

## UNITED STATES NUCLEAR REGULATORY COMMISSION

REGION IV 1600 EAST LAMAR BLVD ARLINGTON, TEXAS 76011-4511

February 6, 2014

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 05000498/2013005 and 05000499/2013005

Dear Mr. Koehl:

On December 31, 2013, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your South Texas Project Electric Generating Station, Units 1 and 2, facility. On January 9, 2014, the NRC inspectors discussed the results of this inspection with Mr. G. Powell, Site Vice President, and other members of your staff. Inspectors documented the results of this inspection in the enclosed inspection report.

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

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

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In accordance with Title 10 of the *Code of Federal Regulations* (10 CFR) 2.390, "Public Inspections, Exemptions, Requests for Withholding," a copy of this letter, its enclosure, and your response (if any) will be available electronically for public inspection in the NRC's Public Document Room or from the Publicly Available Records (PARS) component of the NRC's Agencywide Documents Access and Management System (ADAMS). ADAMS is accessible from the NRC Web site at <a href="http://www.nrc.gov/reading-rm/adams.html">http://www.nrc.gov/reading-rm/adams.html</a> (the Public Electronic Reading Room).

Sincerely,

#### /RA/

Neil O'Keefe, Branch Chief Project Branch B Division of Reactor Projects

Docket Nos.: 50-498, 50-499 License Nos.: NPF-76, NPF-80

Enclosure: Inspection Report 05000498/2013005 and 05000499/2013005

w/ Attachment 1: Supplemental Information

w/ Attachment 2: Document Request for Inservice Inspection Activities

w/ Attachment 3: Document Request for Occupational Radiation Safety Inspection

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# U.S. NUCLEAR REGULATORY COMMISSION REGION IV

Docket: 05000498, 05000499

License: NPF-76, NPF-80

Report: 05000498/2013005 and 05000499/2013005

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: September 29 through December 31, 2013

Inspectors: A. Sanchez, Senior Resident Inspector

D. You, Acting Resident Inspector G. Apger, Operations Engineer T. Buchanan, Operations Engineer L. Carson II, Senior Health Physicist N. Greene, Ph.D., Health Physicist

P. Jayroe, Reactor Inspector

J. Kramer, Senior Resident Inspector, Comanche Peak

B. Larson, Senior Operations Engineer

J. Laughlin, Emergency Preparedness Inspector, NSIR

Approved Neil O'Keefe

By: Chief, Project Branch B

Division of Reactor Projects

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#### **SUMMARY**

IR 05000498/2013005, 05000499/2013005; 09/29/2013 – 12/31/2013; South Texas Project Electric Generating Station, Units 1 and 2, Biennial Requalification Inspection.

The inspection activities described in this report were performed between September 29, 2013, and December 31, 2013, by the resident inspectors at the South Texas Project Electric Generating Station, Units 1 and 2, facility and eight inspectors from the NRC's Region IV office and other NRC offices. Two findings of very low safety significance (Green) are documented in this report. One of these findings involved a violation of NRC requirements. The significance of inspection findings is indicated by their color (Green, White, Yellow, or Red), which is determined using Inspection Manual Chapter 0609, "Significance Determination Process." Their cross-cutting aspects are determined using Inspection Manual Chapter 0310, "Components Within the Cross-Cutting Areas." Violations of NRC requirements are dispositioned in accordance with the NRC's Enforcement Policy. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process."

Cornerstone: Initiating Events

• Green. The inspectors identified a non-cited violation of Title 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for failure to include appropriate quantitative or qualitative acceptance criteria for determining that important activities have been satisfactorily accomplished. Specifically, the licensee did not include sufficient criteria to identify and evaluate new critical tasks created for operator performance on the simulator scenario portion of the biennial requalification examination to enable the evaluators to correctly assess licensed operator performance. The licensee has entered this issue into their corrective action program as Condition Report 2013-13857.

The failure to include appropriate qualitative acceptance criteria in Procedure LOR-GL-002, to ensure evaluators can correctly identify and evaluate critical tasks based on operator performance was a performance deficiency. The performance deficiency was more than minor, therefore, a finding, because if left uncorrected, the performance deficiency would have the potential to lead to a more significant safety concern. Specifically, the failure to include the appropriate criteria to identify and evaluate critical tasks during biennial requalification examinations could result in operators returning to licensed operator duties without being properly remediated and retested on performance deficiencies. Using Manual Chapter 0609, Attachment 0609.04, Appendix I, "Operator Requalification Human Performance Significance Determination Process," starting at block 9, the finding was determined to be of very low safety significance (Green) because the finding is associated with licensee administration of an annual requalification operating test. The finding had a cross-cutting aspect in the area of human performance associated with the decision-making component because the licensee failed to make safety-significant or risk-significant decisions using a systematic process [H.1(a)] (Section 1R11.3.b.1).

 Green. The inspectors identified a finding of very low safety significance for developing and administering an excessive number of flawed job performance measures during the 2012 and 2013 NRC annual operating tests, which resulted in invalidating several operators' NRC

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annual operating tests. The inspectors reviewed all of the job performance measures that were developed and/or administered to the licensed operator staff for their annual operating tests. Greater than 20 percent of the job performance measures reviewed for both 2012 and 2013 were deemed to be flawed and inappropriate for an NRC-required operating test. This invalidated the operating tests for some of the licensed operators in both years. As part of their corrective action, Condition Report 2013-10673, the licensee retested the operators that were affected after the 2013 test, and analyzed the effect on site-wide human performance errors that the affected operators may have had after the 2012 operating test—there was no increase in human performance errors attributable to taking the flawed 2012 operating test.

Using Inspection Procedure 71111.11, Appendix C, "Annual Regualification Operating Test Quality," more than 20 percent of the annual operating test job performance measures developed in 2012 and 2013 were flawed; therefore, this was a performance deficiency. In accordance with Manual Chapter 0612, "Power Reactor Inspection Reports," the performance deficiency was more than minor, therefore, a finding because it affected the Initiating Events Cornerstone attribute of Human Performance, and adversely affected the cornerstone objective of limiting the likelihood of events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Using Manual Chapter 0609, Attachment 0609.04, Appendix I, "Operator Requalification Human Performance Significance Determination Process," starting at block 6, the finding was determined to be of very low safety significance (Green) because: the finding involved operating test quality; less than 40 percent of the job performance measures were flawed; and less than 40 percent of the simulator scenarios were flawed. 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 in decision making when developing the flawed job performance measures that invalidated several operators' annual operating tests [H.1(b)] (Section 1R11.3.b.2).

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#### **PLANT STATUS**

Unit 1 began the inspection period at 86.5 percent power due to multiple failed extraction steam bellows in the condenser. On October 1, 2013, Unit 1 shut down to Mode 3, to effect repair of the extraction steam bellows. On October 18, 2013, Unit 1 reached 100 percent power. On December 27, 2013, Unit 1 reduced power to 99.6 percent due to the discovery that the ultrasonic feedwater flow meter was not within calibration. Unit 1 operated at 99.6 percent power for the remainder of the period.

Unit 2 began the inspection period at 100 percent power. On November 17, 2013, Unit 2 entered Mode 3 to begin Refueling Outage 2RE16. On December 26, 2013, Unit 2 reached 99.6 percent power. Due to the discovery that the ultrasonic feedwater flow meter was not within calibration, Unit 2 was restricted to 99.6 percent power. On December 29, 2013, Unit 2 reduced power to 29 percent in order to re-torque reactor coolant system loop drains inside containment to reduce leakage into the secondary containment sump. On the same day, Unit 2 returned to 99.6 percent power and operated at this power level for the remainder of the period.

#### REPORT DETAILS

#### 1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity 1R01 Adverse Weather Protection (71111.01)

.1 Readiness for Seasonal Extreme Weather Conditions

#### a. Inspection Scope

On December 30, 2013, the inspectors completed an inspection of the station's readiness for seasonal extreme weather conditions. The inspectors reviewed the licensee's adverse weather procedures for extreme cold weather and evaluated the licensee's implementation of these procedures. The inspectors verified that prior to extreme cold weather; the licensee had corrected weather-related equipment deficiencies identified during the previous winter season.

The inspectors selected two risk-significant systems that were required to be protected from cold weather:

- Auxiliary feedwater
- Electrical auxiliary building

The inspectors reviewed the licensee's procedures and design information to ensure the systems would remain functional when challenged by extreme cold weather. The inspectors verified that operator actions described in the licensee's procedures were adequate to maintain readiness of these systems. The inspectors walked down portions of these systems to verify the physical condition of the adverse weather protection features.

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These activities constituted one sample of readiness for seasonal adverse weather, as defined in Inspection Procedure 71111.01.

#### b. Findings

No findings were identified.

## .2 Readiness for Impending Adverse Weather Conditions

## a. <u>Inspection Scope</u>

On November 22, 2013, the inspectors completed an inspection of the station's readiness for impending severe thunderstorm conditions. The inspectors reviewed plant design features, the licensee's severe weather plan procedures, and the licensee's planned implementation of these procedures. The inspectors evaluated operator staffing and accessibility of controls and indications for those systems required to control the plant. The inspectors conducted site walk-down near the main transformers as well as a walk-down of the main switchyard in response to forecasted severe thunderstorms.

These activities constituted one sample of readiness for impending adverse weather conditions, as defined in Inspection Procedure 71111.01.

#### b. Findings

No findings were identified.

## 1R04 Equipment Alignment (71111.04)

#### .1 Partial Walkdown

#### a. Inspection Scope

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

- November 21, 2013, Unit 2, electrical supplies for containment equipment hatch closure with reactor coolant system inventory at flange level
- November 26, 2013, Unit 2, standby diesel generators 21 and 22 while the train C, 4160 kV bus was out of service for planned maintenance
- December 2, 2013, Unit 2, spent fuel pool A and B cooling pumps while all reactor fuel was located in the spent fuel pool and an electrical power temporary modification was in place for the B spent fuel pool cooling pump

The inspectors reviewed the licensee's procedures and system design information to determine the correct lineup for the systems. They visually verified that critical portions of the systems and trains were correctly aligned for the existing plant configuration.

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These activities constituted three partial system walk-down samples as defined in Inspection Procedure 71111.04.

#### b. Findings

No findings were identified.

## .2 Complete Walkdown

## a. <u>Inspection Scope</u>

On December 5, 2013, the inspectors performed a complete system walk-down inspection of the train C residual heat removal system. The inspectors reviewed the licensee's procedures and system design information to determine the correct system lineup for the existing plant configuration. The inspectors also reviewed outstanding work orders, open condition reports, and other open items tracked by the licensee's operations and engineering departments. The inspectors then visually verified that the system was correctly aligned for the existing plant configuration.

These activities constituted one complete system walk-down sample, as defined in Inspection Procedure 71111.04.

#### b. Findings

No findings were identified.

## **1R05** Fire Protection (71111.05)

#### .1 Quarterly Inspection

#### a. Inspection Scope

The inspectors evaluated the licensee's fire protection program for operational status and material condition. The inspectors focused their inspection on four plant areas important to safety:

- November 13, 2013, Unit 2, relay cabinet area, Fire Zone Z032
- November 14, 2013, Unit 2, train B engineered safety feature switchgear room, Fire Zone 042
- November 17 and November 20, 2013, Unit 2, reactor containment building, Fire Area 63
- December 30, 2013, Unit 2, standby diesel generator 22 building, Fire Zones 501, 504, 507, 510, 513

For each area, the inspectors evaluated the fire plan against defined hazards and defense-in-depth features in the licensee's fire protection program. The inspectors

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evaluated control of transient combustibles and ignition sources, fire detection and suppression systems, manual firefighting equipment and capability, passive fire protection features, and compensatory measures for degraded conditions.

These activities constituted four quarterly inspection samples, as defined in Inspection Procedure 71111.05.

#### b. Findings

No findings were identified.

#### .2 Annual Inspection

#### a. <u>Inspection Scope</u>

On December 30, 2013, the inspectors completed their annual evaluation of the licensee's fire brigade performance. This evaluation included observation of an unannounced fire drill for training on November 8, 2013.

