear Notification NN 200733257.

  The finding is greater than minor because the NRC relies on licensee's to identify and report conditions or events meeting the criteria specified in regulations in order to perform its regulatory function, and when this is not done the regulatory function is impacted. The inspectors reviewed this issue in accordance with Inspection Manual Chapter 0612 and the NRC Enforcement Manual. Through this review, the inspectors determined that traditional enforcement was applicable to this issue because the NRC's regulatory ability was affected. The inspectors determined that this finding was not suitable for evaluation using the significance determination process, and as such, was evaluated in accordance with the NRC Enforcement Policy. The finding was reviewed by NRC management and because the violation was determined to be of very low safety significance, was not repetitive or willful, and was entered into the corrective action program, this violation is being treated as a Severity Level IV noncited violation consistent with the NRC Enforcement Policy. This finding has a crosscutting aspect in the area of problem identification and resolution associated with the corrective action program because the licensee failed to thoroughly evaluate problems such that the resolutions addressed causes and extent of conditions as necessary. This includes properly classifying, prioritizing, and evaluating for operability and reportability conditions adverse to quality [P.1(c)] (Section 4OA2).

- SL-IV. The inspectors identified a noncited violation of 10 CFR 50.73, "Licensee Event Report System," associated with the failure of nuclear regulatory affairs personnel to submit a licensee event report within 60 days following discovery of an event meeting the reportability criteria as specified. Specifically, nuclear regulatory affairs personnel failed to submit a licensee event report within 60 days following discovery of a complete loss of spent fuel pool cooling event that occurred on February 13, 2007. This issue was entered into the licensee's corrective action program as Nuclear Notifications NNs 200740135 and 200733257.

  The finding is greater than minor because the NRC relies on licensee's to identify and report conditions or events meeting the criteria specified in regulations in order to perform its regulatory function, and when this is not done the regulatory

function is impacted. The inspectors reviewed this issue in accordance with Inspection Manual Chapter 0612 and the NRC Enforcement Manual. Through this review, the inspectors determined that traditional enforcement was applicable to this issue because the NRC's regulatory ability was affected. The inspectors determined that this finding was not suitable for evaluation using the significance determination process, and as such, was evaluated in accordance with the NRC Enforcement Policy. The finding was reviewed by NRC management and because the violation was determined to be of very low safety significance, was not repetitive or willful, and was entered into the corrective action program, this violation is being treated as a Severity Level IV noncited violation consistent with the NRC Enforcement Policy. Since the inadequate reportability determination had been made in 2007, and the licensee's reportability program has undergone significant revision since this time, the inspectors determined that this was not reflective of current licensee performance and therefore did not have a crosscutting aspect associated with it (Section 4OA2).

- SL-IV. The inspectors identified a noncited violation of 10 CFR 50.59, "Changes, Test, and Experiments," for the failure of licensing personnel to obtain a technical specification license amendment for a change made to the technical specification bases concerning the emergency chilled water system. Specifically, in 1996, licensing personnel implemented a technical specification bases change for Limiting Condition for Operation 3.7.10, "Emergency Chilled Water," which changed the intent and application of the technical specification, and added wording which allowed a period of time for required support systems to be inoperable without declaring the emergency chillers inoperable. This issue was entered into the licensee's corrective action program as Nuclear Notifications NNs 200747320 and 200758329.

  The finding is greater than minor because the failure to follow the requirements of 10 CFR 50.59 and receive prior NRC approval for changes in licensed actions impacted the NRC's regulatory ability. The inspectors reviewed this issue in accordance with Inspection Manual Chapter 0612 and the NRC Enforcement Manual. Through this review, the inspectors determined that traditional enforcement was applicable to this issue because the NRC's regulatory ability was affected. The inspectors determined that this finding was not suitable for evaluation using the significance determination process, and as such, was evaluated in accordance with the NRC Enforcement Policy. The finding was reviewed by NRC management and because the violation was determined to be of very low safety significance, was not repetitive or willful, and was entered into the corrective action program, this violation is being treated as a Severity Level IV noncited violation consistent with the NRC Enforcement Policy. Since the bases change was made in 1996, the inspectors determined that this was not reflective of current licensee performance and therefore did not have a crosscutting aspect associated with it (Section 4OA2).

B. Licensee-Identified Violations

Violations of very low safety significance, which were identified by the licensee, have been reviewed by the inspectors. Corrective actions taken or planned by the licensee have been entered into the licensee's corrective action program. These violations and corrective action tracking numbers are listed in Section 4OA7.

REPORT DETAILS

Summary of Plant Status

Unit 2 began the inspection period shutdown for a scheduled refueling outage (U2C16) and steam generator replacement, and remained there for the duration of the inspection period.

Unit 3 began the inspection period at full power. Between March 4 and March 10, 2010, the unit reduced power to 50 percent for fuel conservation, and remained there for the duration of the inspection period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

1R01 Adverse Weather Protection (71111.01)

Readiness for Impending Adverse Weather Conditions

a. Inspection Scope

Since coastal flooding with potential tornados and high winds were forecast in the vicinity of the facility for January 20 through January 22, 2010, the inspectors reviewed the licensee's overall preparations/protection for the expected weather conditions. On January 20, 2010, the inspectors walked down the Unit 3 auxiliary feedwater structure and the off site power distribution system because their safety-related functions could be affected or required as a result of high winds or tornado-generated missiles or the loss of offsite power. The inspectors evaluated the licensee staff's preparations against the site's procedures and determined that the staff's actions were adequate. During the inspection, the inspectors focused on plant-specific design features and the licensee's procedures used to respond to specified adverse weather conditions. The inspectors also toured the plant grounds to look for any loose debris that could become missiles during a tornado. The inspector's evaluated operator staffing and accessibility of controls and indications for those systems required to control the plant. Additionally, the inspectors reviewed the Updated Final Safety Analysis Report and performance requirements for systems selected for inspection, and verified that operator actions were appropriate as specified by plant-specific procedures. The inspectors also reviewed a sample of corrective action program items to verify that the licensee identified adverse weather issues at an appropriate threshold and dispositioned them through the corrective action program in accordance with station corrective action procedures. Specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of one readiness for impending adverse weather condition sample as defined in IP 71111.01-05.

b. Findings

No findings of significance were identified.

1R04 Equipment Alignments (71111.04)

.1 Partial Walkdowns

a. Inspection Scope

The inspectors performed partial system walkdowns of the following risk-significant systems:

- February 23, 2009, Unit 2, containment alignment for integrated leakage rate test
- March 10, 2010, Unit 3, auxiliary feedwater pump MP-141 alignment
- March 11, 2010, Unit 2, emergency diesel generator train A
- March 22, 2010, Unit 2, saltwater cooling train A

The inspectors selected these systems based on their risk significance relative to the reactor safety cornerstones at the time they were inspected. The inspectors attempted to identify any discrepancies that could affect the function of the system, and, therefore, potentially increase risk. The inspectors reviewed applicable operating procedures, system diagrams, Updated Final Safety Analysis Report, technical specification requirements, administrative technical specifications, outstanding work orders, corrective action documents, and the impact of ongoing work activities on redundant trains of equipment in order to identify conditions that could have rendered the systems incapable of performing their intended functions. The inspectors also walked down accessible portions of the systems to verify system components and support equipment were aligned correctly and operable. The inspectors examined the material condition of the components and observed operating parameters of equipment to verify that there were no obvious deficiencies. The inspectors also verified that the licensee had properly identified and resolved equipment alignment problems that could cause initiating events or impact the capability of mitigating systems or barriers and entered them into the corrective action program with the appropriate significance characterization. Specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of four partial system walkdown samples as defined by IP 71111.04-05.

b. Findings

No findings of significance were identified.

.2 Semi-Annual Complete Walkdown

a. Inspection Scope

Between January 22, 2010, and March 24, 2010, the inspectors performed a complete system alignment inspection of the Unit 2 safety injection system to verify the functional capability of the system. The inspectors selected this system because it was considered both safety-significant and risk-significant in the licensee's probabilistic risk assessment. The inspectors walked down the system to review mechanical and electrical equipment

line ups, electrical power availability, system pressure and temperature indications, as appropriate, component labeling, component lubrication, component and equipment cooling, hangers and supports, operability of support systems, and to ensure that ancillary equipment or debris did not interfere with equipment operation. The inspectors reviewed a sample of past and outstanding work orders to determine whether any deficiencies significantly affected the system function. In addition, the inspectors reviewed the corrective action program database to ensure that system equipment-alignment problems were being identified and appropriately resolved. Specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of one complete system walkdown sample as defined by IP 71111.04-05.

b. Findings

No findings of significance were identified.

1R05 Fire Protection (71111.05)

Quarterly Fire Inspection Tours

a. Inspection Scope

The inspectors conducted fire protection walkdowns that were focused on availability, accessibility, and the condition of firefighting equipment in the following risk-significant plant areas:

- January 4, 2010, Units 2 and 3, hot work activities in the saltwater cooling pipe tunnel
- January 14, 2010, Unit 2, auxiliary feedwater pump tunnel
- February 9, 2010, Unit 2, safety equipment building rooms 2 through 5 and 15
- February 10, 2010, Unit 3, penetration building

The inspectors reviewed areas to assess if licensee personnel had implemented a fire protection program that adequately controlled combustibles and ignition sources within the plant; effectively maintained fire detection and suppression capability; maintained passive fire protection features in good material condition; and had implemented adequate compensatory measures for out of service, degraded or inoperable fire protection equipment, systems, or features, in accordance with the licensee's fire plan. The inspectors selected fire areas based on their overall contribution to internal fire risk as documented in the plant's Individual Plant Examination of External Events with later additional insights, their potential to affect equipment that could initiate or mitigate a plant transient, or their impact on the plant's ability to respond to a security event. Using the documents listed in the attachment, the inspectors verified that fire hoses and extinguishers were in their designated locations and available for immediate use; that

fire detectors and sprinklers were unobstructed, that transient material loading was within the analyzed limits; and fire doors, dampers, and penetration seals appeared to be in satisfactory condition. The inspectors also verified that minor issues identified during the inspection were entered into the licensee's corrective action program. Specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of four quarterly fire-protection inspection samples as defined by IP 71111.05-05.

b. Findings

Introduction. The inspectors identified three examples of a Green noncited violation of Technical Specification 5.5.1.1.d, for the failure of contractor and station personnel to properly implement the requirements of a station fire protection procedure for control of hot work activities.

Description. On January 4, 2010, while performing a fire protection walk down of the Unit 2 salt water cooling tunnel the inspectors noted contract personnel, who were being supervised by station personnel, performing what appeared to be hot work activities on the salt water cooling piping. The inspectors noted that the activities were producing sparks and the sparks were coming in contact with unprotected combustible materials. The inspectors inquired about this activity and were informed that a portion of the work, grinding activities, had been classified as hot work and as such a flame permit was associated with it and a fire watch was present. The inspectors reviewed the flame permit and noted that it required all combustible material within 35 feet of the activity to removed or covered. When the inspectors pointed this out to the fire watch they were informed by the station personnel that were present, including supervisors, that the evolution that was producing the sparks that were coming in contact with the unprotected combustibles was flapper wheeling activities and was not subject to hot work controls. The inspectors pointed out that the grinding was a hot work activity that was in progress and required all materials to be removed or covered within 35 feet.

The inspectors questioned this response concerning the flapper wheel activities and reviewed station procedure SO123-XV-1.41, "Control of Ignition Sources," Revision 14, to validate what they had been told. During this review the inspectors noted that Section 6.2.1 stated, in part, "For sanding and flapper wheel activities, all flammable/combustible material shall be removed from within the area where the field of sparks would be expected to spread from this activity, and if relocation is impractical then shield all combustibles." As such, the inspectors determined that the procedure had not been appropriately followed for either activity. Also, the personnel who were performing the work, supervising the work, and performing fire watch duties were not familiar with the procedural requirements for the activities being performed. Nuclear Notification NN 200729747 was initiated to document the inspectors' concerns.

On January 14, 2010, the inspectors observed work activities in the Unit 2 auxiliary feedwater tunnel, and noted that welders were conducting hot work activities with unprotected combustibles within 35 feet of the work area. The inspectors noted that the

flame permit for the activity identified that all combustible material within 35 feet of the activity either had to be removed or covered. When the inspectors pointed this out to the fire watch and welders, the activity was stopped. The licensee initiated Nuclear Notification NN 200746059 to capture this concern, and conducted a human performance error review board. During this review, the licensee determined that the fire watch and the welders had failed to follow the requirements of procedure SO123-XV-1.41.

On March 16, 2010, the inspectors passed through the turbine building and noted sparks coming from the overhead. Upon further investigation, the inspectors noted that the sparks were coming from work activities occurring on the level above and the sparks were coming in contact with unprotected combustible materials. The inspectors noted that a fire watch was posted in the area and inquired of the adequacy of the work site. The fire watches' initial response was that this area was more than 35 feet away from the work area therefore it was not an issue. The inspectors were not satisfied with this response and requested that a supervisor come to the area. During discussions with the supervisor, the inspectors learned that the activities that were occurring above were flapper wheeling activities, and that the work area was supposed to be completely enclosed. The inspectors also determined that the work group was not familiar with the procedural requirements associated with flapper wheel activities. As such, the inspectors determined that the licensee had failed to follow procedure SO123-XV-1.41 for flapper wheel activities and remove or cover all flammable/combustible material from within the area where the field of sparks would be expected to spread. The licensee initiated Nuclear Notification NN 200835830 to capture this concern.

Analysis. The failure to follow the requirements of a station fire protection procedure for control of hot work activities was a performance deficiency. The finding is greater than minor because if left uncorrected, the practice of conducting hot work in a manner that allows uncontrolled combustibles to be within the procedurally specified exclusion area would have the potential to lead to a more significant safety concern, in that, it could result in a fire in or near risk important equipment. The finding is associated with the Initiating Events Cornerstone. The inspectors determined that Manual Chapter 0609, Appendix F, "Fire Protection Significance Determination Process," does not address the potential risk significance of shutdown fire protection findings, and Appendix G, "Shutdown Operations Significance Determination Process," does not address fire protection findings, and therefore could not be applied to shutdown plant conditions. Because of this, the inspectors used Manual Chapter 0609, Appendix M, "Significance Determination Process Using Qualitative Criteria." The NRC management review was performed by using the Manual Chapter 0609, Appendix F, Phase 1 Worksheet, to establish a bounding analysis. Using the bounding analysis, the finding is determined to have very low safety significance because the finding represented a low degradation rating, in that, it did not have any significant effect on the likelihood that a fire might occur, or that a fire which does occur might not be promptly suppressed. This finding had a crosscutting aspect in the area of human performance associated with work practices, in that, the licensee failed to define and effectively communicate expectations regarding procedural compliance and personnel follow procedures [H.4(b)].

