UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
612 EAST LAMAR BLVD, SUITE 400
ARLINGTON, TEXAS 76011-4125

August 10, 2009

Mr. Edward D. Halpin,
Executive Vice President and Chief Nuclear Officer
STP Nuclear Operating Company
P.O. Box 289
Wadsworth, TX 77483

Subject: SOUTH TEXAS PROJECT ELECTRIC GENERATING STATION - NRC INTEGRATED INSPECTION REPORT 05000498/2009003 AND 05000499/2009003

Dear Mr. Halpin:

On July 4, 2009, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your South Texas Project Electric Generating Station, Units 1 and 2, facility. The enclosed integrated inspection report documents the inspection findings, which were discussed on July 9, 2009, with Mr. J. Sheppard, President and Chief Executive Officer, 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 four findings, three NRC-identified and one self-revealing, of very low safety significance (Green). All of these findings were determined to involve violations of NRC requirements. Additionally, two 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 these 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 South Texas Project Electric Generating Station, Units 1 and 2, 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 the South Texas Project Electric Generating Station, Units 1 and 2, facility. 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/

Wayne Walker, Chief
Project Branch A
Division of Reactor Projects

Dockets: 50-498
50-499
Licenses: NPF-76
NPF-80

Enclosure:
NRC Inspection Report 05000498/2009003 and 05000499/2009003
w/Attachment: Supplemental Information

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U.S. NUCLEAR REGULATORY COMMISSION

REGION IV

Docket:	05000498, 05000499
License:	NPF-76, NPF-80
Report:	05000498/2009003 and 05000499/2009003
Licensee:	STP Nuclear Operating Company
Facility:	South Texas Project Electric Generating Station, Units 1 and 2
Location:	FM521 - 8 miles west of Wadsworth Wadsworth, Texas 77483
Dates:	April 5 through July 4, 2009
Inspectors:	J. Dixon, Senior Resident Inspector C. Graves, Health Physicist, Plant Support Branch 2 J. Mateychick, Senior Reactor Inspector, Engineering Branch 2 N. Okonkwo, Reactor Inspector, Engineering Branch 2 G. Pick, Senior Reactor Inspector, Engineering Branch 2 C. Smith, Reactor Inspector, Engineering Branch 2 B. Tharakan, CHP, Resident Inspector J. Watkins, Reactor Inspector, Engineering Branch 2
Approved By:	Wayne Walker, Chief, Project Branch A Division of Reactor Projects

SUMMARY OF FINDINGS

IR 05000498/2009003, 05000499/2009003 04/05/2009 – 07/04/2009; South Texas Project Electric Generating Station, Units 1 and 2, Integrated Resident and Regional Report; Maintenance Effectiveness; Access Control to Radiological Areas; Other Activities

The report covered a 3-month period of inspection by resident inspectors and announced baseline inspections by regional based inspectors. Four Green noncited violations of very low safety 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: Mitigating Systems

- Green. The inspectors identified a noncited violation of 10 CFR 50.65(a)(2) for the licensee's failure to effectively monitor the performance of the Unit 2 4160Vac Class 1E system. On August 30, 2007, an undervoltage Agastat relay on the Unit 2 4160Vac Train A bus failed. The inspectors determined that this failure should have been recorded as a maintenance preventable functional failure, which would have caused the system to be placed into the Maintenance Rule A1 category. The reason for not recording this failure as a maintenance preventable functional failure was the improper use of the as-found condition codes. The licensee has captured this event under Condition Report 09-2891.

  This finding was more than minor because it affected the equipment performance attribute of the Mitigating Systems Cornerstone and affected the cornerstone objective of ensuring the reliability of systems that respond to initiating events to prevent undesirable consequences. Using the Significance Determination Process Phase 1 worksheet, this finding was determined to have very low safety significance because it did not result in the actual loss of safety function of one or more trains and did not screen as risk-significant due to seismic, flooding, or severe weather. This finding had a human performance crosscutting aspect associated with work practices because workers failed to ensure proper documentation of activities [H.4(a)] (Section 1R12).

- Green. The inspectors identified a noncited violation of License Condition 2.E, "Fire Protection," for the failure to ensure that a fire pump would automatically start upon low pressure in the fire main in the event of a fire in the electrical auxiliary building. The team determined that cables for all three fire pumps were routed together in the same cable trays. As a result, a single fire could result in the failure of all three fire pumps to start automatically or manually from the control room. A fire pump could be started locally to restore the water supply, but the delay would reduce the effectiveness of the fire suppression systems in limiting the growth of a fire and minimizing damage to safety-related equipment.

The licensee entered this issue into the corrective action program as Condition Report 08-9589.

Failure to ensure that a fire pump would automatically start upon low pressure in the fire main in the event of a fire is a performance deficiency. This finding is more than minor because it is associated with the Protection Against External Events attribute of the Mitigating Systems cornerstone and could affect the availability, reliability, and capability of systems that respond to initiating events (such as fire) to prevent undesirable consequences. Based on the senior reactor analyst Phase 3 analysis of the Significance Determination Process, and Inspection Manual Chapter 0609, this finding was determined to have very low safety significance (Section 4OA5.1).

- Green. The inspectors identified a noncited violation of License Condition 2.E, "Fire Protection," for failure to ensure that equipment required for post-fire safe shutdown system remains free of fire damage. Specifically, the licensee credited manual actions to mitigate the effects of fire damage in lieu of providing the physical protection required by 10 CFR Part 50, Appendix R, Section III.G for the two series-connected volume control tank outlet valves (motor-operated Valve 112B and motor-operated Valve 113A).

  Failure to ensure that the volume control tank outlet valves relied upon for achieving post-fire safe shutdown were protected from fire damage was a performance deficiency. This finding is of greater than minor safety significance because it impacted the Mitigating Systems cornerstone objective to ensure the availability, reliability, and capability of systems that respond to external events (such as fire) to prevent undesirable consequences. Specifically, 13 fire areas contain unprotected cables that had the potential to spuriously close at least one of the volume control tank outlet valves which could result in a loss of suction and damage to the only charging pump credited for post-fire safe shutdown. Based on the senior reactor analyst Phase 3 analysis of the Significance Determination Process, this finding was determined to have very low safety significance (Section 4OA5.2).

Cornerstone: Occupational Radiation Safety

- Green. A self-revealing noncited violation of 10 CFR 20.1501(a) was identified for failure to perform a radiological survey to determine the potential radiological hazards present when deposting a high contamination area. On October 25, 2008, decontamination technicians were sent into the reactor containment building to remove the decontamination tent from steam generator eddy current testing which was posted as a high contamination area. The technicians were not informed of the expectation to decontaminate the scaffolding and health physics personnel did not follow-up and perform surveys of the deposted area. Subsequently, carpenters were sent in to remove the scaffolding which was still highly contaminated. The licensee was made aware of the situation when one of the carpenters alarmed the personnel contamination monitor and a whole body count revealed approximately 3 millirem intake. The issue was entered into the licensee's corrective action program as Condition Report 08-16599.

The failure to perform surveys necessary to support deposting a contamination area is a performance deficiency. The finding was greater than minor because it was associated with the Occupational Radiation Safety cornerstone attribute (exposure control) of program and process and affected the cornerstone objective, in that, failure to conduct a radiation survey resulted in unplanned and unintended dose to personnel. Using the Occupational Radiation Safety Significance Determination Process, the finding was determined to be of very low safety significance because it was not an as low as is reasonably achievable finding, there was no overexposure or substantial potential for an overexposure, and the ability to assess dose was not compromised. The finding was self-revealing because the licensee was alerted to the situation when the worker could not pass the personnel contamination monitor. Additionally, this finding had human performance crosscutting aspects associated with work control, in that, the work planning did not appropriately plan work activities by incorporating risk insights and radiological safety [H.3(a)] (Section 2OS1).

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 (condition report numbers) are listed in Section 4OA7.

REPORT DETAILS

Summary of Plant Status

Unit 1 began the inspection period at 100 percent rated thermal power and essentially remained there for the remainder of the inspection period.

Unit 2 began the inspection period at 100 percent rated thermal power and essentially remained there for the remainder of the inspection period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity, and Emergency Preparedness

1R01 Adverse Weather Protection (71111.01)

.1 Summer Readiness for Offsite and Alternate-ac Power

a. Inspection Scope

The inspectors performed a review of the licensee's preparations for summer weather involving conditions that could lead to loss-of-offsite power and conditions that could result from high temperatures. The inspectors reviewed the licensee's procedures affecting these areas and the communications protocols between the transmission system operator and the plant to verify that the appropriate information was being exchanged when issues arose that could affect the offsite power system. Examples of aspects considered in the inspectors' review included:

- The coordination between the transmission system operator and the plant during off-normal or emergency events
- The explanations for the events
- The estimates of when the offsite power system would be returned to a normal state
- The notifications from the transmission system operator to the plant when the offsite power system was returned to normal

During the inspection, the inspectors focused on plant-specific design features and the licensee's procedures used to mitigate or respond to adverse weather conditions. 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 corrective action program items to verify that the licensee was identifying adverse weather issues at an appropriate threshold and entering them into their corrective action program in accordance with station corrective action procedures. Specific documents reviewed during this inspection are listed in the attachment. The inspectors' reviews focused specifically on the following plant systems:

- June 11, 2009, Units 1 and 2, 345kV Switchyard (north and south bus)

These activities constitute completion of one readiness for summer weather affect on offsite and alternate-ac power sample as defined in Inspection Procedure 71111.01-05.

b. Findings

No findings of significance were identified.

.2 Readiness for Seasonal Extreme Weather Conditions

a. Inspection Scope

The inspectors performed a review of the licensee's adverse weather procedures for seasonal extremes (e.g., extreme high temperatures, extreme low temperatures, or hurricane season preparations). The inspectors: verified that weather-related equipment deficiencies identified during the previous year were corrected prior to the onset of seasonal extremes; and evaluated the implementation of the adverse weather preparation procedures and compensatory measures for the affected conditions before the onset of, and during, the adverse weather conditions

During the inspection, the inspectors focused on plant-specific design features and the licensee's procedures used to mitigate or respond to adverse weather conditions. 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 corrective action program items to verify that the licensee was identifying adverse weather issues at an appropriate threshold and entering them into their corrective action program in accordance with station corrective action procedures. Specific documents reviewed during this inspection are listed in the attachment. The inspectors' reviews focused specifically on the following plant systems:

- June 8-9, 2009, Units 1 and 2, auxiliary feedwater isolation valve cubicles and 125Vdc emergency battery Trains A, B, and C

These activities constitute completion of one readiness for seasonal adverse weather sample as defined in Inspection Procedure 71111.01-05.

b. Findings

No findings of significance were identified.

1R04 Equipment Alignments (71111.04)

.1 Partial Walkdown

a. Inspection Scope

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

- April 8, 2009, Unit 1, Standby Diesel Generator 12 fuel oil, lube oil, starting air, and jacket water systems

- June 9, 2009, Unit 2, auxiliary feedwater system Train A
- June 25, 2009, Unit 2, essential chilled water system 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, condition reports, 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. Additionally, the inspectors performed the following Operating Experience Smart Samples: FY2008-01, "Negative Trend and Recurring Events Involving Emergency Diesel Generators;" and FY2009-02, "Negative Trend and Recurring Events Involving Feedwater Systems." Specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of three partial system walkdown samples as defined in Inspection Procedure 71111.04-05.

b. Findings

No findings of significance were identified.