During this drill, the inspectors evaluated the capability of the fire brigade members, the leadership ability of the brigade leader, the brigade's use of turnout gear and fire-fighting equipment, and the effectiveness of the fire brigade's team operation. The inspectors also reviewed whether the licensee's fire brigade met NRC requirements for training, dedicated size and membership, and equipment.

These activities constituted one annual inspection sample, as defined in Inspection Procedure 71111.05.

## b. Findings

No findings were identified.

#### **1R06** Flood Protection Measures (71111.06)

#### a. Inspection Scope

On December 30, 2013, the inspectors completed an inspection of the station's ability to mitigate flooding due to internal causes. After reviewing the licensee's flooding analysis, the inspectors chose one plant area containing risk-significant structures, systems, and components that were susceptible to flooding:

Unit 2, standby diesel generator 22 building

The inspectors reviewed plant design features and licensee procedures for coping with internal flooding. The inspectors walked down the selected areas to inspect the design features, including the material condition of seals; drains; and flood barriers. The inspectors evaluated whether operator actions credited for flood mitigation could be successfully accomplished.

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These activities constitute completion of one flood protection measures sample, as defined in Inspection Procedure 71111.06.

#### b. Findings

No findings were identified.

## 1R08 Inservice Inspection Activities (71111.08)

Completion of Sections .1 through .5, below, constitutes completion of one sample as defined in Inspection Procedure 71111.08-05.

.1 <u>Inspection Activities Other Than Steam Generator Tube Inspection, Pressurized Water Reactor Vessel Upper Head Penetration Inspections, and Boric Acid Corrosion Control (71111.08-02.01)</u>

#### a. Inspection Scope

The inspectors observed or reviewed six nondestructive examination activities that included four types of examinations. The inspectors reviewed one examination with relevant indications that had been accepted by licensee personnel for continued service.

The inspectors directly observed and reviewed records of the following nondestructive examinations:

<u>SYSTEM</u>	WELD IDENTIFICATION	EXAMINATION TYPE
Component Cooling	Component Supports, RR/CC-2109-HL5003	Visual Examination (VT-3)
Pressurizer	Pressurizer support Skirt, PRZ-2-SK	Ultrasonic
Main Steam	Pipe to Weld Cap, 16-MS-2002-GA2 Weld 2	Ultrasonic
Main Feed	Pipe Lugs, 1PL5-1PL6	Magnetic Particle

During the review and observation of each examination, the inspectors verified that activities were performed in accordance with the ASME Code requirements and applicable procedures. The inspectors also verified the qualifications of all nondestructive examination technicians performing the inspections were current.

The inspectors also reviewed records for the following nondestructive examinations:

<u>SYSTEM</u>	WELD IDENTIFICATION	<b>EXAMINATION TYPE</b>
Reactor Vessel	Bottom-Mounted Istrument penetrations 1-58	Visual Examination (VE)

<u>SYSTEM</u>	WELD IDENTIFICATION	<b>EXAMINATION TYPE</b>
Chemical Volume and Control	Centrifugal Charging Pump 2B discharge bypass check valves, FW0076 and FW0077	Liquid Penetrant

The inspectors observed three welds and reviewed two welds on pressure retaining risk significant systems.

The inspectors directly observed a portion of the following welding activities:

<u>SYSTEM</u>	WELD IDENTIFICATION	WELD TYPE
Reactor Cooling	RC-0001B body to bonnet seal weld	Gas Tungsten Arc Welding
Chemical Volume and Control	CV-0004 body to bonnet seal weld	Gas Tungsten Arc Welding
Chemical Volume and Control	CV-0005 body to bonnet seal weld	Gas Tungsten Arc Welding

The inspectors reviewed records for the following welding activities:

<u>SYSTEM</u>	WELD IDENTIFICATION	WELD TYPE
Chemical Volume and Control	Centrifugal Charging Pump 2B Discharge Bypass Check Valve weld numbers FW 0076, FW 0077	Gas Tungsten Arc Welding

The inspectors verified that the welding procedure specifications and the welders had been properly qualified in accordance with ASME Code, Section IX, requirements. The inspectors also verified that essential variables were identified, recorded in the procedure qualification record, and formed the bases for qualification of the welding procedure specifications. Specific documents reviewed during this inspection are listed in the attachment.

These actions constitute completion of the requirements for Section 02.01.

#### b. Findings

No findings were identified.

## .2 Reactor Vessel Upper Head Penetration Inspection Activities (71111.08-02.02)

#### a. Inspection Scope

There were no inspections of the Unit 2 reactor vessel upper head during Refueling Outage 2RE16. The next visual inspection is scheduled for Unit 2 Refueling Outage 2RE17 in the fall of 2015. The next volumetric inspection is scheduled for Unit 2 Refueling Outage 2RE20.

#### b. Findings

No findings were identified.

#### .3 Boric Acid Corrosion Control Inspection Activities (71111.08-02.03)

#### a. <u>Inspection Scope</u>

The inspectors evaluated the implementation of the licensee's boric acid corrosion control program for monitoring degradation of those systems that could be adversely affected by boric acid corrosion. The inspectors reviewed the documentation associated with the licensee's boric acid corrosion control walk-down as specified in Procedure 0PGP03-ZE-0133, "Boric Acid Corrosion Control Program," Revision 6. The inspectors verified that the visual inspections emphasized locations where boric acid leaks could cause degradation of safety significant components, and that engineering evaluation used corrosion rates applicable to the affected components and properly assessed the effects of corrosion induced wastage on structural or pressure boundary integrity. The inspectors confirmed that corrective actions taken were consistent with the ASME Code and 10 CFR Part 50, Appendix B, requirements. Specific documents reviewed during this inspection are listed in the attachment.

These actions constitute completion of the requirements for Section 02.03.

## b. <u>Findings</u>

No findings were identified.

#### .4 Steam Generator Tube Inspection Activities (71111.08-02.04)

## a. <u>Inspection Scope</u>

The inspectors reviewed the steam generator tube eddy current test examination scope and expansion criteria, and verified that it met technical specification requirements; EPRI guidelines; and commitments made to the NRC. The inspectors also verified that the eddy current test inspection scope included areas of degradations that were known to represent potential eddy current test challenges such as the top of tube sheet, tube support plates, and U-bends. The inspectors confirmed that no repairs were required at the time of the inspection. The scope of the licensee's eddy current test examinations included:

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- One hundred percent full length bobbin testing of the outer peripheral tubes from tube end to tube end
- Fifty percent full length bobbin testing of all tubes not inspected full length during Unit 2 Refueling Outage 2RE13
- Twenty percent plus point inspection of the upper tube support plate hot leg to upper tube support plate cold leg of rows 1 and 2
- Plus point inspection of outer three tubes of periphery and divider lane time-temperature sensitization plus 6 inches/minus 3 inches to aid in loose parts detection, including hot leg and cold leg
- Twenty percent sample plus point inspection of tube sheet hot leg plus 6 inches/minus 3 inches
- Twenty percent sample plus point inspection of tube sheethot leg plus 6 inches/minus16 inches in tubes with bulges and over expansions
- Special interest plus point inspection of all previously identified dents and dings greater than five volts
- Special interest plus point of all prior and Unit 2 Refueling Outage 2RE16 "I-code" and non-quantifiable indications as determined by bobbin inspection or any previously reported signal that has changed
- Special interest plus point inspection of previously identified possible loose parts from eddy current inspections
- Special interest plus point of all loose parts identified by previous secondary side inspections and not removed
- Special interest plus point of a minimum of two tube locations surrounding any newly identified possible loose part or foreign object identified during Unit 2 Refueling Outage 2RE16
- Special interest plus point of all manufacturing burnish mark indications in the U-bend region that are adjacent and at the same elevation as another manufacturing burnish mark indication

The inspectors observed portions of the eddy current testing being performed and verified that: (1) the appropriate probes were used for identifying the expected types of degradation, (2) calibration requirements were adhered, and (3) probe travel speed was in accordance with procedural requirements. The inspectors performed a review of the site-specific qualifications for the techniques being used, and verified that eddy current test data analyses were adequately performed per EPRI and site specific guidelines.

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Secondary sludge lancing and foreign object search and retrieval inspections were performed in all steam generators. Foreign materials were sized, categorized, and removal attempted. Eddy current testing was performed at the tube sheet for all foreign objects. Foreign objects unable to be retrieved were evaluated analytically based on size and eddy current data.

Finally, the inspectors reviewed selected eddy current test data, and verified that the analytical techniques used were adequate.

These actions constitute completion of the requirements for Section 02.04.

## b. Findings

No findings were identified.

## .5 Identification and Resolution of Problems (71111.08-02.05)

#### a. Inspection Scope

The inspectors reviewed 21 condition reports associated with inservice inspection activities and determined that the corrective actions taken were appropriate. The inspectors concluded that the licensee has an appropriate threshold for entering inservice inspection issues into the corrective action program, and has procedures that direct a root cause evaluation when necessary. The licensee also has an effective program for applying inservice inspection industry operating experience. Specific documents reviewed during this inspection are listed in the attachment.

These actions constitute completion of the requirements of Section 02.05.

#### b. Findings

No findings were identified.

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

#### .1 Review of Licensed Operator Regualification

#### a. Inspection Scope

On October 22, 2013, the inspectors observed simulator training for an operating crew. The inspectors assessed the performance of the operators and the evaluators' critique of their performance. The inspectors also assessed the modeling and performance of the simulator during the requalification activities.

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

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#### b. Findings

No findings were identified.

## .2 Review of Licensed Operator Performance

#### a. Inspection Scope

The inspectors observed the performance of on-shift licensed operators in the plant's main control room. At the time of the observations, the plant was in a period of heightened risk due to infrequently performed evolutions. The inspectors observed the operators' performance of the following activities:

- October 1, 2013, Unit 1, reactor shutdown to repair damaged extraction steam bellows in the main condenser
- October 5, 2013, Unit 1, reactor coolant system cooldown; pressurizer cooldown; and solid plant operations
- October 15, 2013, Unit 1, reactor startup after a planned outage to repair damaged extraction steam bellows in the main condenser
- November 16, 2013, Unit 2, reactor shutdown to begin Unit 2 Refueling Outage 2RE16

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

These activities constitute completion of four quarterly licensed-operator performance samples, as defined in Inspection Procedure 71111.11.

## b. Findings

No findings were identified.

#### .3 <u>Biennial Review</u>

The licensed operator requalification program involves two training cycles that are conducted over a 2-year period. In the first cycle, the annual cycle, the operators are administered an operating test consisting of job performance measures and simulator scenarios. In the second part of the training cycle, the biennial cycle, operators are administered an operating test and a comprehensive written examination.

#### a. Inspection Scope

To assess the performance effectiveness of the licensed operator requalification program, the inspectors reviewed both the operating tests and written examinations and observed ongoing operating test activities.

The inspectors reviewed operator performance on the written examinations and operating tests. These reviews included observations of portions of the operating tests by the inspectors. The operating tests observed included eight job performance measures and two scenarios that were used in the current biennial requalification cycle. These observations allowed the inspectors to assess the licensee's effectiveness in conducting the operating test to ensure operator mastery of the training program content. The inspectors also reviewed medical records of 13 licensed operators for conformance to license conditions and the licensee's system for tracking qualifications and records of license reactivation for three operators.

The results of these examinations were reviewed to determine the effectiveness of the licensee's appraisal of operator performance and to determine if feedback of performance analyses into the requalification training program was being accomplished. The inspectors interviewed members of the training department and reviewed minutes of training review group meetings to assess the responsiveness of the licensed operator requalification program to incorporate the lessons learned from both plant and industry events. Examination results were also assessed to determine if they were consistent with the guidance contained in NUREG 1021, "Operator Licensing Examination Standards for Power Reactors," Revision 9, Supplement 1, and NRC Manual Chapter 0609, Appendix I, "Operator Requalification Human Performance Significance Determination Process." All operators who failed a portion of the requalification examination were remediated and successfully passed a retake examination before returning to watchstanding duties.

In addition to the above, the inspectors reviewed examination security measures, simulator fidelity, and existing logs of simulator deficiencies.

The inspectors completed one inspection sample of the biennial licensed operator regualification program.

