



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

July 30, 2013

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

Subject: SOUTH TEXAS PROJECT ELECTRIC GENERATING STATION - NRC INTEGRATED
INSPECTION REPORT 05000498/2013003 AND 05000499/2013003

Dear Mr. Koehl:

On June 29, 2013, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your South Texas Project Electric Generating Station, Units 1 and 2, facility. The enclosed inspection report documents the inspection results which were discussed on July 3, 2013, with you and other members of your staff.

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

One NRC-identified finding of very low safety significance (Green) was identified during this inspection. The finding did not involve a violation of NRC requirements.

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

Sincerely,

/RA/

Wayne C. Walker, Branch Chief
Project Branch A
Division of Reactor Projects

D. Koehl

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Docket Nos.: 05000498, 05000499

License Nos.: NPF-76, NPF-80

Enclosure: Inspection Report 05000498/2013003 and 05000499/2013003

w/Attachment 1: Supplemental Information

w/Attachment 2: 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: 05000498/2013003 and 05000499/2013003

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: March 31 through June 29, 2013

Inspectors: J. Dixon, Senior Resident Inspector
A. Sanchez, Senior Resident Inspector
B. Tharakan, CHP, Resident Inspector
D. You, Resident Inspector
P. Jayroe, Project Engineer
J. O'Donnell, Health Physicist
L. Ricketson, P.E., Senior Health Physicist

Approved By: Wayne Walker, Chief, Project Branch A
Division of Reactor Projects

SUMMARY OF FINDINGS

IR 05000498/2013003, 05000499/2013003; 03/31/2013 – 06/29/2013; South Texas Project Electric Generating Station, Units 1 and 2, Integrated Resident and Regional Report; Operability Evaluations and Functionality Assessments.

The report covered a 3-month period of inspection by resident inspectors and announced baseline inspections by region-based inspectors. The significance of most findings is indicated by their color (Green, White, Yellow, or Red) using Inspection Manual Chapter 0609, "Significance Determination Process." The cross-cutting aspect is determined using Inspection Manual Chapter 0310, "Components Within the Cross-Cutting Areas." Findings for which the significance determination process does not apply may be Green or be assigned a severity level after NRC management review. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 4, dated December 2006.

A. NRC-Identified Findings and Self-Revealing Findings

Cornerstone: Barrier Integrity

- Green. The inspectors identified a Green finding for the licensee's failure to follow Procedure OPGP04-ZA-0307, "Preparation of Calculations," Revision 4. Specifically, two parts were not followed, step 3.1.5.4 states all design calculations SHALL be identified AND their sources indicated by providing an adequate title/description; and step 3.2.2 which instructs performing a peer check review of the calculation for completeness, clarity, and accuracy. As part of a routine walkdown of the spent fuel pool area, the inspectors identified several issues of concern regarding the licensee's spent fuel pool mitigation strategy equipment which implements the fill and/or spray strategy. Specifically, the as-designed equipment did not match the as-installed configuration and the as-designed calculations did not account for standard engineering practices to ensure that all calculation considerations were taken into account. The licensee captured these issues in Condition Reports 13-3767 and 13-5006. Corrective actions included updating the calculations to include standard engineering practices and ensuring that the design matched the as-installed configuration.

The failure to follow Procedure OPGP04-ZA-0307 to ensure an adequate design calculation and review for accuracy was a performance deficiency. This finding was more than minor because it adversely affected the design control attribute of the Barrier Integrity cornerstone and affected the cornerstone objective to provide reasonable assurance that physical design barriers such as fuel cladding protect the public from radionuclide releases caused by accidents or events. The inspectors performed the significance determination process using NRC Inspection Manual Chapter 0609, Attachment 4, "Initial Characterization of Findings," which evaluates the finding using Appendix L, "B.5.b Significance Determination Process", "Table 2 - Significance Characterization," and determined the finding was of very low safety significance because the finding did not result in an unrecoverable mitigating strategy due to the unavailability of post-accident cooling systems for the spent fuel pool. No

cross-cutting aspects are assigned to this finding because the calculations were performed in 2007 and 2008 and are not considered indicative of current performance (Section 1R15).

B. Licensee-Identified Violations

None

REPORT DETAILS

Summary of Plant Status

Unit 1 began the inspection period at 100 percent rated thermal power and remained there until May 10, 2013, when the plant shut down for Reliability Outage 1P1301 to work on the main generator stator cooling water system. On May 15, 2013, Unit 1 commenced a reactor startup and reached 100 percent rated thermal power on May 17, 2013.

Unit 2 began the inspection period in Forced Outage 2F1302 as a result of a fire in main transformer 2A, which resulted in an automatic reactor trip. On April 12, 2013, Unit 2 commenced a reactor startup and achieved Mode 1. While at approximately 10 percent rated thermal power, the licensee performed post-maintenance testing on the main turbine. During the testing, main turbine bearing number 2 temperature spiked causing control room alarms, and resulted in operators initiating a manual turbine trip. Based on indications of bearing damage, the licensee cooled the reactor coolant system back down to Mode 5 on April 14, 2013, to repair bearing number 2. On April 19, 2013, Unit 2 commenced a reactor startup, achieved Mode 1 on April 20, 2013, and reached 100 percent rated thermal power on April 23, 2013.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

1R01 Adverse Weather Protection (71111.01)

.1 Summer Readiness for Offsite and Alternate-AC Power Systems

a. Inspection Scope

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

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

During the inspection, the inspectors focused on plant-specific design features and the procedures used by plant personnel to mitigate or respond to adverse weather conditions. Additionally, the inspectors reviewed the UFSAR and performance requirements for systems selected for inspection, and verified that operator actions were appropriate as specified by plant-specific procedures. Specific documents reviewed during this inspection are listed in the attachment. The inspectors also reviewed corrective action program items to verify that the licensee was identifying adverse weather issues at an appropriate threshold and entering them into their corrective action program in accordance with station corrective action procedures. The inspectors' reviews focused specifically on the following plant systems:

- On May 3, 2013, the inspectors completed a review of the offsite and onsite power systems, including the Units 1 and 2 engineered safety features transformers; main transformers; auxiliary transformers; and standby transformers. Inspectors also completed walkdowns of the switchyard and reviewed the return-to-service plan of action for main transformer 2A after Forced Outage 2F1302.