.2 Complete Walkdown

a. Inspection Scope

During the week of May 4, 2009, the inspectors performed a complete system alignment inspection of the Unit 1 essential chilled water system Train C 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 in Inspection Procedure 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:

- May 22, 2009, Unit 1, auxiliary feedwater pump Train D isolation valve cubicle, Fire Zone Z400
- May 26, 2009, Unit 1, mechanical auxiliary building chemical and volume control system centrifugal charging Pump 1A, Fire Zone Z123
- May 26, 2009, Unit 1, mechanical auxiliary building chemical and volume control system centrifugal charging Pump 1B and valve room, Fire Zone Z124
- June 25, 2009, Unit 2, component cooling water pump and essential chiller Train A, Fire Zone Z128

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 in Inspection Procedure 71111.05-05.

b. Findings

No findings of significance were identified.

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 susceptibilities involving internal flooding; reviewed the 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; and verified that operator actions for coping with flooding can reasonably achieve the desired outcomes. The inspectors also walked down the areas 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. Additionally, the inspectors performed Operating Experience Smart Sample FY 2007-02, "Flooding Vulnerabilities due to Inadequate Design and Conduit / Hydrostatic Seal Barrier Concerns." Specific documents reviewed during this inspection are listed in the attachment.

- June 28, 2009, Unit 2, safety injection pump room for Trains A, B, and C

These activities constitute completion of one flood protection measure inspection sample as defined in Inspection Procedure 71111.06-05.

b. Findings

No findings of significance were identified.

1R07 Heat Sink Performance (71111.07)

.1 Annual Review

a. Inspection Scope

The inspectors reviewed licensee programs, verified performance against industry standards, and reviewed critical operating parameters and maintenance records for the Unit 1 essential chilled water chiller Unit 12A. The inspectors verified that performance tests were satisfactorily conducted for heat exchangers/heat sinks and reviewed for problems or errors; the licensee utilized the periodic maintenance method outlined in EPRI Report NP 7552, "Heat Exchanger Performance Monitoring Guidelines;" the licensee properly utilized biofouling controls; the licensee's heat exchanger inspections adequately assessed the state of cleanliness of their tubes; and the heat exchanger was correctly categorized under 10 CFR 50.65, "Requirements for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants." Specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of one annual heat sink inspection sample as defined in Inspection Procedure 71111.07-05.

b. Findings

No findings of significance were identified.

.2 Triennial Review

a. Inspection Scope

In order to evaluate the operational condition of the ultimate heat sink and compliance with regulatory requirements, the inspectors reviewed design specifications, calculations, program documents, test and maintenance procedures, and condition reports. The inspectors interviewed chemistry personnel, engineers, and program managers. When available, the inspectors reviewed additional nondestructive examination results for the selected heat exchangers that demonstrated structural integrity.

For heat exchangers directly connected to the safety-related service water system, the inspectors evaluated whether testing, inspection, and maintenance, or the biotic fouling monitoring program provided sufficient controls to ensure proper heat transfer. Specifically, the inspectors reviewed: (1) heat exchanger test methods and test results from performance testing; (2) as necessary, heat exchanger inspection and cleaning methods and results; and (3) chemical treatments for microfouling and controls for macrofouling.

For heat exchangers indirectly connected to the safety-related service water system, the inspectors verified the licensee: (1) performed condition monitoring and operation consistent with design assumptions in the heat transfer calculations; (2) evaluated the potential for water hammer and established operation to limit flow induced vibration, as applicable; and (3) instituted appropriate chemistry controls for heat exchangers indirectly connected to the safety-related service water system.

For the ultimate heat sink and its subcomponents, the inspectors verified the licensee established appropriate controls for macrofouling and biotic fouling. Since the licensee had an above ground ultimate heat sink encapsulated by an embankment, the inspectors: (1) verified the licensee checked for settling and sediment buildup every 5 years, (2) reviewed actions taken to monitor and control fish inside the cooling pond to prevent clogging of the essential cooling water strainers, and (3) verified sufficient reservoir capacity existed.

The inspectors reviewed the following additional aspects related to the service water system and the ultimate heat sink: (1) operation of the ultimate heat sink, (2) performance testing components, and (3) actions taken to maintain buried piping at the facility.

The inspectors selected heat exchangers that ranked high in the plant-specific risk assessment and were directly or indirectly connected to the safety-related service water system. The inspectors selected the following specific heat exchangers:

- Component cooling water heat Exchanger 1A
- Essential chiller Unit 12A

These activities constitute completion of two triennial heat sink inspection samples as defined in Inspection Procedure 71111.07-05.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification Program (71111.11)

a. Inspection Scope

On April 21, 2009, the inspectors observed a crew of licensed operators in the plant's simulator 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 Inspection Procedure 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:

- May 14, 2009, Units 1 and 2, electrical auxiliary building ventilation
- June 25, 2009, Units 1 and 2, essential chillers
- July 2, 2009, Units 1 and 2, 4160Vac Class 1E

The inspectors reviewed events such as where ineffective equipment maintenance has 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 three quarterly maintenance effectiveness samples as defined in Inspection Procedure 71111.12-05.

b. Findings

Introduction. The inspectors identified a Green noncited violation of 10 CFR 50.65(a)(2), for the licensee's failure to demonstrate that performance of the Units 1 and 2 4160Vac Class 1E system was being effectively controlled through the performance of appropriate preventive maintenance.

Description. During a maintenance rule review of the Units 1 and 2 4160Vac Class 1E system, the inspectors asked the licensee to provide follow-up information about a failure of the Unit 2 Train A Channel 4 bus undervoltage relay that had occurred on August 30, 2007, and had not been counted as a maintenance rule failure. On February 23, 2009, the licensee determined that the failure should have been recorded as both a maintenance rule failure and a probabilistic safety assessment failure, and that the failure should have caused the system to be placed into the Maintenance Rule A1 category for exceeding the 10 CFR 50.65(a)(1) maintenance rule criteria for number of failures in an 18-month period. The licensee determined that one apparent cause of not recording the failure as a maintenance rule failure was the improper use of as-found

condition codes, and that another cause was that the computer program used to search for which activities should be screened for maintenance rule failures was not accurate. The licensee captured this event under Condition Report 09-2891.

The licensee performed an 18-month backward-looking review to determine if other systems that should have been placed into the Maintenance Rule A1 condition were missed as a result of the inaccurate computer code or improper use of the as-found condition codes. That review determined that no additional failures were identified that had not already been previously reviewed.

Analysis. The failure to perform adequate performance or condition monitoring on the Units 1 and 2 4160Vac Class 1E system was a performance deficiency. This finding was more than minor because it was associated with the equipment performance attribute of the Mitigating Systems Cornerstone and affected the cornerstone objective of ensuring the reliability of systems that respond to initiating events to prevent undesirable consequences. Using the Significance Determination Process Phase 1 worksheets from Inspection Manual Chapter 0609, the inspectors determined that this finding had very low safety significance (Green) because it did not result in the actual loss of safety function of one or more trains and did not screen as risk-significant due to seismic, flooding, or severe weather. This finding had a human performance crosscutting aspect associated with work practices because workers failed to ensure proper documentation of activities [H.4(a)].

Enforcement. Title 10 CFR 50.65(a)(1) requires, in part, that the licensee shall monitor the performance or condition of structures, systems, or components within the scope of the monitoring program as defined in 10 CFR 50.65 (b) against licensee-established goals, in a manner sufficient to provide reasonable assurance that such structures, systems, or components are capable of fulfilling their intended functions.

Title 10 CFR 50.65(a)(2) states, in part, that monitoring as specified in 10 CFR 50.65(a)(1) is not required where it has been demonstrated that the performance or condition of a structure, system, or component is being effectively controlled through performance of appropriate preventive maintenance, such that the structure, system, or component remains capable of performing its intended function.

Contrary to the above, the licensee failed to demonstrate that performance of the Units 1 and 2 4160Vac Class 1E system was being effectively controlled through the performance of appropriate preventive maintenance, in that after a repetitive maintenance preventable failure of the Unit 2 Train A Channel 4 bus undervoltage relay occurred on August 30, 2007, the licensee failed to consider placing the system under 10 CFR 50.65 (a)(1) for establishing goals and monitoring against the goals. Because this violation was of very low safety significance, was not repetitive or willful, and was entered into the licensee's corrective action program, this violation is being treated as a noncited violation consistent with the NRC Enforcement Policy:
NCV 05000498/2009003-01, 05000499/2009003-01, "Failure to Identify Maintenance Rule A1 Condition."

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:

- April 13-17, 2009, Units 1 and 2, planned and emergent work on Unit 1 Train B and steam generator power operated relief Valve 1A and Unit 2 Train A and 125Vdc Battery E2A11 replacement at power using the risk informed managed technical specification configuration risk management program to exceed the allowed outage time front stop

- April 20-24, 2009, Units 1 and 2, planned maintenance on Unit 1 Train C and large work week maintenance on Unit 2 Train B including essential cooling water Pump 2B replacement with a new lube water cooling design and emergent work on Unit 2 reactor coolant pump voltage relays due to a failed potential transformer

- May 4-8, 2009, Units 1 and 2, planned maintenance on Unit 1 Train A and Unit 2 Train D including essential Chiller 12A timing relay modification and Steam Generator 2D power operated relief valve hydraulic actuator pressure switch calibration

- June 8-13, 2009, Units 1 and 2, planned maintenance on Unit 1 Train B including work on steam generator blowdown, which resulted in reactor power exceeding rated thermal power, and large work week maintenance on Unit 2 Train A including essential cooling water Pump 2A rebuild and lube oil leak repair on Standby Diesel Generator 21

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 four maintenance risk assessments and emergent work control inspection samples as defined in Inspection Procedure 71111.13-05.

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations (71111.15)

a. Inspection Scope

The inspectors reviewed the following issues:

- April 17, 2009, Unit 1, Train A E1A11 125Vdc battery breaker failing to remain closed during maintenance activity to replace the battery bank
- April 23, 2009, Unit 2, essential cooling water Pump 2B upper and lower seismic support nut degradation and upper seismic support plate design change
- June 11, 2009, Unit 1, reactor coolant system wide range pressure Transmitter PT0407 in service longer than initial qualified life
- June 30, 2009, Unit 1, Train C main steam nitrogen-16 monitor processor indicates a gain fault resulting in degraded sensitivity

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 condition reports 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 four operability evaluations inspection samples as defined in Inspection Procedure 71111.15-05.

b. Findings

No findings of significance were identified.