#### b. Findings

#### .1 Failure to Include Appropriate Acceptance Criteria in a Quality Procedure

Introduction. The inspectors identified a Green non-cited violation of Title 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for failure to include appropriate quantitative or qualitative acceptance criteria for determining that important activities have been satisfactorily accomplished. Specifically, the licensee did not include sufficient criteria to identify and evaluate new critical tasks created by operator performance during the simulator scenario portion of the biennial requalification examination to enable the evaluators to correctly assess licensed operator performance.

<u>Description</u>. As part of the inspection, the inspectors reviewed a remediation plan for a crew that was evaluated as having passed the annual operating test, but with performance problems that required remediation. In the course of the review, the inspectors identified a deficiency in the licensee's requalification program associated with the identification of new critical tasks created as a result of errors in operator performance during the scenario. Specifically, Procedure LOR-GL-0002, "Licensed

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Operator Requalification Annual and Biennial Evaluation Guidelines," Revision 16, steps 4.5.1.1 and 4.5.1.2 discussed evaluating the status of all critical tasks and determining whether valid critical tasks were completed successfully. However, the guidance neither discussed how to determine if a critical task was valid nor provided any guidance for identifying a new critical task. In addition to the planned critical tasks developed in the scenario, an operator may, through inappropriate actions that challenged plant safety, create the basis for another critical task. By not having any criteria in the evaluation guidance, the evaluation may not make a valid pass/fail determination.

In requalification, the failure of a critical task during a scenario can result in an overall failure of the scenario portion of the operating test. If the evaluator does not have the guidance necessary to identify a new critical task, this could lead to the evaluator passing rather than failing an operator. If an operator fails the scenario portion of an operating test, he/she must be remediated and properly retested by retaking the entire scenario portion again, which is two scenarios. However, an operator who passes, but the facility decides to remediate is not required to pass two new scenarios. Therefore, by not having the appropriate guidance in the procedure, it could result in an incorrect pass/fail decision, and the operator might not be properly remediated and retested prior to returning to licensed duties. The licensee has entered this issue into their corrective action program as Condition Report 2013-13857.

Analysis. The failure to include appropriate qualitative acceptance criteria in Procedure LOR-GL-002, to ensure evaluators correctly identify and evaluate critical tasks based on operator performance was a performance deficiency. In accordance with Manual Chapter 0612, "Power Reactor Inspection Reports," the performance deficiency was more than minor, therefore, a finding because if left uncorrected, the performance deficiency would have the potential to lead to a more significant safety concern. Specifically, the failure to include the appropriate criteria to identify and evaluate critical tasks during biennial requalification examinations could result in operators returning to licensed operator duties without being properly remediated and retested on performance deficiencies. The inspectors performed a significance determination using Manual Chapter 0609, because the finding affected the Initiating Events Cornerstone. Attachment 0609.04, "Initial Characterization of Findings," evaluates the finding using Appendix I. "Operator Regualification Human Performance Significance Determination Process." Starting at block 9 of Appendix I, the finding was determined to be of very low safety significance (Green) because the finding is associated with licensee administration of an annual regualification operating test. The finding had a cross-cutting aspect in the area of human performance associated with the decision-making component because the licensee failed to make safety-significant or risk-significant decisions using a systematic process [H.1(a)].

<u>Enforcement</u>. Title 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," states, in part, "procedures shall include appropriate quantitative or qualitative acceptance criteria for determining that important activities have been satisfactorily accomplished." Contrary to the above, the licensee failed to include appropriate quantitative or qualitative acceptance criteria for determining that important activities have been satisfactorily accomplished. Specifically, prior to November 25, 2013, the licensee did not include sufficient criteria in

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Procedure LOR-GL-002, "LOR Annual and Biennial Evaluation Guidelines," Revision 16, to identify and evaluate new critical tasks created by operator performance during the simulator scenario portion of the examination. Therefore, evaluators may have incorrectly assessed, remediated, and retested operator performance. Because this finding was of very low safety significance and was entered into the corrective action program as Condition Report 2013-13857, it is being treated as a non-cited violation in accordance with Section 2.3.2.a of the NRC Enforcement Policy:

NCV 05000498/2013-01, 05000499/2013-01, "Failure to Include Appropriate Acceptance Criteria in a Quality Procedure."

#### .2 Flawed Job Performance Measures

<u>Introduction</u>. The inspectors identified a finding of very low safety significance for developing and administering an excessive number of flawed job performance measures during the 2012 and 2013 NRC annual operating tests that resulted in invalidating several operators' NRC annual operating tests.

<u>Description</u>. In addition to the onsite observation of one set of job performance measures being administered in 2013, the inspectors performed a 100 percent review of all the job performance measures administered during both annual operating tests of the biennial cycle. The inspectors used NRC Inspection Procedure 71111.11, "Licensed Operator Requalification Program and Licensed Operator Performance," Appendix C, "Annual Requalification Operating Test Quality," during the review.

For the 2012 and 2013 annual operating tests, the inspectors reviewed 104 job performance measures and determined 32 (17 and 15 in 2012 and 2013, respectively) had flaws that would make the job performance measure unsatisfactory for administration during an NRC operating test. The major flaws are outlined as follows:

- The job performance measure was annotated as alternate path, however, the alternate path step(s):
  - o had no verifiable actions because the step(s):
    - involved informing the shift manager, chemistry, etc.
    - involved waiting for a specific amount of time and repeating the previous step
  - were expected to be performed as indicated in the initial conditions given to the examinee
- The entire job performance measure had no verifiable actions. For example, during one job performance measure observed onsite, the examinee simply noted and reported meter readings to another operator.
- The job performance measure had only one verifiable action

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 The job performance measure had a low level of difficulty because the task would be expected to be passed by 100 percent of the operators

The licensee performed an evaluation using the 15 flawed job performance measures given in 2013 to determine the effect on the licensed operator population. The licensee retested those operators that, based on the evaluation, failed two or more job performance measures in 2013. This action was completed prior to the end of the biennial cycle.

The licensee also performed an evaluation using the 17 flawed job performance measures given in 2012 to determine the effect on the licensed operator population. Those results were then compared to operational errors attributable to human performance in order to find any statistical increase in errors that could be attributed to taking a flawed annual operating test in 2012. The percentage of the total number of errors that were performed by those licensed operators that were determined to have been given an unsatisfactory annual operating test in 2012 was equal to their percentage of the total licensed operator population. Therefore, there was no increase in errors due to taking the flawed 2012 annual operating test.

Analysis. Using Inspection Procedure 71111.11, Appendix C. "Annual Regualification Operating Test Quality," more than 20 percent of the annual operating test job performance measures developed in 2012 and 2013 were flawed; therefore, this was a performance deficiency. In accordance with Manual Chapter 0612, "Power Reactor Inspection Reports," the performance deficiency was more than minor, therefore, a finding because it affected the Initiating Events Cornerstone attribute of Human Performance, and adversely affected the Cornerstone objective of limiting the likelihood of events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. The inspectors performed a significance determination using Manual Chapter 0609, because the finding affected the Initiating Events Cornerstone. Attachment 0609.04, "Initial Characterization of Findings," evaluates the finding using Appendix I, "Operator Requalification Human Performance Significance Determination Process." Starting at block 6 of Appendix I, the finding was determined to be of very low safety significance (Green) because: the finding involved operating test quality; less than 40 percent of the job performance measures were flawed; and less than 40 percent of the simulator scenarios were flawed. 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 in decision making when developing simplistic and/or flawed job performance measures that invalidated several operators' annual operating tests [H.1(b)].

<u>Enforcement</u>. This finding does not involve enforcement action because no violation of a regulatory requirement was identified. The licensee entered this finding into their corrective action program as Condition Report 2013-10673. Because this finding does not involve a violation and is of very low safety significance, it is identified as FIN 05000498/2013005-02, 05000499/2013005-02, "Flawed Job Performance Measures."

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#### **1R12** Maintenance Effectiveness (71111.12)

#### a. Inspection Scope

The inspectors reviewed two instances of degraded performance or condition of safety-related structures, systems, and components (SSCs):

- December 28, 2013, standby diesel generators, unavailability
- December 28, 2013, essential cooling water, unavailability

The inspectors reviewed the extent of condition of possible common cause SSC failures and evaluated the adequacy of the licensee's corrective actions. The inspectors reviewed the licensee's work practices to evaluate whether these may have played a role in the degradation of the SSCs. The inspectors assessed the licensee's characterization of the degradation in accordance with 10 CFR 50.65 (the Maintenance Rule), and verified that the licensee was appropriately tracking degraded performance and conditions in accordance with the Maintenance Rule.

These activities constitute completion of two maintenance effectiveness samples, as defined in Inspection Procedure 71111.12.

#### b. Findings

No findings were identified.

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

## a. <u>Inspection Scope</u>

The inspectors reviewed two risk assessments performed by the licensee prior to changes in plant configuration and the risk management actions taken by the licensee in response to elevated risk:

- October 1, 2013, Unit 1, Shutdown Risk Assessment Report for planned outage 1P1302 to repair extraction steam bellows
- November 15, 2013, Unit 2, Shutdown Risk Assessment Report for Refueling Outage 2RE16

The inspectors verified that these risk assessments were performed timely and in accordance with the requirements of 10 CFR 50.65 (the Maintenance Rule) and plant procedures. The inspectors reviewed the accuracy and completeness of the licensee's risk assessments and verified that the licensee implemented appropriate risk management actions based on the result of the assessments.

The inspectors also observed portions of three emergent work activities that had the potential to cause an initiating event, to affect the functional capability of mitigating systems, or to impact barrier integrity:

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- November 20, 2013, Unit 2, Shutdown Risk Assessment Report for swapping train B and train C work windows in refueling outage 2RE16
- December 23, 2013, Unit 2, for blocking open main feedwater control valve FCV-2D to troubleshoot the failure of the valve to operate in automatic
- December 29, 2013, Unit 2, reactor down power reduction to 29 percent to retorque reactor coolant system loop drain valves

The inspectors verified that the licensee appropriately developed and followed a work plan for these activities. The inspectors verified that the licensee took precautions to minimize the impact of the work activities on unaffected SSCs.

These activities constitute completion of five maintenance risk assessments and emergent work control inspection samples, as defined in Inspection Procedure 71111.13.

## b. Findings

No findings were identified.

## **1R15** Operability Determinations and Functionality Assessments (71111.15)

#### a. <u>Inspection Scope</u>

The inspectors reviewed seven operability determinations and functionality assessments that the licensee performed for degraded or nonconforming SSCs:

- October 23, 2013, operability determination of standby diesel generator 23 due to decreasing level in the fuel oil storage tanks of approximately 500 gallons over a 3-day period
- October 27, 2013, operability determination of Unit 1, train C essential chilled water system after loss of expansion tank level indication
- November 7, 2013, operability determination of Unit 1, train D auxiliary feedwater pump following the discovery of valve MS-0517 flow orifice bypass to the main condenser steam supply line open instead of in the closed position
- November 14, 2013, operability determination of Unit 2, loop 2D pressurizer spray valve PCV-0655B following the discovery of a body-to-bonnet leak of approximately 70 drops per minute
- November 18, 2013, operability determination of Unit 1 essential cooling water system sump due to leakage from the essential cooling water sump pump
- December 2, 2013, functionality assessment of Unit 2 spent fuel cooling pump 2A following the NRC discovery of an outboard seal leak

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 December 6, 2013, operability determination of Unit 2, train C component cooling water following a failure of valve CC-MOV-0393 to close on a low level surge tank level

The inspectors reviewed the timeliness and technical adequacy of the licensee's evaluations. Where the licensee determined the degraded SSC to be operable or functional, the inspectors verified that the licensee's compensatory measures were appropriate to provide reasonable assurance of operability or functionality. The inspectors verified that the licensee had considered the effect of other degraded conditions on the operability or functionality of the degraded SSC.

These activities constitute completion of seven operability and functionality review samples, as defined in Inspection Procedure 71111.15.

#### b. Findings

No findings were identified.

