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

May 6, 2013

Mr. Dennis Koehl
President and Chief Executive Officer
STP Nuclear Operating Company
P.O. Box 289
Wadsworth, TX 77483

Subject: SOUTH TEXAS PROJECT ELECTRIC GENERATING STATION - NRC INTEGRATED INSPECTION REPORT 05000498/2013002 AND 05000499/2013002

Dear Mr. Koehl:

On March 30, 2013, 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 inspection report documents the inspection results which were discussed on April 4, 2013, with yourself and other members of your staff.

The inspection examined activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel.

Two NRC-identified findings of very low safety significance (Green) were identified during this inspection. One of these findings was determined to involve a violation of NRC requirements. The NRC is treating this violation as a non-cited violation (NCV) consistent with Section 2.3.2.a of the Enforcement Policy.

If you contest this non-cited violation, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the United States Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington DC 20555-0001; with copies to the Regional Administrator, Region IV; the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC Resident Inspector at South Texas Project Electric Generating Station, Units 1 and 2, facility.

If you disagree with a cross-cutting aspect assignment in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your disagreement, to the Regional Administrator, Region IV; and the NRC Resident Inspector at South Texas Project Electric Generating Station, Units 1 and 2, facility.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response (if any) will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's Agencywide Document Access and Management 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 C. Walker, Branch Chief
Project Branch A
Division of Reactor Projects

Docket Nos.: 05000498, 05000499
License Nos.: NPF-76, NPF-80

Enclosure: Inspection Report 05000498/2013002 and 05000499/2013002
w/Attachment: Supplemental Information

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VGGaddy	MSHaire	JFDrake	RKellar	WCWalker
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U.S. NUCLEAR REGULATORY COMMISSION

REGION IV

Docket:	05000498, 05000499
License:	NPF-76, NPF-80
Report:	05000498/2013002 and 05000499/2013002
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:	January 1 through March 30, 2013
Inspectors:	J. Dixon, Senior Resident Inspector J. Dykert, Project Engineer J. Laughlin, Emergency Preparedness Inspector, NSIR B. Tharakan, CHP, Resident Inspector E. Uribe, Reactor Inspector
Approved By:	Wayne Walker, Chief, Project Branch A Division of Reactor Projects

SUMMARY OF FINDINGS

IR 05000498/2013002, 05000499/2013002; 01/01/2013 – 03/30/2013; South Texas Project Electric Generating Station, Units 1 and 2, Integrated Resident and Regional Report; Operability Determinations and Functionality Assessments

The report covered a 3-month period of inspection by resident inspectors and an announced baseline inspection by a headquarter-based inspector. Two Green findings, one of which was a non-cited violation, 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." The cross-cutting aspect is determined using Inspection Manual Chapter 0310, "Components Within the Cross-Cutting Areas." 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: Barrier Integrity

- Green. The inspectors identified a Green finding for the failure to follow Procedure 0PGP03-ZX-0002, "Condition Reporting Process," Revision 43, step 4.2.1, which required initiation of a condition report for an abnormal or unexpected condition on a structure, system, or component." On October 11, 2012, the inspectors toured the Unit 1 control room and observed operators starting the spent fuel pool cooling pumps. Shortly after starting the pumps, a low flow annunciator alarm was received. The operators dismissed the alarm as expected. However, the inspectors questioned the response to the alarm and determined that there was no documented explanation for the alarm to be expected. The inspectors reviewed several years of historical pump starts and determined that the alarms were not consistent between the trains, and the licensee failed to evaluate the inconsistency. The inspectors concluded this condition warranted the initiation of a condition report. During troubleshooting, the licensee concluded that they had installed the incorrect type of pulsation dampener (snubber) in the flow line which caused the low flow annunciator alarm. The licensee's corrective actions included replacing the snubber, updating procedures, and training of maintenance and operations personnel about the condition.

  This finding was more than minor because it affected the Barrier Integrity Cornerstone attribute of Structures, Systems, and Components' Performance (area of instrumentation to maintain functionality of the spent fuel pool cooling system), and it affected the cornerstone objective to provide reasonable assurance that physical design barriers (fuel cladding) protect the public from radionuclide releases caused by accidents or events. Specifically, if left uncorrected it would have the potential to become a more significant safety concern because it could have resulted in unreliable instrumentation, or alarms,

that are used to ensure adequate cooling to the spent fuel pool. The inspectors performed the significance determination using NRC Inspection Manual Chapter 0609 because the finding affected the Barrier Integrity Cornerstone while the plant was at power. Attachment 0609.04, "Initial Characterization of Findings," dated June 19, 2012, evaluates the finding using Appendix A. Using Appendix A, Exhibit 3, Barrier Integrity Screening Questions, the finding was determined to be of very low safety significance because the finding did not: (1) result in the spent fuel pool temperature exceeding the maximum analyzed temperature limit; (2) result from fuel handling errors that caused fuel cladding damage; (3) result in a loss of inventory below the minimum analyzed level limit; and (4) affect the spent fuel pool neutron absorber, fuel pattern loading, or soluble boron concentration. In addition, the NRC determined the finding had a human performance cross-cutting aspect associated with decision making because the licensee did not use conservative assumptions when dismissing the low flow alarm instead of having it evaluated to ensure that it was safe to proceed [(H.1(b)] (Section 1R15).

Cornerstone: Mitigating Systems

- Green. The inspectors identified a non-cited violation of 10 CFR Part 50, Appendix B, Criteron V, "Instructions, Procedures, and Drawings," for the failure to follow Procedure 0PGP04-ZA-0002, "Condition Report Engineering Evaluation," Revision 18. On February 25, 2013, cavitation damage was discovered during a scheduled inspection of train C essential cooling water return throttle valve to the component cooling water heat exchange valve 2-EW-0101. A reportability review was performed by civil and mechanical design engineering personnel using Procedure 0PGP04-ZA-0002. Step 3.0 of this procedure stated that the engineering supervisor and the preparer are responsible for ensuring that the evaluation is technically and administratively correct. The inspectors determined that the evaluation was not technically correct because non-conservative values were used for carbon steel, and there was no discussion on aluminum bronze. The licensee entered this issue into the corrective action program as Condition Report 13-3170. Corrective actions included revising the original evaluation, generating a lessons learned for the engineering department, and creating an action item to evaluate revising the procedure to more clearly define roles and responsibilities for cross discipline evaluations.