Enforcement. Technical Specification 5.5.1.1.d requires, in part, that written procedures be established, implemented, and maintained covering Fire Protection Program implementation. The Fire Protection Program was implemented, in part, by procedure SO123-XV-1.41, "Control of Ignition Sources," Revision 14. Procedure SO123-XV-1.41, Steps 6.2.1 and 6.4.1.3, required that combustible materials be covered or removed from the ignition sources. Contrary to the above, between January 4 and March 17, 2010, three examples were identified where contractor and station personnel failed to properly implement the requirements of procedure SO123-XV-1.41, Steps 6.2.1 and 6.4.1.3. Specifically, contractor and station personnel failed to ensure that combustible materials were covered or removed from the ignition source. Following the inspectors' identification of each example, the licensee immediately stopped the hot work activities and restored compliance with the requirements of procedure SO123-XV-1.41. Because this finding is of very low safety significance and has been entered into the licensee's corrective action program as Nuclear Notifications NNs 200729747, 200746059 and 200835830, this violation is being treated as a noncited violation, consistent with Section VI.A of the NRC Enforcement Policy: NCV 05000361/2010002-01, "Failure to Implement Fire Protection Plan Requirements Related to Hot Work Activities."

1R06 Flood Protection Measures (71111.06)

a. Inspection Scope

The inspectors reviewed the Updated Final Safety Analysis Report, the flooding analysis, and plant procedures to assess seasonal susceptibilities involving internal flooding; reviewed the Updated Final Safety Analysis Report and corrective action program to determine if licensee personnel identified and corrected flooding problems; inspected underground bunkers/manholes to verify the adequacy of sump pumps, level alarm circuits, cable splices subject to submergence, and drainage for bunkers/manholes; verified that operator actions for coping with flooding can reasonably achieve the desired outcomes; and walked down the one area listed below to verify the adequacy of equipment seals located below the flood line, floor and wall penetration seals, watertight door seals, common drain lines and sumps, sump pumps, level alarms, and control circuits, and temporary or removable flood barriers. Specific documents reviewed during this inspection are listed in the attachment.

- March 15, 2010, Unit 3, auxiliary feedwater pump house

These activities constitute completion of one flood protection measures inspection sample as defined by IP 71111.06-05.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification Program (71111.11)

a. Inspection Scope

On March 9, 2010, the inspectors observed a crew of licensed operators in the plant's simulator during licensed operator requalification examinations to verify that operator performance was adequate, evaluators were identifying and documenting crew performance problems, and training was being conducted in accordance with licensee procedures. The inspectors evaluated the following areas:

- Licensed operator performance
- Crew's clarity and formality of communications
- Crew's ability to take timely actions in the conservative direction
- Crew's prioritization, interpretation, and verification of annunciator alarms
- Crew's correct use and implementation of abnormal and emergency procedures
- Control board manipulations
- Oversight and direction from supervisors
- Crew's ability to identify and implement appropriate technical specification actions and emergency plan actions and notifications

The inspectors compared the crew's performance in these areas to pre-established operator action expectations and successful critical task completion requirements. Specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of one quarterly licensed-operator requalification program sample as defined in IP 71111.11.

b. Findings

No findings of significance were identified.

1R12 Maintenance Effectiveness (71111.12)

a. Inspection Scope

The inspectors evaluated degraded performance issues involving the following risk significant systems:

- March 4, 2010, Units 2 and 3, instrument air system
- March 24, 2010, Unit 3, auxiliary feedwater system

The inspectors reviewed events caused by ineffective equipment maintenance that resulted in valid or invalid automatic actuations of engineered safeguards systems and independently verified the licensee's actions to address system performance or condition problems in terms of the following:

- Implementing appropriate work practices
- Identifying and addressing common cause failures
- Scoping of systems in accordance with 10 CFR 50.65(b)
- Characterizing system reliability issues for performance
- Charging unavailability for performance
- Trending key parameters for condition monitoring
- Ensuring proper classification in accordance with 10 CFR 50.65(a)(1) or (a)(2)
- Verifying appropriate performance criteria for structures, systems, and components classified as having an adequate demonstration of performance through preventive maintenance, as described in 10 CFR 50.65(a)(2), or as requiring the establishment of appropriate and adequate goals and corrective actions for systems classified as not having adequate performance, as described in 10 CFR 50.65(a)(1)

The inspectors assessed performance issues with respect to the reliability, availability, and condition monitoring of the system. In addition, the inspectors verified maintenance effectiveness issues were entered into the corrective action program with the appropriate significance characterization. Specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of two quarterly maintenance effectiveness samples as defined in IP 71111.12-05.

b. Findings

Introduction. The inspectors identified a Green noncited violation of 10 CFR 50.65(b)(2)(ii) for the licensee’s failure to appropriately scope the steam driven auxiliary feedwater pumps trench eductor in the maintenance rule monitoring program.

Description. On January 21, 2010, operations personnel observed that water had come in contact with the steam line mud leg in the Unit 3 steam driven auxiliary feedwater pump steam supply trench during heavy rains. Operations personnel declared the auxiliary feedwater pump inoperable in accordance with procedure SO23-2-4, “Auxiliary Feedwater System Operation,” Revision 27, until the piping could be blown down and the pump run for 30 minutes to verify that the piping was dried out. The licensee entered this issue into their corrective action program as Nuclear Notification NN 200758566.

The inspectors reviewed the maintenance rule functional failure evaluation associated with Nuclear Notification NN 200758566. The inspectors noted that the licensee had concluded that this event was not a functional failure of the eductor. The licensee's evaluation focused on the performance criteria of the auxiliary feedwater pump, and did not appear to consider appropriate criteria for the trench eductor. The basis for the conclusion was a calculation that had been performed to demonstrate that water in contact with the steam line mud leg did not make the auxiliary feedwater pump inoperable.

The eductors were installed in 1986 and were used to remove water from the steam supply trench to prevent adverse affects on the auxiliary feedwater pump. Trench water in contact with the pump's steam supply piping would cause condensation of the steam in the pipe causing the potential for the turbine to over speed, which would render the pump incapable of performing it specified safety function.

The inspectors observed that the trench eductor was not connected to the auxiliary feedwater system, but that it was a support system installed to facilitate the auxiliary feedwater pump being able to perform its specified safety function. The inspectors questioned the adequacy of evaluating a failure of the eductor to perform its function, preventing water from accumulating in the trench, against the performance criteria of the auxiliary feedwater system, which was to provide a reliable source of feedwater to steam generators during normal and emergency conditions. Through discussions with the licensee's maintenance rule coordinator, the inspectors determined that the eductors were not scoped in the station's maintenance rule monitoring program. The maintenance rule coordinator informed the inspectors that the eductors were not scoped in the maintenance rule monitoring program because their failure could not directly cause the failure of the auxiliary feedwater pump, and the station was not required to consider hypothetical failures that resulted from system interdependencies that have not been previously seen. The inspectors determined that the licensee had developed a narrow interpretation of what "directly" meant based on a narrow interpretation of some examples from NUMARC 93-01, "Industry Guideline for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants."

Through more reviews, the inspectors noted that the licensee determined that the eductors had been installed to assist in removing any accumulated water in the trench, to limit buildup of water to ensure that condensate does not accumulate in the steam lines and cause an overspeed trip of the turbine. Furthermore, this had been done based on past plant experience dealing with water causing condensation in the steam piping. Therefore, the inspectors determined that the licensee had inappropriately interpreted 10 CFR 50.65(b)(2)(ii), with regard to nonsafety-related structures, systems and components whose failure could prevent safety-related structures, systems, and components from fulfilling their safety-related function, and had failed to appropriately scope the eductors for both Units 2 and 3 in the station's maintenance rule monitoring program.

Analysis. The failure to properly scope the auxiliary feedwater trench eductors in the maintenance rule monitoring program was a performance deficiency. The finding is

greater than minor because it is associated with the equipment performance attribute of the Mitigating Systems Cornerstone and directly affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheets, the finding is determined to have very low safety significance because the finding: (1) is not a design or qualification issue confirmed not to result in a loss of operability or functionality; (2) did not represent an actual loss of safety function of the system or train; (3) did not result in the loss of one or more trains of nontechnical specification equipment; and (4) did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. The inspectors determined that since the scoping of the systems had occurred more than 2 years in the past, and the opportunity to reevaluate system scoping had not occurred recently, that the finding did not represent current plant performance and therefore did not have a crosscutting aspect associated with it.

Enforcement. Title 10 CFR 50.65(b)(2)(ii) requires, in part, that the scope of the monitoring program specified in paragraph (a)(1) of this section shall include nonsafety related structures, systems and components whose failure could prevent safety-related structures, systems, and components from fulfilling their safety-related function. Contrary to the above, from the inception of the facilities monitoring program through March 2010, the licensee failed to properly scope the steam drive auxiliary feedwater pump trench eductor into the maintenance rule monitoring program. Because this violation is of very low safety significance and has been entered into the licensee's corrective action program as Nuclear Notification NN 200765185, this violation is being treated as a noncited violation consistent with Section VI.A of the NRC Enforcement Policy: NCV 05000361; 05000362/2010002-02, "Failure to Appropriately Scope Auxiliary Feedwater Pump Trench Eductors in the Maintenance Rule Monitoring Program."

1R13 Maintenance Risk Assessments and Emergent Work Control (71111.13)

a. Inspection Scope

The inspectors reviewed licensee personnel's evaluation and management of plant risk for the maintenance and emergent work activities affecting risk-significant and safety-related equipment listed below to verify that the appropriate risk assessments were performed prior to removing equipment for work:

- January 13-14, 2010, Units 2 and 3, use of non-conservative technical specifications for new fuel movement related to proposed change number PCN 593
- January 20, 2010, Unit 2, proposed cavity drain down activities during inclement weather
- February 3, 2010, Unit 2, diving operations in the intake area

- February 10-12, 2009, Units 2 and 3, safety monitor model change interim measures to address uncertainty associated with manual operation of motor operated valves

- February 17, 2010, Units 2 and 3, mobile crane use in the electrical switchyard

The inspectors selected these activities based on potential risk significance relative to the reactor safety cornerstones. As applicable for each activity, the inspectors verified that licensee personnel performed risk assessments as required by 10 CFR 50.65(a)(4) and that the assessments were accurate and complete. When licensee personnel performed emergent work, the inspectors verified that the licensee personnel promptly assessed and managed plant risk. The inspectors reviewed the scope of maintenance work, discussed the results of the assessment with the licensee's probabilistic risk analyst or shift technical advisor, and verified plant conditions were consistent with the risk assessment. The inspectors also reviewed the technical specification requirements and inspected portions of redundant safety systems, when applicable, to verify risk analysis assumptions were valid and applicable requirements were met. Specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of six maintenance risk assessments and emergent work control inspection samples as defined by IP 71111.13-05.

b. Findings

1. Operating Experience Review

Introduction. The inspectors identified a Green noncited violation of 10 CFR Part 50, Appendix B, Criterion V, “Instructions, Procedures, and Drawings,” for the licensee’s failure to properly implement procedure requirements to ensure that applicable risk significant operating experience was entered into the corrective action program for timely evaluation.

Description. On December 17, 2009, an industry operating experience report was reviewed by the operating experience review committee regarding lessons learned from the industry related to the expected differential pressure across locally operated valves, which must be considered when evaluating the ability of operators to change valve position in accident conditions. The review determined the operating experience was not applicable and was distributed as information only; not requiring any action. On February 10, 2010, the probabilistic risk assessment group initiated interim compensatory measures for the safety monitor model used to assess the risk associated with on-line work activities. The interim actions were taken following the probabilistic risk assessment group’s recognition that the industry operating experience report had a potential impact and were conservatively used to address uncertainty associated with the manual operation of auxiliary feedwater motor operated valves under the differential pressures expected during accident conditions.

On February 11, 2010, the inspectors questioned the timeliness of the risk significant operating experience report evaluation that took several months to be properly assessed

by the probabilistic risk assessment group. On February 23, 2010, based on prompting by the inspectors, the licensee initiated Nuclear Notification NN 200805879 to investigate the timeliness of their operating experience review of the event involving the expected differential pressure across locally operated valves which could impact risk significant components. The evaluation identified the initial industry operating experience review failed to recognize the applicability of the operating experience or the potential risk significant impact that needed further analysis. As such, this information was not entered into the corrective action program, and therefore, not directed to appropriate subject matter experts or communicated to the affected station groups in a timely manner as required by procedure SO23-XV-40, "Sharing Industry Information," Revision 1. The evaluation also concluded the operating experience review committee lacked a knowledge basis to recognize the potential implications, and instead of using a systematic approach, depended upon distribution to other departments and personnel to assess the need for entry into the corrective action program for evaluation of the impact to risk-significant and safety-significant activities.

Analysis. The failure to properly implement procedure requirements to ensure adequate review of applicable industry operating experience was a performance deficiency. The finding is greater than minor because it is associated with the procedure quality attribute of the Mitigating Systems Cornerstone and affects the associated cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheets, the finding is determined to have very low safety significance because the finding: (1) is not a design or qualification issue confirmed not to result in a loss of operability or functionality; (2) did not represent an actual loss of safety function of the system or train; (3) did not result in the loss of one or more trains of nontechnical specification equipment; and (4) did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. This finding has a crosscutting aspect in the area of human performance associated with decision-making because the operating experience review committee did not use a systematic process when making a safety significant decision, to ensure safety is maintained and obtaining interdisciplinary inputs and reviews on risk-significant decisions [H.1(a)].

Enforcement. Title 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," requires that activities affecting quality shall be prescribed by documented instructions, procedures or drawings, of a type appropriate to the circumstances and shall be accomplished in accordance with those instructions, procedures, and drawings. Procedure SO23-XV-40, "Sharing Industry Information," Revision 1, required actions to ensure a review of industry operating experience for applicability and the need for timely evaluation in the corrective action program. Contrary to the above, on December 17, 2009, the operating experience review committee failed to properly implement the requirements of procedure SO23-XV-40. Specifically, an industry operating experience report review determined the operating experience was not applicable and was distributed as information only; not requiring any action. The same industry operating experience was later determined to be applicable by the probabilistic risk assessment group, and interim compensatory measures were

initiated on February 10, 2010, to address the issues. Because this finding is of very low safety significance and has been entered into the licensee's corrective action program as Nuclear Notifications NN 200805879, this violation is being treated as a noncited violation consistent with Section VI.A of the NRC Enforcement Policy: NCV 05000361; 05000362/2010002-03, "Failure to Enter Operating Experience into Corrective Action Program for Timely Evaluation."

2. Risk Assessment for Switchyard Activities

Introduction. The inspectors identified a Green noncited violation of 10 CFR 50.65(a)(4), "Requirements for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants," involving multiple instances where operations and work control personnel failed to adequately assess and implement appropriate risk management activities for work in the station's electrical switchyard.