1R18 Plant Modifications (71111.18)

a. Inspection Scope

The inspectors reviewed the following permanent modifications to verify that the safety functions of important safety systems were not degraded:

- June 4, 2009, Unit 1, essential Chiller 12A purge unit time delay relay installation

The inspectors reviewed key affected parameters associated with energy needs, materials/replacement components, timing, heat removal, control signals, equipment

protection from hazards, operations, flow paths, pressure boundary, ventilation boundary, structural, process medium properties, licensing basis, and failure modes for the listed modification. The inspectors verified that modification preparation, staging, and implementation did not impair emergency/abnormal operating procedure actions, key safety functions, or operator response to loss of key safety functions; postmodification testing will maintain the plant in a safe configuration during testing by verifying that unintended system interactions will not occur, systems, structures and components' performance characteristics still meet the design basis, the appropriateness of modification design assumptions, and the modification test acceptance criteria will be met; and licensee personnel identified and implemented appropriate corrective actions associated with permanent plant modifications. Specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of one sample for permanent plant modifications as defined in Inspection Procedure 71111.18-05.

b. Findings

No findings of significance were identified.

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:

- April 2, 2009, Unit 1, centrifugal charging Pump 1A recirculation check Valve CV-0234A spring replacement and low recirculation flow measurement
- April 25, 2009, Unit 2, Standby Diesel Generator 22 following jacket water repair activities and engine-driven fuel oil pump replacement
- May 7, 2009, Unit 1, essential Chiller 12A pressure and temperature switch calibrations and hot gas bypass valve replacement
- June 12, 2009, Unit 2, essential cooling water Pump 2A pump rebuild and motor replacement
- June 13, 2009, Unit 2, Standby Diesel Generator 21 following cylinder Head 5-left removal and inspection for slight oil leakage

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:

- 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 condition reports 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. Additionally, the inspectors performed Operating Experience Smart Sample FY2008-01, "Negative Trend and Recurring Events Involving Emergency Diesel Generators." Specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of five postmaintenance testing inspection samples as defined in Inspection Procedure 71111.19-05.

b. Findings

No findings of significance were identified.

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 three surveillance activities listed below demonstrated that the systems, structures, and/or components tested were capable of performing their intended safety functions. The inspectors either witnessed or reviewed test data to verify that the significant surveillance test attributes were adequate to address the following:

- Preconditioning
- Evaluation of testing impact on the plant
- Acceptance criteria
- Test equipment
- Procedures
- Jumper/lifted lead controls
- Test data
- 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

The inspectors also verified that licensee personnel identified and implemented any needed corrective actions associated with the surveillance testing.

- April 24, 2009, Unit 2, essential cooling water Pump 2B inservice test following pump replacement
- May 12, 2009, Unit 2, auxiliary feedwater storage tank level channel calibration
- July 2, 2009, Units 1 and 2, reactor containment fan cooler surveillance testing

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

These activities constitute completion of three surveillance testing inspection samples as defined in Inspection Procedure 71111.22-05.

b. Findings

No findings of significance were identified.

Cornerstone: Emergency Preparedness

1EP6 Drill Evaluation (71114.06)

Training Observations

a. Inspection Scope

The inspectors observed a simulator training evolution for licensed operators on June 17, 2009, which required emergency plan implementation by a licensee operations crew. This evolution was planned to be evaluated and included in performance indicator data regarding drill and exercise performance. The inspectors observed event classification and notification activities performed by the crew. The inspectors also attended the post-evolution critique for the scenario. The focus of the inspectors' activities was to note any weaknesses and deficiencies in the crew's performance and ensure that the licensee evaluators noted the same issues and entered them into the corrective action program. As part of the inspection, the inspectors reviewed the scenario package and other documents listed in the attachment.

These activities constitute completion of one sample as defined in Inspection Procedure 71114.06-05.

b. Findings

No findings of significance were identified.

2. RADIATION SAFETY

Cornerstone: Occupational and Public Radiation Safety

2OS1 Access Control to Radiologically Significant Areas (71121.01)

a. Inspection Scope

This area was inspected to assess licensee performance in implementing physical and administrative controls for airborne radioactivity areas, radiation areas, high radiation areas, and worker adherence to these controls. The inspectors used the requirements in 10 CFR Part 20, the technical specifications, and the licensee's procedures required by technical specifications as criteria for determining compliance. During the inspection, the inspectors interviewed the radiation protection manager, radiation protection supervisors, and radiation workers. The inspectors performed independent radiation dose rate measurements and reviewed the following items:

- Performance indicator events and associated documentation packages reported by the licensee in the Occupational Radiation Safety Cornerstone
- Controls (surveys, posting, and barricades) of radiation, high radiation, or airborne radioactivity areas
- Radiation work permits, procedures, engineering controls, and air sampler locations
- Conformity of electronic personal dosimeter alarm set points with survey indications and plant policy; workers' knowledge of required actions when their electronic personnel dosimeter noticeably malfunctions or alarms
- Physical and programmatic controls for highly activated or contaminated materials (non-fuel) stored within spent fuel and other storage pools
- Self-assessments, audits, licensee event reports, and special reports related to the access control program since the last inspection
- Condition reports related to access controls
- Licensee actions in cases of repetitive deficiencies or significant individual deficiencies
- Radiation work permit briefings and worker instructions
- Adequacy of radiological controls, such as required surveys, radiation protection job coverage, and contamination control during job performance
- Dosimetry placement in high radiation work areas with significant dose rate gradients
- Changes in licensee procedural controls of high dose rate - high radiation areas and very high radiation areas

- Controls for special areas that have the potential to become very high radiation areas during certain plant operations

- Posting and locking of entrances to all accessible high dose rate - high radiation areas and very high radiation areas

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

These activities constitute completion of 17 of the required 21 samples as defined in Inspection Procedure 71121.01-05.

b. Findings

Introduction. The inspector reviewed a Green, self-revealing noncited violation of 10 CFR 20.1501(a) for failure to perform a radiological survey to determine the potential radiological hazards present when deposting a high contamination area.

Description. On October 25, 2008, decontamination technicians were sent into the Unit 2 reactor containment building to remove the decontamination tent from steam generator eddy current testing which was posted as a high contamination area. The decontamination technicians were not informed of the expectations to decontaminate the scaffolding as they removed the tent. The decontamination technicians removed the tent as well as the posting. Health physics personnel did not follow-up and perform surveys of the deposted area. Shift turnover occurred and the oncoming health physics technician saw that the area had been deposted and assumed decontamination and surveys had been performed. Subsequently, carpenters were sent in to remove the scaffolding which was still highly contaminated. Upon exiting the radiological controlled area, one of the carpenters exceeded the alarm setpoint on the personnel contamination monitor and when whole body counted, the licensee determined that he received an approximately 3 mrem uptake. Follow-up surveys indicated contamination levels up to 200,000 dpm/100 cm^2 on the scaffolding.

Analysis. The failure to perform surveys necessary to support deposting a contamination area is a performance deficiency. The finding was greater than minor because it was associated with the Occupational Radiation Safety cornerstone attribute (exposure control) of program and process and affected the cornerstone objective, in that, failure to conduct a radiation survey resulted in unplanned and unintended dose to personnel. Using the Occupational Radiation Safety Significance Determination Process, the finding was determined to be of very low safety significance (Green) because it was not an ALARA finding, there was no overexposure or substantial potential for an overexposure, and the ability to assess dose was not compromised.

The finding was self-revealing because the licensee was alerted to the situation when the worker could not pass the personnel contamination monitor. Additionally, this finding had human performance crosscutting aspects associated with work control in that the work planning did not appropriately plan work activities by incorporating risk insights and radiological safety [H.3(a)].

Enforcement. Title 10 CFR 20.1501(a) requires that each licensee make or cause to be made surveys that may be necessary for the licensee to comply with the regulations in 10 CFR Part 20 and that are reasonable under the circumstances to evaluate the magnitude and extent of radiation levels, concentrations, or quantities of radioactive

materials, and the potential radiological hazards that could be present. Pursuant to 10 CFR 20.1003, a "survey" means an evaluation of the radiological conditions and potential hazards incident to the production, use, transfer, release, disposal, or presence of radioactive material or other sources of radiation. Title 10 CFR 20.1201(a) states, in part, that the licensee shall control the occupational dose to individual adults to specified limits. Contrary to the above, on October 25, 2008, the licensee failed to make necessary surveys to evaluate potential radiological hazards to control an individual's occupational dose. Specifically, an individual received unintended and unexpected radiation exposure because the magnitude and extent of radiation levels and potential radiological hazards were not evaluated during the deposting of a high contamination area. Because this failure to perform radiological surveys is of very low safety significance and has been entered into the licensee's corrective action program as Condition Report 08-16599, this violation is being treated as a noncited violation consistent with Section VI.A of the NRC Enforcement Policy:
NCV 05000498/2009003-02, 05000499/2009003-02, "Failure to Perform Radiation Surveys."

2OS2 ALARA Planning and Controls (71121.02)

a. Inspection Scope

The inspectors assessed licensee personnel's performance with respect to maintaining individual and collective radiation exposures ALARA. The inspectors used the requirements in 10 CFR Part 20 and the licensee's procedures required by technical specifications as criteria for determining compliance. The inspectors interviewed licensee personnel and reviewed the following:

- Current 3-year rolling average collective exposure
- Five outage work activities scheduled during the inspection period and associated work activity exposure estimates which were likely to result in the highest personnel collective exposures
- Site-specific trends in collective exposures, plant historical data, and source-term measurements
- Site-specific ALARA procedures
- Three work activities of highest exposure significance completed during the last outage
- ALARA work activity evaluations, exposure estimates, and exposure mitigation requirements
- Intended versus actual work activity doses and the reasons for any inconsistencies
- Interfaces between operations, radiation protection, maintenance, maintenance planning, scheduling and engineering groups

- Integration of ALARA requirements into work procedure and radiation work permit (or radiation exposure permit) documents
- Person-hour estimates provided by maintenance planning and other groups to the radiation protection group with the actual work activity time requirements
- Shielding requests and dose/benefit analyses
- Dose rate reduction activities in work planning
- Postjob (work activity) reviews
- Assumptions and basis for the current annual collective exposure estimate, the methodology for estimating work activity exposures, the intended dose outcome, and the accuracy of dose rate and man-hour estimates
- Method for adjusting exposure estimates, or re-planning work, when unexpected changes in scope or emergent work were encountered
- Exposures of individuals from selected work groups
- Records detailing the historical trends and current status of tracked plant source terms and contingency plans for expected changes in the source term due to changes in plant fuel performance issues or changes in plant chemistry
- Source-term control strategy or justifications for not pursuing such exposure reduction initiatives
- Self-assessments, audits, and special reports related to the ALARA program since the last inspection
- Resolution through the corrective action process of problems identified through postjob reviews and postoutage ALARA report critiques
- Condition Reports related to the ALARA program and follow-up activities, such as initial problem identification, characterization, and tracking
- Effectiveness of self-assessment activities with respect to identifying and addressing repetitive deficiencies or significant individual deficiencies

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

These activities constitute completion of 12 of the required 15 samples and 10 of the optional samples as defined in Inspection Procedure 71121.02-05.

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 first 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

a. Inspection Scope

The inspectors sampled licensee submittals for the Unplanned Scrams per 7000 Critical Hours performance indicator for Units 1 and 2 for the period from the second Quarter 2008 through the first 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 5, was used. The inspectors reviewed the licensee's operator narrative logs, issue reports, event reports and NRC Inspection reports for the period of April 2008 through March 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.