  This finding was more than minor because it affected the Mitigating Systems Cornerstone attribute of Human Performance and affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, using non-conservative values in a reportability evaluation which resulted in significant calculational errors requiring the evaluation be revised. The inspectors performed the significance determination using NRC Inspection Manual Chapter 0609 because the finding affected the Mitigating Systems Cornerstone while the plant was at power. Attachment 0609.04, "Initial Characterization of Findings," dated June 19, 2012, evaluates the finding using Appendix A. Using Appendix A, Exhibit 2, Mitigating Systems Screening

Questions, the finding was determined to be of very low safety significance because it was not a design or qualification issue confirmed not to result in a loss of operability or functionality; did not represent an actual loss of safety function of the system or train; and did not result in the loss of one or more trains of nontechnical specification equipment. In addition, the NRC determined the finding had a human performance cross-cutting aspect, associated with work practices, because error prevention techniques such as self and peer checking were not performed commensurate with risk of the assigned task [H.4(a)] (Section 1R15).

B. Licensee-Identified Violations

None.

REPORT DETAILS

Summary of Plant Status

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

Unit 2 began the inspection period at 100 percent rated thermal power and remained there until January 4, 2013, when during monthly control rod testing, two shutdown bank rods dropped into the core requiring a manual reactor scram. On January 6, 2013, Unit 2 went critical and achieved 100 percent rated thermal power on January 8, 2013. On January 8, 2013, the unit experienced a reactor trip as a result of a fault in main transformer 2A, which resulted in a turbine/reactor trip. The unit remained in a forced outage for the remainder of the inspection period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

1R04 Equipment Alignments (71111.04)

Partial Walkdown

a. Inspection Scope

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

- February 11, 2013, Unit 2, residual heat removal system train B
- March 7, 2013, Unit 1, standby diesel generator 12
- March 12, 2013, Unit 1, essential cooling water 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, UFSAR, 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 inspected accessible portions of the systems to verify system components and support equipment were aligned correctly and operable. The inspectors examined the material condition of the components and observed operating parameters of equipment to verify that there were no obvious deficiencies. The inspectors also verified that the licensee had properly identified and resolved equipment alignment problems that could cause initiating events or impact the capability of mitigating systems or barriers and entered them into the corrective action program with the appropriate significance characterization. Specific documents reviewed during this inspection are listed in the attachment.

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

b. Findings

No findings were identified.

1R05 Fire Protection (71111.05Q)

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:

- February 14, 2013, Unit 1, electrical auxiliary building main control room relay cabinet area, Fire Zone 032
- February 14, 2013, Unit 2, electrical auxiliary building main control room relay cabinet area, Fire Zone 032
- March 13, 2013, Unit 1, component cooling water heat exchanger room, Fire Zone Z111
- March 13, 2013, Unit 2, observed main transformer 2A initial energizing, main and auxiliary transformer area; Fire Zone Z940

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 were identified.

1R07 Heat Sink Performance (71111.07)

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 chiller 12C. 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 heat sink inspection sample as defined in Inspection Procedure 71111.07-05.

b. Findings

No findings were identified.

1R11 Licensed Operator Requalification Program and Licensed Operator Performance (71111.11)

.1 Quarterly Review of Licensed Operator Requalification Program

a. Inspection Scope

On March 6, 2013, the inspectors observed a crew of licensed operators in the plant's simulator during training. The inspectors assessed the following areas:

- Licensed operator performance
- The ability of the licensee to administer the evaluations and the quality of the training provided
- The modeling and performance of the control room simulator
- The quality of post-scenario critiques
- Follow-up actions taken by the licensee for identified discrepancies

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

b. Findings

No findings were identified.

.2 Quarterly Observation of Licensed Operator Performance

a. Inspection Scope

On January 8, 2013, the inspectors observed the performance of on-shift licensed operators in the Unit 2 main control room. At the time of the observations, the plant was in a period of heightened activity due to an automatic reactor trip resulting from a fire on main transformer 2A. The inspectors observed the operators' performance of the following activities:

- Implementation of emergency operating procedures for a reactor trip and natural circulation cooldown due to the loss of all reactor coolant pumps
- Restoration of offsite power to trains A and C engineered safety features 4160-Vac electrical busses
- Restoration of forced circulation to the reactor coolant system by starting a reactor coolant pump
- Declaration of a notification of unusual event emergency classification
- Performance of the emergency director (operations shift manager)
- Termination of the notification of unusual event

In addition, the inspectors assessed the operators' adherence to plant procedures, including the conduct of operations procedure and other operations department policies.

These activities constitute completion of one quarterly licensed-operator performance sample as defined in Inspection Procedure 71111.11.

b. Findings

No findings were identified.

1R12 Maintenance Effectiveness (71111.12)

a. Inspection Scope

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

- March 11, 2013, Units 1 and 2, auxiliary feedwater [AF] system
- March 19, 2013, Units 1 and 2, 4160-Vac Class 1E [PK] system

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 two quarterly maintenance effectiveness samples as defined in Inspection Procedure 71111.12-05.

b. Findings

No findings were identified.

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

a. Inspection Scope

The inspectors reviewed licensee personnel's evaluation and management of plant risk for the maintenance and emergent work activities affecting risk-significant and

safety-related equipment listed below to verify that the appropriate risk assessments were performed prior to removing equipment for work:

- January 7-11, 2013, Unit 1, planned 24-hour load test of standby diesel generator 11, and emergent work activities associated with Unit 2 automatic reactor trip due to main transformer 2A fire

- January 22-25, 2013, Unit 1, planned activities for a large train C work week, including essential cooling water pump 1C replacement and essential chiller 12C nondestructive evaluation testing

- March 11-15, 2013, Unit 1, planned activities for a large train B work week, including auxiliary feedwater anti-rotation pin replacement and Class 1E 4160-Vac load tap changer testing

- March 25-29, 2013, Unit 1, planned activities for cross train equipment work, including train D auxiliary feedwater; train B safety injection; and train D steam generator power operated relief valve

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 were identified.