Description. On February 17, 2010, the licensee determined that the station had failed to perform an adequate risk assessment for proposed crane activities in the switchyard with regard to Unit 3, which was operating at full power. Before allowing the activities to commence the licensee performed the required risk assessment, and classified the work as a high risk activity in the switchyard for Unit 3, and commenced the crane activity.

The inspectors subsequently reviewed the risk assessment on February 18, 2010. During their review, the inspectors determined that this assessment had been performed only for Unit 3, as identified under the additional requirements section, which stated; maintain requirements per procedure SO23-5-1.8.1, "Shutdown Nuclear Safety," Revision 23, on Unit 2. Based on this, the inspectors questioned how the activities being performed in the switchyard had been assessed with regard to Unit 2, which was shutdown in Mode 5 at the time.

The inspectors reviewed procedure SO23-5-1.8.1, and noted that the following:

- The stated objective of the procedure was to provide guidelines for controlling evolutions and activities while in Mode 5 and 6 to ensure that Shutdown Safety Functions are maintained Operable, Functional, or Available as required to support the station philosophy of Defense in Depth

- Section 6.1.1 defined electrical power availability as a Shutdown Safety Function

- Attachment 1, "Definitions," Section 1.8 defined a high risk evolution as; "Outage activities, plant configurations, or conditions during shutdown where the plant is more susceptible to an event causing the loss of a shutdown safety function."

- Section 6.11, "Control of High Risk Evolutions," provided specific guidance on evaluating these evolutions and establishing required risk management actions

As a result, the inspectors determined that; an adequate risk assessment had not been performed for Unit 2, and the requirements of Section 6.11 of procedure SO23-5-1.8.1

had not been implemented with respect to implementing required risk management actions for the on-going crane activities in the switchyard.

The inspectors presented this information indicating a failure to adequately assess risk associated with the crane activities and implement appropriate risk management actions, relative to Unit 2 to the licensee. During discussions with station personnel, the inspectors were informed that the station believed that the Defense in Depth planning sheets were the stations risk assessment for Unit 2, and since they had not removed any of the identified systems from service they were within their analysis. The inspectors pointed out that procedure SO23-5-1.8.1, Section 6.1.1.3 stated, in part:

> "The selected safety function fulfillment plans are recorded in the Defense in Depth planning sheets. These are tables which document the pre-planned safety function fulfillment plan methods, safety function protection plan, or other contingency plans for each safety function."

Accordingly, the inspectors identified that the crane activities had not been assessed and incorporated into the stations defense in depth strategy, and as such, the Defense in Depth planning sheets were not an appropriate risk assessment for this activity.

The licensee determined that an appropriate risk assessment had not been performed, and when one was performed, risk management actions were identified as required by procedure SO23-5-1.8.1. On February 19, 2010, the licensee initiated Nuclear Notification NN 200801929 to document the issue and implement corrective actions.

Subsequently, on February 23, 2010, the inspectors questioned why operations personnel were allowing work on a support system for a Unit 2 emergency diesel generator while switchyard work was still in progress. While investigating this concern, the licensee determined that the crane had been removed from the switchyard on February 19, 2010. This resulted in the risk management actions for the Unit 2 emergency diesel generators being discontinued. However, there was a failure to recognize and properly assess a man-lift that was staged for use in the switchyard. Use of the man-lift would also require risk management actions for the Unit 2 emergency diesel generators. Subsequently, the licensee was able to determine that the man-lift had not been used from February 19 through 23, 2010. The licensee initiated Nuclear Notification NN 200805635 to document this issue.

Analysis. The failure to perform an adequate risk assessment and implement appropriate risk management actions was a performance deficiency. The finding is greater than minor since it was similar to both more than minor examples 7.e and 7.f in NRC Inspection Manual Chapter 0612, Appendix E, "Examples of Minor Issues," because when the activities were correctly assessed plant procedures required risk management actions to be taken. The finding is associated with the Initiating Events Cornerstone. The inspectors determined that the licensee does not maintain a shutdown probabilistic risk analysis model, and as such, an incremental core damage probability cannot be estimated for the plant conditions that existed at the time of the performance deficiency. For this reason, the inspectors determined that Manual Chapter 0609, Appendix K, "Maintenance Risk Assessment and Risk Management

Significance Determination Process," Flowchart 2, could not be used to determine the risk significance the finding. Using the qualitative review process of Manual Chapter 0609, Appendix M, "Significance Determination Process Using Qualitative Criteria," the finding is determined to have very low safety significance because the finding did not result in any additional loss of defense in depth systems. This finding has a crosscutting aspect in the area of human performance associated with the work practices because the licensee failed to define and effectively communicate expectations regarding procedural compliance and that personnel follow procedures [H.4(b)].

Enforcement. Title 10 CFR 50.65(a)(4), states in part, that before performing maintenance activities (including but not limited to surveillance, postmaintenance testing, and corrective and preventive maintenance), the licensee shall assess and manage the increase in risk that may result from the proposed maintenance activities. Contrary to the above, between February 18, and February 23, 2010, operations and work control personnel failed to adequately assess and manage the increase in risk associated with maintenance activities in the electrical switchyard. Following the inspectors' identification of the findings, the licensee adequately assessed and managed the increase in risk for the maintenance activities. Because this finding is of very low safety significance and has been entered into the licensee's corrective action program as Nuclear Notifications NNs 200801929 and 200805635, this violation is being treated as a noncited violation, consistent with Section VI.A of the NRC Enforcement Policy: NCV 05000361/2010002-04, "Failure to Assess and Manage Risk for Electrical Switchyard Impacting Maintenance."

1R15 Operability Evaluations (71111.15)

a. Inspection Scope

The inspectors reviewed the following issues:

- January 3-5, 2010, Unit 2, inspectors identified various seismic issues associated with the gap required between containment interior and exterior structures requiring various evaluations and Unit 3 at power entry
- January 13, 2010, Unit 2, operability impact of through wall piping flaws found on emergency core cooling system Train A piping
- January 19, 2010, Unit 3, operability impact of a through wall piping flaw on the common emergency core cooling system mini-flow line
- January 22, 2010, Unit 2, operability impact due to suspected growth of through wall piping flaws previously identified on emergency core cooling system Train A piping
- February 2, 2010, Unit 3, intake structure integrity
- February 4, 2010, Unit 3, through wall flaw indication on emergency core cooling system piping

- February 9-10, 2009, Units 2 and 3, seat leak requirements for component cooling water pump discharge valves

- February 12-14, 2010, Unit 2, safety related battery 2B007 surveillance results indicate battery at 85 percent of service life

The inspectors selected these potential operability issues based on the risk-significance of the associated components and systems. The inspectors evaluated the technical adequacy of the evaluations to ensure that technical specification operability was properly justified and the subject component or system remained available such that no unrecognized increase in risk occurred. The inspectors compared the operability and design criteria in the appropriate sections of the technical specifications and Updated Final Safety Analysis Report to the licensee's evaluations, to determine whether the components or systems were operable. Where compensatory measures were required to maintain operability, the inspectors determined whether the measures in place would function as intended and were properly controlled. The inspectors determined, where appropriate, compliance with bounding limitations associated with the evaluations. Additionally, the inspectors also reviewed a sampling of corrective action documents to verify that the licensee was identifying and correcting any deficiencies associated with operability evaluations. Specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of eight operability evaluations inspection samples as defined in IP 71111.15-05.

b. Findings

Introduction. The inspectors identified two examples of a Green noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instruction, Procedures, and Drawing," for the failure of operations personnel to follow procedures to approve and document operability determinations using adequate or technically correct information.

Description. The inspectors reviewed the operability determinations documented in Nuclear Notifications NNs 200745284 and 200760570, to verify the evaluation adequacy and compliance with procedure SO123-XV-52, "Functionality Assessments and Operability Determinations," Revision 14. Nuclear Notification NN 200745284 was written on January 14, 2010, to document a through wall pipe leak on the Unit 3 emergency core cooling system miniflow common discharge line. During their review, the inspectors noted that the licensee had classified the flaw as a pinhole leak, based on the visible appearance of the flaw at the time of discovery, and had developed an immediate operability determination based on this characterization. However, at 12 midnight on January 15, 2010, as part of their prompt operability determination data gathering, the licensee had performed nondestructive examination testing and discovered that the flaw was actually a 0.5 inch linear flaw, and this was reported to operations personnel at 00:45 a.m. Operations personnel believed that this new classification was bounded by the original immediate operability determination.

However, the inspectors noted that NRC Inspection Manual Part 9900 guidance, "Operability Determinations," Paragraph 4.6, "Timing of Operability Determinations," states, in part, "If, at any time, information is developed that negates a previous determination that there is a reasonable expectation that the structures, systems and components is operable, the licensee should declare the structures, systems and components inoperable." As such the inspectors determined that this new information, the characterization of the flaw as a linear indication versus a pinhole, should have resulted in a new immediate operability determination being performed. The inspectors communicated their concerns to operations personnel. The licensee performed a new immediate operability determination, and initiated Nuclear Notification NN 200753880 to capture this issue in their corrective action program.

Nuclear Notification NN 200760570 was initiated to document an increase in flaw size for previously identified flaws on the Unit 3 train A emergency core cooling system suction header, identified during augmented inspections on January 22, 2010. As a result of this new condition being identified, the licensee performed an immediate operability determination using; the calculated growth rates, the calculated maximum allowed flaw size, and the system's mission time of 120 days.

The inspectors determined that the licensee's operability determination was inadequate. Specifically, their use of a 120 day mission time did not adequately address the flaw growth rate in relation to the calculated maximum allowed flaw size. Specifically, the calculated flaw growth rate would exceed the maximum allowed flaw size before the system's 120 day mission time would be completed. The inspectors informed the licensee of their concerns. The licensee performed a new operability determination to provide adequate bases for operability, and initiated Nuclear Notification NN 200765208 to capture this issue in their corrective action program.

Analysis. The failure to follow procedures to approve an adequate basis for operability was a performance deficiency. The finding is greater than minor because, if left uncorrected, inadequate operability determinations would have the potential to lead to a more significant safety concern. Specifically, the failure to recognize that risk significant equipment is in a potentially inoperable condition and as such, may not be able to perform its specified safety function would not be recognized and accounted for by operators. The finding is associated with the Mitigating Systems Cornerstone. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheets, the finding is determined to have very low safety significance because the finding: (1) is not a design or qualification issue confirmed not to result in a loss of operability or functionality; (2) did not represent an actual loss of safety function of the system or train; (3) did not result in the loss of one or more trains of nontechnical specification equipment; and (4) did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. This finding has a crosscutting aspect in the area of problem identification and resolution associated with the corrective action program because the licensee failed to thoroughly evaluate problems such that the resolutions addressed causes and extent of conditions as necessary [P.1(c)].

Enforcement. Title 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," requires, in part, that activities affecting quality shall be prescribed by documented instructions or drawings of a type appropriate to the circumstances and shall be accomplished in accordance with these instructions and drawings. Procedure SO123-XV-52, "Functionality Assessments and Operability Determinations," Revision 14, required that operations personnel make a definitive statement of operability and the basis for the statement. Contrary to the above, on January 15, and January 22, 2010, operations personnel failed to follow procedure SO123-XV-52, in that, the documented bases for operability for degraded conditions did not adequately support the basis for an operability position taken by the licensee. Because this finding is of very low safety significance and has been entered into the licensee's corrective action program as Nuclear Notifications NNs 200765208 and 200753880, this violation is being treated as a noncited violation consistent with Section VI.A of the NRC Enforcement Policy: NCV 05000362/2010002-05, "Failure to Follow Procedure Results in an Inadequate Operability Determination."

1R19 Postmaintenance Testing (71111.19)

a. Inspection Scope

The inspectors reviewed the following postmaintenance activities to verify that procedures and test activities were adequate to ensure system operability and functional capability:

- January 29, 2010, Unit 2, retest of 2PCV-5403, nitrogen pressure control valve train A for component cooling water surge tank
- February 5, 2010, Unit 2, functional testing of spliced resistance temperature detectors to reactor coolant system loop 2 hot leg channel B narrow range
- February 5, 2010, Unit 2, boration dilution controls system preoperational testing
- March 3, 2010, Unit 2, containment integrated leak rate test

The inspectors selected these activities based upon the structure, system, or component's ability to affect risk. The inspectors evaluated these activities for the following (as applicable):

- The effect of testing on the plant had been adequately addressed; testing was adequate for the maintenance performed
- Acceptance criteria were clear and demonstrated operational readiness; test instrumentation was appropriate

The inspectors evaluated the activities against the technical specifications, the Updated Final Safety Analysis Report, 10 CFR Part 50 requirements, licensee procedures, and various NRC generic communications to ensure that the test results adequately ensured that the equipment met the licensing basis and design requirements. In addition, the

inspectors reviewed corrective action documents associated with postmaintenance tests to determine whether the licensee was identifying problems and entering them in the corrective action program and that the problems were being corrected commensurate with their importance to safety. Specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of four postmaintenance testing inspection samples as defined in IP 71111.19-05.

b. Findings

Introduction. A self-revealing Green noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was identified for failure of maintenance planning personnel to develop and specify an adequate postmaintenance test in the work instructions used to perform maintenance on the backup nitrogen regulator for the component cooling water surge tank.

Description. On January 27, 2010, both component cooling water surge tank levels were lowered, using procedure SO23-2-17, "Component Cooling Water System Operation," Revision 31. The component cooling water surge tanks were required to have a nitrogen pressure between 33-40 psig to remain operable. Pressure in component cooling water surge tanks trains A and B were maintained with nitrogen supply valves PCV 5403 and PCV 5404, respectively. The valves were designed to regulate pressure at 38 +/-1 psig when properly calibrated. During the evolution, operations personnel failed to follow procedure SO23-2-17 to monitor nitrogen pressure such that it could be maintained while lowering level, since they incorrectly assumed the nitrogen supply valves were properly calibrated and would automatically maintain surge tank nitrogen pressure in the required range. However, nitrogen supply valve PCV 5403 did not function as expected and failed to maintain nitrogen surge tank pressure in the acceptable range for operability. The performance deficiencies associated with this event are documented as NCV 05000361/2010002-14 of this report.

Nuclear Notification NN 200771367 was initiated to evaluate the event. The evaluation determined that nitrogen supply valve PCV 5403 did not have the correct setpoints and was improperly calibrated. Instrument and control maintenance technicians last completed a maintenance calibration on the valve on October 25, 2009, using procedure SO123-II-9.176, "Pressure Reducing Regulators – Calibration," Revision 2. During this maintenance, technicians failed to follow the requirements of procedure SO123-II-9.176 to properly calibrate the pressure control valve which resulted in the pressure control valve not properly maintaining nitrogen pressure in the surge tank as the volume in the surge tank was lowered on January 27, 2010.