These activities constitute completion of one unplanned scram per 7000 critical hours sample per unit as defined in Inspection Procedure 71151-05.

b. Findings

No findings of significance were identified.

.3 Unplanned Scrams with Complications

a. Inspection Scope

The inspectors sampled licensee submittals for the Unplanned Scrams with Complications performance indicator for Units 1 and 2 for the period from the second Quarter 2008 through the first 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 5, was used. The inspectors reviewed the

licensee's operator narrative logs, issue reports, event reports and NRC integrated inspection reports for the period of April 2008 through March 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.

These activities constitute completion of one unplanned scram with complications sample per unit as defined in Inspection Procedure 71151-05.

b. Findings

No findings of significance were identified.

.4 Unplanned Transients per 7000 Critical Hours

a. Inspection Scope

The inspectors sampled licensee submittals for the Unplanned Transients per 7000 Critical Hours performance indicator for Units 1 and 2 for the period from the second Quarter 2008 through the first 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 5, was used. The inspectors reviewed the licensee's operator narrative logs, issue reports, maintenance rule records, event reports and NRC integrated inspection reports for the period of April 2008 through March 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.

These activities constitute completion of one unplanned transient per 7000 critical hours sample per unit as defined in Inspection Procedure 71151-05.

b. Findings

No findings of significance were identified.

.5 Occupational Exposure Control Effectiveness (OR01)

a. Inspection Scope

The inspectors sampled licensee submittals for the Occupational Radiological Occurrences performance indicator for the fourth quarter of 2008. 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 5, was used. The inspectors reviewed the licensee's assessment of the performance indicator for occupational radiation safety to determine if indicator related data was adequately assessed and reported. To assess the adequacy of the licensee's performance indicator data collection and analyses, the inspectors discussed with radiation protection staff, the scope and breadth of its data review, and the results of those reviews. The inspectors independently reviewed electronic dosimetry dose rate and accumulated dose alarm and

dose reports and the dose assignments for any intakes that occurred during the time period reviewed to determine if there were potentially unrecognized occurrences. The inspectors also conducted walkdowns of numerous locked high and very high radiation area entrances to determine the adequacy of the controls in place for these areas.

These activities constitute completion of the occupational radiological occurrences sample as defined in Inspection Procedure 71151-05.

b. Findings

No findings of significance were identified.

.6 Radiological Effluent Technical Specifications/Offsite Dose Calculation Manual Radiological Effluent Occurrences (PR01)

a. Inspection Scope

The inspectors sampled licensee submittals for the Radiological Effluent Technical Specifications/Offsite Dose Calculation Manual Radiological Effluent Occurrences performance indicator for the fourth quarter of 2008. 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 5, was used. The inspectors reviewed the licensee's issue report database and selected individual reports generated since this indicator was last reviewed to identify any potential occurrences such as unmonitored, uncontrolled, or improperly calculated effluent releases that may have impacted offsite dose. The inspectors reviewed gaseous effluent summary data and the results of associated offsite dose calculations for selected dates during the fourth quarter of 2008 to determine if indicator results were accurately reported. The inspectors also reviewed the licensee's methods for quantifying gaseous and liquid effluents and determining effluent dose. Additionally, the inspectors reviewed the licensee's historical 10 CFR 50.75(g) file and selectively reviewed the licensee's analysis for discharge pathways resulting from a spill, leak, or unexpected liquid discharge focusing on those incidents which occurred over the last few years.

These activities constitute completion of the radiological effluent technical specifications/offsite dose calculation manual radiological effluent occurrences sample 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 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 condition reports.

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.

.2 Semi-Annual Trend Review

a. Inspection Scope

The inspectors performed a review of the licensee's corrective action program and associated documents to identify trends that could indicate the existence of a more significant safety issue. The inspectors focused their review on repetitive equipment issues, but also considered the results of daily corrective action item screening discussed in Section 4OA2.1, above, licensee trending efforts, and licensee human performance results. The inspectors nominally considered the 6-month period of January through June 2009, although some examples expanded beyond those dates where the scope of the trend warranted.

The inspectors also included issues documented outside the normal corrective action program in major equipment problem lists, repetitive and/or rework maintenance lists, departmental problem/challenges lists, system health reports, quality assurance audit/surveillance reports, self-assessment reports, and maintenance rule assessments. The inspectors compared and contrasted their results with the results contained in the licensee's corrective action program trending reports. Corrective actions associated with a sample of the issues identified in the licensee's trending reports were reviewed for adequacy.

These activities constitute completion of one single semi-annual trend inspection sample as defined in Inspection Procedure 71152-05.

b. Findings

The inspectors identified a potential adverse trend in the area of procedural adherence. This varied across multiple organizations and during a period of time where the licensee had posted various signs, posters, and banners reminding people to follow the procedure. Examples include: failing to write a condition report when required, not following the as written work package instructions for replacement part material, not following the work package instructions during work activities, moving a fire watch without the knowledge of the duty fire protection coordinator, and extending condition report action item due dates without the appropriate authority. The licensee has captured each of these events under separate condition reports but did not open a

comprehensive condition report to look at the issue from a more encompassing standpoint until prompted by the inspectors. This is documented in Condition Report 09-5279.

.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 various concerns about the reactor containment building, including: (1) entry and egress routes, (2) automatic versus manual operation of the airlock doors, (3) inflatable airlock door seals, and (4) adequate lighting. From May through June 2009, the inspectors reviewed the history of both the Units 1 and 2 personnel air lock and auxiliary air lock from both a containment isolation and a personnel safety perspective. The licensee has also performed their own review and has documented their conclusions in Condition Report 09-7178. Specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of one in-depth problem identification and resolution sample as defined in Inspection Procedure 71152-05.

b. Findings

No findings of significance were identified.

.4 Routine Review of Identification and Resolution of Problems for Triennial Heat Sink Performance

a. Inspection Scope

The inspectors selected the following items to evaluate whether the licensee had taken appropriate corrective actions to address the deficiencies and prevent recurrence, if applicable:

- Essential cooling pond fish study corrective actions
- Emergency cooling pond makeup pump modification
- Aluminum bronze piping dealloying

The inspectors performed key word searches of condition reports initiated for the chilled water, essential cooling water, and component cooling water systems. For selected condition reports, the inspectors verified the licensee: identified deficiencies, implemented appropriate and timely corrective actions, and identified and addressed adverse trends. 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 actions. 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 1R07.2 of this report.

b. Findings

No findings of significance were identified.

4OA5 Other Activities

.1 Quarterly Resident Inspector Observations of Security Personnel and Activities

a. Inspection Scope

During the inspection period, the inspectors performed observations of security force personnel and activities to ensure that the activities were consistent with South Texas Project Electric Generating Station security procedures and regulatory requirements relating to nuclear plant security. These observations took place during both normal and off-normal plant working hours.

These quarterly resident inspector observations of security force personnel and activities did not constitute any additional inspection samples. Rather, they were considered an integral part of the inspectors' normal plant status review and inspection activities.

b. Findings

No findings of significance were identified.

.2 (Closed) Unresolved Item 05000498/2008008-01: Potential Fire Damage to the Fire Suppression Water Supply System

Introduction. The team identified a Green noncited violation of License Condition 2.E, "Fire Protection," for the failure to ensure that a fire pump would automatically start upon low pressure in the fire main in the event of a fire in the electrical auxiliary building. The team determined that cables for all three fire pumps were routed together in the same cable trays. As a result, a single fire could result in the failure of all three fire pumps to start automatically or manually from the control room. A fire pump could be started locally to restore the water supply, but the delay would reduce the effectiveness of the fire suppression systems in limiting the growth of a fire and minimizing damage to safety-related equipment.

Description. The fire suppression water supply system has three diesel engine-driven fire water pumps (PA0121, 0221, and 0421), located in the fire pump house. Only one pump is required to supply water for fixed water suppression systems and fire hoses. All three pumps discharge into a common discharge header that supplies water to an underground fire main loop. The fire water pumps are activated by three methods:

1. Automatic start due to low pressure signal from sensor in pump discharge header
2. Manual remote start in Unit 1 main control room
3. Manual local start within the fire pump house

The team determined that the electrical cables for control room manual pump starting could be damaged by a fire between the control room and the fire pump house and such damage could prevent both automatic pump starting and manual start from the control room. A short to ground on a single cable would prevent the starting of its respective pump. The team also determined that the cables for all three fire pumps are routed in the same cable trays. Therefore, all three cables might be exposed to potential damage by a single fire. Cables N0FP1C1SC, N0FP01C2SB, and N0FP01C3SB are routed together in the same cable trays through nine fire areas (Fire Areas 01, 03, 04, 31, 34, 61, 65, 67, and 70) in the Unit 1 electrical auxiliary building. The team determined that if these electrical cables were damaged, fire suppression would be delayed because no water would be available for the fire suppression system until at least one of the diesel engine-driven fire pumps was manually started in the pump house. The overall fire protection program provides a defense-in-depth approach to fire protection that considers prevention, detection, containment, and suppression of fires along with maintaining the plant's ability to perform and maintain post-fire safe shutdown. Most fire areas rely on water for fire suppression via automatic fixed suppression systems, manually actuated fixed suppression systems, or manual hose streams.

Analysis. Failure to ensure that a fire pump would automatically start upon low pressure in the fire main in the event of a fire is a performance deficiency. This finding is of greater than minor safety significance because it impacted the Mitigating Systems cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events (such as fire) to prevent undesirable consequences. Specifically, the team determined that cables for all three fire pumps were routed together in the same cable trays. As a result, a single fire could result in the failure of all three fire pumps to start automatically or manually from the control room. A fire pump could be started locally to restore the water supply, but the delay would reduce the effectiveness of the fire suppression systems in limiting the growth of a fire and minimizing damage to safety-related equipment.

The senior reactor analyst determined the significance of this finding based on Phase 3 of the Significance Determination Process in Manual Chapter 0609, Appendix F. An evaluation of the ignition sources and their potential flame dimensions (ball and column) indicated that Fire Area 67 contained credible fire scenarios that could endanger the cabling to the fire pumps. The other Fire Areas (01, 03, 04, 31, 34, 61, 65, and 70) were screened out because no credible fire scenarios exist which could impact the circuits of concern.

For this analysis, it assumed that a fire in Fire Area 67 (Unit 1 technical support center) would damage the electrical control cables for all three fire pumps and require manually starting a fire pump at the fire pump house. Therefore, although smoke detectors would alert plant operators to the presence of a fire, the loss of the water supply to the automatic fire suppression system (wet pipe sprinklers) and the manual fire hose stations would result in the delay of fire suppression activities.

The delay in fire suppression would not result in a plant transient, require evacuation of the control room, or result in damage to any systems and components required for post-fire safe shutdown. Therefore, the senior reactor analyst concluded that the finding is of very low safety significance (Green). The licensee entered this deficiency into the corrective action program as Condition Report 08-9589.