## 1R18 Plant Modifications (71111.18)

#### .1 Temporary Modifications

## a. <u>Inspection Scope</u>

The inspectors reviewed two temporary plant modifications that affected risk-significant SSCs:

- Week of November 4, 2013, Unit 1, temporary spent fuel pool gantry crane
- December 6, 2013, Unit 2, spent fuel pool cooling pump 2B temporary electrical power

The inspectors verified that the licensee had installed and removed these temporary modifications in accordance with technically adequate design documents. The inspectors verified that these modifications did not adversely impact the operability or availability of affected SSCs. The inspectors reviewed design documentation and plant procedures affected by the modifications to verify the licensee maintained configuration control.

These activities constitute completion of two samples of temporary modifications, as defined in Inspection Procedure 71111.18.

#### b. Findings

No findings were identified.

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## .2 Permanent Modifications

#### a. Inspection Scope

On October 11, 2013, the inspectors reviewed a permanent modification to Unit 2 essential chiller 22 pressure and temperature data recorder.

The inspectors reviewed the design and implementation of the modification. The inspectors verified that work activities involved in implementing the modification did not adversely impact operator actions that may be required in response to an emergency or other unplanned event. The inspectors verified that post-modification testing was adequate to establish the operability of the SSC as modified.

These activities constitute completion of one sample of permanent modifications, as defined in Inspection Procedure 71111.18.

#### b. Findings

No findings were identified.

## 1R19 Post-Maintenance Testing (71111.19)

#### a. Inspection Scope

The inspectors reviewed seven post-maintenance testing activities that affected risk-significant SSCs:

- October 3, 2013, Unit 2, standby diesel generator 22 following repair of essential cooling water piping connection leak
- October 15, 2013, Unit 1, pressurizer level transmitter LT-0467 lower root valve replacement
- October 27, 2013, Unit 1, train C essential chiller expansion tank relief valve
- November 3, 2013, Unit 2, standby diesel generator 22 following replacement of failed relays for voltage and frequency local indication
- November 23, 2013, Unit 2, train B residual heat removal pump seal rebuild
- December 13, 2013, Unit 1, drag test of newly installed spent fuel storage racks
- December 23, 2013, Unit 2, control card replacement to repair automatic function of main feedwater flow control valve FCV-0554

The inspectors reviewed licensing- and design-basis documents for the SSCs and the maintenance and post-maintenance test procedures. The inspectors observed the performance of the post-maintenance tests to verify that the licensee performed the tests

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in accordance with approved procedures, satisfied the established acceptance criteria, and restored the operability of the affected SSCs.

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

#### b. Findings

No findings were identified.

## 1R20 Refueling and Other Outage Activities (71111.20)

## a. <u>Inspection Scope</u>

The inspectors evaluated the licensee's outage activities for refueling outage 2RE16, which concluded on December 22, 2013, and Unit 1 planned outage 1P1302 which concluded October 16, 2013. The inspectors verified that the licensee considered risk in developing and implementing the outage plan, appropriately managed personnel fatigue, and developed mitigation strategies for losses of key safety functions. This verification included the following:

- Review of the licensee's outage plan prior to the outage
- Monitoring of shut-down and cool-down activities
- Verification that the licensee maintained defense-in-depth during outage activities
- Observation and review of reduced-inventory and mid-loop activities
- Observation and review of fuel handling activities
- Monitoring of heat-up and startup activities

These activities constitute completion of one refueling outage sample and one outage activities sample, as defined in Inspection Procedure 71111.20.

#### b. Findings

No findings were identified.

#### 1R22 Surveillance Testing (71111.22)

#### a. <u>Inspection Scope</u>

The inspectors observed six risk-significant surveillance tests and reviewed test results to verify that these tests adequately demonstrated that the structures, systems, and components (SSCs) were capable of performing their safety functions:

In-service tests:

 December 10, 2013, Unit 2, residual heat removal valve interlock test during Unit 2 Refueling Outage

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Containment isolation valve surveillance tests:

- October 2, 2013, Unit 1, local leakage rate test of penetration M-44, containment isolation valves HC-0005 and FV-9777
- December 5, 2013, Unit 2, local leak rate test of penetration M-18, containment isolation valves 2-SI-0005A and 2-SI-MOV-0004A
- December 5, 2013, Unit 2, local leak rate test of penetration M-19, containment isolation valves 2-SI-0030A and 2-SI-MOV-0018A

Reactor coolant system leak detection tests:

• December 8, 2013, Unit 1, alternate reactor coolant inventory calculation

Other surveillance tests:

• December 19, 2013, Unit 2, operability of trisodium phosphate storage baskets

The inspectors verified that these tests met technical specification requirements, that the licensee performed the tests in accordance with their procedures, and that the results of the test satisfied appropriate acceptance criteria. The inspectors verified that the licensee restored the operability of the affected SSCs following testing.

These activities constitute completion of six surveillance testing inspection samples, as defined in Inspection Procedure 71111.22.

## b. Findings

No findings were identified.

**Cornerstone: Emergency Preparedness** 

## 1EP4 Emergency Action Level and Emergency Plan Changes (IP 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 Numbers ML13309A761 and ML13339A340 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.

#### Findings

No findings were identified.

## **1EP6** Drill Evaluation (71114.06)

**Emergency Preparedness Drill Observation** 

#### a. Inspection Scope

The inspectors observed an emergency preparedness drill on November 6, 2013, to verify the adequacy and capability of the licensee's assessment of drill performance. The inspectors reviewed the drill scenario, observed the drill from the simulator and the emergency operations facility, and attended the post-drill critique. The inspectors verified that the licensee's emergency classifications, off-site notifications, and protective action recommendations were appropriate and timely. The inspectors verified that any emergency preparedness weaknesses were appropriately identified by the licensee in the post-drill critique and entered into the corrective action program for resolution.

These activities constitute completion of one emergency preparedness drill observation sample, as defined in Inspection Procedure 71114.06-05.

#### b. Findings

No findings were identified.

#### 2. RADIATION SAFETY

Cornerstones: Public Radiation Safety and Occupational Radiation Safety

#### 2RS1 Radiological Hazard Assessment and Exposure Controls (71124.01)

## a. <u>Inspection Scope</u>

The inspectors assessed the licensee's performance in assessing the radiological hazards in the workplace associated with licensed activities. The inspectors assessed the licensee's implementation of appropriate radiation monitoring and exposure control measures for both individual and collective exposures. The inspectors walked down various portions of the plant and performed independent radiation dose rate measurements. The inspectors interviewed the radiation protection manager, radiation protection supervisors, and radiation workers. The inspectors reviewed licensee performance in the following areas:

The hazard assessment program, including a review of the licensee's evaluations
of changes in plant operations and radiological surveys to detect dose rates;
airborne radioactivity; and surface contamination levels

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- Instructions and notices to workers, including labeling or marking containers of radioactive material; radiation work permits; actions for electronic dosimeter alarms; and changes to radiological conditions
- Programs and processes for control of sealed sources and release of potentially contaminated material from the radiologically controlled area, including survey performance; instrument sensitivity; release criteria; procedural guidance; and sealed source accountability
- Radiological hazards control and work coverage, including the adequacy of surveys; radiation protection job coverage and contamination controls; the use of electronic dosimeters in high noise areas; dosimetry placement; airborne radioactivity monitoring; controls for highly activated or contaminated materials (non-fuel) stored within spent fuel and other storage pools; and posting and physical controls for high radiation areas and very high radiation areas
- Radiation worker and radiation protection technician performance with respect to radiation protection work requirements
- Audits, self-assessments, and corrective action documents related to radiological hazard assessment and exposure controls since the last inspection

These activities constitute completion of one sample of radiological hazard assessment and exposure controls as defined in Inspection Procedure 71124.01.

### b. Findings

No findings were identified.

#### 2RS2 Occupational ALARA Planning and Controls (71124.02)

#### a. Inspection Scope

The inspectors assessed licensee performance with respect to maintaining occupational individual and collective radiation exposures ALARA. During the inspection, the inspectors interviewed licensee personnel and reviewed the licensee performance in the following areas:

- Site-specific ALARA procedures and collective exposure history, including the current 3-year rolling average; site-specific trends in collective exposures; and source-term measurements
- ALARA work activity evaluations/post-job reviews, exposure estimates, and exposure mitigation requirements
- The methodology for estimating work activity exposures, the intended dose outcome, the accuracy of dose rate and man-hour estimates, and intended versus actual work activity doses and the reasons for any inconsistencies

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- 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 primary chemistry
- Radiation worker and radiation protection technician performance during work activities in radiation areas, airborne radioactivity areas, or high radiation areas
- Audits, self-assessments, and corrective action documents related to ALARA planning and controls since the last inspection

These activities constitute completion of the one sample of occupational ALARA planning and controls as defined in Inspection Procedure 71124.02.

## b. Findings

No findings were identified.

## 2RS3 In-Plant Airborne Radioactivity Control and Mitigation (71124.03)

#### a. Inspection Scope

The inspectors verified that the licensee controlled in-plant airborne radioactivity concentrations consistent with ALARA principles and that the use of respiratory protection devices did not pose an undue risk to the wearer. During the inspection, the inspectors interviewed licensee personnel, walked down various portions of the plant, and reviewed licensee performance in the following areas:

- The licensee's use, when applicable, of ventilation systems as part of its engineering controls
- The licensee's respiratory protection program for use, storage, maintenance, and quality assurance of National Institute for Occupational Safety and Health certified equipment, qualification and training of personnel, and user performance
- The licensee's capability for refilling and transporting self-contained breathing apparatus air bottles to and from the control room and operations support center during emergency conditions, status of self-contained breathing apparatus staged and ready for use in the plant and associated surveillance records, and personnel qualification and training
- Audits, self-assessments, and corrective action documents related to in-plant airborne radioactivity control and mitigation since the last inspection

These activities constitute completion of one sample of in-plant airborne radioactivity control and mitigation as defined in Inspection Procedure 71124.03.

## b. Findings

No findings were identified.

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#### 4. OTHER ACTIVITIES

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

### **40A1 Performance Indicator Verification (71151)**

.1 <u>Mitigating System Performance Index: Emergency AC Power Systems (MS06), High Pressure Injection Systems (MS07), Heat Removal Systems (MS08), Residual Heat Removal Systems (MS09), and Cooling Water Systems (MS10)</u>

#### Inspection Scope

The inspectors reviewed the licensee's mitigating system performance index data for the period of March 2012, through September 2013, to verify the accuracy and completeness of the reported data. The inspectors used definitions and guidance contained in Nuclear Energy Institute Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 7, to determine the accuracy of the reported data.

These activities constituted verification of the mitigating system performance index for emergency ac power systems, high pressure injection systems, heat removal systems, residual heat removal systems, and cooling water systems for Units 1 and 2, as defined in Inspection Procedure 71151 (5 samples).

#### b. Findings

No findings were identified.

#### .2 Occupational Exposure Control Effectiveness (OR01)

#### a. Inspection Scope

The inspectors verified that there were no unplanned exposures or losses of radiological control over locked high radiation areas and very high radiation areas during the period of October 1, 2012, to September 30, 2013. The inspectors reviewed a sample of radiologically controlled area exit transactions showing exposures greater than 100 mrem. The inspectors used definitions and guidance contained in Nuclear Energy Institute Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 7, to determine the accuracy of the reported data.

These activities constituted verification of the occupational exposure control effectiveness performance indicator as defined in Inspection Procedure 71151.

## b. Findings

No findings were identified.

## .3 <u>Radiological Effluent Technical Specifications (RETS)/Offsite Dose Calculation Manual</u> (ODCM) Radiological Effluent Occurrences (PR01)

#### a. Inspection Scope

The inspectors reviewed corrective action program records for liquid or gaseous effluent releases that occurred between October 1, 2012, and September 30, 2013, and were reported to the NRC to verify the performance indicator data. The inspectors used definitions and guidance contained in Nuclear Energy Institute Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 7, to determine the accuracy of the reported data.

These activities constituted verification of the radiological effluent technical specifications (RETS)/offsite dose calculation manual (ODCM) radiological effluent occurrences performance indicator as defined in Inspection Procedure 71151.

#### b. Findings

No findings were identified.