The inspectors reviewed the maintenance history for nitrogen supply valve PCV 5403, including Maintenance Order MO 800335873, which implemented maintenance procedure SO123-II-9.176 to perform the calibration. The maintenance procedure contained a section for restoration and return to service following the calibration. The inspectors observed that the maintenance procedure SO123-II-9.176, Section 6.4, "Restoration and Return to Service," did not require any postmaintenance or functional

test to ensure the nitrogen supply valve would properly maintain pressure following the calibration when returned to service. The inspectors also observed that Maintenance Order MO 800335873 did not specify any other test or verification that would ensure that nitrogen supply valve PCV 5403 was capable of performing its design function following the maintenance activity.

Procedure SO123-I-1.7, "Work Order Preparation and Processing," Revision 30, Attachment 5, Step 1.1, contained instructions for the determination of adequate postmaintenance test requirements for maintenance activities. Procedure SO123-I-1.7, Step 1.1.1 stated, in part, that if the maintenance procedure did not list any test requirements, then refer to procedure SO23-I-1.25, "Post Maintenance Testing," Revision 0, for guidelines in determining adequate testing requirements. Procedure SO23-I-1.25, Attachment 4, described a functional test as a test or verification to ensure that the component, equipment, or subsystem that was affected by the maintenance activity was completely capable of performing its design function. Further, it stated that functional tests or checks, such as verification that calibrations have been satisfactorily completed, should be considered where specific test guides have not been provided. Following this review, the inspectors concluded that Maintenance Order MO 800335873 did not specify adequate postmaintenance testing as required by procedures SO123-I-1.7 and SO23-I-1.25.

The inspectors communicated their observations to licensee personnel, and verified that their concerns were captured in Nuclear Notifications NNs 200766430 and 200887764. An engineering analysis was required to demonstrate that the component cooling water system train A remained operable during the period from October 25, 2009, to January 27, 2010. The engineering evaluation determined that the system would have been able to fulfill all its intended safety functions as defined in the Updated Final Safety Analysis Report, Section 9.2.2.2. Following the improper calibration determination, on January 28, 2010, nitrogen supply valve PCV 5403 was re-calibrated and an adequate postmaintenance test was performed.

Analysis. The failure to establish work instructions to include adequate postmaintenance test requirements to verify equipment operability following maintenance was a performance deficiency. The finding is greater than minor because it is associated with the procedure quality attribute of the Mitigating Systems Cornerstone and affects the associated cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Furthermore, the finding is similar to more than minor example 3.i in NRC Inspection Manual Chapter 0612, Appendix E, "Examples of Minor Issues," in that, an extensive engineering evaluation was required to verify that the component cooling water system remained capable of performing its safety function during a design basis earthquake. Using the Manual Chapter 0609, Appendix G, "Shutdown Operations Significance Determination Process," Phase 1 guidance, the finding is determined to have very low safety significance because the finding did not result in an increase in the likelihood of a loss of reactor coolant system inventory, degrade the ability to add reactor coolant system inventory, or degrade the ability to recover decay heat removal. This finding has a crosscutting aspect in the area of human performance associated with work practices

because maintenance planning personnel failed to follow procedures to develop adequate work instructions to perform maintenance on safety-related equipment [H.4(b)].

Enforcement. Title 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," requires, in part, that activities affecting quality shall be prescribed by documented instructions, procedures or drawings, of a type appropriate to the circumstances and shall be accomplished in accordance with these instructions, procedures, or drawings. Maintenance Order MO 800335873 established the instructions to perform a calibration for a safety-related pressure reducing regulator. Contrary to the above, on October, 25, 2009, Maintenance Order MO 800335873 did not include adequate testing required to demonstrate that the component cooling water system remained operable following maintenance. Specifically, Maintenance Order MO 800335873 did not specify postmaintenance testing instructions that would verify that nitrogen supply valve PCV 5403 would perform satisfactorily in service, following calibration, and properly control surge tank pressure during changes in surge tank levels. Because this finding is of very low safety significance and has been entered into the licensee's corrective action program as Nuclear Notifications NNs 200766430 and 200887764, this violation is being treated as a noncited violation consistent with Section VI.A of the NRC Enforcement Policy: NCV 05000361/2010002-06, "Failure to Perform an Adequate Postmaintenance Test."

1R20 Refueling and Other Outage Activities (71111.20)

a. Inspection Scope

The inspectors reviewed the outage safety plan and contingency plans for the Unit 2 refueling outage (U2C16) and steam generator replacement, including activities associated with a stuck reactor vessel head alignment pin, conducted January 26-28, 2010, to confirm that licensee personnel had appropriately considered risk, industry experience, and previous site-specific problems in developing and implementing a plan that assured maintenance of defense-in-depth. During the refueling outage, the inspectors observed portions of the shutdown and cooldown processes and monitored licensee controls over the outage activities listed below.

- Configuration management, including maintenance of defense-in-depth, is commensurate with the outage safety plan for key safety functions and compliance with the applicable technical specifications when taking equipment out of service

- Clearance activities, including confirmation that tags were properly hung and equipment appropriately configured to safely support the work or testing

- Installation and configuration of reactor coolant pressure, level, and temperature instruments to provide accurate indication, accounting for instrument error

- Status and configuration of electrical systems to ensure that technical specifications and outage safety-plan requirements were met, and controls over switchyard activities
- Monitoring of decay heat removal processes, systems, and components
- Verification that outage work was not impacting the ability of the operators to operate the spent fuel pool cooling system
- Reactor water inventory controls, including flow paths, configurations, and alternative means for inventory addition, and controls to prevent inventory loss
- Controls over activities that could affect reactivity
- Maintenance of secondary containment as required by the technical specifications
- Refueling activities, including fuel handling and sipping to detect fuel assembly leakage
- Licensee identification and resolution of problems related to refueling outage activities

Specific documents reviewed during this inspection are listed in the attachment.

Refueling Outage U2C16 was still in progress at the end of this inspection period. Consequently, these activities constitute only a partial completion of one refueling outage and other outage inspection sample as defined in IP 71111.20-05.

b. Findings

1. Foreign Material Exclusion Area Controls

Introduction. The inspectors identified a Green noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the failure of licensee personnel to follow procedures associated with foreign material exclusion controls in areas designated as Zone 1 foreign material exclusion areas, on multiple occasions, during Refueling Outage U2C16.

Description. On January 13, 2010, while performing core reload operations, station personnel identified foreign material in the bottom of the reactor cavity. Refueling personnel decided that since this material was not in the way of the current assemblies being loaded that the reload could continue and the material recovered at a more convenient time in the future. Refueling personnel generated Nuclear Notification NN 200743228 to capture this issue in the corrective action program.

The inspectors reviewed this nuclear notification as well as procedure SO123-I-1.18, 'Foreign Material Exclusion Control," Revision 14. During this review the inspectors

noted that Attachment 5, “Foreign Material Exclusion Controls,” Section 13, “Recovery from Loss of FME Control,” required, in part, to promptly stop all work in the immediate area, not take any action that could cause further migration of the foreign material, recover the foreign material if it can be easily retrieved, or generate a Notification which should evaluate whether the associated work can resume before recovering the foreign material. The inspectors determined that the actions of refueling personnel following the identification of foreign material in the reactor cavity were contrary to the requirements of procedure SO123-I-1.18. The inspectors informed the licensee of their observations, and the licensee entered this issue into their corrective action program as Nuclear Notification NN 200743834. Subsequently, the licensee determined that refueling personnel had failed to reference procedure SO123-I-1.18 when foreign material had been discovered on January 13, 2010.

During subsequent observations of the licensee’s activities in and around other Zone 1 foreign material exclusion areas (areas which required the highest level of foreign material exclusion controls) the inspectors identified four additional instances where licensee personnel failed to appropriately implement procedural requirements associated with Zone 1 foreign material exclusion controls. Specifically:

- January 12, 2010, station personnel were instructed to enter the Zone 1 foreign material exclusion area around the spent fuel pool wearing anti-contamination clothing, booties and gloves, and then remove the clothing and place it in the trash bag in the area without entering it in the foreign material exclusion log so that it could be tracked

- January 22, 2010, the inspectors identified an instance where the foreign material exclusion area watch logged material being brought out of the Zone 1 foreign material exclusion area around the reactor refueling cavity that had not been logged into the area, which represented a loss of foreign material exclusion controls

- January 22, 2010, the inspectors identified a nylon rope in the Zone 1 foreign material exclusion area around the reactor refueling cavity being used to restrain material that had frayed ends that were not adequately covered

- February 23, 2010, the inspectors identified that the Zone 1 foreign material exclusion area around the Unit 3 spent fuel pool had material in it that was not being tracked and controlled as required

The inspectors concluded that not all of these examples of the licensee’s failure to follow procedure SO123-I-3.7, “Refueling Foreign Material Exclusion Control,” directly resulted in the introduction of foreign material into a critical system. They were, however, indicative of a programmatic issue associated with the licensee’s proper implementation of the foreign material exclusion control program. The inspectors informed the licensee of their observations, and the licensee entered this issue into their corrective action program as Nuclear Notifications NNs 200742082, 200760484, and 200805961.

Analysis. The failure of licensee personnel to follow procedures for the control of foreign material was a performance deficiency. The finding is greater than minor because it is associated with the human performance attribute of the Barrier Integrity Cornerstone and affects the cornerstone objective of providing reasonable assurance that physical barriers protect the public from radionuclide releases caused by accidents or events. Furthermore, the programmatic deficiencies that were identified associated with this issue would have the potential to lead to a more significant safety concern, if left uncorrected. Specifically, licensee personnel's continued failure to implement appropriate foreign material exclusion controls would result in degradation and adverse impacts on materials and systems associated with the spent fuel pool or the reactor cavity. Using the Manual Chapter 0609, Appendix G, "Shutdown Operations Significance Determination Process," Phase 1 guidance, the finding is determined to have very low safety significance because the finding did not result in an increase in the likelihood of a loss of reactor coolant system inventory, degrade the ability to add reactor coolant system inventory, or degrade the ability to recover decay heat removal. This finding had a crosscutting aspect in the area of human performance associated with work practices because the licensee failed to define and effectively communicate expectations regarding procedural compliance which resulted in a failure to follow procedure by licensee personnel [H.4(b)].

Enforcement. Title 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," requires, in part, that activities affecting quality shall be prescribed by documented instructions, procedures or drawings, of a type appropriate to the circumstances and shall be accomplished in accordance with these instructions, procedures, or drawings. Contrary to the above, between January 12, 2010, and February 23, 2010, the inspectors identified several examples where the licensee failed to adequately implement foreign material exclusion controls as required by procedure SO123-I-1.18. Because this finding is of very low safety significance and has been entered into the licensee's corrective action program as Nuclear Notifications NNs 200760484, 200742082, 200743834 and 200805961, this violation is being treated as a noncited violation consistent with Section VI.A of the NRC Enforcement Policy: NCV 05000361/2010002-07, "Failure to Adequately Implement Foreign Material Exclusion Controls."

2. Controls for Locked High Radiation Area

Introduction. The inspectors identified a Green noncited violation of Technical Specification 5.8.3 for the failure of radiation protection personnel to appropriately barricade and conspicuously post an area that was accessible to personnel that could have resulted in radiation doses greater than 1.0 rem in 1 hour.

Description. On February 12, 2010, while touring the Unit 2 containment building, the inspectors noted that the ladder that provided access to the upper refueling cavity was being used to control access to a locked high radiation area in the lower refueling cavity. The inspectors noted that the ladder had a safety cage around it, a swing door to restrict access inside of the safety cage, and the locked high radiation sign was attached to the

swing door of the safety cage. However, there was nothing on the back side of the ladder to either restrict access or denote it as a locked high radiation area.

The inspectors questioned the adequacy of the posting and access control method being used by the licensee. Specifically, the placement of the sign on the swing door was such that it was not clearly visible if the ladder was approached from the back side, and the inspectors concluded that its placement was confusing as to where the locked high radiation area actually was. The inspectors also questioned whether the back side of the ladder was appropriately barricaded and conspicuously posted in a way to prevent access. The inspectors informed the licensee of their concerns. The licensee initiated Nuclear Notification NN 200793188 to capture this concern in the corrective action program.

The licensee's initial determination was that the posting was adequate and the back side of the ladder was sufficiently controlled. The inspectors questioned this determination and initiated discussions with the NRC Office of Nuclear Reactor Regulation.

The inspectors determined that the posting and method of barricading the ladder was inadequate. Specifically, the controls the licensee had in place were easily circumvented, and as such, the inspectors determined that the licensee had failed to appropriately control access to the lower refueling cavity where there was an area where the maximum measured radiation dose rate was 2.8 rem per hour. On March 17, 2010, radiation protection personnel appropriately barricaded and conspicuously posted the access ladder to the upper refueling cavity.

Analysis. The failure to appropriately barricade and conspicuously post areas that are accessible to personnel that could result in radiation doses greater than 1.0 rem in 1 hour was a performance deficiency. The finding is greater than minor because it is associated with the program and process attribute of the Radiation Safety Cornerstone and directly affected the associated cornerstone objective of ensuring the adequate protection of the worker health and safety from exposure to radiation from radioactive material during routine civilian nuclear reactor operation. Using Manual Chapter 0609, Appendix C, "Occupational Radiation Safety Significance Determination Process," this finding is determined to have very low safety significance because it did not involve: (1) an ALARA planning or work control issue, (2) an overexposure, (3) a substantial potential for overexposure, or (4) an impaired ability to assess dose. The inspectors determined that since the licensee had not recently re-evaluated the locked high radiation area controls associated with this ladder; this finding did not represent current plant performance, and therefore, did not have a crosscutting aspect associated with it.

Enforcement. Technical Specifications 5.8.3 states, in part, that individual high radiation areas that are accessible to personnel that could result in radiation doses greater than 1.0 rem in 1 hour, and that are within large areas where no enclosure exists to enable locking and where no enclosure can be reasonably constructed, the individual area shall be barricaded and conspicuously posted. Contrary to the above, from February 2004 through March 17, 2010, the radiation personnel failed to appropriately barricade and conspicuously post the access ladder to the upper refueling cavity when it was being

used as the means to control access to an individual high radiation area in the lower cavity where the maximum measured radiation dose rate was 2.8 rem per hour. Because this violation is of very low safety significance and it was entered into the licensee's corrective action program as Nuclear Notifications NNs 200793188 and 200837345, this violation is being treated as a noncited violation consistent with Section VI.A of the NRC Enforcement Policy: NCV 05000361/2010002-08, "Failure to Appropriately Control Access to a Locked High Radiation Area."

1R22 Surveillance Testing (71111.22)

a. Inspection Scope

The inspectors reviewed the Updated Final Safety Analysis Report, procedure requirements, and technical specifications to ensure that the seven surveillance activities listed below demonstrated that the systems, structures, and/or components tested were capable of performing their intended safety functions. The inspectors also verified that licensee personnel identified and implemented any needed corrective actions associated with the surveillance testing.