Enforcement. License Condition 2.E requires the licensee to implement and maintain in effect all provisions of the approved fire protection program as described in the Updated Final Safety Analysis Report and the Fire Hazards Analysis Report. The Updated Final Safety Analysis Report, Section 9.5.1.2.19.2, requires that the Fire Protection Water Supply diesel engine-driven pumps start automatically upon low system pressure. Activation of a fixed suppression system or a manual hose stream would result in such a reduction in system pressure.

Contrary to the above, since construction, the licensee did not implement and maintain in effect provisions of the approved fire protection program as described in the Updated Final Safety Analysis Report. Specifically, the electrical control cables associated with the diesel engine-driven pumps are routed in the same cable trays, making them vulnerable to damage from a single fire disabling the automatic and remote start capability of the pumps. Because this finding is of very low safety significance and has been entered into the licensee's corrective action program, this violation is being treated as a noncited violation consistent with Section VI.A of the NRC Enforcement Policy: NCV 05000498/2009003-03, "Failure to Ensure a Reliable Fire Suppression Water Supply System."

.3 (Closed) Unresolved Item 05000498/2008008-02, 05000499/2008008-02: Potential Loss of Centrifugal Charging Pump Suction Due to Fire Damage

Introduction. The team identified a Green noncited violation of License Condition 2.E, "Fire Protection," for failure to ensure that equipment required for post-fire safe shutdown system remains free of fire damage. If the charging pump credited for safe shutdown was running at the time of the fire, a spurious closure of either one of the two series-connected volume control tank outlet valves (motor-operated Valve 112B or motor-operated Valve 113A) could result in a loss of suction and damage to the credited charging pump. The licensee credited manual actions to mitigate the effects of fire damage in lieu of providing the physical protection required by 10 CFR Part 50, Appendix R, Section III.G.

Description. During normal plant operations, the chemical and volume control system operates to allow a continuous feed (charging and seal injection) and bleed (letdown and seal leak-off) for the reactor coolant system. Normally, one centrifugal charging pump is in operation.

In the event of fire, inventory makeup is intended to be accomplished using a centrifugal charging pump by switching to the refueling water storage tank as a source of borated water. Procedure 0POP04-ZO-0009, "Safe Shutdown Fire Response," included steps to swap the suction path from the normal suction source to the refueling water storage tank without securing the running charging pump. However, the team determined that if the charging pump credited for safe shutdown was running at the time of the fire, a spurious closure of either of the two series-connected volume control tank outlet valves (motor-operated Valve 112B or motor-operated Valve 113A) could result in a loss of suction and damage to the credited charging pump.

The post-fire safe shutdown strategy developed by the fire protection program was intended to assure the availability of only one charging pump in 14 fire areas. The team identified that 13 of these fire areas (Fire Areas 03, 04, 20, 24, 25, 26, 27, 31, 32, 33, 34, 65, and 67) also contained unprotected cables that had the potential to spuriously close at least one of the volume control tank outlet valves due to fire damage. Instructions in

Procedure 0POP04-ZO-0009, “Safe Shutdown Fire Response,” for each of these fire areas, direct the control room operators to place the control switches for both centrifugal charging pumps to the “pull-to-lock” position to secure the pumps and prevent potential restarting until their suction is aligned to the refueling water storage tank. The team determined that the assumed success of this action was based on an unapproved assumption that circuit damage would not occur prior to 10 minutes after control room operators decided to enter Procedure 0POP04-ZO-0009.

Analysis. Failure to ensure that the volume control tank outlet valves, which are relied upon for achieving post-fire safe shutdown, were protected from fire damage was a performance deficiency. This finding is of greater than minor safety significance because it impacted the Mitigating Systems Cornerstone objective to ensure the availability, reliability, and capability of systems that respond to external events (such as fire) to prevent undesirable consequences. Specifically, 13 fire areas contain unprotected cables that had the potential to spuriously close at least one of the volume control tank outlet valves which could result in a loss of suction and damage to the only charging pump credited for post-fire safe shutdown.

The senior reactor analyst performed a Phase 3 risk analysis. The senior reactor analyst concluded that the risk significance of this finding was very low in that over 93 percent of the risk significance associated with the loss of the centrifugal charging pumps in the South Texas Standardized Plant Analysis Risk model is related to a reactor coolant pump seal loss of coolant accident, which requires both a loss of the centrifugal charging pumps and the positive displacement pump, as well as closed cooling water cooling or essential service water supporting the reactor coolant pumps thermal barrier heat exchangers.

Given that a fire occurs, the following sequence of events must occur to cause a core damage event from a reactor coolant pump seal loss of coolant accident which would otherwise not occur in the absence of this finding. The analyst assigned a probability to each event.

1. The fire fails to self extinguish prior to causing circuit damage and automatic and manual suppression fail to extinguish the fire (a combined severity factor of 0.1).

2. A hot short causes one of the two volume control tank outlet valves to close. From NUREG/CR-6850, “Fire PRA Methodology for Nuclear Power Facilities,” the analyst assigned a factor of 0.6.

3. Operators fail to establish a suction path from the refueling water storage tank in time to preserve the function of the Train B centrifugal charging pump. The analyst assigned a scoping value of 0.1 to reflect this human error probability.

4. The fire debilitates the standby positive displacement pump and the standby centrifugal charging pump. The analyst selected a factor of 0.5 assuming that they operate 50 percent of the time.

5. Other injection sources, not affected by the fire, are unavailable or nonfunctional or operator action fails to maintain reactor coolant system inventory and subcooling resulting in fuel clad damage.

One of the subject fire areas, Fire Area 67, Zone 58 (the technical support center and surrounding areas) was analyzed in detail as an example of this finding. Using the South Texas simplified plant analysis risk model, Revision 3.45, the worst case transient assuming that all charging pumps are lost and that all other circuits routed through Fire Area 67 (mainly Train C components) are destroyed, results in a conditional core damage probability of 3.096E-4. The fire protection program as-designed case includes failure of all of the components assumed to fail in the worst case transient with the exception of the fire-protected Train B centrifugal charging pump. The fire protection program protected the Train B centrifugal charging pump circuits and assumed that control of the centrifugal charging pump and transfer of the suction path from the volume control tank to the refueling water storage tank would be successful. The resulting conditional core damage probability for the as-designed case is 2.887E-4.

Using Inspection Manual Chapter 0609, Appendix F, the generic fire ignition frequency for this room is 1.7E-3/yr. Using this information, the worst case transient core damage frequency is (1.7E-3/yr)(3.096E-4)(0.1)(0.6)(0.5)(0.1) = 1.58E-9/yr. The as-designed case core damage frequency is (1.7E-3/yr)(2.887E-4/yr)(0.1)(0.6)(0.5)(0.1) = 1.47E-9/yr. Therefore, the delta-core damage frequency for Fire Area 67 due to this finding is 1.1E-10/yr.

The risk calculation for the other fire areas involved with this finding would be of the same order of magnitude, leading to a conclusion that the cumulative delta-core damage frequency would not be large enough to result in a finding of greater than very low safety significance (Green). The licensee has entered this issue into their corrective action program as Condition Report 08-10023.

Enforcement. License Condition 2.E requires the licensee to implement and maintain in effect all provisions of the approved fire protection program as described in the Updated Final Safety Analysis Report and the Fire Hazards Analysis Report.

Updated Final Safety Analysis Report, Section 9.5.1.1 states, “Redundant safety-related systems and components are generally compartmentalized within heavy concrete walls so that they are unlikely to be damaged from a single fire. Separate fire areas are developed for separate divisions of safe shutdown systems except as modified by the guidance of Appendix R, Section III.G.2.d, e, and f which applies to fire protection inside non-inerted containments. This provides compliance with Appendix A A.2 of Branch Technical Position APCSB 9.5-1 and 10 CFR Part 50, Appendix R, Section III.G which ensures separation of the capability to achieve and maintain safe shutdown conditions.”

In Fire Hazards Analysis Report, Section 4.1, “Comparison of STP Units With Requirements of Appendix R,” the comparison to 10 CFR Part 50, Appendix R, Section III.G, “Fire Protection of Safe Shutdown Capability,” includes “1. Systems and components essential for safe shutdown are separated or protected from fire hazards to assure that redundant safe-shutdown pathways necessary to achieve and maintain hot shutdown conditions are available following a fire;” and “Where these 3-hour rated fire barriers have not been provided, STP has provided alternate protection as allowed by Appendix R, Section III.G.2.b or c.” Contrary to above, the licensee failed to implement and maintain in effect some provisions of the approved fire protection program. Specifically, the licensee utilized manual operator actions to mitigate the effects of fire damage in lieu of providing physical protection from fire damage. Because this finding is of very low safety significance and has been entered into the licensee’s corrective action

program, this violation is being treated as a noncited violation consistent with Section VI.A of the NRC Enforcement Policy: NCV 05000498/2009003-04, 05000499/2009003-04, "Potential Loss of Centrifugal Charging Pump Suction Due to Fire Damage."

4OA6 Meetings

Exit Meeting Summary

On April 9, 2009, the inspector presented the occupational and public radiation safety inspection results to Mr. J. Sheppard, President and Chief Executive Officer, and other members of the licensee staff. The licensee acknowledged the issues presented. The inspector asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified

On April 22, 2009, the inspectors presented the in-office review of the fire protection unresolved items inspection results to Mr. T. Powell, Vice President, Engineering, and other members of the licensee staff via conference call. The licensee acknowledged the information presented. No proprietary information was identified.

On June 18, 2009, the inspectors presented the inspection results of the triennial heat sink inspection to Mr. J. Sheppard, President and Chief Executive Officer, and other members of the licensee staff. The licensee acknowledged the issues presented. The inspectors did not review any proprietary information.

On July 9, 2009, the inspectors presented the inspection results to Mr. J. Sheppard, President and Chief Executive Officer, and other members of the licensee staff. The licensee acknowledged the issues presented. The inspector asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

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.

- Title 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," provides, in part, that procedures shall include appropriate quantitative or qualitative acceptance criteria for determining that important activities have been satisfactorily accomplished. Contrary to this requirement, on February 17, 2009, the licensee failed to verify that the new oil heater thermostat, with the new oil temperature setpoint per Design Change Package 08-13702-21, had appropriate postmaintenance testing to ensure that the heaters would maintain the new required temperature. The postmaintenance test did not have the technicians verify that the heaters would cycle in the correct band. This was identified in the licensee's corrective action program as Condition Report 09-2976. This finding is of very low safety significance because the heater control circuit is only an operability factor when the machine is in a standby condition and the safety function was never lost.

- Title 10 CFR 50.65(a)(1) requires, in part, that the licensee shall monitor the performance or condition of structures, systems, or components within the scope of the monitoring program as defined in 10 CFR 50.65 (b) against licensee-established goals, in a manner sufficient to provide reasonable assurance that such structures, systems, or components are capable of fulfilling their intended functions. Title 10 CFR 50.65(a)(2) states, in part, that monitoring as specified in 10 CFR 50.65(a)(1) is not required where it has been demonstrated that the performance or condition of a structure, system, or component is being effectively controlled through performance of appropriate preventive maintenance, such that the structure, system, or component remains capable of performing its intended function.