1R15 Operability Determinations and Functionality Assessments (71111.15)

a. Inspection Scope

The inspectors reviewed the following assessments:

- February 15, 2013, Unit 2, standby diesel generator 23 Agastat relay life expectancy

- March 28, 2013, Unit 1, spent fuel pool cooling low flow annunciator alarms
- March 29, 2013, Unit 2, essential cooling water train C component cooling water heat exchanger return throttle valve flange pin holes in the seal weld area

The inspectors selected these operability and functionality assessments based on the risk significance of the associated components and systems. The inspectors evaluated the technical adequacy of the evaluations to ensure technical specification operability was properly justified and to verify 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 UFSAR 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. Additionally, the inspectors reviewed a sampling of corrective action documents to verify that the licensee was identifying and correcting any deficiencies associated with operability evaluations. Specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of three operability evaluation inspection samples as defined in Inspection Procedure 71111.15-05.

b. Findings

.1 Spent Fuel Pool Cooling Low Flow Annunciator Alarm

Introduction. The inspectors identified a Green finding for the failure to follow Procedure 0PGP03-ZX-0002, "Condition Reporting Process," Revision 43, step 4.2.1 which required initiation of a condition report for an abnormal or unexpected condition on a structure, system, or component.

Description. On October 11, 2012, the inspectors toured the Unit 1 control room and observed licensed reactor operators starting both trains of spent fuel pool cooling. Shortly after starting the spent fuel pool cooling pumps, the "spent fuel pool cooling flow low" annunciator alarm was received and then cleared in about 45 seconds. The operators dismissed the alarm as expected due to starting both pumps. However, the inspectors questioned the operators about their response to the alarm because there was a delay before the alarm was received; the inspectors could not find any documentation indicating that the alarm was expected; and operators indicated that the alarm usually came in when train A spent fuel pool cooling pump was started. The inspectors asked if this condition had previously been entered into the corrective action program. After some additional review, the licensee stated that a condition report had not been initiated for this specific issue and it had not been evaluated by engineering. The inspectors interviewed the operators and engineers, reviewed the annunciator response procedures, spent fuel pool cooling procedures, and several years of historical pump start data. The inspectors determined this alarm should not have been expected because the alarm was not consistently received when starting the pumps. The inspectors identified that in the last three years, when starting the train A pump, the

alarm came in over twenty-five times, and when starting train B pump, the alarm came in ten times. The inspectors questioned whether this could have been indicative of a problem with the alarm, the instrumentation, or the pumps. Additionally, there was a 50-second time delay built into the system, which the operators were not aware of and contributed to the failure to initiate a condition report. Over time, receiving and dismissing the alarm had become an accepted practice, and operators did not maintain a questioning attitude about why it was so inconsistent. The inspectors concluded that per step 4.2.1 of Procedure 0PGP03-ZX-0002, the licensee should have written a condition report to evaluate the condition.

In January 2013, during troubleshooting, the licensee attempted to calibrate the flow instrument to resolve the low flow alarm issue, however, this attempt was not successful. In February 2013, during additional troubleshooting, the licensee determined that the low flow alarms were caused by an incorrect type of pulsation dampener (snubber) that was installed in the instrument flow lines. The licensee discovered that the snubbers used for the instrument flow lines were sintered element type snubbers. The vendor's literature indicated these types of snubbers were subject to plugging and should only be installed in systems with clean noncorrosive liquids or gases. The spent fuel pool cooling system is not considered a clean noncorrosive liquid system because of the potential for it to contain high silica and boric acid concentrations. The inspectors determined that if the snubbers became partially or fully plugged, then it could result in slow instrument response, erratic flow indications, or affect the alarm function. The licensee's corrective actions included replacing the snubber, updating procedures, and training of maintenance and operations personnel about the condition.

Analysis. The failure to initiate a condition report and evaluate the spent fuel pool cooling low flow alarm was a performance deficiency. This finding was more than minor, because it affected the Barrier Integrity Cornerstone attribute of structures, systems, and components' performance (in the area of instrumentation to maintain functionality of the spent fuel pool cooling system), and adversely affected the cornerstone objective to provide reasonable assurance that physical design barriers (fuel cladding) protect the public from radionuclide releases caused by accidents or events. Specifically, if left uncorrected it would have the potential to become a more significant safety concern because it could have resulted in unreliable instrumentation, or alarms, that are used to ensure adequate cooling to the spent fuel pool. The inspectors performed the significance determination using NRC Inspection Manual Chapter 0609 because the finding affected the Barrier Integrity Cornerstone while the plant was at power. Attachment 0609.04, "Initial Characterization of Findings," dated June 19, 2012, evaluates the finding using Appendix A. Using Appendix A, Exhibit 3, Barrier Integrity Screening Questions, the finding was determined to be of very low safety significance (Green) because the finding did not: (1) result in the spent fuel pool temperature exceeding the maximum analyzed temperature limit; (2) result from fuel handling errors that caused fuel cladding damage; (3) result in a loss of inventory below the minimum analyzed level limit; and (4) affect the spent fuel pool neutron absorber, fuel pattern loading, or soluble boron concentration. In addition, the NRC determined the finding had

a human performance cross-cutting aspect, associated with decision making, because the licensee did not use conservative assumptions when dismissing the low flow alarm instead of having it evaluated to ensure that it was safe to proceed [H.1(b)].

Enforcement. This finding does not involve enforcement action because no violation of a regulatory requirement was identified. The licensee entered this finding into the corrective action program as Condition Report 13-2398. Because this finding does not involve a violation and is of very low safety significance, it is identified as FIN 05000498/2013002-01, "Failure to Initiate a Condition Report for Spent Fuel Pool Cooling Low Flow Alarms."

.2 Essential Cooling Water Train C Throttle Valve Flange Pin Holes in the Seal Weld Area

Introduction. The inspectors identified a Green non-cited violation of 10 CFR Part 50, Appendix B, Criteria V, "Instructions, Procedures, and Drawings," for the failure to follow Procedure 0PGP04-ZA-0002, "Condition Report Engineering Evaluation," Revision 18.

Description. On February 25, 2013, during a scheduled inspection of train C essential cooling water return throttle valve to the component cooling water heat exchanger, valve 2-EW-0101. The inspection also revealed localized erosion areas. Through visual and ultrasonic nondestructive examination techniques, the indications were determined to not be through wall. The areas with the worst damage were determined to be two pits along the top edge of the pipe-to-flange internal fillet weld and an erosion area downstream of the valve. The flange is a carbon steel flange with partial aluminum bronze overlay welded to the aluminum bronze pipe by an internal and external circumferential weld. These areas were characterized as follows: the first pit was 0.343 inches long and 0.126 inches deep, the second pit was 0.359 inches long and 0.062 inches deep, and the erosion area had a minimum thickness of 0.160 inches. As a result of these findings, operations asked for a reportability review to determine if essential cooling water train C was capable of performing its safety-related function under all conditions prior to the inspection.