- January 22, 2010, Unit 2, high pressure and low pressure safety injection open check valve inservice test results review
- February 11, 2010, Unit 3, salt water cooling pump P113 comprehensive full flow test
- March 3, 2010, Unit 2, local leak rate test penetration 19
- March 9, 2010, Unit 2, inservice valve test of pressurizer spray valve MU976
- March 10, 2010, Unit 3, reactor power calibration surveillance
- March 16, 2010, Unit 3, containment spray pump in-service and valve test
- March 22, 2010, Unit 2, low pressure safety injection pump MP016

The inspectors witnessed test performance and/or reviewed test performance documentation to verify that the significant surveillance test attributes were adequate to address the following:

- Prevention of preconditioning
- Evaluation of testing impact on the plant
- Clear acceptance criteria and procedure guidance
- Adequacy of test equipment
- Adequacy of documentation of test results and data

- Adequacy of jumper/lifted lead controls
- Testing frequency and method demonstrated technical specification operability
- Test equipment removal
- Restoration of plant systems
- Fulfillment of ASME Code requirements
- Updating of performance indicator data
- Engineering evaluations, root causes, and bases for returning tested systems, structures, and components not meeting the test acceptance criteria were correct
- Reference setting data
- Annunciators and alarms setpoints.

Specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of seven surveillance testing inspection samples as defined in IP 71111.22-05.

b. Findings

No findings of significance were identified.

Cornerstone: Emergency Preparedness

1EP4 Emergency Action Level and Emergency Plan Changes (71114.04)

a. Inspection Scope

The inspectors performed an in-office review of the San Onofre Nuclear Generating Station Emergency Plan, Revision 28, submitted by the licensee December 17, 2009. This revision updated letters of agreement with offsite authorities, updated the letter of agreement with the Institute of Nuclear Power Operations, and updated the site policy regarding the responsibilities of the shift manager.

This revision was compared to its previous revision, to the criteria of NUREG-0654, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants," Revision 1, and to the standards in 10 CFR 50.47(b) to determine if the revision adequately implemented the requirements of 10 CFR 50.54(q). This review was not documented in a safety evaluation report and did not constitute approval of licensee-generated changes; therefore, this revision is subject to future inspection.

These activities constitute completion of one sample as defined in Inspection Procedure 71114.04-05.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator Verification (71151)

.1 Data Submission Issue

a. Inspection Scope

The inspectors performed a review of the data submitted by the licensee for the Fourth Quarter 2009 performance indicators for any obvious inconsistencies prior to its public release in accordance with Inspection Manual Chapter 0608, "Performance Indicator Program."

This review was performed as part of the inspectors' normal plant status activities and, as such, did not constitute a separate inspection sample.

b. Findings

No findings of significance were identified.

.2 Unplanned Scrams per 7000 Critical Hours (IE01)

a. Inspection Scope

The inspectors sampled licensee submittals for the Unplanned Scrams per 7000 Critical Hours performance indicator for Units 2 and 3 for the period from the first quarter 2009 through the fourth quarter 2009. To determine the accuracy of the performance indicator data reported during those periods, performance indicator definitions and guidance contained in NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6, was used. The inspectors reviewed the licensee's operator narrative logs, issue reports, event reports and NRC Inspection reports for the period of January 1, 2009, through December 31, 2009, to validate the accuracy of the submittals. The inspectors also reviewed the licensee's issue report database to determine if any problems had been identified with the performance indicator data collected or transmitted for this indicator and none were identified. Specific documents reviewed are described in the attachment to this report.

These activities constitute completion of two unplanned scrams per 7000 critical hours samples as defined in Inspection Procedure 71151-05.

b. Findings

No findings of significance were identified.

.3 Unplanned Scrams with Complications (IE02)

a. Inspection Scope

The inspectors sampled licensee submittals for the Unplanned Scrams with Complications performance indicator for Units 2 and 3 for the period from the first quarter 2009 through the fourth quarter 2009. To determine the accuracy of the performance indicator data reported during those periods, performance indicator definitions and guidance contained in NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6, was used. The inspectors reviewed the licensee's operator narrative logs, issue reports, event reports and NRC integrated inspection reports for the period of January 1, 2009, through December 31, 2009, to validate the accuracy of the submittals. The inspectors also reviewed the licensee's issue report database to determine if any problems had been identified with the performance indicator data collected or transmitted for this indicator and none were identified. Specific documents reviewed are described in the attachment to this report.

These activities constitute completion of two unplanned scrams with complications samples as defined in Inspection Procedure 71151-05.

b. Findings

No findings of significance were identified.

.4 Unplanned Power Changes per 7000 Critical Hours (IE03)

a. Inspection Scope

The inspectors sampled licensee submittals for the Unplanned Transients per 7000 Critical Hours performance indicator Units 2 and 3 for the period from the first quarter 2009 through the fourth quarter 2009. To determine the accuracy of the performance indicator data reported during those periods, performance indicator definitions and guidance contained in NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6, was used. The inspectors reviewed the licensee's operator narrative logs, issue reports, event reports and NRC integrated inspection reports for the period of January 1, 2009, through December 31, 2009, to validate the accuracy of the submittals. The inspectors also reviewed the licensee's issue report database to determine if any problems had been identified with the performance indicator data collected or transmitted for this indicator and none were identified. Specific documents reviewed are described in the attachment to this report.

These activities constitute completion of two unplanned transients per 7000 critical hours samples as defined in Inspection Procedure 71151-05.

b. Findings

No findings of significance were identified.

4OA2 Identification and Resolution of Problems (71152)

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity, Emergency Preparedness, Public Radiation Safety, Occupational Radiation Safety, and Physical Protection

.1 Routine Review of Identification and Resolution of Problems

a. Inspection Scope

As part of the various baseline inspection procedures discussed in previous sections of this report, the inspectors routinely reviewed issues during baseline inspection activities and plant status reviews to verify that they were being entered into the licensee's corrective action program at an appropriate threshold, that adequate attention was being given to timely corrective actions, and that adverse trends were identified and addressed. The inspectors reviewed attributes that included: the complete and accurate identification of the problem; the timely correction, commensurate with the safety significance; the evaluation and disposition of performance issues, generic implications, common causes, contributing factors, root causes, extent of condition reviews, and previous occurrences reviews; and the classification, prioritization, focus, and timeliness of corrective. Minor issues entered into the licensee's corrective action program because of the inspectors' observations are included in the attached list of documents reviewed.

These routine reviews for the identification and resolution of problems did not constitute any additional inspection samples. Instead, by procedure, they were considered an integral part of the inspections performed during the quarter and documented in Section 1 of this report.

b. Findings

No findings of significance were identified.

.2 Daily Corrective Action Program Reviews

a. Inspection Scope

In order to assist with the identification of repetitive equipment failures and specific human performance issues for follow-up, the inspectors performed a daily screening of items entered into the licensee's corrective action program. The inspectors accomplished this through review of the station's daily corrective action documents.

The inspectors performed these daily reviews as part of their daily plant status monitoring activities and, as such, did not constitute any separate inspection samples.

b. Findings

No findings of significance were identified.

.3 Selected Issue Follow-up Inspection

a. Inspection Scope

During a review of items entered in the licensee's corrective action program, the inspectors recognized a corrective action item documenting the issues listed below. The inspectors considered the following during the review of the licensee's actions: (1) complete and accurate identification of the problem in a timely manner; (2) evaluation and disposition of operability/reportability issues; (3) consideration of extent of condition, generic implications, common cause, and previous occurrences; (4) classification and prioritization of the resolution of the problem; (5) identification of root and contributing causes of the problem; (6) identification of corrective actions; and (7) completion of corrective actions in a timely manner.

- January 5, 2010, Unit 2, reportability review associated with the loss of spent fuel pool cooling event that occurred on December 23, 2009
- February 14, 2010, Unit 2, main transformer and unit auxiliary transformer breaker trips following attempted start of reactor coolant pump motor M004 as documented in Nuclear Notification NN 200794912
- February 26, 2010, Unit 2, inadequate oversight of transmission and distribution personnel who were performing work in the plant switchyard per Work Order 800195196

These activities constitute completion of three in-depth problem identification and resolution samples as defined in IP 71152-05.

b. Findings

1. Missed Eight Hour Report

Introduction. The inspectors identified a Severity Level IV noncited violation of 10 CFR 50.72, "Immediate Notification Requirements for Operating Nuclear Power Reactors," for the licensee's failure to notify the NRC Operations Center within 8 hours following discovery of an event meeting the reportability criteria as specified.

Description. On December 23, 2009, Unit 2 was in refueling outage U2C16 with; all fuel off-loaded to the spent fuel pool, train A of saltwater cooling in service, train B was out of service and drained for maintenance, spent fuel pool cooling was in service and providing residual heat removal, and component cooling water was in service providing cooling to spent fuel pool cooling. At approximately 10:00 a.m., operations personnel received the saltwater cooling train A low flow and component cooling water heat exchanger differential pressure high alarms. They noted flow rapidly lowering and heat

exchanger differential pressure rising. Based on the observed plant conditions, operations personnel entered abnormal operating instruction SO23-13-7, "Loss of Component Cooling Water/Saltwater Cooling," Revision 14. This procedure directed operations personnel to secure both the saltwater cooling and the component cooling water pumps, and line up for reverse flow of the saltwater cooling heat exchanger, based on the observed indications. Due to this action, operations personnel entered Licensee Controlled Specification 3.7.106, Spent Fuel Pool Operation, Condition B, and initiated procedure SO23-3-2.11, "Spent Fuel Pool Operations," Revision 26, Attachment 17, to monitor spent fuel pool temperature due to the loss of spent fuel pool cooling. Approximately one and one half hours later, reverse flow of the heat exchanger was initiated and verified to be satisfactory and the abnormal operating instruction was exited.

On January 5, 2010, the resident inspectors reviewed the licensee's followup of this event. During their review, the inspectors noted that the licensee had concluded the event was caused by debris entering the system through a failed pump suction screen. The licensee had also concluded that this event was not reportable to the NRC. This decision had been made based on the licensee's determination that the Technical Specifications for component cooling water, 3.7.7, and salt water cooling, 3.7.8, were only applicable in Modes 1-4, and when in Modes 5 and 6, the operability requirements are determined by the systems they support, and Unit 2 was defueled and, therefore, outside of all defined "Modes." Therefore component cooling water and salt water cooling were not required to be OPERABLE by any Technical Specification, and as such not reportable.

The inspectors questioned the licensee's reportability conclusion. The inspectors noted that the applicability of Licensee Controlled Specification 3.7.106 was "At all times with irradiated fuel in the spent fuel pool," and as such, this specification was not mode dependant. The inspectors also determined that this required the component cooling water and salt water cooling systems be in operation as support systems for the spent fuel pool cooling system to be operable. Furthermore, the inspectors noted that procedure S023-5-1.8.1, "Shutdown Nuclear Safety," Revision 23, classified the spent fuel pool cooling system as providing the safety function fulfillment plan by providing residual heat removal with the core off loaded to the spent fuel pool. As such, this event prevented the fulfillment of the safety function of structures or systems that are needed to remove residual heat when the salt water cooling and component cooling water pumps were secured, and should have been reported to the NRC as such.

The inspectors informed the licensee of their concerns. The licensee initiated Nuclear Notification NN 200733257 to address this concern. Subsequently, the licensee determined that this event did represent an event that prevented the fulfillment of the safety function of structures or systems that are needed to remove residual heat, and submitted a late 8 hour report and Licensee Event Report 05000361/2009-004-00, "Both Trains of Spent Fuel Pool Cooling Inoperable Results in a Loss of Safety Function."

Analysis. The failure to make an applicable non-emergency 8-hour event notification report within the required time frame was a performance deficiency. The finding is

greater than minor because the NRC relies on licensees to identify and report conditions or events meeting the criteria specified in regulations in order to perform its regulatory function, and when this is not done the regulatory function is impacted. The inspectors reviewed this issue in accordance with Inspection Manual Chapter 0612 and the NRC Enforcement Manual. Through this review, the inspectors determined that traditional enforcement was applicable to this issue because the NRC's regulatory ability was affected. The inspectors determined that this finding was not suitable for evaluation using the significance determination process, and as such, was evaluated in accordance with the NRC Enforcement Policy. The finding was reviewed by NRC management and because the violation was determined to be of very low safety significance, was not repetitive or willful, and was entered into the corrective action program, this violation is being treated as a Severity Level IV noncited violation consistent with the NRC Enforcement Policy. This finding has a crosscutting aspect in the area of problem identification and resolution associated with the corrective action program because the licensee failed to thoroughly evaluate problems such that the resolutions addressed causes and extent of conditions as necessary. This includes properly classifying, prioritizing, and evaluating for operability and reportability conditions adverse to quality [P.1(c)].

Enforcement. Title 10 CFR 50.72, “Immediate Notification Requirements for Operating Nuclear Power Reactors,” requires, in part, that the licensee shall notify the NRC Operations Center within 8 hours after discovery of a nonemergency event described in paragraph (b)(3)(v). Title 10 CFR 50.72(b)(3)(v)(B) requires, in part, any event or condition that at the time of discovery could have prevented the fulfillment of the safety function of structures or systems that are needed to remove residual heat shall be reported within 8 hours of discovery. Contrary to the above, on December 23, 2009, the licensee failed to notify the NRC Operations Center within 8 hours after the discovery of an event or condition that resulted in a condition where the spent fuel pool cooling system was prevented from fulfilling its safety function of residual heat removal with the complete core off loaded. This finding was determined to be applicable to traditional enforcement because the failure to report conditions or events meeting the criteria specified in regulations affects the NRCs regulatory ability. The finding was evaluated in accordance with the NRC's Enforcement Policy. The finding was reviewed by NRC management and because the violation was of very low safety significance, was not repetitive or willful, and was entered into the corrective action program as Nuclear Notification NN 200733257, this violation is being treated as a Severity Level IV noncited violation, consistent with the NRC Enforcement Policy: NCV 05000361/2010002-09, “Failure to Notify the NRC Within Eight Hours of a Non-Emergency Event.”

2. Missed Licensee Event Report

Introduction. The inspectors identified a Severity Level IV noncited violation of 10 CFR 50.73, “Licensee Event Report System,” associated with the failure of nuclear regulatory affairs personnel to submit a licensee event report within 60 days following discovery of an event meeting the reportability criteria as specified.