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

b. Findings

No findings were identified.

.2 Readiness to Cope with External Flooding

a. Inspection Scope

On June 10, 2013, the inspectors evaluated the design, material condition, and procedures for coping with the design basis probable maximum flood. The evaluation included a review to check for deviations from the descriptions provided in the UFSAR for features intended to mitigate the potential for flooding from external factors. As part of this evaluation, the inspectors checked for obstructions that could prevent draining, checked that the roofs did not contain obvious loose items that could clog drains in the event of heavy precipitation, and determined that barriers required to mitigate the flood were in place and operable. Additionally, the inspectors performed an inspection of the protected area to identify any modification to the site that would inhibit site drainage during a probable maximum precipitation event or allow water ingress past a barrier. The inspectors also reviewed the abnormal operating procedure for mitigating the design basis flood to ensure it could be implemented as written. Specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of one external flooding sample, as defined in Inspection Procedure 71111.01-05.

b. Findings

No findings were identified.

1R04 Equipment Alignment (71111.04)

.1 Partial Walkdown

a. Inspection Scope

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

- April 30, 2013, Unit 2, auxiliary feedwater system train C
- May 31, 2013, Unit 2, auxiliary feedwater system train A
- June 14, 2013, Unit 1, component cooling water system train B

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

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

b. Findings

No findings were identified.

.2 Complete Walkdown

a. Inspection Scope

On May 30, 2013, the inspectors performed a complete system alignment inspection of the Unit 2 essential cooling water system train C, to verify the functional capability of the system. The inspectors selected this system based on risk-informed insights from

site-specific risk studies together with other factors such as engineering analysis and judgment, operating experience, performance history, current plant mode, and/or previous walkdowns. The inspectors inspected the system to review mechanical and electrical equipment line ups, electrical power availability, system pressure and temperature indications, as appropriate, component labeling, component lubrication, component and equipment cooling, hangers and supports, operability of support systems, and to ensure that ancillary equipment or debris did not interfere with equipment operation. The inspectors reviewed a sample of past and outstanding work orders to determine whether any deficiencies significantly affected the system function. In addition, the inspectors reviewed the corrective action program database to ensure that system equipment-alignment problems were being identified and appropriately resolved. Specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of one complete system walkdown sample, as defined in Inspection Procedure 71111.04-05.

b. Findings

No findings were identified.

1R05 Fire Protection (71111.05)

Quarterly Fire Inspection Tours

a. Inspection Scope

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

- May 31, 2013, Unit 2, diesel generator building train C, Fire Zone Z500
- June 4, 2013, Unit 2, electrical auxiliary building, engineered safety features switchgear room train B, Fire Zone Z042
- June 10, 2013, Unit 2, electrical auxiliary building, channel 1 battery room and channel 1 distribution room, Fire Zones Z084 and Z003
- June 17, 2013, Unit 1, mechanical auxiliary building, component cooling water pump and chiller trains A, B, and C, Fire Zones Z128, Z140, and Z139

The inspectors reviewed areas to assess if licensee personnel had implemented a fire protection program that adequately controlled combustibles and ignition sources within the plant; effectively maintained fire detection and suppression capability; maintained passive fire protection features in good material condition; and had implemented adequate compensatory measures for out of service, degraded or inoperable fire protection equipment, systems, or features, in accordance with the licensee's fire plan. The inspectors selected fire areas based on their overall contribution to internal fire risk

as documented in the plant's Individual Plant Examination of External Events with later additional insights, their potential to affect equipment that could initiate or mitigate a plant transient, or their impact on the plant's ability to respond to a security event. Using the documents listed in the attachment, the inspectors verified that fire hoses and extinguishers were in their designated locations and available for immediate use; that fire detectors and sprinklers were unobstructed; that transient material loading was within the analyzed limits; and fire doors, dampers, and penetration seals appeared to be in satisfactory condition. The inspectors also verified that minor issues identified during the inspection were entered into the licensee's corrective action program. Specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of four quarterly fire-protection inspection samples, as defined in Inspection Procedure 71111.05-05.

b. Findings

No findings were identified.

1R06 Flood Protection Measures (71111.06)

a. Inspection Scope

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

- April 22, 2013, Units 1 and 2, safety-related underground manhole inspections
- May 22, 2013, Units 1 and 2, auxiliary feedwater pump isolation valve cubicles

These activities constitute completion of one flood protection measures inspection sample and one bunker/manhole sample, as defined in Inspection Procedure 71111.06-05.

b. Findings

No findings were identified.

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

.1 Quarterly Review of Licensed Operator Requalification Program

a. Inspection Scope

On June 17 and 20, 2013, the inspectors observed a crew of licensed operators in the plant's simulator during requalification testing. The inspectors assessed the following areas:

- Licensed operator performance
- The ability of the licensee to administer the evaluations
- The quality of post-scenario critiques

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

b. Findings

No findings were identified.

.2 Quarterly Observation of Licensed Operator Performance

a. Inspection Scope

On April 12, 2013, 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 activity and risk due to commencing a reactor startup.

In addition, the inspectors assessed the operators' adherence to plant procedures, including reactor startup; plant startup to 100 percent; secondary startup; operations conduct of operations; and other operations department policies.

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

b. Findings

No findings were identified.

1R12 Maintenance Effectiveness (71111.12)

a. Inspection Scope

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

- May 9, 2013, Units 1 and 2, solid state protection system

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

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

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

These activities constitute completion of one maintenance effectiveness sample, as defined in Inspection Procedure 71111.12-05.

b. Findings

No findings were identified.