  Contrary to the above, the licensee failed to demonstrate that performance of the Unit 2 electrical auxiliary building ventilation system was being effectively controlled through the performance of appropriate preventive maintenance, in that after a repetitive maintenance preventable failure of the Unit 2 electrical auxiliary building ventilation Train B smoke purge inlet damper occurred on January 27, the licensee failed to consider placing the system under 10 CFR 50.65 (a)(1) for establishing goals and monitoring against the goals. Using the Significance Determination Process Phase 1 worksheets from Inspection Manual Chapter 0609, the inspectors determined that this violation had very low safety significance (Green) because it did not result in the actual loss of safety function of one or more trains and did not screen as risk-significant due to seismic, flooding, or severe weather. The licensee captured this violation in Condition Report 09-1508.

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee Personnel

J. Ashcraft, Manager, Health Physics
C. Bowman, General Manager Oversight
J. Calvert, Manager, Training
S. Citzler, Chemisty
D. Cobb, STP Employee Concerns Program (EAP) Manager
F. Cox, Fire Safe Shutdown Engineer
S. Dannhardt, Manager, Environmental
D. Dayton, System Engineer, Cathodic Protection
R. Dunn Jr., Supervisor, Configuration Control and Analysis
R. Engen, Site Engineering Director
T. Frawley, Manager, Plant Protection
R. Gangluff, Manager, Chemistry, Environmental and Health Physics
C. Gonzalez, Projects
C. Grantom, Manager, PRA
E. Halpin, Executive Vice President and Chief Nuclear Officer
W. Harrison, Manager, Licensing
G. Hildebrant, Manager, Operations Support
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D. Hubenak, Supervisor, Radiation Protection
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D. Klockentager, Supervisor, Electrical Systems Engineering
J. Lovejoy, Assistant Maintenance Manager
A. McGalliard, Manager, Performance Improvement
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J. Paul, Engineer, Licensing Staff Specialist
L. Peter, Plant General Manager
J. Pierce, Manager, Operations Training
G. Powell, Vice President, Engineering
M. Reddix, Manager, Security
K. Regis, System Engineer, Essential and Component Cooling Water Systems
D. Rencurrel, Senior Vice President
D. Rohan, Operations Procedures Supervisor
R. Savage, Engineer, Licensing Staff Specialist
M. Schaefer, Manager, I&C Maintenance
J. Sheppard, President and Chief Executive Officer
K. Taplett, Senior Engineer, Licensing Staff
J. Trbovich, Design Engineer
M. Svitlic, Civil Engineer
D. Swett, Supervisor, Radiation Protection
J. Tomlinson, Buried Pipe Program
D. Zink, Supervising Engineer

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened and Closed

05000498/2009003-01 05000499/2009003-01	NCV	Failure to Identify Maintenance Rule A1 Condition (Section 1R12)
05000498/2009003-02 05000499/2009003-02	NCV	Failure to Perform Radiation Surveys (Section 2OS1)
05000498/2009003-03	NCV	Failure to Ensure a Reliable Fire Suppression Water Supply System (Section 4OA5)
05000498/2009003-04 05000499/2009003-04	NCV	Potential Loss of Centrifugal Charging Pump Suction Due to Fire Damage (Section 4OA5)

Closed

05000498/2008008-01	URI	Potential Fire Damage to the Fire Suppression Water Supply System
05000498/2008008-02 05000499/2008008-02	URI	Potential Loss of Centrifugal Charging Pump Suction Due to Fire Damage

LIST OF DOCUMENTS REVIEWED

Section 1R01: Adverse Weather

CONDITION REPORTS

00-500	06-465	09-9392
05-3384	07-12053	09-9556
05-8880		

MISCELLANEOUS

"South Texas Project Voltage Study," December 18, 2008
Calculation EC-500, "Voltage Regulation Study," Revision 13
"South Texas Project Interconnection Agreement," Effective Date: August 15, 2002
Electric Reliability Council of Texas Operating Guides, Sections 1-7, Latest Revisions

PROCEDURES

NUMBER	TITLE	REVISION
0PGP03-ZV-0001	Severe Weather Plan	14
0POP04-ZO-0002	Natural or Destructive Phenomena Guidelines	39
0POP09-AN-22M1	Annunciator Lampbox 22M01 Response Instructions	17
0POP09-AN-22M2	Annunciator Lampbox 22M02 Response Instructions	21
0POP09-AN-22M3	Annunciator Lampbox 22M03 Response Instructions	22
0PGP03-ZO-0045	CenterPoint Energy Real Time Operations Emergency Operations Plan	1
0POP01-ZA-0021	AC Electrical Notes and Precautions	6
0POP01-ZO-0002	345 kV Switchyard Switching and Clearance Guidelines	5
0POP04-AE-0005	Offsite Power System Degraded Voltage	2
0PGP03-XS-0001	Switchyard Management	0

Section 1R04: Equipment Alignment

CONDITION REPORTS

95-11341	05-4754	09-8968
05-2710	08-1293	

DRAWINGS

NUMBER	TITLE	REVISION
5Q159F00045#1	Standby Diesel Generator Fuel Oil Storage and Transfer System	31
5Q159F00045#2	Standby Diesel Generator Fuel Oil Storage and Transfer System	10
5Q159F22540	Standby Diesel Jacket Water	20
5Q159F22542	Standby Diesel Lube Oil	19
5Q159F22546	Standby Diesel Starting Air	23
5V119V10001#2	HVAC Essential Chilled Water System	31

MISCELLANEOUS

NUREG/CR-5897, Auxiliary Feedwater System Risk-Based Inspection Guide for the South Texas Project Nuclear Power Plant

PROCEDURES

NUMBER	TITLE	REVISION
0POP02-AF-0001	Auxiliary Feedwater	27
0POP02-CH-0001	Essential Chilled Water System	39
0POP02-DG-0002	Emergency Diesel Generator 12(22)	50

Section 1R05: Fire Protection

FIRE PREPLANS

NUMBER	TITLE	REVISION
0IVC51-FP-0400	Fire Preplan Isolation Valve Cubicle, Pump Room Train D	2
0MAB26-FP-0123	Fire Preplan Mechanical Auxiliary Building CVCS Centrifugal Charging Pump 1A and Valve Room	3
0MAB26-FP-0124	Fire Preplan Mechanical Auxiliary Building CVCS Centrifugal Charging Pump 1B and Valve Room	3
0MAB02-FP-0128	Fire Preplan Mechanical Auxiliary Building CCW Pump and Chiller, Train A	3

PROCEDURES

NUMBER	TITLE	REVISION
0PGP-ZF-0001	Fire Protection Program	18
0PGP03-ZF-0018	Fire Protection System Operability Requirements	13
0PGP03-ZF-0019	Control of Transient Fire Loads and Use of Combustible and Flammable Liquids and Gases	5

Section 1R06: Flood Protection Measures

CALCULATIONS

NUMBER	TITLE	REVISION
MC-5365	Fuel Handling Building Flooding Calculation	8
NC-9708	Facility Response Analysis for FHB Flooding and Spray Effects	3

CONDITION REPORTS

09-9868

DRAWINGS

NUMBER	TITLE	REVISION
5Q069F05030#2	Piping & Instrumentation Diagram Radioactive Vent & Drain System Sump Pumps	16
5Q069F90011#1	Piping & Instrumentation Diagram Radioactive Vent and Drain System Fuel Handling Building Gravity Drains	12

Section 1R07: Heat Sink Performance

CALCULATIONS

NUMBER	TITLE	REVISION/ DATE
Design Change Package 04-14989-2	Tube Plugging Procedure for Essential Chillers	April 8, 2005
EC-5013	Cathodic Protection System	3
MC-6084	Component Cooling Water Heat Exchanger Tube Plugging	1
MC-6219	Generic Letter 89-13	2

CHEMISTRY SPECIFICATIONS

NUMBER	TITLE	REVISION
Chapter 13	Closed Cooling Water Chemistry Strategic Plan	2
Chapter 14	Service (Open Loop) Cooling Water Chemistry Strategic Plan	0

CONDITION REPORTS

96-00819	05-02710	07-14248
97-15600	06-02971	07-16805
02-04745	06-09913	08-00402
02-17132	06-16539	08-10384
02-17133	07-02362	08-14817
02-17324	07-03399	08-18477
03-03911	07-13203	09-02174
03-09495	07-14248	09-7073
03-09761	07-16805	09-08303
04-01405	08-00402	09-09440*
04-03917		

*Condition report issued as a result of this inspection

DESIGN BASIS DOCUMENTS

NUMBER	TITLE	REVISION
5R289MB1006	Essential Cooling Water System	5
5R209MB1018	Component Cooling Water System	3
5V369VB0120	Chilled Water System	7

DRAWINGS

NUMBER	TITLE	REVISION
D07090702	Tricentric® TBV 14-CL150 LUG General Arrangement	A
Essential Cooling Pond Figure 1	Earthwork General Layout	
Essential Cooling Pond Figure 2	Detailed Plan and Sections	
Essential Cooling Pond Figure 3	Earthwork Sections and Monitoring Pier	
3E100E02151	Electrical Class 1E Manhole Schedule and Details	16
3E100E02152	Electrical Class 1E Manhole and Duct Bank Sections and Details	15
3E100E02155	Electrical Class 1E Manhole and Duct Bank Sections	11
3R-28-0-P-0080	Composite Piping Essential Cooling Water Piping Layout Sheet 1	3

3R-28-0-P-0081	Composite Piping Essential Cooling Water Piping Layout Sheet 2	4
3Z-48-9-Z46233	Component Cooling Water Surge Tank Component A Bridle	3
3Z-48-9-Z46232	Component Cooling Water Surge Tank Component B Bridle	5
3Z-48-9-Z46231	Component Cooling Water Surge Tank Component C Bridle	4
5E100E02100	Electrical Class 1E General Arrangement Station Underground Duct Banks	26
6E500E2060	Essential Cooling Water Intake Structure Ladder Wiring Diagram Cathodic Protection	7
77-D464702	Component Cooling Water Surge Tank Vessel Data, Sheet 1	1
77-D464702	Component Cooling Water Surge Tank Orientation, Sheet 2	1
77-D464702	Component Cooling Water Surge Tank Vessel Details, Sheet 3	1
77-D464702	Component Cooling Water Surge Tank Saddle Assembly, Sheet 4	C
77-D464702	Component Cooling Water Surge Tank 24 Manhole, Sheet 5	1
9E0PLAA#1	Single Line Diagram 480V Class 1E Load Center E1A (EAB)	16
9E0PLAB#1	Single Line Diagram 480V Class 1E Load Center E1B (EAB)	15
9E0PLAC#1	Single Line Diagram 480V Class 1E Load Center E1C (EAB)	17
9E0PLAA#2	Single Line Diagram 480V Class 1E Load Center E2A (EAB)	18
9E0PLAB#2	Single Line Diagram 480V Class 1E Load Center E2B (EAB)	16
9E0PLAC#2	Single Line Diagram 480V Class 1E Load Center E2C (EAB)	16
9E220E0107	Cathodic Protection Notes and Details Deep Bed Anode Bed Installation, Sheet 59	1