Description. During their review of a recent issue involving the loss of spent fuel pool cooling, documented as NCV 05000361/2010002-09 in this report, the inspectors became aware of another instance where spent fuel pool cooling had been lost. Specifically, on February 13, 2007, Unit 2 was operating at 100 percent, with train A spent fuel pool cooling pump 2P009 out of service for maintenance, and train B pump 2P010 in service providing cooling. At approximately 12:49 p.m., pump 2P010 tripped on over current, which resulted in a complete loss of spent fuel pool cooling. Based on this plant condition, operations personnel entered abnormal operating instruction SO23-13-23, "Loss of Spent Fuel Pool Cooling," Revision 10, and entered Licensee Controlled Specification 3.7.106, Spent Fuel Pool Operation. Approximately 78 minutes later operators restored pump 2P010 to service, which restored spent fuel pool cooling.

The licensee entered this issue into their corrective action program as Action Request AR 070200583, and performed a reportability evaluation. Through this evaluation, regulatory affairs personnel concluded this event was not reportable because the conditions of Licensee Controlled Specification 3.7.106 were satisfied. Specifically, spent fuel pool cooling had been lost for 78 minutes and specification 3.7.106 had a 6 hour action statement.

The inspectors questioned the licensee's reportability conclusion. Specifically, the inspectors noted that the Updated Final Safety Analysis Report, Section 3.1.6.2, "Criterion 61 – Fuel Storage and Handling and Radioactivity Control," identified that the spent fuel pool cooling system provides cooling to remove residual heat from the spent fuel pool, and Section 9.1.3, "Spent Fuel Pool Cooling and Cleanup System," stated that the system was designed to provide continuous cooling for the spent fuel pool. As such, the inspectors determined that this event represented a condition that alone prevented the fulfillment of the safety function of the spent fuel pool cooling system that was needed to remove residual heat.

The inspectors informed the licensee of their concerns. The licensee initiated Nuclear Notification NN 200740135 to address this concern. Subsequently, the licensee determined that this event did represent a condition that alone prevented the fulfillment of the safety function of the spent fuel pool cooling system that was needed to remove residual heat, and submitted a Licensee Event Report 05000361/2007-007-00, "Inoperable SFP Cooling Pumps Results in Loss of Safety Function."

Analysis. The failure to submit a required licensee event report within 60 days following an event requiring a report to the NRC was a performance deficiency. The finding is greater than minor because the NRC relies on licensees to identify and report conditions or events meeting the criteria specified in regulations in order to perform its regulatory function, and when this is not done the regulatory function is impacted. The inspectors reviewed this issue in accordance with Inspection Manual Chapter 0612 and the NRC Enforcement Manual. Through this review, the inspectors determined that traditional enforcement was applicable to this issue because the NRC's regulatory ability was affected. The inspectors determined that this finding was not suitable for evaluation using the significance determination process, and as such, was evaluated in accordance with the NRC Enforcement Policy. The finding was reviewed by NRC management and

because the violation was determined to be of very low safety significance, was not repetitive or willful, and was entered into the corrective action program, this violation is being treated as a Severity Level IV noncited violation consistent with the NRC Enforcement Policy. Since the inadequate reportability determination had been made in 2007, and the licensee's reportability program has undergone significant revision since this time, the inspectors determined that this was not reflective of current licensee performance and therefore did not have a crosscutting aspect associated with it.

Enforcement. Title 10 CFR 50.73, "Licensee Event Report System," requires, in part, that a licensee shall submit a licensee event report for any event of the type described in paragraph (a)(1) within 60 days after the discovery of the event.
Title 10 CFR 50.73(a)(2)(v)(B) requires, in part, that licensees report any event or condition that alone could have prevented the fulfillment of the safety function of structures or systems that are needed to remove residual heat. Contrary to the above, nuclear regulatory affairs personnel failed to submit a licensee event report within 60 days following discovery of a complete loss of spent fuel pool cooling event that occurred on February 13, 2007. This finding was determined to be applicable to traditional enforcement because the failure to report conditions or events meeting the criteria specified in regulations affects the NRCs regulatory ability. The finding was evaluated in accordance with the NRC's Enforcement Policy. The finding was reviewed by NRC management and because the violation was of very low safety significance, was not repetitive or willful, and was entered into the corrective action program as Nuclear Notification NN 200740135, this violation is being treated as a Severity Level IV noncited violation, consistent with the NRC Enforcement Policy: NCV 05000361/2010006-10, "Failure to Report a Safety System Functional Failure."

3. Technical Specification Bases Change

Introduction. The inspectors identified a Severity Level IV noncited violation of 10 CFR 50.59, "Changes, Test, and Experiments," for the failure of licensing personnel to obtain a technical specification license amendment for a change made to the technical specification bases concerning the emergency chilled water system.

Description. While performing a review of an event on Unit 2 involving the loss of spent fuel pool cooling, documented as NCV 05000361/2010002-09 in this report, the inspectors noted a concern associated with Units 2 and 3 emergency chillers. The inspectors noted that Units 2 and 3 share two emergency chillers, ME-335 and ME-336, between the two units, and one chiller would normally be lined up to be operated from the Unit 2 component cooling water system and one chiller would be lined up to be operated from the Unit 3 component cooling water system. On December 23, 2009, emergency chiller ME-336 was lined up to Unit 2 and emergency chiller ME-335 was lined up to Unit 3, when Unit 2 experienced a clogging event of the only operable train of salt water cooling system which resulted in a loss of component cooling water. The inspectors questioned why operations personnel for Unit 3 failed to enter Technical Specification 3.7.10, "Emergency Chilled Water," in response to this event. Specifically, the inspectors noted that the units' technical specifications defined operability as:

> "A system, subsystem, train, component or device shall be OPERABLE or have OPERABILITY when it is capable of performing its specified function(s). Implicit in this definition shall be the assumption that all necessary attendant instrumentation, controls, normal and emergency electrical power sources, cooling or seal water, lubrication or other auxiliary equipment that are required for the system, subsystem, train, component or device to perform its function(s) are also capable of performing their related support function(s)".

As such, the inspectors determined that the loss of the only operable train of salt water cooling which resulted in the loss of component cooling water represented the loss of required support systems for the emergency chiller, which were required for the chiller to be considered operable.

The inspectors informed operations personnel of their concern. Operations personnel subsequently informed the inspectors that they had 2 hours to transfer the emergency chiller before it had to be considered inoperable, and referred the inspectors to the bases of Technical Specification 3.7.10, which stated, in part:

> "An emergency chiller is considered OPERABLE when it is or can be aligned to either Unit's operating or standby OPERABLE Component Cooling Water (CCW) critical loop, provided that the OPERABLE CCW critical loop can be placed in operation within 2 hours after a design basis event is detected in the Control Room. Thus, an emergency chiller, under normal circumstances, remains OPERABLE during a transfer operation between OPERABLE CCW critical loops completed in less than 2 hours."

The inspectors questioned whether this language constituted a change to the intent of the technical specification. The licensee initiated Nuclear Notification NN 200747320 to evaluate the inspectors concern.

The inspectors determined that the licensee had changed the bases for Technical Specification 3.7.10 to add the 2 hour allowance in 1997 under bases change B96-001. The inspectors reviewed this bases change package and determined that the 10 CFR 50.59 review that licensing personnel performed had not appropriately evaluated this allowance. Furthermore, the inspectors determined that the only documentation the licensee had to support the 2 hour allowance was a memorandum from Engineering to Operations, V. Barone to T. Vogt, dated December 22, 1994, "Component Cooling Water System/Emergency Chilled Water System Interaction, SONGS, Units 2 and 3," which the inspectors determined was not adequate to support the bases change.

Following consultation with the NRC Technical Specification Branch regarding the intent of Technical Specification 3.7.10, the inspectors determined that the intent of the specification was that the emergency chiller could not be considered operable if a required support system was inoperable. Consequently, the inspectors determined that the licensee's bases change had, in effect, changed the intent of Technical Specification 3.7.10, and this had been done without a license amendment. As such, the inspectors determined that on December 23, 2009, operations personnel failed to

enter Limiting Condition of Operation 3.7.10 when a required support system for the emergency chillers was inoperable, which rendered emergency chiller ME-336 inoperable.

The inspectors informed the licensee of their determination. The licensee initiated Nuclear Notification NN 200758329 to address this issue. Subsequently, the licensee determined that the bases change did constitute a change to the technical specifications.

Analysis. The failure to adequately implement the requirements of 10 CFR 50.59 for a change made to the bases of Technical Specification 3.7.10, which changed the intent of the specification, was a performance deficiency. The finding is greater than minor because the failure to follow the requirements of 10 CFR 50.59 and receive prior NRC approval for changes in licensed actions impacted the NRC's regulatory ability. The inspectors reviewed this issue in accordance with Inspection Manual Chapter 0612 and the NRC Enforcement Manual. Through this review, the inspectors determined that traditional enforcement was applicable to this issue because the NRC's regulatory ability was affected. The inspectors determined that this finding was not suitable for evaluation using the significance determination process, and as such, was evaluated in accordance with the NRC Enforcement Policy. The finding was reviewed by NRC management and because the violation was determined to be of very low safety significance, was not repetitive or willful, and was entered into the corrective action program, this violation is being treated as a Severity Level IV noncited violation consistent with the NRC Enforcement Policy. Since the bases change was made in 1996, the inspectors determined that this was not reflective of current licensee performance and therefore did not have a crosscutting aspect associated with it.

Enforcement. Title 10 CFR 50.59 (c)(1)(i) states, in part, that a licensee may make changes in the facility as described in the final safety analysis report (as updated) without obtaining a license amendment pursuant to 10 CFR 50.90 only if a change to the technical specifications incorporated in the license is not required. Contrary to the above, in 1997, licensing personnel implemented a technical specification bases change for Limiting Condition for Operation 3.7.10, "Emergency Chilled Water," which changed the intent and application of the technical specification. Specifically, licensing personnel added wording which allowed a period of time for required support systems to be inoperable without declaring the emergency chillers inoperable. This finding was determined to be applicable to traditional enforcement because the failure to follow the requirements of 10 CFR 50.59 and receive prior NRC approval for changes in licensed actions impacted the NRC's regulatory ability. The finding was evaluated in accordance with the NRC's Enforcement Policy. The finding was reviewed by NRC management and because the violation was of very low safety significance, was not repetitive or willful, and was entered into the corrective action program as Nuclear Notifications NNs 200747320 and 200758329, this violation is being treated as a Severity Level IV noncited violation, consistent with the NRC Enforcement Policy: NCV 05000361; 05000362/2010002-11, "Failure to Obtain a License Amendment for a Technical Specification Bases Change."

4. Threshold for Problem Identification

Introduction. The inspectors identified a Green noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the failure of licensee personnel to follow procedures to enter conditions adverse to quality into the corrective action program.

Description. The inspectors reviewed Nuclear Notification NN 200794912 which had been initiated following operations personnel attempted start of reactor coolant pump motor M004, following work being performed on its control panel under engineering change package 800074306. The attempted start resulted in the main transformer breakers and the unit auxiliary transformer breakers tripping. The inspectors noted that the licensee had determined that maintenance personnel had encountered an issue with the installation of new components causing interference with existing terminal boards in the panels. This resulted in the maintenance personnel deviating from the approved engineering change package 800074306 and relocating a terminal block within the panel. The inspectors determined that this deviation was inappropriate because it resulted in a change in the scope of the work, and as such, should have required a revision to the engineering change package.

Subsequently, the inspectors attended the human performance error review board which reviewed the sequence of events and relevant facts associated with this issue. During this review, licensee personnel confirmed that maintenance personnel had deviated from the engineering change package when relocating the terminal blocks. They also pointed out that this had been done under verbal approval from station engineering in response to Nuclear Notification NN 200247324, Task 31.

At the completion of the review board, the inspectors expressed concerns to the licensee about how this work had been accomplished and the fact that a nuclear notification had not been written to capture this issue in the corrective action program. The licensee informed the inspectors that this work had been done using the modification problem reporting process detailed in procedure SO123-XXIX-2.16, "Modification Problem Reports," Revision 7, and that another nuclear notification was not necessary since their process had been followed.

The inspectors reviewed the modification problem reporting process and noted that for systems that were out of service with modifications being performed, maintenance personnel were directed to generate a principle notification, and then add tasks to this nuclear notification as issues were encountered. The inspectors questioned this process since it appeared to conflict with corrective action program procedure SO123-XV-50.CAP-1, "Writing Nuclear Notifications for Problem Identification and Resolution," Revision 2. Specifically, Section 6.1.3 required that, "All SONGS employees and supplemental personnel are responsible for promptly identifying, reporting and documenting problems by writing a nuclear notification."

During subsequent review, the inspectors determined that the modification problem reporting process was being used for modification activities on safety-related equipment as well. Specifically, Nuclear Notifications NN 200457233 and 200718733 had been

initiated as principle notifications for issues discovered while performing modifications to the turbine of the steam driven auxiliary feedwater pump and the train B emergency diesel generator. As such, the inspectors determined that this represented a program operating outside of the corrective action program. The licensee initiated Nuclear Notification NN 200770377 to capture the inspectors' concern. Subsequently, the licensee determined that this program was being implemented in a manner inconsistent with the corrective action program.

As the inspectors continued to monitor the licensee's activities during the refueling outage they became aware that contractor personnel were being allowed to implement their own problem identification process, field change requests, instead of entering all conditions adverse to quality into the licensee's corrective action program as required. The inspectors determined that this contractor process was being used for issues that were identified with safety-related and non-safety-related plant equipment. The inspectors questioned this program because it appeared to be another example of a program operating outside of the corrective action program.

The inspectors informed the licensee of their concern. The licensee informed the inspectors that they had opted to allow the contractor to use their process during the refueling outage, and that licensee staff was reviewing all field change requests to determine if they warranted generation of a nuclear notification. The licensee informed the inspectors that this contractor process was being implemented in accordance with procedure 25221-000-GPP-GCP-00018, "Field Change Request/Notices," Revision 0. When the inspectors asked about the procedure controlling the licensee's staff reviews of the field change requests they were informed that there was none.

The inspector reviewed procedure GPP-GCP-00018 and noted that its purpose was for systems that were out of service with modifications being performed under engineering change packages. It directed contractor personnel to initiate a field change request when issues were identified, which would be reviewed by contractor personnel for disposition using contractor procedures. The inspectors concluded that this was an additional process that did not meet the requirements of procedure SO123-XV-50.CAP-1, Section 6.1.3. The licensee initiated Nuclear Notification NN 200827841 to document the inspectors' concern. Subsequently, the licensee determined that this program was being implemented in a manner inconsistent with the corrective action program.

The inspectors concluded that these examples of licensee personnel's failure to enter conditions adverse to quality into the licensee's corrective action program, individually and collectively, did not impact the licensee's overall ability to monitor the condition of station equipment. However, multiple departments, which included supervisors, were responsible for not entering conditions adverse to quality into the corrective action program even when these issues clearly resulted in degraded and nonconforming conditions. Therefore, these instances were indicative of a systemic programmatic issue with proper implementation of the corrective action program, with respect to communicating and reinforcing the requirements for nuclear notification initiation.