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

a. Inspection Scope

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

- March 31 through April 22, 2013, Unit 2, Forced Outage 2F1302 maintenance activities including: main transformer 2A replacement, pressurizer spray valve 655B replacement, residual heat removal pump 2C bearing and seal replacement, and nuclear instrument cable replacements
- April 29 through May 3, 2013, Unit 1, large train A work week, including emergent work activities on a failed circuit card for loop A delta temperature and average coolant temperature
- May 5 through 13, 2013, Unit 1, emergent activities for pressurizer heater back-up group 1A breaker failure and planned reliability outage for stator cooling water 1P1301; Unit 2, large train A planned maintenance work week
- June 3 through 6, 2013, Unit 2, planned activities for train A Class 1E 125-Vdc batteries and inverter that exceeded the time allowed before entering the risk managed technical specifications allowed outage time

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

These activities constitute completion of four maintenance risk assessments and emergent work control inspection samples, as defined in Inspection Procedure 71111.13-05.

b. Findings

No findings were identified.

1R15 Operability Evaluations and Functionality Assessments (71111.15)

a. Inspection Scope

The inspectors reviewed the following assessments:

- April 25, 2013, Unit 2, component cooling water train B isolation low level switch
- April 26, 2013, Unit 2, essential cooling water train B motor bearing high vibration

- April 30, 2013, Units 1 and 2, essential cooling water trains A, B, and C pump motor end play tolerances
- May 2, 2013, Units 1 and 2, fire protection system higher than normal operating pressure during post-maintenance run of diesel fire pump 2
- May 22, 2013, Units 1 and 2, standby diesel generator Part 21 for missing valve keeper seals
- June 4, 2013, Units 1 and 2, spent fuel pool mitigation strategy

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

These activities constitute completion of six operability evaluations inspection samples, as defined in Inspection Procedure 7111.15-05.

b. Findings

Introduction. The inspectors identified a Green finding for the licensee's failure to follow Procedure OPGP04-ZA-0307, "Preparation of Calculations," Revision 4. Specifically two parts were not followed, step 3.1.5.4 states all design calculations SHALL be identified AND their sources indicated by providing an adequate title/description; and step 3.2.2 which instructs performing a peer check review of the calculation for completeness, clarity, and accuracy.

Description. As part of a routine walkdown of the spent fuel pool area, the inspectors identified several items of concern regarding the licensee's spent fuel pool mitigation strategy equipment. The inspectors determined that the licensee did not follow Procedure OPGP04-ZA-0307 for the implementation of the fill and/or spray strategy. Specifically, the as-designed equipment did not match the as-installed configuration and the as-designed calculations did not account for standard engineering practices to ensure that all considerations were accounted for. For example, a single 2 ½ inch fire hose versus two 2 ½ inch fire hoses; 200 gpm versus 250 gpm; and stresses associated with the weight of the hoses, water, fittings, etc. The licensee captured these issues in Condition Reports 13-3767 and 13-5006. Corrective actions included updating the

calculations to include standard engineering practices and ensuring that the design matched the as-installed configuration.

Analysis. The failure to follow Procedure OPGP04-ZA-0307 to ensure an adequate design calculation and review for accuracy was a performance deficiency. This finding was more than minor because it adversely affected the design control attribute of the Barrier Integrity Cornerstone and affected the cornerstone objective to provide reasonable assurance that physical design barriers such as fuel cladding protect the public from radionuclide releases caused by accidents or events. Design control was affected in the area of plant modifications that maintain post-accident cooling of the spent fuel pool cooling system. Specifically, the field installation did not match the design calculations and those design calculations did not include an evaluation for all the calculation components used, which resulted in significant errors requiring the calculations be revised. The licensee entered this finding into the corrective action program as Condition Reports 13-3767 and 13-5006.

The inspectors performed the significance determination process using NRC Inspection Manual Chapter 0609, Attachment 4, "Initial Characterization of Findings," dated June 19, 2012, because the finding affected the Barrier Integrity cornerstone while the plant was at power. Attachment 4 evaluates the finding using Appendix L, "B.5.b Significance Determination Process", "Table 2 - Significance Characterization," dated December 24, 2009, as a finding of very low safety significance because the finding did not result in an unrecoverable mitigating strategy due to the unavailability of post-accident cooling systems for the spent fuel pool. No cross-cutting aspects are assigned to this finding because the calculations were performed in 2007 and 2008, and, therefore, are not considered indicative of current performance.

Enforcement. This finding does not involve enforcement action because no violation of a regulatory requirement was identified. Because this finding does not involve a violation and is of very low safety significance, it is identified as a finding. (FIN 05000498/2013003-01; 05000499/2013003-01, "Inadequate Design Calculations for Spent Fuel Pool Mitigation Strategies")

1R19 Post-Maintenance Testing (71111.19)

a. Inspection Scope

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

- April 12, 2013, Unit 2, reactor coolant system loop 2D pressurizer spray valve 655B body cut out and replacement
- May 2, 2013, Unit 2, electrical penetration restoration between control room and train A electrical spreading room

- May 3, 2013, Unit 1, replacement of failed loop A 7300 system summing amplifier card that generates a delta flux penalty and caused a step change in overpressure delta temperature setpoint
- June 5, 2013, Unit 1, replacement of the power supply for the speed control on standby diesel generator 12
- June 18, 2013, Unit 1, auxiliary feedwater 14 trip throttle valve and auxiliary feedwater pump 14 regulating maintenance

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

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

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

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

b. Findings

No findings were identified.

1R20 Refueling and Other Outage Activities (71111.20)

.1 Unit 2 Forced Outage 2F1302 for Main Transformer 2A

a. Inspection Scope

The inspectors reviewed the outage safety plan and contingency plans for the Unit 2 Forced Outage 2F1302, conducted January 8 through April 23, 2013, to confirm that licensee personnel had appropriately considered risk, industry experience, and previous site-specific problems in developing and implementing a plan that assured maintenance of defense in depth. During the forced outage, the inspectors observed portions of the

shutdown and cooldown processes and monitored licensee controls over the outage activities listed below.