9E220E0107	Cathodic Protection Notes and Details Deep Bed Anode Bed Installation, Sheet 67	1
9E220E2050	Station Cathodic Protection System General Arrangement	10
9E220E2051	Station Composite Yard Piping Cathodic Protection Plan	5
9E220E2052	Station Composite Yard Piping Cathodic Protection Plan	7
9E220E2053	Station Composite Yard Piping Cathodic Protection Plan	12
9E220E2054	Station Composite Yard Piping Cathodic Protection Plan	7
9E220E2055	Station Composite Yard Piping Cathodic Protection Plan	9
9E220E2056	Station Composite Yard Piping Cathodic Protection Plan	12
9E220E2057	Station Composite Yard Piping Cathodic Protection Plan	5
9Y-01-O-Y-36012	Yard Differential Settlement & Tilt Monitoring System	3
9Y-06-O-Y-36016	Yard Differential Settlement & Tilt Monitoring System	5

MISCELLANEOUS

Generic Letter 89-13, “Service Water System Problems Affecting Safety Related Equipment,” July 18, 1989

Generic Letter 89-13, Supplement 1, “Service Water System Problems Affecting Safety Related Equipment,” April 4, 1990

Generic Letter 90-05, “Guidance for Performing Temporary Non code Repair of ASME Code Class 1, 2, and 3,” June 15, 1990

Information Notice 2006-17, “Recent Operating Experience of Service Water Systems Due to External Conditions,” July 31, 2006

Information Notice 2007-06, “Potential Common Cause Vulnerabilities in Essential Service Water Systems,” February 9, 2007

Information Notice 2007-28, “Potential Common Cause Vulnerabilities in Essential Service Water Systems Due to Inadequate Chemistry Controls,” September 19, 2007

Regulatory Guide 1.27, “Ultimate Heat Sink for Nuclear Power Plants,” Revision 2

ST-HL-AE-2723, Response to NRC Bulletin 88-04, “Potentially Safety Related Pump Loss,” July 12, 1988

ST-HL-AE-3341, Response to NRC Generic Letter 89-13, “Service Water System Problems Affecting Safety Related Equipment,” January 29, 1990

ST-HL-AE-3720, Correction of Response to NRC Generic Letter 89-13, “Service Water System Problems Affecting Safety Related Equipment,” March 27, 1991

ST-HL-AE-3721, Revised Schedule for NRC Generic Letter 89-13, “Service Water System Problems Affecting Safety Related Equipment,” April 3, 1991

ST-HL-AE-3761, Supplemental Response to NRC Generic Letter 89-13, “Service Water System Problems Affecting Safety Related Equipment,” May 15, 1991

ST-HL-AE-4126, Revised Response to NRC Generic Letter 89-13, “Service Water System Problems Affecting Safety Related Equipment,” June 23, 1992

Condition Report, Engineering Evaluation 02-14254, “Update of Long Range Plan for ECW System,” December 2, 2002

Design Change Package 07-16805-14, “Essential Cooling Water (ECW) Pond Make up Pump Removal,” Revision 0

Engineering Report 91-201-12, “ECW System Failures and Their Analysis,” Revision 0

Specification 7Y310YS1000, Geotechnical Monitoring, Appendix F, “Essential Cooling Pond Seepage Rate Estimation,” Revision 9

System Design Description 5Y570SD021, “Essential Cooling Pond,” March 29, 1982

System Design Description 9E220ED1115, “Cathodic Protection System,” Revision 2

Buried pipe program planning documents – including planned responses to Life Cycle Management report

Component Cooling Water Inservice Test Basis Document, Revision 4

Component cooling water stroke time trend data from January 2000 through April 2009 for nine selected valves

Concrete Pressure Pipe Evaluation, dated February 29, 1996

Data sheets demonstrating compliance with temperature monitoring when isolating component cooling water to spent fuel pool heat exchanger for Units 1 and 2 from 2002 through 2008

Essential Cooling Water Inservice Test Basis Document, Revision 4

Unit 1 and Unit 2 Pump and Valve Inservice Test Plan, Revision 12

Report 05727-008-400, Essential Cooling Pond Fish Population Study, May 2002

Report STP 12-22135, Chilled Water System Life Cycle Management Study, Revision 0

System Health Reports for component cooling water, essential cooling water, and buried pipe program

Vendor Manual for Tricentric® Triple Offset, Metal Seated, Extended Performance Butterfly Valves

PROCEDURES

NUMBER	TITLE	REVISION
SEG-0001	Systems Engineering Administrative Guideline	7
SEG-0005	System Health Reporting Guideline	1
0PCP01-ZA-0038	Plant Chemistry Specifications	37
0PCP01-ZQ-0004	Cooling Water System Inspection Guidelines	3
0PEP07-CH-0001	Essential Chiller Performance Test	13
0PEP07-EW-0001	Performance Test for Essential Cooling Water Heat Exchangers	6
0PEP07-NM-0003	Plant Yard Cathodic Protection Potential Survey	6
0PEP10-ZA-0039	Visual Examination of Buried Piping Components	0
0PGP03-ZE-0080	Essential Cooling Water System Reliability Program	0
0PGP04-ZA-0606	Buried Piping Program	0
0PGP07-ZA-0019	Life Cycle Management (LCM) Planning Scheduling and Implementation Procedure	0
0PMP04-ZG-0011	Heat Exchanger Cleaning (General Guidelines and Instructions)	5
0POP04-CC-0001	Component Cooling Water System Leak	14
0PSP03-CC-0001	Component Cooling Water Pump 1A(2A) Inservice Test	14

SURVEILLANCES – CALCULATIONS

NUMBER	TITLE	REVISION
CC-06425	1997 Essential Cooling Pond Volume	0
CC-06448	2000 Essential Cooling Pond Seepage Test Results	0
CC-09959	2002 Essential Cooling Pond Sediment	1
CC-09960	2005 Essential Cooling Pond Seepage Test Results	0

SURVEILLANCES – WORK AUTHORIZATION NUMBERS

NUMBER	TITLE	DATE
161524	Clean/Inspect Essential Chilled Water Unit 12A	May 15, 2003
258752	Clean/Inspect Essential Chilled Water Unit 22C	March 8, 2006
294779	Train C Essential Chilled Water Chiller Unit 22C Performance Test	November 15, 2006
299936	Inspect/Repair Essential Chilled Water Unit 22C	October 25, 2007
304433	Train A Essential Chilled Water Chiller Unit 12A Performance Test	March 17, 2007
304837	Clean/Inspect Essential Chilled Water Unit 12A	June 8, 2008
306275	Clean/Inspect Cathodic Protection System Rectifiers	February 1, 2008
322593	Performance Test for Component Cooling Water Heat Exchangers 1A, 1B, and/or 1C	April 29, 2008
323205	Train C Essential Chilled Water Chiller Unit 22C Performance Test	April 23, 2008
323269	Clean/Inspect Cathodic Protection System Rectifiers	September 18, 2008
333705	Performance Test for Component Cooling Water Heat Exchangers 2A, 2B, and/or 2C	October 8, 2008
336960	Dewater/Clean/Inspect Essential Cooling Water Intake Bay 2B	June 7, 2008
344850	Dewater/Clean/Inspect Essential Cooling Water Intake Bay 1A	June 7, 2008
355872	Unit 1 Component Cooling Water Pump 1A Inservice Test	March 11
356681	Train A Essential Chilled Water Chiller Unit 12A Performance Test	September 25, 2008

TRAINING PLANS

NUMBER	TITLE
LOT100.38.HO.01	Well Water System
LOT201.12.HO.01	Component Cooling Water
LOT201.13.01	Essential Cooling Water (ECW) and Ventilation System
LOT202.36.HO.01	Essential Chilled Water

WORK AUTHORIZATION NUMBERS

304837 304844

Section 1R12: Maintenance Effectiveness

CONDITION REPORTS

02-10812	07-13246	09-5117
02-10841	07-14451	09-7520
05-15959	08-13702	09-7900
06-8943	09-1508	09-7930
06-16449	09-1562	09-8004
07-1792	09-2891	09-8126
07-8374	09-3087	09-8155
07-12954	09-3317	

MISCELLANEOUS

System Health Reports, 4160 VAC Class 1E (PK), First Quarter 2007 through First Quarter 2009

System Health Reports, EAB HVAC (HE), Second Quarter 2007 through First Quarter 2009

System Health Reports, Essential Chiller (CH), Fourth Quarter 2007 through First Quarter 2009

Top Equipment Issues Document, 2nd Quarter 2009

Section 1R13: Maintenance Risk Assessment and Emergent Work Controls

CONDITION REPORTS

08-13702	09-5768	08-2915
09-5473	09-6244	08-2916
09-5554	09-7061	09-9060

MISCELLANEOUS

Risk Profile for Unit 1 Week of 04/13/2009
Risk Profile for Unit 2 Week of 04/13/2009

Risk Profile for Unit 1 Week of 04/20/2009
Risk Profile for Unit 2 Week of 04/20/2009
Risk Profile for Unit 1 Week of 05/04/2009
Risk Profile for Unit 2 Week of 05/04/2009
Risk Profile for Unit 1 Week of 06/08/2009
Risk Profile for Unit 2 Week of 06/08/2009

Section 1R15: Operability Evaluations

CONDITION REPORTS

00-10049	09-5324	09-6348
06-15147	09-5446	09-6753
08-16129	09-5554	09-8409
09-5232	09-6149	09-9753

MISCELLANEOUS

Calculation E43321, "Qualified Life of Selected Rosemount Transmitters," Revision 5

IEEE Transactions on Nuclear Science, Volume 50, Number 4, August 2003, "Computerized Approach to Updating Qualified Lives for EQ Equipment," pages 1166-1169

PROCEDURES

NUMBER	TITLE	REVISION
0PGP03-ZO-0041	Action for Monitoring Primary to Secondary Leakage	14
0PCP09-ZR-0005	Determination of Primary to Secondary Leak Rate	11
0PSP03-RC-0006	Reactor Coolant Inventory	21

WORK AUTHORIZATION NUMBERS

373251	378300

Section 1R18: Plant Modifications

CONDITION REPORTS

08-13702	09-7270

PROCEDURES

NUMBER	TITLE	REVISION
0PGP03-ZM-0021	Control of Configuration Changes	16

WORK AUTHORIZATION NUMBERS

372712

Section 1R19: Postmaintenance Testing

CONDITION REPORTS

09-1356	09-6189	09-9000
09-4716	09-6441	09-9214
09-5191	09-7027	09-9264
09-5941		

PROCEDURES

NUMBER	TITLE	REVISION
0PSP03-DG-0001	Standby Diesel 11(21) Operability Test	36
0PSP03-DG-0002	Standby Diesel 12(22) Operability Test	34
0PMP04-EW-0001	Essential Cooling Water Pump Maintenance	27
0PMP05-CH-0001	York Chiller Inspection and Maintenance 300 to 550 Tons	33
0PMP08-ZI-0009	Pressure and Differential Pressure Switch Calibration	9
0PMP08-ZI-0011	Generic Temperature Switch Calibration (Filled Element)	18
0PMP08-ZI-0203	Pressure or Differential Pressure Indicator Calibration	12
0PMP05-ZE-0046	Calibration of Agastat Timers	8
0PMP05-ZE-0047	Calibration of Timing Relays	10