Analysis. The failure to follow procedures for entering conditions adverse to quality into the corrective action program was a performance deficiency. The finding is greater than minor because it was similar to more than minor example 3.j in NRC Manual Chapter 0612, Appendix E, "Examples of Minor Issues," in that programmatic deficiencies were identified associated with this issue that would have the potential to lead to more significant safety concerns if left uncorrected. Specifically, contractor and licensee personnel's failure to enter conditions adverse to quality into the station corrective action program could result in the licensee's failure to recognize that risk significant equipment is in a degraded or nonconforming condition, and as such, may not be able to perform its specified safety function. This finding is associated with the Mitigating Systems Cornerstone. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheets, the finding is determined to have very low safety significance because the finding: (1) is not a design or qualification issue confirmed not to result in a loss of operability or functionality; (2) did not represent an actual loss of safety function of the system or train; (3) did not result in the loss of one or more trains of nontechnical specification equipment; and (4) did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. This finding has a crosscutting aspect in the area of problem identification and resolution associated with the corrective action program because the licensee failed to implement a corrective action program with a low threshold for identifying issues. This also includes identifying such issues completely, accurately, and in a timely manner commensurate with their safety significance [P.1(a)].

Enforcement. Title 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," requires, in part, that activities affecting quality shall be prescribed by documented instructions, procedures or drawings, of a type appropriate to the circumstances and shall be accomplished in accordance with these instructions, procedures, or drawings. Procedure SO123-XV-50.CAP-1, "Writing Nuclear Notifications for Problem Identification and Resolution," Revision 2, required, in part, "All SONGS employees and supplemental personnel are responsible for promptly identifying, reporting and documenting problems by writing a Nuclear Notification." Contrary to the above, between January 4 and March 14, 2010, the inspectors identified multiple examples where licensee and contractor personnel failed to appropriately enter identified conditions adverse to quality into the corrective action program, without being prompted by the inspectors. Because this finding is of very low safety significance and has been entered into the licensee's corrective action program as Nuclear Notifications NNs 200778816 and 200780926, this violation is being treated as a noncited violation, consistent with Section VI.A of the NRC Enforcement Policy: NCV 05000361; 05000362/2010002-12, "Failure to Enter Conditions Adverse to Quality into the Corrective Action Program."

5. Oversight of Switchyard Work Activities

Introduction. The inspectors identified a Green noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the failure of maintenance personnel to follow Work Order 800195196 and provide appropriate

oversight to transmission and distribution personnel while performing work in the electrical switchyard.

Description. In accordance with work order 800195196 and procedure SO123-XV-15.3, "Temporary System Alteration and Restoration," Revision 17, maintenance personnel were required to provide transmission and distribution personnel with a calibrated torque wrench, followed by oversight and concurrent verification, to complete steps associated with torquing bolts on the reserve auxiliary transformer circuit breakers, since these bolts were designated as critical components. Further, the work order also required maintenance personnel to perform independent torque verifications on the bolted connections of the reserve auxiliary transformer circuit breakers.

On February 22, 2010, maintenance personnel were preparing to implement Work Order 800195196 steps for performing the independent torque verification on the reserve auxiliary transformer circuit breakers. During their preparation, maintenance personnel determined that transmission and distribution personnel had not been provided with a calibrated torque wrench, and there had not been oversight and concurrent verification of the bolt torquing on the reserve auxiliary transformer circuit breakers as required by the work order. Maintenance personnel subsequently generated Nuclear Notification NN 200803364 to request engineering input for performing the torque verifications, and to identify the possibility of rework.

The inspectors reviewed Nuclear Notification NN 200803364 and Work Order 800195196. During their review the inspectors questioned the wording of the nuclear notification, in that it stated that the work order had not been followed, however, no actions were identified to correct this condition. Also, the section of the work order that directed the bolt torquing did not allow the independent verification to be performed without the concurrent verification having already been performed.

The inspectors questioned licensee personnel as to the purpose of the nuclear notification, and learned that it had been written to have engineering personnel provide acceptable torque values since it was possible that the bolts had been torqued to values that exceeded the values specified in the work order. During these discussions, the inspectors determined that the licensee intended to continue to use this work order to perform the independent verification. The inspectors determined that this was inappropriate since the work order could no longer be performed as written, and as it was intended.

The inspectors informed the licensee of their concerns, and the licensee entered this issue into their corrective action program as Nuclear Notification NN 200811993. Subsequently, the licensee determined that nine of the bolted connections had been torqued to values that exceeded the values specified in the work order. The licensee corrected the over torqued bolt condition.

Analysis. The failure to follow work order instructions and provide proper oversight and concurrent verification to transmission and distribution personnel performing work in the switchyard was a performance deficiency. The finding is greater than minor because circumventing procedural requirements, if left uncorrected, would have the potential to

lead to a more significant safety concern, in that, more risk significant equipment could be rendered inoperable without the knowledge and approval of appropriate management or control room personnel. This finding is associated with the Mitigating Systems Cornerstone. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheets, the finding is determined to have a very low safety significance because the finding: (1) is not a design or qualification issue confirmed not to result in a loss of operability or functionality; (2) did not represent an actual loss of safety function of the system or train; (3) did not result in the loss of one or more trains of nontechnical specification equipment; and (4) did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. This finding has a crosscutting aspect in the area of human performance associated with work practices because maintenance personnel failed to ensure supervisory and management oversight of work activities, including contractors, such that nuclear safety was supported [H.4(c)].

Enforcement. Title 10 of the CFR, Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," requires, in part, that activities affecting quality shall be prescribed by documented instructions, procedures or drawings, of a type appropriate to the circumstances and shall be accomplished in accordance with these instructions, procedures, or drawings. Work Order 800195196, and procedure SO123-XV-15.3, "Temporary System Alteration and Restoration," Revision 17, provided instructions for performing maintenance on critical components associated with the reserve auxiliary transformers. Contrary to the above, on February 26, 2010, maintenance personnel failed to follow work order 800195196, and procedure SO123-XV-15.3, to provide appropriate oversight of transmission and distribution personnel who were performing work in the plant switchyard, which resulted in the over torquing of nine bolts on the reserve auxiliary transformer circuit breakers. Because this finding is of very low safety significance and has been entered into the licensee's corrective action program as Nuclear Notifications NNs 200803364 and 200811993, this violation is being treated as a noncited violation consistent with Section VI.A of the NRC Enforcement Policy: NCV 05000361/2010002-13, "Failure to Adequately Implement Station Work Order."

4OA3 Event Follow-up (71153)

.1 Event Follow Up

a. Inspection Scope

The inspectors reviewed the below listed events for plant status and mitigating actions to: (1) provide input in determining the appropriate agency response in accordance with Management Directive 8.3, "NRC Incident Investigation Program"; (2) evaluate performance of mitigating systems and licensee actions; and (3) confirm that the licensee properly classified the event in accordance with emergency action level procedures and made timely notifications to NRC and state/governments, as required.

- January 27, 2010, Unit 2, component cooling water surge tank drain down evolution

- March 17, 2010, Units 2 and 3, review extent of condition inspections for identification of leaks in schedule 10 piping

Documents reviewed by the inspectors are listed in the attachment.

These activities constitute completion of two inspection samples as defined in Inspection Procedure 71153-05.

b. Findings

Introduction. A self-revealing Green noncited violation of Technical Specification 5.5.1.1 was identified for the failure of operations personnel to follow procedures for operating the component cooling water system.

Description. Prior to the event, both component cooling water surge tank levels were rising due to intersystem leakage. The problem with intersystem leakage was being investigated and was eventually discovered to be from a cross tie valve which was not adequately closed. On January 27, 2010, operations personnel planned to use procedure SO23-2-17, "Component Cooling Water System Operation," Revision 31, to drain down the component cooling water surge tank. Prior to the drain down evolution, operations personnel failed to perform an adequate pre-job brief or properly review of the procedure regarding maintaining pressure since the surge tank draining had become a routine evolution to compensate for the intersystem leakage. Furthermore, operations personnel performing the evolution failed to use the proper human error prevention techniques regarding the change in plant conditions and proceeded with the evolution without asking for help. Due to time pressures and complacency, operations personnel proceeded with the assumption that the nitrogen supply valves would maintain the nitrogen pressure within the required limits during the drain down evolution.

Procedure SO23-2-17 required operations personnel to perform the following steps:

.1 THROTTLE OPEN S2(3)1203MU117, CCW Train A HX E001 CCW (Shell Side) Drain Valve.

.2 While maintaining CCW surge tank pressure 33-40 psig, LOWER CCW Surge Tank to the desired level, then CLOSE S2(3)1203MU117, CCW Train A HX E001 CCW (Shell Side) Drain Valve.

An equipment operator commenced the drain down evolution and opened the appropriate component cooling water heat exchanger shell drain valves and observed levels dropped to 60 percent in the surge tanks. The plant was in a refueling outage and changes to radiological control boundaries prevented the operator from having immediate access to the surge tank pressure gauge, which was in the next room. The equipment operator rationalized that the pressure regulator would properly function to maintain the required pressure band, and decided to continue with the rest of his rounds before checking pressure. About two hours later, the equipment operator observed component cooling water train A surge tank pressure was at 30 psig, which was below the minimum pressure for operability per procedure SO23-2-17. Control room personnel

were notified and declared the component cooling water train A and associated shutdown cooling loop inoperable. This required an unplanned entry into Technical Specification 3.9.5.A, and immediate actions to restore the shutdown cooling loop. Operations personnel raised the level in the component cooling water train A surge tank to 65 percent, which increased the surge tank pressure to 34 psig, which was within the acceptable range. Operations personnel also initiated an immediate investigation and discovered the nitrogen pressure regulator was not maintaining the proper pressure in component cooling water surge tank train A.

Analysis. The failure to follow procedures for operating plant equipment was a performance deficiency. The finding is greater than minor because the continued failure to follow procedures when operating safety-related plant equipment, if left uncorrected, would have the potential to lead to a more significant safety concern. The finding is associated with the Mitigating Systems Cornerstone. Using the Manual Chapter 0609, Appendix G, "Shutdown Operations Significance Determination Process," Phase 1 guidance, the finding is determined to have very low safety significance because the finding did not result in an increase in the likelihood of a loss of reactor coolant system inventory, degrade the ability to add reactor coolant system inventory, or degrade the ability to recover decay heat removal. This finding has a crosscutting aspect in the area of human performance associated with work practices because operations personnel failed to use proper human error prevention techniques and proceeded in the face of unexpected circumstances when operating the component cooling water system [H.4(a)].

Enforcement. Technical Specification 5.5.1.1 requires, in part, that procedures be established, implemented, and maintained covering the activities specified in Appendix A, "Typical Procedures for Pressurized Water Reactors and Boiling Water Reactors," of Regulatory Guide 1.33, "Quality Assurance Program Requirements (Operations)," Dated February 1978. Appendix A, Item 3.e, requires procedures for operating the component cooling water system. Procedure SO23-2-17, "Component Cooling Water System Operation," Revision 31, provided instructions for operating the component cooling water system. Contrary to the above, on January 27, 2010, operations personnel failed to follow the requirements of procedure SO123-2-17, while performing a planned drain down of the component cooling water surge tanks. Specifically, operations personnel, while draining the component cooling water surge tank, failed to maintain the surge tank pressure, in accordance with procedure SO23-2-17, such that, component cooling water surge tank pressure was permitted to go low out of the expected operating range. As a result of this low surge tank pressure, operators declared the component cooling water and shutdown cooling train A systems inoperable. Because this finding is of very low safety significance and has been entered into the licensee's corrective action program as Nuclear Notification NN 200771367, this violation is being treated as a noncited violation consistent with Section VI.A of the NRC Enforcement Policy: NCV 05000361/2010002-14, "Failure to Follow Operations Procedure to Monitor Component Cooling Water Surge Tank Pressure."

4OA6 Meetings

Exit Meeting Summary

On January 6, 2010, the inspector conducted a telephonic exit meeting to present the results of the in-office inspection of changes to the licensee's emergency plan to Mr. B. Ashbrook, Manager, Onsite Emergency Preparedness. The licensee acknowledged the issues presented.

On March 23, 2010, the inspectors presented the results of the resident inspections to Mr. R. Ridenoure, Senior Vice President and Chief Nuclear Officer, and other members of the licensee staff. The licensee acknowledged the issues presented.

The inspectors asked the licensee whether any materials examined during the inspections should be considered proprietary or sensitive. The inspectors returned or destroyed all proprietary information reviewed during the inspections and all identified sensitive information has been returned to the appropriate licensee custodian.

4OA7 Licensee-Identified Violations

The following violations of very low safety significance (Green) were identified by the licensee and are violations of NRC requirements which meet the criteria of Section VI of the NRC Enforcement Policy, NUREG-1600, for being dispositioned as noncited violations.

.1 Title 10 CFR 50.65(a)(4), states in part, that before performing maintenance activities (including but not limited to surveillance, post maintenance testing, and corrective and preventive maintenance), the licensee shall assess and manage the increase in risk that may result from the proposed maintenance activities. Contrary to the above, on February 17, 2010, the licensee failed to adequately assess and manage the increase in risk associated with maintenance activities in the electrical switchyard. Specifically, the licensee determined that the station had failed to perform an adequate risk assessment for proposed crane activities in the switchyard with regard to Unit 3, which was operating at full power. Before allowing the activities to commence the licensee performed the required risk assessment, and classified the work as a high risk activity in the switchyard for Unit 3, and commenced the crane activity. This was licensee identified because the failure to perform a risk assessment was identified by licensee personnel during an additional final review prior to commencing work. Using Inspection Manual Chapter 0609, "Appendix K, "Maintenance Risk Assessment and Risk Management Significance Determination Process" flowchart 1, "Assessment of Risk Deficit," the finding is determined to be of very low safety significance because it only involved risk management actions. The issue was entered into the licensee's corrective action program as Nuclear Notification NN 200767351.

.2 Title 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," requires, in part, that activities affecting quality shall be prescribed by documented instructions, procedures or drawings, of a type appropriate to the circumstances and shall be accomplished in accordance with these instructions, procedures, or drawings. Contrary to the above, on December 20, 2009, licensee personnel failed to follow procedure SO123-XV-50.CAP-1, "Writing Nuclear Notifications for Problem Identification

and Resolution," Revision 2, and enter conditions adverse to quality into the corrective action program. Specifically, when engineering inspections identified what appeared to be indications on emergency core cooling system suction piping train A on Unit 3, operations personnel were not informed, and an operability assessment was not performed. Subsequently, on January 13, 2010, while performing inspections on the Unit 3 emergency core cooling system suction piping, engineering personnel again identified indications and informed operations personnel, which resulted in the piping being declared inoperable until the ASME code case evaluations could be performed. This was licensee identified because licensee personnel identified the failure to follow procedures during follow up investigations. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheets, this finding is determined to have a very low safety significance because the finding: (1) is not a design or qualification issue confirmed not to result in a loss of operability or functionality; (2) did not represent an actual loss of safety function of the system or train; (3) did not result in the loss of one or more trains of non-technical specification equipment; and (4) did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. The issue was entered into the licensee's corrective action program as Nuclear Notification NN 200756139.