#### **40A2** Problem Identification and Resolution (71152)

#### .1 Routine Review

#### a. Inspection Scope

Throughout the inspection period, the inspectors performed daily reviews of items entered into the licensee's corrective action program and periodically attended the licensee's condition report screening meetings. The inspectors verified that licensee personnel were identifying problems at an appropriate threshold and entering these problems into the corrective action program for resolution. The inspectors verified that the licensee developed and implemented corrective actions commensurate with the significance of the problems identified. The inspectors also reviewed the licensee's problem identification and resolution activities during the performance of the other inspection activities documented in this report.

#### b. Findings

No findings were identified.

#### .2 Semiannual Trend Review

#### a. <u>Inspection Scope</u>

The inspectors reviewed the licensee's corrective action program, performance indicators, system health reports, and other documentation to identify trends that might indicate the existence of a more significant safety issue. The inspectors verified that the licensee was taking corrective actions to address identified adverse trends.

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These activities constitute completion of one semiannual trend review sample, as defined in Inspection Procedure 71152.

#### b. Findings

No findings were identified. However, the inspectors did note the following negative trends: an increasing number of configuration control issues, inconsistent use of "in-hand" procedures during control room activities, inconsistent use of "peer-checking" human performance tools in the control room, the site has not consistently been initiating condition reports at a low threshold, and an increasing number of performance issues during emergency preparedness performance indicator drills and exercises. The licensee is aware of these issues and these issues have been entered into the corrective action program.

## .3 Annual Follow-up of Selected Issues

#### a. Inspection Scope

The inspectors selected three issues for an in-depth follow-up:

- On July 24, 2013, Condition Report 2013-8586 was written to address the South Texas Project culture of not initiating condition reports for low level issues for trending and resolution, which has in some cases allowed a gradual deviation from standards that have the potential to adversely affect the plant. This issue was identified by a combination of station personnel, INPO, and the resident inspectors.
- On July 20, 2013, Condition Report 2013-8413 was written to correct a series of Unit 2 control rod urgent failure alarms that occurred during turbine governor valve testing. The control rods were able to perform their safety function, but presented operator and station challenges.
- On October 22, 2013, Condition Report 2013-12296 was written to address a declining trend in emergency preparedness drill performance.

The inspectors assessed the licensee's problem identification threshold, cause analyses, extent of condition reviews and compensatory actions. The inspectors verified that the licensee appropriately prioritized the planned corrective actions and that these actions appear to be adequate to correct the condition.

These activities constitute completion of three annual follow-up samples, as defined in Inspection Procedure 71152.

#### b. Findings

No findings were identified.

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## **40A6 Meetings, Including Exit**

#### Exit Meeting Summary

The inspectors briefed Mr. D. Rencurrel, Senior Vice President, Operations, and other members of the licensee's staff of the results of the licensed operator requalification program inspection on September 12, 2013, and telephonically exited with Mr. G. Powell, Site Vice President, and other staff members on December 12, 2013. The licensee representatives acknowledged the findings presented. All proprietary information was returned to the licensee.

On December 6, 2013, the inspectors presented the inspection results of the review of inservice inspection activities to Mr. G. Powell, Site Vice President, and other members of the licensee staff. The licensee acknowledged the issues presented. The licensee confirmed that any proprietary information reviewed by the inspectors had been returned or destroyed.

On December 6, 2013, the inspectors presented the radiation safety inspection results to Mr. G. Powell, Site Vice President, and other members of the licensee staff. The licensee acknowledged the issues presented. The licensee confirmed that any proprietary information reviewed by the inspectors had been returned or destroyed.

On January 9, 2014, the inspectors presented the inspection results to Mr. G. Powell, Site Vice President, and other members of the licensee staff. The licensee acknowledged the issues presented. The licensee confirmed that any proprietary information reviewed by the inspectors had been returned or destroyed.

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## **SUPPLEMENTAL INFORMATION**

#### **KEY POINTS OF CONTACT**

#### Licensee Personnel

- D. Aguilar, Senior Technician, Health Physics
- R. Aguilera, Manager, Health Physics
- L. Archer, Consulting Causal Analysis Engineer, Health Physics
- M. Berg, Manager, Design Engineering
- C. Bowman, General Manager, Engineering
- W. Brost, Engineer, Licensing
- T. Dennis, Refuel Lead Technician
- S. Dubey, Engineer, Steam Generators
- R. Dunn Jr., Manager, Nuclear Fuel and Analysis
- T. Frawley, Manager, Strategic Business Projects
- J. Hartley, Manager, Mechanical Maintenance
- M. Hayes, General Supervisor, Radiation Protection
- J. Heil, Engineer, Boric Acid Corrosion Control
- G. Hildebrandt, Manager, Operations
- T. Hurley, Operations Training Supervisor
- G. Janak, Manager, Unit 1 Operations
- C. Kinman, Supervisor, Radiation Protection
- D. Koehl, President and CEO
- J. Lovejoy, Manager, I&C Maintenance
- M. Meier, Vice President, Corporate Services
- M. Merritt, Engineer, Welding
- J. Mertink, Nuclear Training Manager
- B. Migl, Manager, Maintenance Engineering (Acting)
- J. Milliff, Manager, Unit 2 Operations
- M. Murray, Manager, Regulatory Affairs
- J. Page, Licensed Operator Requalification Supervisor
- J. Paul, Supervisor, Licensing
- L. Peter, Plant General Manager
- J. Pierce, Operations Training Manager
- G. Powell, Site Vice President
- F. Puleo, Engineer, Licensing
- C. Reddix, Manager, Security
- D. Rencurrel, Senior Vice President, Operations
- G. Rodriguez, Senior Technician, Radiation Protection
- M. Ruvalcaba, Manager, Testing and Programs
- R. Savage, Engineer, Licensing Staff Specialist
- M. Schaefer, Manager, Nuclear Oversight
- S. Shojaei, Engineer, Repair and Replacement
- L. Spiess, Engineer, Inservice Inspection
- R. Stastny, Maintenance Manager
- J. Stauber, Engineer, Inservice Inspection
- K. Taplett, Supervisor, Licensing

A-1 Attachment 1

- T. Walker, Manager, Quality Assurance
- K. Wallis, Manager, Systems Engineering
- C. Younger, Supervisor, Engineering Programs
- D. Zink, Supervising Engineering Specialist

## LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

## Opened and Closed

05000498/2013005-01 05000499/2013005-01	NCV	Failure to Include Appropriate Acceptance Criteria in a Quality Procedure
05000498/2013005-02 05000499/2013005-02	FIN	Flawed Job Performance Measures

#### LIST OF DOCUMENTS REVIEWED

## **Section 1R01: Adverse Weather Protection**

## <u>Procedures</u>

<u>Number</u>	<u>Title</u>	<u>Revision</u>
0PGP03-ZV-0001	Severe Weather Plan	18
0PGP03-ZV-0004	Freezing Weather Plan	5
0P0P01-ZO-0004	Extreme Cold Weather Guidelines	33
0PGP03-ZA-0104	Switchyard Access and Control of Vehicles Near Electrical Power Components	10

## Work Authorization Numbers

438676 438675

## **Section 1R04: Equipment Alignment**

## <u>Procedures</u>

<u>Number</u>	<u>Title</u>	Revision
0POP03-ZG-0010	Refueling Operations	63
0POP02-RH-0001	Residual Heat Removal System Operations	63

## **Condition Reports**

12-21147

## Work Orders

541222

## <u>Miscellaneous</u>

<u>Number</u>	<u>Title</u>	<u>Date</u>
T2-12-21147-52	T-MOD: Provide Temp Power to Spent Fuel Pool (SFP) Cooling Water Pump 2B	January 23, 2013

## **Section 1R05: Fire Protection**

## <u>Procedures</u>

<u>Number</u>	<u>Title</u>			Revision	
0EAB03-FP-0042	Fire Preplan Ele Room Train B	Fire Preplan Electrical Auxiliary Building ESF Switchgear Room Train B			
0EAB01-FP-0032	•	Fire Preplan Electrical Auxiliary Building Relay Cabinet Area of Control Room			
0RCB63-FP-0219	<u>.</u>	Fire Preplan Reactor Containment Building Central Reactor Area (Lower)			
0RCB63-FP-0228	Fire Preplan Rea Train C	actor Containment E	Building RHR Cubicl	e, 4	
0RCB63-FP-0202	Fire Preplan Rea Reactor Area (U	actor Containment E pper)	Building Central	4	
0PGP03-ZF-0011	STPEGS Fire Br	rigade		11	
Condition Reports					
12-263	13-13040	13-13041	13-14773	12-30292	

#### <u>Drawings</u>

Number Title Revision

9-W-OI-9-E-0467#2 Mechanical and Electrical Auxiliary Building Fire Detection

7A492A841758 Architectural Mechanical and Electrical Auxiliary Building 7 Door Schedule Unit No. 2

# Work Authorization Numbers

426215 430751 438148

#### Miscellaneous

TitleRevision/DateSouth Texas Project: Fire Hazard Analysis21Approval Notes: Protective Door IndustriesJune 16, 1989

#### **Section 1R06: Flood Protection Measures**

#### <u>Calculations</u>

NumberTitleRevisionCALC MC05044Flooding Calculation for the DGB3

#### **Section 1R08: Inservice Inspection Activities**

#### <u>Procedures</u>

<u>Number</u>	<u>Title</u>	<u>Revision</u>
0PEP10-ZA-0004	General Ultrasonic Examination	7
0PEP10-ZA-0023	Visual Examination of Component Supports for ASME Section XI Inservice Inspection	7
UTI-063	Ultrasonic Technical Instruction	1
0PSP11-RC-0014	Steam Generator Inspection	19
0PEP10-ZA-0001	Nondestructive Examination Written Practice	10
0PEP10-ZA-0054	ASME Section XI Visual Examinations	2
0PGP03-ZE-0033	RCS Pressure Boundary Inspection for Boric Acid Leaks	12
0PGP03-ZE-0133	Boric Acid Corrosion Control Program	6

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<u>Procedures</u>				
<u>Number</u>	<u>Title</u>			<u>Revision</u>
0PGP03-ZE-0133	Boric Acid Corr	osion Control Prog	gram	5
0PGP03-ZE-0133	Boric Acid Corr	osion Control Prog	gram	4
0PMP04-RC-0007	Pressurizer Spi	ray Valve Maintena	ance	23
Condition Reports				
13-13580	11-24973	13-13224	11-22277	11-23693
13-4889	13-4354	13-4074	13-4023	11-31051
13-4897	13-13398	13-13418	13-7296	13-13224
13-8952	13-9227	13-11358	12-25979	13-14693
11-27930				
<u>Drawings</u>				
<u>Number</u>	<u>Title</u>			Revision
5R140F05003#2	P&ID RCS Pres	ssurizer		21
5M369PCV217	Chemical Volur	me and Control "C	V"	6
5R179F05007#2	P&ID Chemical	Volume and Cont	rol System	52
8039-01079BG	Valve Assembly	y, 1 inch, 1539 LB	"Y" type lift check	С
1D99929	Motor Op Gate	Valve Mod 03000	GM88FNHD0	В
<u>Miscellaneous</u>				
<u>Number</u>	<u>Title</u>			Revision/Date
SGS-13-014		lan In-Service Ste South Texas Unit-2		0
MRS-SSP-1192- TGX/THX	Process Contro	ol Sheet 11.3 Forei	gn Object Log Sheet	5
SG-CDME-08-39		nit 2 Steam Gener cycles 14, 15, and	ator Cycle 13 Condition 16 Operational	on 1
SGS-013-012		nit 2, Site Specific eling Outage – 2R	Inspection Technique E16	s November 29, 2013

<u>Number</u>	<u>Title</u>			Revision/Date
MRS-SSP-1619- TGX-THX		Steam Generator Eddy Current Data Analysis Guidelines for Inservice Inspections at South Texas Units 1 and 2		
SG-SGMP-13-3	South Texas 2R Assessment	E16 Steam Generat	tor Degradation	September 2013
Miscellaneous	•	Site Approved Inspecting Cor	ction Techniques for mpany	November 22, 2013
NOC-AE-09002408	2RE13 Inspection Tubing	on Summary Report	for Steam Generato	r March 24, 2009
NOC-AE-09002381	Inservice Inspec	ction Summary Repo	ort – 2RE13	January 20, 2009
NOC-AE-12002803	Inservice Inspec	Inservice Inspection Summary Report – 2RE15		February 20, 2012
MRS-2.4.2 GEN-35	,	Eddy Current Inspection of Preservice and Inservice Heat Exchanger Tubing		15
1013706	Pressurized Wa	EPRI: Steam Generator Management Program: Pressurized Water Reactor Steam Generator Examination Guidelines		7
1025145	EPRI: Boric Acid	d Corrosion Guidebo	ook	2
Work Orders				
536303	55788	497442	535574	557788
510839	478535	497445		