The reportability review was performed by civil and mechanical design engineering personnel using Procedure 0PGP04-ZA-0002. Step 3.0 of this procedure stated that the engineering supervisor and the preparer are responsible for ensuring that the evaluation is technically and administratively correct. Contrary to this, the inspectors determined that the evaluation was not technically correct in that non-conservative values were used for carbon steel. ASME Class 1 stress values were used when Class 3 values should have been used. Additionally, there was no discussion on aluminum bronze. No reason was given as to why carbon steel was considered to be the weaker material, even though aluminum bronze comprises the majority of the system, including the weld material. In addition, the evaluation was also not administratively correct in that the preparer was part of the mechanical group, yet the majority of the evaluation was actually performed by the civil group. No peer checks or self checks were performed by the civil group prior to handing it to the mechanical group. Also, the technical reviewer was not appropriately assigned as they did not have the required expertise to review the entire evaluation and no second technical reviewer was assigned. The engineering supervisor failed to identify these technical and administrative errors and as a result, a

non-conservative evaluation was accepted by operations and the reportability was closed out as not reportable.

Based on the inspectors questioning, the reportability was reopened and the evaluation was revised using the correct values and the correct level of technical review. In addition, the licensee performed a much more thorough and rigorous engineering evaluation; this revised evaluation supported the original conclusion of not reportable. The licensee entered this issue into the corrective action program as Condition Report 13-3170. Corrective actions included revising the original evaluation, generating a lessons learned for the engineering department, and creating an action item to evaluate revising the Condition Report Engineering Evaluation procedure to more clearly define roles and responsibilities for cross discipline evaluations.

Analysis. The failure to follow Procedure 0PGP04-ZA-0002 to ensure an adequate reportability review was a performance deficiency. This finding was more than minor because it adversely affected the Mitigating Systems Cornerstone attribute of Human Performance and affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, using non-conservative values in a reportability evaluation which resulted in significant calculational errors requiring the evaluation be revised. The inspectors performed the significance determination using NRC Inspection Manual Chapter 0609 because the finding affected the Mitigating Systems Cornerstone while the plant was at power. Attachment 0609.04, "Initial Characterization of Findings," dated June 19, 2012, evaluates the finding using Appendix A. Using Appendix A, Exhibit 2, Mitigating Systems Screening Questions, the finding was determined to be of very low safety significance (Green) because it was not a design or qualification issue confirmed not to result in a loss of operability or functionality; did not represent an actual loss of safety function of the system or train; and did not result in the loss of one or more trains of nontechnical specification equipment. In addition, the NRC determined the finding had a human performance cross-cutting aspect, associated with work practices, because error prevention techniques such as self and peer checking were not performed commensurate with risk of the assigned task [H.4(a)].

Enforcement. Title 10 CFR Part 50, Appendix B, Criteria V, "Instructions, Procedures, and Drawings," requires, in part, that activities affecting quality shall be prescribed by documented procedures of a type appropriate to the circumstances and shall be accomplished in accordance with these procedures. Procedure 0PGP04-ZA-0002, "Condition Report Engineering Evaluation," Revision 18, step 3.0, states, in part, that the engineering supervisor and the preparer are responsible for the evaluation being technically and administratively correct. Contrary to this, on March 4, 2013, the preparer and the engineering supervisor did not ensure that the reportability evaluation on the Unit 2 train C essential cooling water flange was technically correct. Since this violation was of very low safety significance and was entered into the corrective action program as Condition Report 13-3170, it is being treated as a non-cited violation, consistent with Section 2.3.2.a of the Enforcement Policy: NCV 05000499/2013002-02, "Use of Non-Conservative Values in Reportability Evaluation."

1R18 Plant Modifications (71111.18)

Permanent Modifications

a. Inspection Scope

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 permanent modification listed below.

- March 21, 2013, Unit 1, correction to wrong input points on 125-Vdc Bus E1A11

The inspectors reviewed key parameters associated with energy needs, materials, replacement components, timing, control signals, equipment protection from hazards, operations, ventilation boundary, structural, licensing basis, and failure modes for the permanent modification listed above.

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; post-modification 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 modification design assumptions were appropriate; 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 were identified.

1R19 Post-maintenance Testing (71111.19)

a. Inspection Scope

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

- January 16-19, 2013, Unit 1, essential cooling water pump 1B discharge valve EW-0134; traveling screen relay calibration; and self-cleaning strainer overhaul

- January 29, 2013, Unit 1, essential cooling water pump 1C replacement with a new product-lubricated bearing design pump

- February 19, 2013, Unit 2, residual heat removal pump 2A motor bearing replacement

- March 5, 2013, Unit 2, essential cooling water 2C return throttle valve EW-0101 flange replacement and coatings repair

- March 21, 2013, Unit 1, reactor coolant pump 1D undervoltage relay potential transformer fuse replacement

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

- The effect of testing on the plant had been adequately addressed; testing was adequate for the maintenance performed

- Acceptance criteria were clear and demonstrated operational readiness; test instrumentation was appropriate

The inspectors evaluated the activities against the technical specifications, the UFSAR, 10 CFR Part 50 requirements, licensee procedures, and various NRC generic communications to ensure that the test results adequately ensured that the equipment met the licensing basis and design requirements. In addition, the inspectors reviewed corrective action documents associated with post-maintenance tests to determine whether the licensee was identifying problems and entering them in the corrective action program and that the problems were being corrected commensurate with their importance to safety. Specific documents reviewed during this inspection are listed in the attachment.

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

b. Findings

No findings were identified.

1R20 Refueling and Other Outage Activities (71111.20)

.1 Forced Outage 2F1301 Due to Two Dropped Rods

a. Inspection Scope

The inspectors reviewed the forced outage contingency plans for the Unit 2 forced outage as a result of a manual scram from two dropped rods during monthly surveillance testing January 4-8, 2013, to confirm that licensee personnel had appropriately considered risk, industry experience, and previous site-specific problems in

developing and implementing a plan that assured maintenance of defense in depth. During the forced outage, the inspectors observed portions of the shutdown process and monitored licensee controls over the outage activities listed below.