.3 Title 10 CFR Part 50, Appendix B, Criterion III, "Design Control," requires, in part, measures to be established to assure that applicable regulatory requirements and the design basis, as defined in 10 CFR 50.2 and as specified in the license application, for those components to which this appendix applies are correctly translated into specifications, drawings, procedures, and instructions. Contrary to the above, on February 3, 2010, the licensee failed to appropriately classify a section of emergency core cooling system mini-flow piping as ASME code class II as specified in the Updated Final Safety Analysis Report. This was licensee identified because licensee personnel identified this issue during their reviews. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheets, this finding is determined to have a very low safety significance because the finding: (1) is not a design or qualification issue confirmed not to result in a loss of operability or functionality; (2) did not represent an actual loss of safety function of the system or train; (3) did not result in the loss of one or more trains of non-technical specification equipment; and (4) did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. The issue was entered into the licensee's corrective action program as Nuclear Notification NN 200778570.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee Personnel

T. Adler, Manager, Maintenance/Systems Engineering
B. Arbour, Operator Continuing Training Supervisor
J. Armas, Supervisor, Maintenance Engineering Fluid Process
B. Ashbrook, Manager, Emergency Preparedness
D. Axline, Technical Specialist, Nuclear Regulatory Affairs
D. Bauder, Plant Manager
B. Corbett, Manger, Performance Improvement
G. Cook, Manager, Compliance, Nuclear Regulatory Affairs
R. Elsasser, Manger, Training
J. Fee, Manager, Site Emergency Preparedness
S. Gardner, Electrical/System Engineering Manager
M. Graham, Manager, Plant Operations
A. Hochevar, Station Manager, Plant Operations
E. Hubley, Director, Maintenance/Construction
G. Johnson, Jr., Senior Nuclear Engineer, Maintenance/Systems Engineering
K. Johnson, Manager, Design Engineering
L. Kelly, Engineer, Nuclear Regulatory Affairs
D. Spires, Director, Work Control
J. Madigan, Manager, Health Physics
A. Meichler, Mechanical/System Engineering Supervisor
B. MacKissock, Director, Plant Operations
N. Quigley, Manager, Maintenance/System Engineering
R. Richter, Engineering Supervisor, Fire Protection
C. Ryan, Manager, Maintenance & Construction Services
R. St. Onge, Director Nuclear Regulatory Affairs
J. Todd, Manager, Security
D. Wilcockson, Manager of Operations Training

NRC Personnel

D. Loveless, Senior Reactor Analyst
M. Runyan, Senior Reactor Analyst

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened and Closed

05000361/2010002-01	NCV	Failure to Implement Fire Protection Plan Requirements Related to Hot Work Activities (Section 1R05)
05000361/2010002-02 05000362/2010002-02	NCV	Failure to Appropriately Scope Auxiliary Feedwater Pump Trench Eductors in the Maintenance Rule Monitoring Program (Section 1R12)
05000361/2010002-03 05000362/2010002-03	NCV	Failure to Enter Operating Experience into Corrective Action Program for Timely Evaluation (Section 1R13)
05000361/2010002-04	NCV	Failure to Assess and Manage Risk for Electrical Switchyard Impacting Maintenance (Section 1R13)
05000362/2010002-05	NCV	Failure to Follow Procedure Results in an Inadequate Operability Determination (Section 1R15)
05000361/2010002-06	NCV	Failure to Perform an Adequate Postmaintenance Test (Section 1R19)
05000361/2010002-07	NCV	Failure to Adequately Implement Foreign Material Exclusion Controls (Section 1R20)
05000361/2010002-08	NCV	Failure to Appropriately Control Access to a Locked High Radiation Area (Section 1R20)
05000361/2010002-09	NCV	Failure to Notify the NRC Within Eight Hours of a Nonemergency Event (Section 4OA2)
05000361/2010002-10 05000362/2010002-10	NCV	Failure to Report a Safety System Functional Failure (Section 4OA2)
05000361/2010002-11 05000362/2010002-11	NCV	Failure to Obtain a License Amendment for a Technical Specification Basis Change (Section 4OA2)

05000361/2010002-12 05000362/2010002-12	NCV	Failure to Enter Conditions Adverse to Quality into the Corrective Action Program (Section 4OA2)
05000361/2010002-13	NCV	Failure to Adequately Implement Station Work Order (Section 4OA2)
05000361/2010002-14	NCV	Failure to Follow Operations Procedure to Monitor Component Cooling Water Surge Tank Pressure (Section 4OA3)

LIST OF DOCUMENTS REVIEWED

Section 1R01: Adverse Weather Protection

PROCEDURES

NUMBER	TITLE	REVISION
SO23-13-8	Severe Weather	7

NUCLEAR NOTIFICATIONS

NUMBER	
200498067	200755444

Section 1R04: Equipment Alignment

PROCEDURES

NUMBER	TITLE	REVISION
SO23-3-2.7.2	Safety Injection System Removal/Return to Service Operation	22
SO2-V-3.12	Attachment 5; Containment Integrated Leakage Rate Test	8
SO23-2-4	Auxiliary Feedwater System Operation	27

SO23-2-13.1	Diesel Generator Alignment	6
SO23-2-8.1	Saltwater cooling System Return to Service Evolution	9

NUCLEAR NOTIFICATIONS

NUMBER
200806892

MAINTENANCE ORDERS

NUMBER
800466402

DRAWINGS

NUMBER	TITLE	REVISION
40112 A and C	P&I Diagram Safety Injection System	23

MISCELLANEOUS

NUMBER
WCD 30005922

Section 1R05: Fire Protection

PROCEDURES

NUMBER	TITLE	REVISION
SO123-XV-1.41	Control of Ignition Sources	14
SO23-XV-4.13	Control of Work and Storage Areas Within the Protected Area	5
SO123-XIII-4.600	Fire Protection Impairment	10

SO123-XV-1.41	Control of Ignition Sources	14

NUCLEAR NOTIFICATIONS

NUMBER

200729747 200746059

DRAWINGS

NUMBER	TITLE	REVISION
2-006	SONGS pre-fire plans	6

Section 1R06: Flood Protection Measures

NUCLEAR NOTIFICATIONS

NUMBER

200758566 200409164 200765185 200001761 200760572

200318922 200758652

CALCULATIONS

NUMBER	TITLE	REVISION
M-0120-015	Plant Flood Analysis Review	8
N-4090-009	Units 2&3 Auxiliary Feedwater Pump Room and Doghouse Pressure Temperature Analysis	0

Section 1R11: Licensed Operator Requalification Program

PROCEDURES

NUMBER	TITLE	REVISION
SO23-15-56	Alarm Response Instruction 56A	8

SO23-13-18	Reactor Protection System Failure	30
SO23-12.1	Standard Post Trip Actions	22
SO23-12-10	Safety Function Status Checks	4
SO123-VIII-10	Emergency Coordinator Duties	26
SO123-VIII-1	Loss of RCS Inventory	29

Section 1R12: Maintenance Effectiveness

PROCEDURES

NUMBER	TITLE	REVISION
SO123-XV-5.3	Maintenance Rule Program	11

NUCLEAR NOTIFICATIONS

NUMBER				
200815548	200409164	200760572	200765185	200318922
200758652	200758566	200001761	200819522	200804181
200815848				

MAINTENANCE ORDERS

NUMBER
800078277

MISCELLANEOUS

NUMBER	TITLE	REVISION / DATE
	SONGS System Health Report AFWS 4th Quarter-2009	
DBD-SO23-780	Auxiliary Feedwater System	9

STS-SO123-2001	Maintenance Rule Scoping Matrix	February 23, 2000

Section 1R13: Maintenance Risk Assessment and Emergent Work Controls

PROCEDURES

NUMBER	TITLE	REVISION
SO23-XX-8	Integrated Risk Management	3
SO123-I-1.37	Diver Safety During Intake and Forebay Structure Diving Operations	4
SO23-XX-8	Integrated Risk Management	4
SO23-5-1.8.1	Shutdown Nuclear Safety	23
SO23-12-11	EOI Supporting Attachments	7
SO23-12-8	Station Blackout	21

NUCLEAR NOTIFICATIONS

NUMBER				
200155657	200741690	200755444	200789579	200787617
200810952	200818599	200819462	200797351	200402733
200805635	200801929			

MAINTENANCE ORDERS

NUMBER	
800436397	800074316

CALCULATIONS

NUMBER	TITLE	REVISION
PRACP-10-0001	PRA Change Package	0
E4C-088	Emergency Diesel Generator Loading	2
E4C-017	125V Battery & DC System Sizing	20

MISCELLANEOUS

NUMBER	TITLE	REVISION / DATE
NRC Administrative Letter 89-10	Dispositioning of Technical Specifications that are Insufficient to assure Plant Safety	December 28,1998
IPE-HC-075	Operator Action Summary Data Sheet Post-Initiator Human Error Probability Calculation Worksheet	August 28, 2006
DCP-2&3-7048.00SE	10 CFR 50.54(x) Unit to Unit Diesel Generator Crosstie	0

Section 1R15: Operability Evaluations

PROCEDURES

NUMBER	TITLE	REVISION
SO23-3-3.31.3	Component Cooling Water Valve Testing – Offline	15
SO123-XV-52	Functionality Assessments and Operability Determinations	14

NUCLEAR NOTIFICATIONS

NUMBER				
200791845	200792682	200769743	200745284	200744216

200714391 200744216 200743712 200760570

MAINTENANCE ORDERS

NUMBER
800451952

CALCULATIONS

NUMBER	
M-DSC-443	M-DSC-441

MISCELLANEOUS

NUMBER	TITLE	DATE
AR 000201278	Operability Assessment	February 25, 2000

Section 1R19: Postmaintenance Testing

PROCEDURES

NUMBER	TITLE	REVISION
SO123-XX-5	Work Clearance Application/Work Clearance Document/Work Authorization Record	28
SO123-II-9.174	Resistance Temperature Detector or thermistor functional Verification	1
SO2-XXVI-9.8001.62890.1	Unit 2 boration dilution control system preoperational test	2
SO123-XXVI-2.5	Preparation, Revision and Approval of Preoperational, Acceptance and Special Test Procedures	4
SO23-II-20	Ovation Distributed Control System (DCS)	2

NUCLEAR NOTIFICATIONS

NUMBER

NMO800449052	200766430	NMO 800356395	800250944	20683701
200681431	200651946	200651922	200806892	

DRAWINGS

NUMBER	TITLE	REVISION
35149	Area 2C6 conduit and tray 30-45 foot elevation	25

MAINTENANCE ORDERS

NUMBER

ECP 800162890	ECP 800390458

MISCELLANEOUS

NUMBER	TITLE	REVISION / DATE
M37629	Environment qualification Data Sheets	0
N14856B4	Data Sheet 2TE0921X2	January 28, 2009

Section 1R20: Refueling and Other Outage Activities

PROCEDURES

NUMBER	TITLE	REVISION
SO23-XV-2	Troubleshooting Plant Equipment and Systems	5

NUCLEAR NOTIFICATIONS

NUMBER

NMO800448825	200765286	200766808	200796087	200769743

200709732 200765286 200800403 200791630

MISCELLANEOUS

NUMBER	TITLE	REVISION / DATE
07050054-01	Fire Protection Impairment Form	May 17, 2007
Bechtel QA Policy No. Q-12	Codes, Standards, and Regulatory Requirements	3
Sample Id 129939	Release of Liquid, Sludge, Slurry, or Sand	February 23, 2010

Section 1R22: Surveillance Testing

PROCEDURES

NUMBER	TITLE	REVISION
SO23-3-3.31.9	RCS Pressure Isolation Valve Testing Hydro Pump Method-offline	13
SO23-3-3.31.2	ECCS Valve Testing – Offline	11
SO23-XVII-8.1.1	Visual Inspection of High Pressure Safety Injection System	5
SO23-3-3.60.4	Saltwater Cooling Pump and Valve Testing	11
SO23-3-3.2	Excore Nuclear Instrumentation Calibration	15
SO23-3-3.25	Once a Shift Surveillance Modes 1-4	31
SO23-3-3.30	Inservice Valve Testing Program	20
SO23-5-1.5	Plant Shutdown for Hot Standby to Cold Shut Down	31

SO23-2-13	Diesel Generator Operation	43
SO23-3-3.60.2	LPSI Surveillance Operating Instruction	9
SO23-3-3.60.7	Containment Spray Pump and Valve Testing	12

NUCLEAR NOTIFICATIONS

NUMBER

200791243	200794544	200823123	200827929	200581670
200829333	200835386	200835812		

DRAWINGS

NUMBER	TITLE	REVISION
SO23-507-2-1-623-X2	8 inch Type 9211 Valve Assembly	1

MISCELLANEOUS

NUMBER	TITLE	DATE
Fisher Anomaly Notice	FAN 88-2	October 11, 1988
S21204MP016 CPT	Inservice Pump Test Record	March 21, 2010

Section 4OA3: Event Follow-Up

PROCEDURES

NUMBER	TITLE	REVISION
SY-SO023-G-2	Systems Engineering guideline	3

DRAWINGS

NUMBER	TITLE	REVISION
S2-1204-ML-001	From Refueling Water Tank T-005 to Line 108 @ VA. 001	10
S2-1204-ML-002	From Control Valve 2HV-9301 to Line 109	9
S2-1204-ML-003	Containment Spray Pump P-013 Suction from Containment Emergency Sump	20
S2-1204-ML-004	Containment Spray Pump P-013 Suction from Containment Emergency Sump	20
S2-1204-ML-008	From Line 004 Containment Emergency Sump to High Pressure Safety injection Pump P-019	20
S2-1204-ML-032	From Line 003 Refuel water tank T-006 to Low Pressure Safety injection Pump P-015	24
S2-1204-ML-080	From Line 079 Valve 046 to Refueling Water Tank T-005	8
S2-1204-ML-151	From 2HV-9306 on Line 052 to Line 080 to Refuel Tank T-006	2
S2-1219-ML-068	From Refuel water tank T-005 to Refueling Water Tank T-006	1
S2-1219-ML-072	From Refuel water tank T-006 to Drain	0
S2-1219-ML-073	From Refuel water tank T-005 to Drain	0
S2-1219-ML-107	From Line 080 Safety Injection to Refuel water tank T-005	8
S2-1204-ML-033	From Line 031 Refuel Water Tank T006 Sys 1204 to LP Safety Injection Pump	20
S2-1204-ML-007	HPSI Pump P-017 Suction from Refueling Tank T-005	15

S2-1204-ML-009	HPSI Pump P-018 Suction from Refueling Tank T-005	16