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

# **Procedures**

<u>Number</u>	<u>Title</u>	Revision
0POP03-ZG-0007	Plant Cooldown	70
0POP03-ZG-0006	Plant Shutdown From 100% to Hot Standby	53
	Conduct of Operations: Shift Operating Practices	59
0POP03-ZG-0004	Reactor Startup	42
LOR-GL-0002	LOR Annual and Biennial Evaluation Guidelines	16
LOR-GL-0001	LOR Training Program Guidelines	23

# **Procedures**

<u>Number</u>	<u>Title</u>	Revision
LOR-GL-0006	LOR Conduct of Simulator Training Guidelines	23
0PNT01-ZA-0037	Simulator Configuration Control	9
0PGP03-ZA-0128	Medical Examinations	10
0PGP03-ZT-0132	Licensed Operator Requalification	11
0PGP03-ZA-0119	Management Oversight of Training Programs	15
LOR-GL-0003	LOR Exam Bank Guidelines	5
LOR-GL-0005	Guideline for License Physical Notification & Responsibilities	4

# **Condition Reports**

13-13857 13-10673 12-26354 13-9591

# <u>Miscellaneous</u>

<u>Number</u>	<u>Title</u>	<u>Date</u>
	Unit 1 Operator Logs	October 1-2, 2013
	Mode Change Surveillance Report: Mode Type ALL	October 1-22, 2013
	Mode Change Surveillance Report: Mode Type 2 to 1	October 1-22, 2013
	Mode Change Surveillance Report: Mode Type 3 to 2	October 1-22, 2013
0PGP03-ZX-0003	Operations and Engineering Support Personnel Corrective Action Effectiveness Self-Assessment	April 16, 2012
	Industry Processes and Standards Self-Assessment	May 16, 2013
	Oconee Training Department Benchmarking	May 8, 2013
	Operations Training Benchmarking	March 4-12, 2013
	Root Cause Effectiveness Review for CR 12-31350 and CR 13-6012	July 30, 2013
	Licensed Operator Curriculum Review Committee Minutes	July 17, 2013
	STP Simulator Core Reload Acceptance Test, Cycle 18	
	All Job Performance Measure for the 2012 and 2013 Annual Operating Tests	

Miscellaneous

Title <u>Number</u> Date

Simulator Scenarios, Examinations 1, 3, 4, 5, 6, 7, 8, 9,

10, 11, 13, 14, 15

RO and SRO Written Examination #6

Lesson Plan: RST

213.23

EAB HVAC Malfunction

Lesson Plan: RST

Plant Shutdown From 25% Power

213.22

Lesson Plan: RST

Secondary Malfunction

213.21

# Simulator Deficiency Reports

DR 2745 DR 2729 DR 2448 DR 2735 DR 2749 DR 2546 DR 2578 DR 2656 DR 2367 DR 2378

#### **Section 1R12: Maintenance Effectiveness**

#### <u>Procedures</u>

<u>Number</u>	<u>Title</u>	<u>Revision</u>
SEG-0009	Maintenance Rule Basis Document Guideline	2
0PGP04-ZE-0313	Maintenance Rule Program	6
SEG-0002	Maintenance Rule Equipment History Review Guideline	1

#### **Condition Reports**

13-568 13-9321

#### **Miscellaneous**

<u>Title</u>	Revision/Date
Mitigating System Performance Index [MSPI] Basis Document	14
Maintenance Rule Meeting Package	October 23,

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2013

# Section 1R13: Maintenance Risk Assessments and Emergent Work Controls

#### <u>Procedures</u>

Number <u>Title</u> <u>Revision</u>

0PGP05-ZE-0001 PRA Analysis/Assessments 3

#### Condition Reports

13-15685

#### **Miscellaneous**

<u>Title</u> <u>Date</u>

Shutdown Risk Assessment Group Report September 24,

2013

Shutdown Risk Assessment Group Report October 3, 2013

PRA-13-026 Blocking Open Main Feedwater Control Valve (FCV) 2D AT- December 23,

Power

2013

Challenge Review Meeting for Re-Torque Loop Drain Valves December 28,

2013

#### Section 1R15: Operability Determinations and Functionality Assessments

#### **Procedures**

13-12970 13-12971

<u>Number</u>	<u>Title</u>			Revision
0PGP03-ZM-0018	Safety/ Relief Va	alve Program		11
0PMP04-ZG-0004	Bench Testing of	of Relief and Safety	Relief Valves	23
0POP02-CH-0001	Essential Chille	d Water System		50
Condition Reports				
13-12244	13-12365	13-10178	13-12492	05-2710
13-13224	13-14440	13-12979	13-15340	13-11380

13-14681

<u>Title</u>	Revision/Date
South Texas Project Updated Final Safety Analysis Report	13
Condition Report Engineering Evaluation (CREE) for CR 13-8418	July 31, 2013
Plan of Action: Unit 1 "C" Train Essential Chilled Water Tank Level LOW	1
Plan of Action: Unit 1 "C" Train Essential Chilled Water Tank Level LOW	2
Root Cause Evaluation: CR 05-2710 22C Essential Chiller Failure Due to Low Chilled Water Flow (Inventory)	

# Work Authorizations

482771 485632

# **Section 1R18: Plant Modifications**

# **Procedures**

<u>Number</u>	<u>Title</u>			Revision
0PAP01-ZA-0104	Plant Operations	s Review Committe	е	10
HPP-2316-002	Procedure for R	ack Handling and Ir	stallation at STP	3
HPP-2316-005	Pre-installation I	FPIG Testing for Fu	el Racks as STPNO	C 1
0PGP03-ZO-0003	Temporary Modi	fications		25
Condition Reports				
12-6221	12-10803	12-23436	12-23751	12-24273
12-24313	12-24350	12-25071	12-25086	12-27460
13-10171	13-10223	13-10355	13-10670	13-10870
13-3706	13-3707	13-3710	13-3714	13-3715
13-3716	13-3717	13-3718	13-5419	13-6990
13-6991	13-6998	13-7000	13-7001	13-7003
13-7697	13-7005	12-21147		

# Work Authorization Numbers

442763 459791

<u>Number</u>	<u>Title</u>	<u>Date</u>
12-6221-4	Margin Consideration for Essential Chiller Recorder Design Change Package(s)	October 2, 2012
12-25071-1	Removal of Ultrasonic Cleaning System from Unit 1 Spent Fuel Pool and Installing Racks 12 and 16	December 6, 2013
CREE-12-25071-34	Engineering Evaluation for Unit 1 Spent Fuel Racks 12 and 16	

# <u>Drawings</u>

<u>Number</u>	<u>Title</u>	Revision/Date
4310—00011YD	Diagram wiring (elec.) turbopak NEMA 12	September 28, 2009
00009E0VFAB#1	Single Line Diagram: Class 1E 120/208V Distribution Panel DPA235, DPB235, DPC235	13

# **Section 1R19: Post-Maintenance Testing**

# <u>Procedures</u>

<u>Number</u>	<u>Title</u>			<u>Revision</u>
0PGP03-ZM-0018	Safety/ Relief Va	alve Program		11
0PMP04-ZG-0004	Bench Testing of	of Relief and Safety	Relief Valves	23
0POP02-CH-0001	Essential Chille	d Water System		50
0PSP05-RC-0455T	Pressurizer Pre	ssure Transmitter C	alibration	20
HPP-2316-006	Post-installation	Drag Testing for Fu	uel Racks at STPNO	C 3
0POP02-DG-0002	Emergency Die	sel Generator 12(22	2)	65
Condition Reports				
05-2710	13-10178	13-12492	13-11358	13-13497
13-11380	13-15685	13-12711		
Work Authorization Numbers				
482771	485632	486526	484163	488341
485716				

<u>Title</u>	Revision/Date
South Texas Project Updated Final Safety Analysis Report	13
Condition Report Engineering Evaluation (CREE) for CR 13-8418	July 31, 2013
Plan of Action: Unit 1 "C" Train Essential Chilled Water Tank Level LOW	1
Plan of Action: Unit 1 "C" Train Essential Chilled Water Tank Level LOW	2
Root Cause Evaluation: CR 05-2710 22C Essential Chiller Failure Due to Low Chilled Water Flow (Inventory)	

# **Section 1R20: Refueling and Other Outage Activities**

# <u>Procedures</u>

<u>Number</u>	<u>Title</u>			<u>Revision</u>
0POP03-ZG-0006	Plant Shutdown	From 100% to Hot	Standby	53/54/55
0POP03-ZG-0007	Plant Cooldown			70
	Conduct of Ope	rations: Shift Opera	ating Practices	59
0POP03-ZG-0004	Reactor Startup			42/45
0POP03-ZG-0009	Mid-Loop Opera	Mid-Loop Operation		
0PGP03-ZA-0101	Shutdown Risk	Shutdown Risk Assessment		
Condition Reports				
13-15454	09-2751	13-15455	13-13945	13-14831
11-3756				

# <u>Miscellaneous</u>

<u>Title</u>	<u>Date</u>
Unit 1 Operator Logs	October 1-2, 2013
Mode Change Surveillance Report: Mode Type ALL	October 1-22, 2013
Mode Change Surveillance Report: Mode Type 2 to 1	October 1-22, 2013
Mode Change Surveillance Report: Mode Type 3 to 2	October 1-22, 2013
2RE16 Health Physics Challenge Review	November 2013

<u>Title</u> <u>Date</u>

ALARA Review Committee Meeting September 19,

2013

Shutdown Risk Assessment 2RE16 November 7, 2013

# **Section 1R22: Surveillance Testing**

#### <u>Procedures</u>

<u>Number</u>	<u>Title</u>	<u>Revision</u>
0PSP11-HC-0004	LLRT: M-44 Supplementary Containment Purge Exhaust	16
0PSP11-HC-0004	LLRT: M-44 Supplementary Containment Purge Exhaust	15
0PSP11-ZA-0005	Local Leakage Rate Test Calculations, Guidelines, and Programs	20
0PSP03-RH-0011	Residual Heat Removal Valve Interlock Test	13
0PSP11-SI-0013	LLRT: M-18 HHSI Pump 1A/2A Discharge	13
0PSP11-SI-0015	LLRT: M-19 LHSI Pump 1A/2A Discharge	13
0PSP03-CS-0008	Recirculating Fluid pH Control System Operability Test	7
0PSP03-RC-0006A	Alternate Reactor Coolant Inventory	6

#### Work Authorization Numbers

471625

#### **Section 1EP4: Emergency Action Level and Emergency Plan Changes**

# <u>Procedures</u>

<u>Number</u>	<u>Title</u>	<u>Revision</u>
OERP01-ZV-IN02	Notifications to Offsite Agencies	30
	Emergency Plan ICN 20-13	

#### Section 1EP6: Drill Evaluation

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#### <u>Procedures</u>

<u>Number</u> <u>Title</u> <u>Revision</u>

0ERP01-ZV-IN01 Emergency Classification 9

#### Condition Reports (CRs)

13-13296

#### **Miscellaneous**

Title

Combined Functional Drill: Blue Team Scenario Manual

Blue Team Combined Functional Drill Management Critique

November 14, 2013

# Section 2RS1: Radiological Hazard Assessment and Exposure Controls

#### <u>Procedures</u>

<u>Number</u>	<u>Title</u>			<u>Revision</u>	
0PGP03-ZR-0048	Personnel Dosir	Personnel Dosimetry Program			
0PGP03-ZR-0050	Radiation Prote	ction Program		12	
0PGP03-ZR-0051	Radiological Acc	cess Controls / Star	ndards	30	
0PGP03-ZR-0053	Radioactive Mat	terial Control Progra	am	16	
0PRP02-ZR-0007	Evaluation of Int	takes		12	
0PRP03-ZR-0004	Inventory and Lo	eak Testing of Radi	oactive Sources	8	
0PRP07-ZR-0010	Radiation Work Reviews	Radiation Work Permits/Radiological Work ALARA Reviews			
0PRP07-ZR-0033	Radiological Bri	Radiological Briefings			
0PRP08-ZR-0001	Personnel Deco	Personnel Decontamination			
Condition Reports					
12-28531	12-28746	12-28840	12-29013	12-29014	
12-29608	12-29658	12-29794	12-30013	12-30663	
12-30773	12-30786	13-00421	13-01283	13-01583	
13-01731	13-05742	13-06255	13-08640	13-09233	