- Configuration management, including maintenance of defense in depth, is commensurate with the outage safety plan for key safety functions and compliance with the applicable technical specifications when taking equipment out of service.
- Clearance activities, including confirmation that tags were properly hung and equipment appropriately configured to safely support the work or testing.
- Status and configuration of electrical systems to ensure that technical specifications and outage safety-plan requirements were met, and controls over switchyard activities.
- Controls over activities that could affect reactivity.
- Startup and ascension to full power operation, and tracking of startup prerequisites.
- Licensee identification and resolution of problems related to forced outage activities.

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

These activities constitute completion of one refueling outage and other outage inspection sample as defined in Inspection Procedure 71111.20-05.

b. Findings

No findings were identified.

.2 Forced Outage 2F1302 Due to Fault in Main Transformer 2A

a. Inspection Scope

The inspectors reviewed the forced outage contingency plans for the Unit 2 forced outage as a result of a fault in main transformer 2A which occurred on January 8, 2013, to confirm that licensee personnel had appropriately considered risk, industry experience, and previous site-specific problems in developing and implementing a plan that assured maintenance of defense in depth. Unit 2 remained in the forced outage for the remainder of the inspection period. During the forced outage, the inspectors observed portions of the shutdown and cooldown processes and monitored licensee controls over the outage activities listed below.

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

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

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

- Status and configuration of electrical systems to ensure that technical specifications and outage safety-plan requirements were met, and controls over switchyard activities.

- Monitoring of decay heat removal processes, systems, and components.

- Verification that outage work was not impacting the ability of the operators to operate the spent fuel pool cooling system.

- Reactor water inventory controls, including flow paths; configurations and alternative means for inventory addition; and controls to prevent inventory loss.

- Controls over activities that could affect reactivity.

- Licensee identification and resolution of problems related to forced outage activities.

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

These activities constitute completion of one refueling outage and other outage inspection sample as defined in Inspection Procedure 71111.20-05.

b. Findings

No findings were identified.

1R22 Surveillance Testing (71111.22)

a. Inspection Scope

The inspectors reviewed the UFSAR, procedure requirements, and technical specifications to ensure that the 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.

- January 30, 2013, Unit 2, essential cooling water pump 2B reference values test
- February 5, 2013, Unit 1, turbine-driven auxiliary feedwater pump 14 in-service test
- March 10, 2013, Unit 2, control room envelope tracer gas in-leakage test
- March 26, 2013, Unit 2, standby diesel generator 23 loss of offsite power and loss of offsite power engineered safety features actuation test

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

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

b. Findings

No findings were identified.

Cornerstone: Emergency Preparedness

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

a. Inspection Scope

The Nuclear Security and Incident Response headquarters staff performed an in-office review of the latest revisions of various Emergency Plan Implementing Procedures and the Emergency Plan, located under ADAMS Accession Number ML13029A104, as listed in the attachment.

The licensee determined that in accordance with 10 CFR 50.54(q), the changes made in the revisions resulted in no reduction in the effectiveness of the plan, and that the revised plan continued to meet the requirements of 10 CFR 50.47(b) and Appendix E to 10 CFR Part 50. The NRC review was not documented in a safety evaluation report and did not constitute approval of licensee-generated changes; therefore, this revision is subject to future inspection. The specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of two samples as defined in Inspection Procedure 71114.04-05.

b. Findings

No findings were identified.

4. OTHER ACTIVITIES

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

4OA1 Performance Indicator Verification (71151)

Data Submission Issue

a. Inspection Scope

The inspectors performed a review of the performance indicator data submitted by the licensee for the fourth quarter 2012 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 were identified.

4OA2 Problem Identification and Resolution (71152)

.1 Routine Review of Identification and Resolution of Problems

a. Inspection Scope

As part of the various baseline inspection procedures discussed in previous sections of this report, the inspectors routinely reviewed issues during baseline inspection activities and plant status reviews to verify that they were being entered into the licensee's corrective action program at an appropriate threshold, that adequate attention was being given to timely corrective actions, and that adverse trends were identified and addressed. The inspectors reviewed attributes that included the complete and accurate identification of the problem; the timely correction, commensurate with the safety significance; the evaluation and disposition of performance issues, generic implications, common causes, contributing factors, root causes, extent of condition reviews, and previous occurrences reviews; and the classification, prioritization, focus, and timeliness of corrective 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 1 of this report.

b. Findings

No findings were identified.

.2 Daily Corrective Action Program Reviews

a. Inspection Scope

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

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

b. Findings

No findings were identified.

.3 Selected Issue Follow-up Inspection

a. Inspection Scope

On February 20, 2013, the inspectors reviewed a condition report documenting that the Unit 1 refueling water storage tank (RWST) was found with boron deposits near the shell-to-floor plate region. The inspectors selected this issue for in-depth follow-up because the RWST holds up to 530,000 gallons of borated safety injection water for emergency use as well as for normal refueling shutdowns. The licensee drained the tank in the fall of 2012 for inspection and repair. The licensee also removed small sections of the tank's floor and sent them to an offsite laboratory for additional metallurgical analyses. The inspectors reviewed the results of the offsite laboratory analyses, the licensee's apparent cause evaluation, and interviewed licensee personnel. The primary cause of the boron deposits near the shell-to-floor plate region was the areas immediately surrounding the tank had become wetted creating an aqueous environment for chlorides to initiate transgranular stress corrosion cracking under the floor of the tank. The licensee's corrective actions include a plan to install a berm around the tank to prevent water from flowing under the tank, and perform routine operations and preventative maintenance walkdowns of the tank to observe leakage from the tank or any other water source in the room that may impact the tank's integrity. The inspectors determined that the licensee's planned corrective actions and preventative maintenance activities were adequate to ensure the future integrity of the RWST. The inspectors also reviewed the extent of this condition on the Unit 2 RWST. The Unit 2 tank had an existing berm around it and did not exhibit the same condition.