- Configuration management, including maintenance of defense in depth, is commensurate with the outage safety plan for key safety functions and compliance with the applicable technical specifications when taking equipment out of service.
- Clearance activities, including confirmation that tags were properly hung and equipment appropriately configured to safely support the work or testing.
- Installation and configuration of reactor coolant pressure; level; and temperature instruments to provide accurate indication, accounting for instrument error.
- Status and configuration of electrical systems to ensure that technical specifications and outage safety-plan requirements were met, and controls over switchyard activities.
- Monitoring of decay heat removal processes, systems, and components.
- Verification that outage work was not impacting the ability of the operators to operate the spent fuel pool cooling system.
- Reactor water inventory controls, including flow paths; configurations; and alternative means for inventory addition; and controls to prevent inventory loss.
- Controls over activities that could affect reactivity.
- Startup and ascension to full power operation, tracking of startup prerequisites, walkdown of primary containment to verify that debris had not been left which could block emergency core cooling system suction strainers, and reactor physics testing.
- Licensee identification and resolution of problems related to refueling outage activities.

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

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

b. Findings

No findings were identified.

.2 Unit 1 Planned Reliability Outage 1P1301 for Main Generator Stator Cooling Water

a. Inspection Scope

The inspectors reviewed the outage safety plan and contingency plans for the Unit 1 planned Reliability Outage 1P1301 for maintenance activities on the main generator stator cooling water system, conducted May 5 through 15, 2013, to confirm that licensee personnel had appropriately considered risk, industry experience, and previous site-specific problems in developing and implementing a plan that assured maintenance of defense in depth. During the planned outage, the inspectors observed portions of the shutdown and monitored licensee controls over the outage activities listed below.

- Configuration management, including maintenance of defense in depth, is commensurate with the outage safety plan for key safety functions and compliance with the applicable technical specifications when taking equipment out of service.
- Clearance activities, including confirmation that tags were properly hung and equipment appropriately configured to safely support the work or testing.
- Status and configuration of electrical systems to ensure that technical specifications and outage safety-plan requirements were met, and controls over switchyard activities.
- Verification that outage work was not impacting the ability of the operators to operate the spent fuel pool cooling system.
- Reactor water inventory controls, including flow paths; configurations; and alternative means for inventory addition; and controls to prevent inventory loss.
- Controls over activities that could affect reactivity.
- Startup and ascension to full power operation, tracking of startup prerequisites, and reactor physics testing.
- Licensee identification and resolution of problems related to outage activities.

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

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

b. Findings

No findings were identified.

1R22 Surveillance Testing (71111.22)

a. Inspection Scope

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

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

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

- April 29, 2013, Unit 2, reactor coolant system leakage detection following Forced Outage 2F1302
- May 10, 2013, Unit 2, essential chilled water pump 21A in-service test

- May 30, 2013, Unit 2, auxiliary feedwater pump 24 in-service test
- June 6, 2013, Unit 2, 125 volt Class 1E battery and 10 KVA inverter (train A, channel 1) surveillance
- June 25, 2013, Unit 2, pressurizer heater capacity verification

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

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

b. Findings

No findings were identified.

2. RADIATION SAFETY

Cornerstones: Public Radiation Safety and Occupational Radiation Safety

2RS2 Occupational ALARA Planning and Controls (71124.02)

a. Inspection Scope

This area was inspected to assess performance with respect to maintaining occupational individual and collective radiation exposures ALARA. The inspectors used the requirements in 10 CFR Part 20, the technical specifications, and the licensee's procedures required by technical specifications as criteria for determining compliance. During the inspection, the inspectors interviewed licensee personnel and reviewed the following items:

- 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
- 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
- Audits, self-assessments, and corrective action documents related to ALARA planning and controls since the last inspection

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

These activities constitute completion of the one required sample, as defined in Inspection Procedure 71124.02-05.

b. Findings

No findings were identified.

2RS4 Occupational Dose Assessment (71124.04)

a. Inspection Scope

This area was inspected to: (1) determine the accuracy and operability of personal monitoring equipment, (2) determine the accuracy and effectiveness of the licensee's methods for determining total effective dose equivalent, and (3) ensure occupational dose is appropriately monitored. The inspectors used the requirements in 10 CFR Part 20, the technical specifications, and the licensee's procedures required by technical specifications as criteria for determining compliance. During the inspection, the inspectors interviewed licensee personnel and reviewed the following items:

- External dosimetry accreditation, storage, issue, use, and processing of active and passive dosimeters
- The technical competency and adequacy of the licensee's internal dosimetry program
- Adequacy of the dosimetry program for special dosimetry situations such as declared pregnant workers, multiple dosimetry placement, and neutron dose assessment
- Audits, self-assessments, and corrective action documents related to dose assessment since the last inspection

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

These activities constitute completion of the one required sample, as defined in Inspection Procedure 71124.04-05.

b. Findings

No findings were identified.

4. OTHER ACTIVITIES

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

40A1 Performance Indicator Verification (71151)

.1 Data Submission Issue

a. Inspection Scope

The inspectors performed a review of the performance indicator data submitted by the licensee for the first quarter 2013 performance indicators for any obvious inconsistencies prior to its public release in accordance with Inspection Manual Chapter 0608, "Performance Indicator Program."

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

b. Findings

No findings were identified.

.2 Unplanned Scrams per 7000 Critical Hours (IE01)

a. Inspection Scope

The inspectors sampled licensee submittals for the unplanned scrams per 7000 critical hours performance indicator for Units 1 and 2 for the period from the second quarter 2012 through the first quarter 2013. To determine the accuracy of the performance indicator data reported during those periods, the inspectors used definitions and guidance contained in NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6. The inspectors reviewed the licensee's operator narrative logs, issue reports, event reports, and NRC integrated inspection reports for the period of April 2012 through March 2013 to validate the accuracy of the submittals. The inspectors also reviewed the licensee's issue report database to determine if any problems had been identified with the performance indicator data collected or transmitted for this indicator and none were identified. Specific documents reviewed are described in the attachment to this report.

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

b. Findings

No findings were identified.

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

a. Inspection Scope

The inspectors sampled licensee submittals for the unplanned power changes per 7000 critical hours performance indicator for Units 1 and 2 for the period from the second quarter 2012 through the first quarter 2013. To determine the accuracy of the

performance indicator data reported during those periods, the inspectors used definitions and guidance contained in NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6. The inspectors reviewed the licensee's operator narrative logs, issue reports, maintenance rule records, event reports and NRC integrated inspection reports for the period of April 2012 through March 2013 to validate the accuracy of the submittals. The inspectors also reviewed the licensee's issue report database to determine if any problems had been identified with the performance indicator data collected or transmitted for this indicator and none were identified. Specific documents reviewed are described in the attachment to this report.