WORK AUTHORIZATION NUMBERS

331440	358197	367201
335150	359252	370219
352377	360795	374146
352583	360915	377728
356581	366351	377792
358194		

Section 1R22: Surveillance Testing

CONDITION REPORTS

06-15147	09-2621	09-6179
08-7015	09-2858	09-6194
08-16129	09-5508	09-6348
09-2085	09-6149	09-6753

MISCELLANEOUS

2DP-7716, “Unit 2 Train ‘A’ Calibration Data Package for Auxiliary Feedwater Storage Tank Level Calibration,” May 12

2DP-7748, “Unit 2 Train ‘B’ Calibration Data Package for Auxiliary Feedwater Storage Tank Level Calibration,” May 12

2DP-7717, “Unit 2 Train ‘C’ Calibration Data Package for Auxiliary Feedwater Storage Tank Level Calibration,” May 12

Drawing 6C189N5002, General Arrangement Reactor Containment Building Plan at EL.(-)2’-0” Area G, Revision 6
Preventive Maintenance 89002678, 89002891, and 93002864

PROCEDURES

NUMBER	TITLE	REVISION
0PSP03-CC-0001	Component Cooling Water Pump 1A(2A) Inservice Test	14
0PSP03-CC-0002	Component Cooling Water Pump 1B(2B) Inservice Test	12
0PSP03-CC-0003	Component Cooling Water Pump 1C(2C) Inservice Test	13
0PSP03-SP-0013A	Train A ESF Actuation and Response Time Test	14
0PSP03-SP-0013B	Train B ESF Actuation and Response Time Test	14
0PSP03-SP-0013C	Train C ESF Actuation and Response Time Test	18
0PSP05-CT-7716	AFW Storage Tank Level Channel Calibration	10

WORK AUTHORIZATION NUMBERS

301106 372452 373251
303424

Section 1EP6: Drill Evaluation

MISCELLANEOUS

White Team Combined Functional Drill Scenario Manual, June 17

PROCEDURES

NUMBER	TITLE	REVISION
0ERP01-ZV-IN01	Emergency Classification	8
0ERP01-ZV-IN03	Emergency Response Organization Notification	14
0POP04-AE-0001	Loss of Any 13.8 KV or 4.16 KV Bus	36
0POP05-EO-EO00	Reactor Trip or Safety Injection	20
0POP05-EO-FRH1	Response to Loss of Secondary Heat Sink	17

Section 2OS1: Access Controls to Radiologically Significant Areas

AUDITS, SELF-ASSESSMENTS, AND SURVEILLANCES

2008 Radiation Protection Program and Solid Radioactive Waste Management (Process Control) and Transportation Program

CONDITION REPORTS

08-12749	08-14938	08-16599
08-12996	08-15650	08-17931
08-14571	08-16506	

PROCEDURES

NUMBER	TITLE	REVISION
0PGP03-ZR-0050	Radiation Protection Program	15
0PGP03-ZR-0051	Radiological Access Controls/Standards	25

RADIATION WORK PERMITS

2008-2-0249	2008-2-0293	2008-2-0296
2008-2-0265	2008-2-0294	

Section 2OS2: ALARA Planning and Controls

CONDITION REPORTS

08-14879	08-15606	08-17658
08-15184	08-15917	09-2932
08-15322	08-15943	09-3077
08-15328		

PROCEDURES

NUMBER	TITLE	REVISION
0PGP03-ZR-0048	Personnel Dosimetry Program	15
0PGP03-ZR-0052	ALARA Program	11
0PRP07-ZR-0004	Shielding	14
0PRP07-ZR-0010	Radiation Work Permits/Radiological Work ALARA Reviews	23

SHIELDING PACKAGES

2008-2-013, “Lower general area dose rates within travel path”
2008-2-014, “Shielding for work in and around reactor head shroud doors”
2008-2-036, “Pressurizer safety work”
DCP 07-12974-2, “Installation of permanent lead shielding on CVCS letdown line”

Section 4OA2: Identification and Resolution of Problems

CONDITION REPORTS

99-2137	09-3410	09-6674
99-8403	09-3475	09-7025
00-13318	09-3596	09-7178
08-5291	09-4123	09-8238
08-12290	09-5279	09-8691
09-1584	09-5925	09-8799
09-2900	09-6653	09-9058
09-2905		

MISCELLANEOUS

Letter from South Texas Nuclear Operating Company to NRC, NOC-AE-09002432, Policy for Working Inside Containment, dated June 3

Letter from OSHA to South Texas Nuclear Project, Re: South Texas Nuclear Project Complaint No. 206533051, dated June 4

Letter from South Texas Nuclear Operating Company to OSHA, NOC-FD-09019817, Re: South Texas Nuclear Project Complaint No. 206533051, dated June 10

Letter from South Texas Nuclear Operating Company to OSHA, NOC-FD-09019876, Re: South Texas Nuclear Project Complaint No. 206533051, Second Response, dated June 22

PROCEDURES

NUMBER	TITLE	REVISION
	Scheduler's Guide	7, 8, 9, 10, 11
WCG-0002	Work Management Scheduling	12, 13, 14, 15, 16, 17, 18
0PSP03-XC-0002A	Partial Containment Inspection (Containment Integrity Established)	27, 28

Section 4OA5: Other Activities

CALCULATIONS

NUMBER	TITLE	REVISION
MC06023	Safe Shutdown Analysis	11
NC-7079	Fire Hazards Analysis	2
7Q270MC5800	Fire Zone Summary (Fire Area 67Z058)	

CONDITION REPORTS

08-9587* 08-10123*

*Condition Reports initiated due to inspection activities.

DRAWINGS

NUMBER	TITLE	REVISION
0-E-FP01-01	Elementary Diagram Diesel Driven Fire Pumps No. 1, 2, & 3 (PA0121, 0221, 0421)	9
3E209E02827 SH 1	Electrical/Electrical Auxiliary Building – Conduit & Tray Plan - El. 35'-0" Area 3D	11
3E209E02831	Electrical Auxiliary Building Conduit & Tray Plan El. 35'-0" & 45'-6" – Area 3A & 4A	11
3E209E02841	Electrical/Electrical Auxiliary Building – Conduit & Tray Plan - El. 48'-0" Area 4G	10
5E209E01631 SH 1	Electrical/Mechanical Auxiliary Building – Conduit & Tray Plan - El. 10'-0" Area 1A	15

5E209E01631 SH 3	Electrical/Mechanical Auxiliary Building – Conduit &Tray Plan - El. 10’-0” Area 1C	16
5E209E01632 SH 2	Electrical/Mechanical Auxiliary Building – Conduit Plan - Intermediate El. 19’-0” Area 1G	12
5E199E01632 SH 12	Electrical/Mechanical Auxiliary Building – Conduit Plan - El. 10’-0” Area 1G	13
5E209E01637 SH 2	Electrical/Mechanical Auxiliary Building – Conduit & Tray Plan - El. 41’-0” Area 3B	12
5E209E01637 SH 4	Electrical/Mechanical Auxiliary Building – Conduit & Tray Plan - El. 41’-0” Area 3D	13
5E209E01640 SH 1	Electrical/Mechanical Auxiliary Building – Conduit &Tray Plan - El. 60’-0” Area 4A	11
5R179F05005#1	Piping and Instrumentation Diagram Chemical and Volume Control System	27
5R179F05006#1	Piping and Instrumentation Diagram Chemical and Volume Control System	17
5R179F05007#1	Piping and Instrumentation Diagram Chemical and Volume Control System	43
5R179F05008#1	Piping and Instrumentation Diagram Chemical and Volume Control System	14
5R179F05009#1	Piping and Instrumentation Diagram Chemical and Volume Control System	22
6E500E02690	Fire Pump House Conduit Plan At El. 31’-0”	14
7Q270F00006	Piping and Instrumentation Diagram Fire Protection Storage and Pumps	21
7Q272F00046	Piping and Instrumentation Diagram Fire Protection Loop	37
00009E0CV05#1	Elementary Diagram CVCS VCT Outlet Isolation MOV 0112B & MOV-0113A	12
00009E0CV07#1	Elementary Diagram CVCS Charging Line Block MOV0025	9
00009E0CV31 SH 1	Elementary Diagram CVCS RWST To Charging Pump MOV-0112C & MOV-0113B	14
6004-00011PA	Schematic Wiring Diagram for Model FP6824NCPRWD Controller	D
6031-00006PU	Schematic Wiring Diagram for Model FP68D Controller	C

ENGINEERING REPORTS

NUMBER	TITLE	REVISION
5A019MFP001	Report for Post Fire Operator Actions and Equipment Protection Requirements (OAL)	14

LIST OF COMPONENTS SELECTED FOR REVIEW

Component Number	Description
3SI41MPA01	Motor Driven AFW Pump 11
3SI41MPA03	Motor Driven AFW Pump 13
B1CVMOV0033A	Seal Water Isolation to RCP A
B1CVMOV0033B	Seal Water Isolation to RCP B
B1CVMOV0033C	Seal Water Isolation to RCP C
B1CVMOV0033D	Seal Water Isolation to RCP D
2R171NPA101A	Centrifugal Charging Pump – A
2R171NPA101B	Centrifugal Charging Pump – B
MOV8387A	Centrifugal Charging Pump A Discharge Valve
MOV8387B	Centrifugal Charging Pump B Discharge Valve
MOV0025	Charging Isolation Valve
PCV0655A	Power Operated Relief Valve (PORV)
MOV0001A	PORV BLOCK – A
PCV656A	PORV
MOV0001B	PORV BLOCK – B
A1SIMOV0016A	RWST TO Containment Sump Isolation Valve – A
B1SIMOV0016B	RWST TO Containment Sump Isolation Valve – B
B1SIMOV0016B	RWST TO Containment Sump Isolation Valve – C
B1SIMOV0016C	RWST TO Containment Sump Isolation Valve – D

Component Number	Description
B1CVMOV0113A	VCT Outlet Isolation Valve
C1CVMOV0112B	VCT Outlet Isolation Valve
70260MPA0121	Diesel Driven Fire Pump No.1
70260MPA0221	Diesel Driven Fire Pump No. 2
70260MPA0421	Diesel Driven Fire Pump No. 3
MOV8387A	Centrifugal Charging Pump A Discharge Valve
MOV8387B	Centrifugal Charging Pump B Discharge Valve
B1CVMOV0113A	VCT Outlet Isolation Valve
C1CVMOV0112B	VCT Outlet Isolation Valve
70260MPA0121	Diesel Driven Fire Pump No.1
70260MPA0221	Diesel Driven Fire Pump No. 2
70260MPA0421	Diesel Driven Fire Pump No. 3

PROCEDURES

NUMBER	TITLE	REVISION
0POP04-ZO-0008	Fire/Explosion	14
0POP04-ZO-0009	Safe Shutdown Fire Response	6

Section 4OA7: Licensee-Identified Violations

CONDITION REPORTS

09-2976 09-8734 09-8736