In addition, the inspectors reviewed the licensee's corrective actions associated with the non-cited violation of 10 CFR 50.55a(g)(4) for the failure to implement ASME Code requirements (see NRC Inspection Report 05000498/2012003 for additional details). The licensee updated their engineering evaluation procedures to provide clear guidance about characterizing, evaluating, and correcting flaws in ASME Class 2 and 3 components. The inspectors determined these corrective actions were adequate to reduce the likelihood of similar violations in the future. Specific documents reviewed are described in the attachment to this report.

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

b. Findings

No findings were identified.

.4 In-depth Review of Operator Workarounds

a. Inspection Scope

During the week of February 25, 2013, the inspectors reviewed the Units 1 and 2 operator workarounds as well as the cumulative effects of the workarounds to: (1) determine if the functional capability of the system was affected; (2) determine if

multiple mitigating systems could be affected; (3) evaluate the effect of the operator workaround on the operator's ability to implement, and respond correctly and timely to abnormal or emergency operating procedures; and (4) verify that the licensee had identified and implemented appropriate corrective actions associated with operator workarounds. Specific documents reviewed during this inspection are listed in the attachment.

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

b. Findings

No findings were identified.

4OA3 Follow-up of Events and Notices of Enforcement Discretion (71153)

.1 Licensee Event Report 05000499/2013-001-00, "Unit 2 Manual Reactor Trip Due to Dropped Rods M8 and D8"

On January 4, 2013, during the monthly performance of 0PSP03-RS-0004, "Control Rod Operability Test," Revision 7, on Unit 2, rods M8 and D8 dropped to the bottom of the core requiring a manual reactor scram. The licensee was moving shutdown bank C rods when two rods on shutdown bank E dropped. The licensee had experienced a similar condition during testing during the previous refueling outage and determined that the rod holdout mode selector switch was the likely component that was faulty. During the previous outage, the licensee replaced the switch and successfully completed post-maintenance testing. As a result, the licensee suspected the failure was related to the same switch. Subsequent troubleshooting determined that an internal fault on the replaced rod holdout mode selector switch resulted in the rods dropping. This was able to be duplicated prior to removing the switch for replacement. The licensee replaced the switch and inspected the remaining Unit 2 like switches for similar failure. The licensee returned Unit 2 to critical on January 6, 2013, and restored to 100 percent rated thermal power on January 8, 2013. The licensee event report, root cause investigation, and associated condition reports were reviewed. No findings or violations of NRC requirements were identified. This licensee event report is closed.

.2 Unusual Event Declaration Due to Fault in Main Transformer 2A

On January 8, 2013, a failure of the Unit 2 main transformer 2A occurred which resulted in an automatic reactor trip. The failure of the main transformer resulted in a fire and damage to the transformer. The fire deluge system for the main transformer automatically activated and the onsite fire brigade responded. No offsite assistance was required. An Unusual Event was declared for Fire or Explosion in the Protected Area or Switchyard Which Affects Normal Operation that resulted in damage to equipment necessary for normal plant operation. As a result of normal site electrical bus alignment, the loss of the main transformer resulted in the loss of the unit auxiliary transformer and, therefore, loss of power to Class 1E 4160-Vac busses 2A and 2C; the associated

standby diesel generators started as required and loaded their respective busses. Bus 2B remained powered from offsite during the event. As a result of the partial loss of power, all reactor coolant pumps tripped and the plant was cooled down via natural circulation using auxiliary feedwater and the steam generator power operated relief valves. The Unusual Event was terminated after verification that no fire hazards existed, plant conditions stabilized, and offsite power was restored. At the end of the inspection period, the unit was still performing repairs to startup from Forced Outage 2F1302.

4OA5 Other Activities

Temporary Instruction 2515/182, "Review of the Industry Initiative to Control Degradation of Underground Piping and Tanks"

a. Inspection Scope

Leakage from buried and underground pipes has resulted in groundwater contamination incidents with associated heightened NRC and public interest. The industry issued a guidance document, NEI 09-14, "Guideline for the Management of Buried Piping Integrity," (ADAMS Accession No. ML1030901420) to describe the goals and required actions (commitments made by the licensee) resulting from this underground piping and tank initiative. On December 31, 2010, NEI issued Revision 1 to NEI 09-14, "Guidance for the Management of Underground Piping and Tank Integrity," (ADAMS Accession No. ML110700122) with an expanded scope of components which included underground piping that was not in direct contact with the soil and underground tanks. On November 17, 2011, the NRC issued Temporary Instruction 2515/182, "Review of the Industry Initiative to Control Degradation of Underground Piping and Tanks," to gather information related to the industry's implementation of this initiative.

The inspectors reviewed the licensee's programs for buried pipe, underground piping, and tanks in accordance with Temporary Instruction 2515/182 to determine if the program attributes and completion dates identified in Sections 3.3 A and 3.3 B of NEI 09-14, Revision 1, were contained in the licensee's program and implementing procedures. For the buried pipe and underground piping program attributes with completion dates that had passed, the inspectors reviewed records to determine if the attribute was in fact complete, and to determine if the attribute was accomplished in a manner which reflected good or poor practices in program management.

Based upon the scope described above, Phase I was found to meet all applicable aspects of NEI 09-14, Revision 1, as set forth in Table 1 of Temporary Instruction 2515/182. Specific documents reviewed during this inspection are listed in the attachment.

b. Findings

No findings were identified.

4OA6 Meetings, Including Exit

Exit Meeting Summary

On April 4, 2013, the inspectors presented the inspection results to Mr. D. Koehl, 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.