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

b. Findings

No findings were identified.

.4 Unplanned Scrams with Complications (IE04)

a. Inspection Scope

The inspectors sampled licensee submittals for the unplanned scrams with complications performance indicator for Units 1 and 2 for the period from the second quarter 2012 through the first quarter 2013. To determine the accuracy of the performance indicator data reported during those periods, the inspectors used definitions and guidance contained in NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6. The inspectors reviewed the licensee's operator narrative logs, issue reports, event reports, and NRC integrated inspection reports for the period of April 2012 through March 2013 to validate the accuracy of the submittals. The inspectors also reviewed the licensee's issue report database to determine if any problems had been identified with the performance indicator data collected or transmitted for this indicator and none were identified. Specific documents reviewed are described in the attachment to this report.

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

b. Findings

No findings were identified.

40A2 Problem Identification and Resolution (71152)

.1 Routine Review of Identification and Resolution of Problems

a. Inspection Scope

As part of the various baseline inspection procedures discussed in previous sections of this report, the inspectors routinely reviewed issues during baseline inspection activities

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

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

b. Findings

No findings were identified.

.2 Daily Corrective Action Program Reviews

a. Inspection Scope

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

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

b. Findings

No findings were identified.

.3 Semi-Annual Trend Review

a. Inspection Scope

The inspectors performed a review of the licensee's corrective action program and associated documents to identify trends that could indicate the existence of a more significant safety issue. The inspectors focused their review on repetitive equipment issues, but also considered the results of daily corrective action item screening discussed in Section 4OA2.2, above, licensee trending efforts, and licensee human performance results. The inspectors nominally considered the 6-month period of January 2013 through June 2013, although some examples expanded beyond those dates where the scope of the trend warranted.

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

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

b. Findings

No findings were identified.

40A3 Follow-up of Events and Notices of Enforcement Discretion (71153)

.1 (Closed) Licensee Event Report 05000499/2013-002-00 and 05000499/2013-002-01, "Reactor Trip Due to Main Transformer Lockout Relay Trip"

On January 8, 2013, a failure of the Unit 2 main transformer 2A occurred which resulted in an automatic reactor trip. The failure of the main transformer resulted in a fire and damage to the transformer. The fire deluge system for the main transformer automatically activated and the onsite fire brigade responded. No offsite assistance was required. An Unusual Event was declared for Fire or Explosion in the Protected Area or Switchyard Which Affects Normal Operation that resulted in damage to equipment necessary for normal plant operation. As a result of normal site electrical bus alignment, the loss of the main transformer resulted in the loss of the unit auxiliary transformer and, therefore, loss of power to Class 1E 4160-Vac busses 2A and 2C; the associated standby diesel generators started as required and loaded their respective busses. Bus 2B remained powered from offsite during the event. As a result of the partial loss of power, all reactor coolant pumps tripped and the plant was cooled down via natural circulation using auxiliary feedwater and the steam generator power operated relief valves. The Unusual Event was terminated after verification that no fire hazards existed, plant conditions stabilized, and offsite power was restored. The most likely cause of the transformer failure was an internal electrical fault on the phase C high voltage windings. Corrective actions included replacing main transformer 2A with an on-hand spare and implementing a large equipment asset management process. Revision 1 was submitted to describe and explain why a control room operator inappropriately switched the pressurizer master pressure controller from automatic to manual mode. It was determined that the control room operator's action did not extend or complicate the event.

The licensee event report was reviewed. No findings or violations of NRC requirements were identified.

.2 (Closed) Licensee Event Report 05000499/2013-003-00 and 0500499/2013-003-01, "Operational Mode Change Prohibited by Limiting Condition for Operation 3.0.4 with Limiting Conditions for Operation Unknowingly Not Met for Inoperable Essential Cooling Water Pump"

On January 14, 2013, after performing system trending, the licensee's essential cooling water system engineer identified a temperature excursion had occurred on essential cooling water pump 2B lower motor bearing on January 6, 2013. Essential cooling water pump 2B motor lower bearing temperature began to increase from 100 degrees Fahrenheit at about 11:00 p.m., peaked at 163 degrees Fahrenheit at 11:18 p.m., and then returned to normal by 1:25 a.m. on January 7, 2013. The bearing temperature did not reach the alarm level setpoint of 185 degrees Fahrenheit, therefore, no indication was provided to the control room operators of the elevated temperature. However, the system engineer initiated a condition report and vibration data was obtained on January 14, 2013. The data revealed increased vibration in the motor bearings and led to the determination that essential cooling water pump 2B was inoperable because the licensee did not have reasonable assurance that the pump would meet its 30-day mission time.

Although the operations staff was not aware of the temperature excursion and the pump remained in operation from December 26, 2012 through January 14, 2013, until the licensee declared the pump inoperable, Unit 2 had transitioned from Mode 2 to Mode 1 with an inoperable essential cooling water pump and supported equipment. Therefore, the mode change violated the limiting conditions for operation (LCO 3.0.4) and this event was reportable under 10 CFR 50.73(a)(2)(i)(8) for an operation or condition prohibited by the plant's technical specifications.

The licensee performed a root cause investigation and determined the root cause to be insufficient motor shaft endplay resulted in axial forces on the lower bearing, which caused fatigue in the material at the bearing race surface and spalling of the bearing inner race. When the licensee's quality assurance department reviewed the root cause investigation and the circumstances surrounding the insufficient motor endplay, they determined that similar work was performed on the Unit 1 essential cooling water pump 1C. Therefore, essential cooling water pump 1C should have been included in the extent of condition review. The licensee revised the root cause investigation to include the information identified by the quality assurance department. In addition, the licensee determined that all essential cooling water pump motors were subject to the same insufficient motor endplay, however, none had experienced the rapid temperature excursion while in operation, and, therefore, remained operable. The licensee submitted Revision 1 of the licensee event report to include all of the essential cooling water pump motors as affected components. The licensee has planned maintenance to restore each essential cooling water pump motor to the motor endplay tolerances recommended by the vendor.