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13-09464 13-11064 13-11424

# Audits, Self-Assessment, and Surveillances

<u>Number</u>	<u>Title</u>	<u>Date</u>
12-02-RC	Radiological Controls Quality Assurance Audit Report	March 29, 2012
MN-12-1-97133	Quality Monitoring Report: 1RE15 Reactor Cavity Decontamination	November 17, 2012
MN-12-1-97075	Quality Monitoring Report: U1 Reactor Containment Building Radworker Activities	November 24, 2012
MN-13-2-100704	Quality Monitoring Report: Unit 2 Pre-Job Briefings	March 21, 2013
MN-13-9-99477	Quality Monitoring Report: Free Release of Materials from RCA	February 6, 2013
<u>Miscellaneous</u>		
<u>Number</u>	<u>Title</u>	<u>Date</u>
RMS R231901	Spent Fuel Pool Inventory Form	July 22-24, 2013
	Non-Exempt/Technical Specification Source Inventory	November 5, 2013
0PRP04-ZR-0011- Form 2	Key Issue and Return Log	December 5, 2013
	2RE16 Refueling Daily Outage Report	December 3-6, 2013
NRC Form 748	National Source Tracking Transaction Report	January 2009 and January 2011
2013-2-0242	2RE16-NRC/INPO and Management Walkdowns, Inspections, Tours	
2013-2-0258	2RE16-Mini Decon of Reactor Cavity and Initial LISA and TILT PIT Decon	
2013-2-0273	2RE16-Inspect/Repair and Clean Upper/Lower O-ring Grooves and Seating Surfaces	
2013-2-0306	2RE16-SG Primary Side Nozzle Dams	
2013-2-0247	2RE16-Disconnect/Reconnect Seal Table – Retract/Reinsert Thimble Tubes	
2013-2-0248	Maintenance and Support Work – Room 001	
2013-2-0294	2RE16-Change Out Filters with Exposure Rates on Housing < 1 Rem/Hour	

# Radioactive Surveys

<u>Number</u>	<u>Title</u>	<u>Date</u>
57775	Unit 2 - Reactor Cavity Decontamination	March 13, 2012
68703	Unit 2 – 2 MAB +053' Task Group 15	September 16, 2013
68801	Unit 1 – Hot Tool Crib – Task Group 16	September 21, 2013
69780	Unit 1 – Craft Storage Area at EL 50'	November 11, 2013
70944	Unit 1 – +041' Access/Egress/Bypass/Login	December 5, 2013

# Section 2RS3: In-Plant Airborne Radioactivity Control and Mitigation

# <u>Procedures</u>

<u>Number</u>	<u>Title</u>			Revision
0PGP03-ZR-0054	Respiratory Pro	tection Program		15
0PRP05-ZR-0030	Portable Air Mo	nitoring Instrume	ents	19
0PRP06-ZR-0002	Respiratory Pro	tection Equipme	nt Issue and Return	20
0PRP06-ZR-0005		Maintenance Inspection and Storage of Respiratory Protection Equipment		
0PRP06-ZR-0007	Use of Supplied	d Air Respiratory	Equipment	8
0PRP06-ZR-0008	Air Quality Eval	Air Quality Evaluation		
0PRP06-ZR-0013	Respiratory Fit	Respiratory Fit Testing		
0PRP06-ZR-0014	Maintenance ar	nd Control of HE	PA	16
Condition Reports				
10-10772	10-12528	10-17889	11-8209	11-8916
11-18112	11-18113	12-29725	13-0601	13-0601
13-9738	13-10860			

# Audits, Self-Assessments, and Surveillances

<u>Number</u>	<u>Title</u>	<u>Date</u>
MN-12-1-96436	Quality Monitoring Report: 1RE17 Readiness and Maintenance of Respiratory Protection Equipment	November 2, 2012

#### Audits, Self-Assessments, and Surveillances

Number <u>Title</u> <u>Date</u>

MN-12-1-97426 Quality Monitoring Report: Roll-up Functional Area

Summary of 17 Radiological Controls Monitoring

Reports for 1RE17 Refueling Outage

**Miscellaneous** 

<u>Title</u> <u>Date</u>

SCBA Training Qualifications October 29, 2013

SCBA Inspection Records April 30, 2010 –

December 3, 2013

November 24, 2012

**Section 40A1: Performance Indicator Verification** 

**Procedures** 

Number <u>Title</u> <u>Revision</u>

SEG-0007 Mitigating System Performance Indicator Collection, 3

Processing and Maintenance of Data

<u>Miscellaneous</u>

<u>Title</u> <u>Revision/Date</u>

Radiation Safety NRC Performance Indicators December 4, 2013

Station Occupational Radiation Safety Cornerstone Events October 2013

Mitigating System Performance Index [MSPI] Basis Document 14

Section 40A2: Problem Identification and Resolution

**Procedures** 

Number Title Revision

0PGP04-ZA-0002 Condition Report Engineering Evaluation 19

Condition Reports

13-8806 13-11014 13-12492 13-9887 13-12549

13-9953 11-22282 13-7668

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#### PAPERWORK REDUCTION ACT STATEMENT

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

#### **Information Request**

**September 12, 2013** 

#### **Notification of Inspection and Request for Information**

#### South Texas Project Unit 2

#### NRC Inspection Report 05000499/2013005

On November 18, 2013, reactor inspectors from the Nuclear Regulatory Commission's (NRC) Region IV office will perform the baseline inservice inspection at South Texas Project Unit 2, using NRC Inspection Procedure 71111.08, "Inservice Inspection Activities." Experience has shown that this inspection is a resource intensive inspection both for the NRC inspectors and your staff. In order to minimize the impact to your onsite resources and to ensure a productive inspection, we have enclosed a request for documents needed for this inspection. These documents have been divided into two groups. The first group (Section A of the enclosure) identified information to be provided prior to the inspection to ensure that the inspectors are adequately prepared. The second group (Section B of the enclosure) identifies the information the inspectors will need upon arrival at the site. It is important that all of these documents are up to date and complete in order to minimize the number of additional documents requested during the preparation and/or the onsite portions of the inspection.

We have discussed the schedule for these inspection activities with your staff and understand that our regulatory contact for this inspection will be Robyn Savage of your licensing organization. The tentative inspection schedule is as follows:

Preparation week: November 11, 2013

Onsite weeks: November 18-22, 2013 and December 2-6, 2013

Our inspection dates are subject to change based on your updated schedule of outage activities. If there have any questions about this inspection or the material requested, please contact the lead inspector Peter Jayroe at 817-200-1174 [peter.jayroe@nrc.gov].

The following information should be sent to the Region IV office in hard copy or electronic format (ims.certrec.com preferred), in care of Peter Jayroe, by November 11, 2013, to facilitate the selection of specific items that will be reviewed during the onsite inspection week. The inspector will select specific items from the information requested below and then request from your staff additional documents needed during the onsite inspection week (Section B of this enclosure). We ask that the specific items selected from the lists be available and ready for review on the first day of inspection. Please

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provide requested documentation electronically if possible. If requested documents are large and only hard copy formats are available, please inform the inspector(s), and provide subject documentation during the first day of the onsite inspection. If you have any questions regarding this information request, please call the inspector as soon as possible.

#### A.1 ISI/Welding Programs and Schedule Information

- a) A detailed schedule (including preliminary dates) of:
  - Nondestructive examinations planned for ASME Code Class Components including containment, performed as part of your ASME Section XI, risk informed (if applicable), and augmented inservice inspection programs during the upcoming outage.

Provide a status summary of the nondestructive examination inspection activities vs. the required inspection period percentages for this interval by category per ASME, Section XI, IW*X*-2400. <u>Do not provide separately if</u> other documentation requested contains this information.

- ii. Reactor pressure vessel head examinations required by 10CFR50.55a(g)(6)(ii)(D) and Code Case N-729-1.
- iii. Examinations planned for Alloy 82/182/600 components that are not included in the Section XI scope (if applicable).
- iv. Examinations planned as part of your boric acid corrosion control program (mode 3 walk downs, bolted connection walk downs, etc.).
- v. Welding activities that are scheduled to be completed during the upcoming outage (ASME Class 1, 2, or 3 structures, systems, or components). Include the weld identification number, description of weld, category, class, type of exam and procedure number, and date of examination.
- vi. Work packages for Check valve repairs associated with ASME Section XI work on removal of Seal Cap welds, replacement of Bonnet, and the seal welding of bonnet/ valve body on Chemical Volume & Control (CVCS) check valves and Safety Injection (SI) Check Valve.
- b) A copy of ASME Section XI, Code Relief Requests and associated NRC safety evaluations applicable to the examinations identified above. This would include the NRC approved relief request for implementing a risk informed ISI program (if applicable).
  - i. A list of ASME Code Cases currently being used to include the system and/or component the Code Case is being applied to.

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- A list of nondestructive examination reports which have identified relevant indications on any ASME Code Class components since the beginning of the last refueling outage.
- d) A list including a brief description (e.g., system, code class, weld category, nondestructive examination performed) associated with the repair/replacement activities of any ASME Code Class components since the beginning of the last outage and/or planned this refueling outage.
- e) If reactor vessel weld examinations required by the ASME Code are scheduled to occur during the upcoming outage, provide a detailed description of the welds to be examined and the extent of the planned examination. Please also provide reference numbers for applicable procedures that will be used to conduct these examinations.
- f) Copy of any 10 CFR Part 21 reports applicable to structures, systems, or components within the scope of Section XI of the ASME Code that have been identified since the beginning of the last refueling outage.
- g) A list of any temporary noncode repairs in service (e.g., pinhole leaks).
- h) Please provide copies of the most recent self-assessments for the inservice inspection, welding, and Alloy 600 programs.
- i) List with description of ISI related issues such as piping damage (e.g., cracks, wall thinning, wear, MIC) or errors identified during piping examinations that have been entered into your corrective action system since the beginning of the last refueling outage. Also, include a list of corrective action records associated with foreign material introduced/identified in the reactor vessel, primary coolant system, steam generator, or feed systems since the beginning of the last refueling outage.

#### A.2 Reactor Pressure Vessel Head

- a) Provide a detailed scope of the planned bare metal visual examinations (e.g., volume coverage, limitations, etc.) of the vessel upper head penetrations and/or any nonvisual nondestructive examination of the reactor vessel head including the examination procedures to be used.
  - Provide the records recording the extent of inspection for each penetration nozzle including documents which resolved interference or masking issues that confirm that the extent of examination meets 10 CFR 50.55a(g)(6)(ii)(D).
  - ii. Provide records that demonstrate that a volumetric or surface leakage path examination assessment was performed.

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b) Copy of current calculations for EDY, and RIY as defined in Code Case N-729-1 that establish the volumetric and visual inspection frequency for the reactor vessel head and J-groove welds.

#### A.3 Boric Acid Corrosion Control Program

- a) Copy of the procedures that govern the scope, equipment and implementation of the inspections required to identify boric acid leakage and the procedures for boric acid leakage/corrosion evaluation.
- b) Please provide a list of leaks (including code class of the components) that have been identified since the last refueling outage and associated corrective action documentation. If during the last cycle, the unit was shut down, please provide documentation of containment walk down inspections performed as part of the boric acid corrosion control program.