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee Personnel

R. Aguilera, Manager, Health Physics
M. Berg, Manager, Design Engineering
C. Bowman, General Manager, Engineering
R. Dunn Jr., Manager, Fuels and Analysis
T. Frawley, Manager, Operations
J. Hartley, Manager, Mechanical Maintenance
G. Hildebrandt, Manager, Plant Protection
G. Janak, Manager, Unit 1 Operations
B. Jenewein, Manager, Systems Engineering
D. Koehl, President and CEO
J. Lovejoy, Manager, I&C Maintenance
B. Migl, Manager, Maintenance Engineering (Acting)
J. Milliff, Manager, Unit 2 Operations
M. Murray, Manager, Regulatory Affairs
J. Paul, Supervisor, Licensing
L. Peter, Plant General Manager
G. Powell, Site Vice President
D. Rencurrel, Senior Vice President, Operations
M. Ruvalcaba, Manager, Testing and Programs
R. Savage, Engineer, Licensing Staff Specialist
M. Schaefer, Manager, Maintenance
S. Sovizral, Manager, Security
T. Walker, Manager, Quality Assurance
K. Wallis, Supervisor, Maintenance Engineering
D. Zink, Supervising Engineering Specialist

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened and Closed

05000498/2013002-01	FIN	Failure to Initiate a Condition Report for Spent Fuel Pool Cooling Low Flow Alarms (Section 1R15)
05000499/2013002-02	NCV	Use of Non-Conservative Values in Reportability Evaluation (Section 1R15)

Closed

05000499/2013-001-00	LER	Unit 2 Manual Reactor Trip Due to Dropped Rods M8 and D8 (Section 4OA3)

LIST OF DOCUMENTS REVIEWED

Section 1R04: Equipment Alignment

CONDITION REPORTS

12-8319

DRAWINGS

NUMBER	TITLE	REVISION
5Q159F00045#1	Piping & Instrumentation Diagram Standby Diesel Generator Fuel Oil Storage & Transfer System	33
5R169F20000#2	Piping and Instrumentation Diagram Residual Heat Removal System	27
5R289F05038#1	Piping & Instrumentation Diagram Essential Cooling Water System Train 1A	13

MISCELLANEOUS

TITLE	REVISION/DATE
DCN MD 2779	October 26, 1993
Updated Final Safety Analysis Report Chapter 9.2	16

TITLE	REVISION/DATE
Updated Final Safety Analysis Report Appendix 9A	13

PROCEDURES

NUMBER	TITLE	REVISION
0POP01-ZA-0001	Plant Operations Department Administrative Guidelines	38
0POP02-CH-0005	Essential Chiller Operation	65
0POP02-DG-0002	Emergency Diesel Generator 12(22)	63
0POP02-EW-0001	Essential Cooling Water Operations	64
0POP02-RH-0001	Residual Heat Removal System Operation	59

Section 1R05: Fire Protection

CONDITION REPORTS

12-2861	12-25827	13-1982	13-1984
12-25685	13-1914	13-1983	13-1987

FIRE PREPLANS

NUMBER	TITLE	REVISION
0EAB01-FP-0032	Fire PrePlan Electrical Auxiliary Building Relay Cabinet Area of Control Room	3
0MAB02-FP-0111	Fire PrePlan Mechanical Auxiliary Building electrical Chase Train A	3
0XFM99-FP-0940	Fire PrePlan for the Main and Auxiliary Transformers	2

PROCEDURES

NUMBER	TITLE	REVISION
0PGP01-ZA-0006	Risk Management Actions (RMA's)	19
0PGP03-ZF-0001	Fire Protection Program	22
0PGP03-ZF-0018	Fire Protection System Functionality Requirements	16

Section 1R07: Heat Sink Performance

CONDITION REPORTS

13-1079	13-1088

MISCELLANEOUS

TITLE	DATE
Heat Exchanger Inspection Report ECT Testing Exchanger: Train C Essential Chilled Water Chiller Unit 12C Condenser Side	January 23, 2013

WORK AUTHORIZATION NUMBERS

408044	464043

Section 1R12: Maintenance Effectiveness

CONDITION REPORTS

10-25564	11-19073	12-27736	12-31469
11-8545	11-26618	12-29118	13-955
11-10205	12-24501		

MISCELLANEOUS

NUMBER	TITLE	REVISION /DATE
	Maintenance Rule System Scoping Basis Report	March 8, 2012
5A050GAAF01	Auxiliary Feedwater System Risk Significance Basis Document	5
5A050GAPK01	4.16 KV AC Class 1E Power (PK) System Risk Significance Basis Document	2
	System Health Report Auxiliary Feedwater (AF)	Third Quarter 2011 through Fourth Quarter 2012
	System Health Report Auxiliary Feedwater (AF)	Third Quarter 2011 through Fourth Quarter 2012

Section 1R13: Maintenance Risk Assessment and Emergent Work Controls

CONDITION REPORTS

13-385 13-463 13-584 13-591
13-455

MISCELLANEOUS

TITLE	DATE
RAsCal risk profiles for quantified and unquantified risk states	March 11-15, 2013
RAsCal risk profiles for quantified and unquantified risk states	March 25-29, 2013

PROCEDURES

NUMBER	TITLE	REVISION
0OOI01-OL-0005	Operations Logs – Diesel Generator	15
0PGP01-ZA-0006	Risk Management Actions (RMA's)	19
0PGP02-ZA-0003	Comprehensive Risk Management Program	13
0PGP03-HU-0001	Human Performance Program	1
0PGP03-ZA-0090	Work Process Program	38
0PGP03-ZA-0091	Configuration Risk Management Program	12
0PGP03-ZO-0055	Protected Components	4
0PMP05-ZE-0058	FCB Fiber Optic Interface Calibration	8
0POP01-ZO-0006	Risk Management Actions (RMAs)	20
0POP03-ZG-0006	Plant Shutdown from 100% to Hot Standby	50
0POP03-ZG-0007	Plant Cooldown	67
0POP05-EO-EO00	Reactor Trip or Safety Injection	22
0POP05-EO-ES01	Reactor Trip Response	26
0POP05-EO-ES02	Natural Circulation Cooldown	16
0PSP03-DG-0016	Standby Diesel 11(21) Twenty-Four Hour Load Test	37

Section 1R15: Operability Evaluations and Functionality Assessments

CONDITION REPORTS

96-6048	12-28000	13-2508	13-3160
12-24361	13-2398	13-2609	13-3170

MISCELLANEOUS

NUMBER	TITLE	REVISION
5Z689ZS1027	Instrumentation Construction	14
5R219F05028#1	Piping and Instrumentation Diagram Spent Fuel Pool Cooling and Cleanup System	28

PROCEDURES

NUMBER	TITLE	REVISION
0PGP04-ZA-0002	Condition Report Engineering Evaluation	18
0POP02-FC-0001	Spent Fuel Pool Cooling and Cleanup System	66
0POP09-AN-22M2	Annunciator Lampbox 22M02 Response Instructions	23

WORK AUTHORIZATION NUMBERS

200785	339762	462226	

Section 1R18: Plant Modifications

CONDITION REPORTS

11-6617	12-12915	13-2316	13-2322

PROCEDURES

NUMBER	TITLE	REVISION
0PGP03-ZO-0039	Operations Configuration Management	27
0PGP04-ZE-0309	Design Change Package	28