The licensee event report was reviewed. No findings or violations of NRC requirements were identified.

40A5 Other Activities

(Closed) Temporary Instruction 2515/182 - Review of the Industry Initiative to Control Degradation of Underground Piping and Tanks

a. Inspection scope

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

b. Findings and Observations

The licensee's buried piping and underground piping and tanks program was inspected in accordance with paragraph 03.02.a of the temporary instruction and the inspectors confirmed that activities which correspond to completion dates specified in the program which have passed since the Phase 1 inspection was conducted, have been completed. Additionally, the licensee's buried piping and underground piping and tanks program was inspected in accordance with paragraph 03.02.b of the temporary instruction and responses to specific questions were submitted to the NRC headquarters staff. Based upon the scope of the review described above, Phase II of TI-2515/182 was completed.

40A6 Meetings, Including Exit

Exit Meeting Summary

On April 15, 2013, the inspectors presented the results of the radiation safety inspections to Mr. D. Rencurrel, Senior Vice President, Operations, and other members of the licensee staff. The licensee acknowledged the issues presented. The inspectors asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

On July 3, 2013, the inspectors presented the inspection results to Mr. D. Koehl, President and Chief Executive Officer, and other members of the licensee staff. The licensee acknowledged the issues presented. The inspector asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee Personnel

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

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened and Closed

05000498/2013003-01 05000499/2013003-01	FIN	Inadequate Design Calculations for Spent Fuel Pool Mitigation Strategies (Section 1R15)
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Closed

05000499/2013-002-00 05000499/2013-002-01	LER	Reactor Trip Due to Main Transformer Lockout Relay Trip (Section 4OA3)
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05000499/2013-003-00 05000499/2013-003-01	LER	Operational Mode Change Prohibited by Limiting Condition for Operation 3.0.4 with Limiting Conditions for Operation Unknowingly Not Met for Inoperable Essential Cooling Water Pump (Section 4OA3)
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NRC TI 2515/182	TI	Review of Implementation of the Industry Initiative to Control Degradation of Underground Piping and Tanks
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LIST OF DOCUMENTS REVIEWED

Section 1R01: Adverse Weather Protection

CONDITION REPORTS

12-22502	12-26281	13-325	13-5196
12-23776			

PROCEDURES

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
0PEP07-TM-0007	Main Turbine Generator Startup Following Major Outage	17
0PGP03-XS-0001	Switchyard Management	2
0PGP03-ZV-0001	Severe Weather Plan	18
0PMP02-ZA-0004	Maintenance Department Severe Weather Program	11
0POP02-AE-0002	Transformer Normal Breaker and Switch Lineup	51
0POP04-AE-0004	Loss of Power to One or More 4.16KV ESF Bus	12
0POP04-AE-0005	Offsite Power System Degraded Voltage	9

Section 1R04: Equipment Alignment

CONDITION REPORTS

12-31780 13-5353 13-6539

DRAWINGS

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
5R209F05017#1	Piping and Instrumentation Component Cooling Water System	20
5R209F05018#1	Piping and Instrumentation Diagram Component Cooling Water System	18
5R209F05020#1	Piping and Instrumentation Component Cooling Water System	18
5R209F05021#1	Piping and Instrumentation Diagram Component Cooling Water System	14
5R289F05038#3	Piping & Instrumentation Diagram Essential Cooling Water System Train 2C	17
5R289F05039#2	Piping & Instrumentation Diagram Essential Cooling Water System	16
5S142F00024#1	Piping & Instrumentation Diagram Auxiliary Feedwater	11

PROCEDURES

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
0POP02-AF-0001	Auxiliary Feedwater	35
0POP02-CC-0001	Component Cooling Water	47
0POP02-EW-0001	Essential Cooling Water Operations	66

WORK AUTHORIZATION NUMBERS

436276

Section 1R05: Fire Protection

CONDITION REPORTS

13-6637

DRAWINGS

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
02950100152SP	MEAB Manual Preaction System	0
9W019E0467#2	MEAB Fire Detection Plan El. 35'-0" and 41'-0"	8
9W019E50403#2	Diesel Generator Bldg. Fire Detection Plan El. 25', 55', 82'	6
9W019E0465#2	MEAB Fire Detection Plan El 10'-0"	11
7M149M24513 #2	Fire Areas MEAB at El 10'-0"	9

FIRE PREPLANS

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
0EAB03-FP-0042	Fire Preplan Electrical Auxiliary Building ESF Switchgear Room Train B	3
0DGB36-FP-0500	Fire Preplan for Diesel Generator Building, Train C	3
0EAB02-FP-0084	Fire Preplan Electrical Auxiliary Building, Channel I Battery Room	2
0EAB02-FP-0003	Fire Preplan Electrical Auxiliary Building Channel One Distribution Room	2
0MAB02-FP-128	Fire Preplan Mechanical Auxiliary Building CCW Pump and Chiller, Train A	3
0MAB-29-FP-0140	Fire Preplan Mechanical Auxiliary Building CCW Pump and Chiller, Train B	3
0MAB-29-FP-0139	Fire Preplan Mechanical Auxiliary Building CCW Pump and Chiller, Train C	3

PROCEDURES

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
OPGP03-ZF-0001	Fire Protection Program	26
OPGP03-ZF-0014	Fire Prevention Surveys	12

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
0PGP03-ZF-0018	Fire Protection System Functionality Requirements	16
0PGP03-ZF-0019	Control of Transient Fire Loads and use of Combustible and Flammable Liquids and Gases	10

Section 1R06: Flood Protection Measures

CALCULATIONS

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
MC-5557	IVC Flooding Analysis	8
NC-9709	Facility Response Analysis for IVC Flooding and Spray Effects	1