#### A.4 Steam Generator Tube Inspections

- a) A detailed schedule of:
  - i. Steam generator tube inspection, data analyses, and repair activities for the upcoming outage (if occurring).
  - ii. Steam generator secondary side inspection activities for the upcoming outage (if occurring).
- b) Copy of SG history documentation given to vendors performing eddy current (ET) testing of the SGs during the upcoming outage.
- c) Copy of procedure containing screening criteria used for selecting tubes for in-situ pressure testing and the procedure to be used for in-situ pressure testing.
- d) Copy of previous outage SG tube operational assessment completed following ET of the SGs. Also include a copy of the following documents as they become available:
  - i. Degradation assessment
  - ii. Condition monitoring assessment
- e) Copy of the document defining the planned SG ET scope (e.g., 100 percent of unrepaired tubes with bobbin probe and 20 percent sample of hot leg expansion transition regions with rotating probe) and identify the scope expantion criteria, which will be applied. Also identify and describe any deviations in this scope or expansion criteria from the EPRI Guidelines.
- f) Copy of the document describing the ET acquisition equipment to be applied including ET probe types. Also identify the extent of planned tube examination coverage with each probe type (e.g. rotating probe -0.080 inches, 0.115 inches pancake coils and

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mid-range +point coil applied at the top-of-tube-sheet plus 3 inches to minus 12 inches).

- g) Identify and quantify any SG tube leakage experienced during the previous operating cycle. Also provide documentation identifying which SG was leaking and corrective actions completed and planned for this condition.
- h) Copy of steam generator eddy current data analyst guidelines and site validated eddy current technique specification sheets. Additionally, please provide a copy of EPRI Appendix H, "Examination Technique Specification Sheets," qualification records.
- i) Provide past history of the condition and issues pertaining to the secondary side of the steam generators (including items such as loose parts, fouling, top of tube sheet condition, crud removal amounts, etc.).
- j) Indicate where the primary, secondary, and resolution analyses are scheduled to take place.

#### A.5 Additional Information Related to all Inservice Inspection Activities

- a) A list with a brief description of inservice inspection, boric acid corrosion control program, and steam generator tube inspection related issues (e.g., condition reports) entered into your corrective action program since the beginning of the last refueling outage. For example, a list based upon data base searches using key words related to piping or steam generator tube degradation such as: inservice inspection, ASME Code, Section XI, NDE, cracks, wear, thinning, leakage, rust, corrosion, boric acid, or errors in piping/steam generator tube examinations.
- b) Provide training (e.g. Scaffolding, Fall Protection, FME, Confined Space) if they are required for the activities described in A.1 through A.4.
- c) Please provide names and phone numbers for the following program leads:

Inservice inspection (examination, planning)

Containment exams

Reactor pressure vessel head exams

Snubbers and supports

Repair and replacement program

Licensing

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Site welding engineer

Boric acid corrosion control program

Steam generator inspection activities (site lead and vendor contact)

- B. <u>Information to be Provided Onsite to the Inspector(s) at the Entrance Meeting</u> (November 18, 2013):
- B.1 Inservice Inspection / Welding Programs and Schedule Information
  - a) Updated schedules for inservice inspection/nondestructive examination activities, including steam generator tube inspections, planned welding activities, and schedule showing contingency repair plans, if available.
  - b) For ASME Code Class welds selected by the inspector from the lists provided from section A of this enclosure, please provide copies of the following documentation for each subject weld:
    - i. Weld data sheet (traveler).
    - ii. Weld configuration and system location.
    - iii. Applicable Code Edition and Addenda for weldment.
    - iv. Applicable Code Edition and Addenda for welding procedures.
    - v. Applicable welding procedures used to fabricate the welds.
    - vi. Copies of procedure qualification records (PQRs) supporting the weld procedures from B.1.b.v.
    - vii. Copies of welder's performance qualification records (WPQ).
    - viii. Copies of the nonconformance reports for the selected welds (If applicable).
    - ix. Radiographs of the selected welds and access to equipment to allow viewing radiographs (if radiographic testing was performed).
    - x. Copies of the preservice examination records for the selected welds.

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- xi. Readily accessible copies of nondestructive examination personnel qualifications records for reviewing.
- c) For the inservice inspection related corrective action issues selected by the inspectors from section A of this enclosure, provide a copy of the corrective actions and supporting documentation.
- d) For the nondestructive examination reports with relevant conditions on ASME Code Class components selected by the inspectors from Section A above, provide a copy of the examination records, examiner qualification records, and associated corrective action documents.
- e) A copy of (or ready access to) most current revision of the inservice inspection program manual and plan for the current interval.
- f) For the nondestructive examinations selected by the inspectors from section A of this enclosure, provide a copy of the nondestructive examination procedures used to perform the examinations (including calibration and flaw characterization/sizing procedures). For ultrasonic examination procedures qualified in accordance with ASME Code, Section XI, Appendix VIII, provide documentation supporting the procedure qualification (e.g. the EPRI performance demonstration qualification summary sheets). Also, include qualification documentation of the specific equipment to be used (e.g., ultrasonic unit, cables, and transducers including serial numbers) and nondestructive examination personnel qualification records.

#### B.2 Reactor Pressure Vessel Head (RPVH)

- a) Provide drawings showing the following (if performing any RPVH inspection activities):
  - i. RPVH and control rod drive mechanism nozzle configurations.
  - ii. RPVH insulation configuration.

Note: The drawings listed above should include fabrication drawings for the nozzle attachment welds as applicable.

- b) Copy of the documents which demonstrate that the procedures to be used for volumetric examination of the reactor vessel head penetration J-groove welds were qualified by a blind demonstration test in accordance with 10 CFR 50.55a(g)(6)(ii)(D).
- c) Copy of volumetric, surface and visual examination records for the prior inspection of the reactor vessel head and head penetration J-groove welds.

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#### B.3 Boric Acid Corrosion Control Program

- a) Please provide boric acid walk down inspection results, an updated list of boric acid leaks identified so far this outage, associated corrective action documentation, and overall status of planned boric acid inspections.
- b) Please provide any engineering evaluations completed for boric acid leaks identified since the end of the last refueling outage. Please include a status of corrective actions to repair and/or clean these boric acid leaks. Please identify specifically which known leaks, if any, have remained in service or will remain in service as active leaks.

#### B.4 Steam Generator Tube Inspections

- a) Copies of the Examination Technique Specification Sheets and associated justification for any revisions.
- b) Please provide a copy of the eddy current testing procedures used to perform the steam generator tube inspections (specifically calibration and flaw characterization/sizing procedures, etc.).
- c) Copy of the guidance to be followed if a loose part or foreign material is identified in the steam generators.
- d) Identify the types of SG tube repair processes which will be implemented for defective SG tubes (including any NRC reviews/evaluations/approvals of this repair process). Provide the flaw depth sizing criteria to be applied for ET indications identified in the SG tubes.
- e) Copy of documents describing actions to be taken if a new SG tube degradation mechanism is identified.
- f) Provide procedures with guidance/instructions for identifying (e.g. physically locating the tubes that require plugging) and plugging SG tubes.
- g) List of corrective action documents generated by the vendor and/or site with respect to steam generator inspection activities.

#### B.5 Codes and Standards

- a) Ready access to (i.e., copies provided to the inspector(s) for use during the inspection at the onsite inspection location, or room number and location where available):
  - i. Applicable Editions of the ASME Code (Sections V, IX, and XI) for the inservice inspection program and the repair/replacement program.

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- ii. EPRI and industry standards referenced in the procedures used to perform the steam generator tube eddy current examination.
- b) Copy of the performance demonstration initiative (PDI) generic procedures with the latest applicable revisions that support site qualified ultrasonic examinations of piping welds and components (e.g., PDI-UT-1, PDI-UT-2, PDI-UT-3, PDI-UT-10, etc.).
- c) EPRI and industry standard references in the site procedures used to perform the SG tube eddy current examination, which includes EPRI documents: TR-107621-R1, "Steam Generator Integrity Assessment Guidelines," TR-107620-R1, "Steam Generator In-Situ Pressure Test Guidelines," Steam Generator Management Program: Steam Generator Integrity Assessment Guidelines, Part 10, and 1003138, "Pressurized Water Reactor Steam Generator Examination Guidelines."
- d) Boric Acid Corrosion Guidebook Revision 1 EPRI Technical Report 1000975.

A2-9 Attachment 2

# The following items are requested for the Occupational Radiation Safety Inspection at South Texas Project (December 2 – 6, 2013) Integrated Report 2013005

Inspection areas are listed in the attachments below.

Please provide the requested information on or before November 4, 2013.

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

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

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

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

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

The other inspector will be Natasha Greene. She may be contacted at (817)200-1154 or Natasha.Greene@nrc.gov.

#### PAPERWORK REDUCTION ACT STATEMENT

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

A3-1 Attachment 3

#### 1. Radiological Hazard Assessment and Exposure Controls (71124.01)

Date of Last Inspection: October 25, 2012

- A. List of contacts and telephone numbers for the Radiation Protection Organization Staff and Technicians
- B. Applicable organization charts
- C. Audits, self-assessments, and LERs written since date of last inspection, related to this inspection area
- D. Procedure indexes for the radiation protection procedures
- E. Please provide specific procedures related to the following areas noted below.

  Additional Specific Procedures may be requested by number after the inspector reviews the procedure indexes.
  - 1. Radiation Protection Program Description
  - 2. Radiation Protection Conduct of Operations
  - 3. Personnel Dosimetry Program
  - 4. Posting of Radiological Areas
  - 5. High Radiation Area Controls
  - 6. RCA Access Controls and Radworker Instructions
  - 7. Conduct of Radiological Surveys
  - 8. Radioactive Source Inventory and Control
  - 9. Declared Pregnant Worker Program
- F. List of corrective action documents (including corporate and subtiered systems) since date of last inspection
  - 1. Initiated by the radiation protection organization
  - 2. Assigned to the radiation protection organization
  - 3. Identify any CRs that are potentially related to a performance indicator event

NOTE: The lists should indicate the <u>significance level</u> of each issue and the <u>search criteria</u> used. Please provide documents which are "searchable" so that the inspector can perform word searches.

If not covered above, a summary of corrective action documents since date of last inspection involving unmonitored releases, unplanned releases, or releases in which any dose limit or administrative dose limit was exceeded (for Public Radiation Safety Performance Indicator verification in accordance with IP 71151)

- G. List of radiologically significant work activities scheduled to be conducted during the inspection period (If the inspection is scheduled during an outage, please also include a list of work activities greater than 1 rem, scheduled during the outage with the dose estimate for the work activity.)
- H. List of active radiation work permits
- I. Radioactive source inventory list

#### 3. In-Plant Airborne Radioactivity Control and Mitigation (71124.03)

Date of Last Inspection: April 30, 2010

- A. List of contacts and telephone numbers for the following areas:
  - 1. Respiratory Protection Program
  - 2. Self-contained breathing apparatus
- B. Applicable organization charts
- C. Copies of audits, self-assessments, vendor or NUPIC audits for contractor support (SCBA), and LERs, written since date of last inspection related to:
  - 1. Installed air filtration systems
  - 2. Self-contained breathing apparatuses
- D. Procedure index for:
  - 1. use and operation of continuous air monitors
  - 2. use and operation of temporary air filtration units
  - 3. Respiratory protection
- E. Please provide specific procedures related to the following areas noted below.

  Additional Specific Procedures may be requested by number after the inspector reviews the procedure indexes.
  - 1. Respiratory protection program
  - 2. Use of self-contained breathing apparatuses
  - 3. Air quality testing for SCBAs
- F. A summary list of corrective action documents (including corporate and subtiered systems) written since date of last inspection, related to the Airborne Monitoring program including:
  - 1. continuous air monitors
  - 2. Self-contained breathing apparatuses
  - 3. respiratory protection program

NOTE: The lists should indicate the <u>significance level</u> of each issue and the <u>search</u> criteria used. Please provide documents which are "searchable."

- G. List of SCBA qualified personnel reactor operators and emergency response personnel
- H. Inspection records for self-contained breathing apparatuses (SCBAs) staged in the plant for use since date of last inspection.
- I. SCBA training and qualification records for control room operators, shift supervisors, STAs, and OSC personnel for the last year.

A selection of personnel may be asked to demonstrate proficiency in donning, doffing, and performance of functionality check for respiratory devices.