WORK AUTHORIZATION NUMBERS

421472	437158	443150	451334

Section 1R19: Post-maintenance Testing

CONDITION REPORTS

06-15147	13-566	13-766	13-2503
12-8319	13-677	13-813	13-2508
13-562	13-762	13-1737	13-3503
13-565			

PROCEDURES

NUMBER	TITLE	REVISION
0PGP03-ZE-0082	ASME Section XI Repair/Replacement Activity Pressure Testing	0
0PMP04-EW-0001	Essential Cooling Water Pump Maintenance	30
0PMP04-EW-0001A	Essential Cooling Water Pump Maintenance (Product-Lubricated Bearing Design)	1
0PMP04-RH-0001	Residual Heat Removal Pump Maintenance	16
0PMP04-ZG-0058	Mission Split Disc/Clow Dual Plate Check Valve Maintenance	14
0PMP05-RH-0001	Residual Heat Removal Pump Motor Inspection	10
0PMP05-ZE-0206	Potential Transformer Test	6
0PMP08-ZI-0225	RHR and CCP Vibration Monitoring Equipment Calibration	12
0POP02-RH-0001	Residual Heat Removal System Operation	59
0PSP03-RH-0001	Residual Heat Removal Pump 1A(2A) Inservice Test	13
0PSP03-RH-0007	Residual Heat Removal System Valve Operability Test (Cold Shutdown)	20
0PSP03-RH-0015	Residual Heat Removal Pump 1A(2A) Comprehensive Pump Test	5
0PSP06-RC-0003	Undervoltage RCP Relay Channel Calibration/TADOT	19
0PSP06-RC-0004	Underfrequency RCP Relay Channel Calibration/TADOT	20

WORK AUTHORIZATION NUMBERS

395431	408362	435975	459517
401391	423142	438694	471075
405509	427054	454550	472579
408358	427884	459516	

Section 1R20: Refueling and Other Outage Activities

CONDITION REPORTS

11-23150	13-56	13-155	13-325
12-2308	13-102	13-318	13-349
12-9249			

MISCELLANEOUS

NUMBER	TITLE	REVISION
MC-06482	Essential Chilled Water/EAB HVAC Design Basis Loads with Capacity of 300 Tons per Train	2
MC-06482A	Essential Chilled Water Minimum Flow Requirements for EAB, CRE, FHB, and MAB Coolers	0

PROCEDURES

NUMBER	TITLE	REVISION
0PGP03-ZA-0090	Work Process Program	38
0PGP03-ZA-0101	Shutdown Risk Assessment	26
0PGP03-ZA-0114	Fatigue Rule Program	4
0PGP03-ZA-0135	Outage Scope Change Process	5
0PSP03-CS-0008	Recirculating Fluid pH Control System Operability Test	6
0PSP03-ZQ-0028	Operator Logs	128
WCG-0001	Work Screening and Processing	24
WCG-0002	Work Management Schedule	27
WCG-0007	Forced Outage Guideline Organization and Responsibilities	7
	Conduct of Operations Chapter 12: Operations Outage Guideline	12

Section 1R22: Surveillance Testing

CONDITION REPORTS

12-31205	13-2863	13-2996	13-3002
13-88	13-2917	13-2997	13-3003
13-525	13-2935	13-2998	13-3004
13-568	13-2955	13-2999	13-3275
13-1388	13-2995	13-3000	13-3661

PROCEDURES

NUMBER	TITLE	REVISION
0PMP04-EW-0001A	Essential Cooling Water Pump Maintenance (Product-Lubricated Bearing Design)	1
0PMP05-EW-0001	Essential Cooling Water Motor Inspection	9
0PMP05-ZE-0203	Insulation Resistance Testing 4.16K and 13.8K Volt Motors	16
0PSP03-AF-0007	Auxiliary Feedwater Pump 14(24) Inservice Test	39
0PSP03-DG-0009	Standby Diesel 13(23) LOOP Test	33
0PSP03-DG-0015	Standby Diesel 13(23) LOOP – ESF Actuation Test	35
0PSP03-EW-0018	Essential Cooling Water System Train B Testing	47
0PSP11-HE-0003	Control Room Envelope Tracer Gas In-Leakage Test	5

WORK AUTHORIZATION NUMBERS

366690	434350	439810	464485
423270	434353	439811	467344
428935	438637	439815	467454

Section 1EP4: Emergency Action Level and Emergency Plan Changes

MISCELLANEOUS

NUMBER	TITLE
ICN #20-12	Emergency Plan

PROCEDURES

NUMBER	TITLE	REVISION
OERP01-ZV-OF03	Alternate TSC/OSC	1
OERP01-ZV-SH01	Shift Manager	27

Section 4OA2: Problem Identification and Resolution

CONDITION REPORTS

11-3756	11-27390	12-25979	12-31380
11-3897	12-20019	12-28335	12-31986
11-17459	12-20026	12-30944	13-334
11-23915			

MISCELLANEOUS

NUMBER	TITLE	DATE
99000649	Safety Injection System Refueling Water Storage Tank	January 29, 2013
	Failure Analysis of the Unit 1 Refueling Water Storage Tank Base Material	December 2012
	Tier 2 Apparent Cause Evaluation STP Unit 1 Refueling Water Storage Tank (RWST) Found with Boron Deposits Near the Shell to Floor Plate Region	December 6, 2012
	Unit 1 Operator Burden – Working Report	February 26, 2013
	Unit 2 Operator Burden – Working Report	February 26, 2013

PROCEDURES

NUMBER	TITLE	REVISION
0PGP04-ZA-0002	Condition Report Engineering Evaluation	17

Section 4OA3: Follow-up of Events and Notices of Enforcement Discretion

CONDITION REPORTS

11-23150	13-102	13-103

Section 4OA5: Other Activities

CONDITION REPORTS

10-16579	12-2220	12-24572	12-31134
11-16664	12-23618		

PROCEDURES

NUMBER	TITLE	REVISION
0PEP01-ZA-0305	Testing/Programs Engineering Program Requirements	1
0PEP10-ZA-0039	Visual Examination of Buried Piping Components	0
0PGP04-ZA-0606	Underground Piping and Tank Program	3