CONDITION REPORTS

11-5970 12-18726 13-5506 13-5507

DRAWINGS

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
5Z010Z480001	South Texas Project Setpoint List	53
5Q279F05047#1	Piping and Instrumentation Diagram Fuel Handling, IVC, Containment Bldg. Fire Protection System	22
5S141F00024	Piping and Instrumentation Diagram Auxiliary Feedwater	12

PROCEDURES

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
0POP09-AN-0150	Annunciator Lampbox 150 Response Instructions	39

WORK AUTHORIZATION NUMBERS

411949 431753 442830

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

PROCEDURES

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
RST 213.11	Nuclear Training Department Lesson Plan: Degraded Grid Voltage	0
0ERP01-ZV-IN01	Emergency Classification	9
RST 213.13	Nuclear Training Department Lesson Plan: CVCS Issues	0
RST 213.12	Nuclear Training Department Lesson Plan: Control Room Evacuation	0
0POP04-ZO-0001	Control Room Evacuations	35

Section 1R12: Maintenance Effectiveness

CONDITION REPORTS

04-1796	12-13333	12-24382	12-29430
11-22983	12-22661	12-25664	12-32113
12-5302	12-23870	12-26681	13-1486

MISCELLANEOUS

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION/DATE</u>
	System Health Report – Solid State Protection System [SP]	Third Quarter 2011 through First Quarter 2013
5A050GASP01	Risk Significance Basis Document Solid State Protection (SP) System	1
	Maintenance Rule System Scoping Basis Report	March 8, 2012

Section 1R13: Maintenance Risk Assessment and Emergent Work Controls

CONDITION REPORTS

13-309	13-349	13-4386	13-5339
13-315	13-2548	13-4475	13-5396
13-317	13-3048	13-4566	13-5568
13-318	13-3074	13-4628	13-5570
13-325	13-4005	13-5077	

MISCELLANEOUS

TITLE

Shutdown Risk Assessment Group Report 2F1302

PROCEDURES

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
OPGP03-ZA-0101	Shutdown Risk Assessment	26

WORK AUTHORIZATION NUMBERS

474247

Section 1R15: Operability Evaluations and Functionality Assessments

CONDITION REPORTS

07-457	13-2129	13-3842	13-5087
07-5234	13-2268	13-4239	13-5276
12-23555	13-3767	13-5006	13-6278

MISCELLANEOUS

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION/DATE</u>
CC-9964	Qualification of Mounting Support for Oscillating Monitor Nozzles in the FHB at Elev. 68' of the Fuel Handling Building	0, 1
NFPA 13	Standard for the Installation of Sprinkler Systems	1976
NFPA 15	Standard for Water Spray Systems for Fire Protection	1985

PROCEDURES

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
OPGP04-ZA-0307	Preparation of Calculations	4
OPSP03-CC-0013	Component Cooling Water Surge Tank Low Level Actuation Test	7
OPSP05-CC-0001	FCI CCW Surge Tank Compartment Level Switch Calibration	12
OPSP05-CC-4505B	CCW Surge Tank Compartment B Level Switch Calibration (LSL-4505B)	8, 9

WORK AUTHORIZATION NUMBERS

418942 470396

Section 1R19: Post-Maintenance Testing

CONDITION REPORTS

10-10797	13-2401	13-5077	13-7134
12-25979	13-2403	13-5396	13-7176
12-28283	13-2613		

MISCELLANEOUS

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
31957542	STP Nuclear Operating Company PQ Receipt Inspection Report PO NO 57776 – Stock code 501-43946	2

PROCEDURES

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
0PMP02-ZG-0011	Alternative Valve Packing and Live-Load Valve Packing	25, 26
0PMP04-AF-0003	Auxiliary Feedwater Turbine Trip Throttle Valve Maintenance	27
0PMP04-RC-0007	Pressurizer Spray Valve Maintenance	19, 20
0PMP05-ZE-0312	Limiterque MOV Actuator Lubrication	26
0POP02-DG-0002	Emergency Diesel Generator 12	64
0PSP02-RC-0410	Delta T and T Average ACOT	50
0PSP03-AF-0007	Auxiliary Feedwater Pump 14 Inservice Test	40
0PSP05-NI-0041A	NIS Axial Flux Difference Calibration (N-0041A)	35
0PSP05-RC-0410B	100% Power Delta Temperature Gain Alignment	15
0PSP11-HE-0002	Control Room Emergency Air Cleanup System Function Test	36

WORK AUTHORIZATION NUMBERS

406103	455161	467081	471433
421727	456202	471001	475373
431443			

Section 1R20: Refueling and Other Outage Activities

CONDITION REPORTS

13-309	13-325	13-4005	13-4499
13-315	13-349	13-4386	13-4566
13-317	13-3048	13-4475	13-4628
13-318	13-3074	13-4498	

MISCELLANEOUS

TITLE

Shutdown Risk Assessment Report 2F1302

PROCEDURES

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
OPGP03-ZA-0101	Shutdown Risk Assessment	26
OPOP02-RC-0003	Filling and Venting the Reactor Coolant System	37
OPOP03-ZG-0001	Plant Heatup	59
OPOP03-ZG-0003	Secondary Plant Startup	32
OPOP03-ZG-0004	Reactor Startup	41
OPOP03-ZG-0005	Plant Startup to 100%	80

WORK AUTHORIZATION NUMBERS

474247

Section 1R22: Surveillance Testing

CONDITION REPORTS

11-20913	13-4889	13-5544	13-5764
13-4886			

PROCEDURES

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
OPGP03-ZO-0046	RCS Leakage Monitoring	8
OPMP05-VA-0007	120 VAC NSSS Vital Inverter/Rectifier (10 KVA) Performance Test	12

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
0PSP03-AF-0007	Auxiliary Feedwater Pump 14(24) Inservice Test	40
0PSP03-CH-0001	Essential Chilled Water Pump 11A(21A) Inservice Test	19
0PSP03-RC-0006	Reactor Coolant Inventory	25
	Chapter 2 Conduct of Operations Shift Operating Practices	58
0PSP06-DJ-0002	125 Volt Class 1E Battery Quarterly Surveillance Test	24
0PSP06-DJ-0007	125 Volt Class 1E Battery Modified Performance Surveillance Test	9
0PSP06-RC-0001	Pressurizer Heater Capacity Verification	17

WORK AUTHORIZATION NUMBERS

426608	442504	442511	443571
442503			

Section 2RS2: Occupational ALARA Planning and Controls

1RE17 ALARA REVIEW PACKAGES

<u>NUMBER</u>	<u>TITLE</u>
12-26783-3	Rapid Refuel
12-26783-6	Room 001 Activities
12-26783-12	Temporary Shielding

AUDITS, SELF-ASSESSMENTS, AND SURVEILLANCES

<u>NUMBER</u>	<u>TITLE</u>	<u>DATE</u>
MN-12-1-97426	Quality Monitoring Report	October 3, 2012 - November 24, 2012

CONDITION REPORTS

12-28407	12-29658	13-421	13-1938
12-29470	12-31440		

IN PROCESS REVIEWS

<u>NUMBER</u>	<u>TITLE</u>	<u>DATE</u>
101	ISI Welds/Component Supports	October 22, 2012

<u>NUMBER</u>	<u>TITLE</u>	<u>DATE</u>
104	RCP Motor Removal/Replacement Support Work (I&C)	October 28, 2012
107	Remove/Reinstall CV, RC, MS. & CC Piping and Associated Pipe Supports Necessary for Replacement of RCP 1A Motor	November 1, 2012
110	Remove/Reinstall Structural Steel Necessary for Replacement of RCP 1A	November 6, 2012
115	Remove and Replace Reactor Coolant Pump Motor	November 12, 2012
117	Fuel Movement/RCB	November 11, 2012
121	Inspect Cable Splices	November 22, 2012

MISCELLANEOUS

<u>TITLE</u>	<u>DATE</u>
2012 Annual ALARA Report	April 3, 2013
1RE17 Refueling Outage ALARA Report	February 11, 2013
1RE17 Dose Totals by Major Task Group	
South Texas Site Dose of Record 2008-2012	

PROCEDURES

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
0PGP03-ZR-0052	ALARA 5 Year Plan 2013-2017	0
0PGP03-ZR-0052	ALARA Program	14
0PRP07-ZR-0010	Radiation Work Permits/Radiological Work ALARA Reviews	32

Section 2RS4: Occupational Dose Assessment

AUDITS, SELF-ASSESSMENTS, AND SURVEILLANCES

<u>NUMBER</u>	<u>TITLE</u>	<u>DATE</u>
12-02 (RC)	Radiological Controls Quality Audit Report	March 29, 2012
CR-09-19939	Radiation Protection Formal Self-Assessment	September 20, 2010
MN-11-0-79251	Quality Monitoring Report	July 27, 2011

CONDITION REPORTS

11-21198	12-03040	12-27628	13-1033
11-26534	12-16864	12-30513	13-3086
11-26634	12-24031	13-1028	13-3486
11-27148			

MISCELLANEOUS

<u>NUMBER</u>	<u>TITLE</u>	<u>DATE</u>
	At Power Entries Dose Data	April 10, 2013
	Correction Factor for the Ludlum Model 12-4 with ³ He Gas Filled Probe	
	Dosimetry proficiency testing – mixed field (Beta-photon) testing for NVLAP testing	July 26, 2011
	EPD-N: Neutron Sensitive Electronic Personnel Dosimeters	
	EPD-N2 Correction Factor Determination	
	NVLAP Accreditation Letter	August 15, 2012
	NVLAP Accreditation Letter	August 25, 2011
	NVLAP Accreditation Letter	January 14, 2011
	Respiratory Protection Worksheet	March 7, 2013
	Respiratory Protection Worksheet	November 7, 2012
	Respiratory Protection Worksheet	November 8, 2012
	Respiratory Protection Worksheet	October 19, 2012
	Whole Body Count (Front and Back)	May 2, 2011
	Whole Body Count (Front and Back), Source Check, and Background Check	May 1, 2011
	Whole Body Counter Calibration Verification	August, 12, 2010
	Whole Body Counter Calibration Verification	October 19, 2011
CR 11-7809	Exposure Investigation #65 – Potential Internal Uptake	
CR 11-7910	Skin Dose Assessment – Investigation #9	May 5, 2011
CR 12-26581	Evaluation of the Effect of Hard to Measure Nuclides in the HP Program	
Form 1 (Rev. 0)	Evaluation of Intake Briefing	May 1, 2011

<u>NUMBER</u>	<u>TITLE</u>	<u>DATE</u>
ST-HS-HS-27720	Technical Basis: Respirator Work Efficiency Factor	January 27, 1994

PROCEDURES

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
0PGP03-ZR-0048	Personnel Dosimetry Program	16
0PGP03-ZR-0050	Radiation Protection Program	12
0PRP02-ZR-0007	Evaluation of Intakes	12
0PRP02-ZR-0010	Personnel Exposure Investigation	8
0PRP02-ZR-0011	Calibration Of WBC System	5
0PRP02-ZR-0013	Determination of Skin Dose	7
0PRP02-ZR-0017	Dose to the Embryo/Fetus	2
0PRP04-ZR-0016	Radiological Air Sample Analysis	24
0PRP07-ZR-0034	Radiological Risk Management	1
0PRP09-ZX-0004	TLD Dose Estimating and Dose Reporting	11
0PRP09-ZX-0007	Non-Routine TLD Evaluation	8
COPRP-Chapter 1	Radiation Protection Organization and Responsibilities	19

SURVEYS

<u>NUMBER</u>	<u>TITLE</u>	<u>DATE</u>
57775	Reactor Cavity Survey	November 13, 2011
58210	Detailed Walkway Surveys – U2 Containment	November 24, 2011
62580	Concentrates Transfer Pump 1B	October 23, 2012
62583	U2 – Boron Analyzer	October 23, 2012
64345	Reactor Cavity Survey	November 19, 2012
64638	U1 - Inside Secondary Shield Wall -11'	November 26, 2012
64660	U1 - Inside Secondary Shield Wall +19'	November 27, 2012
64690	Detailed Walkway Surveys – U1 Containment	December 1, 2012

Section 4OA1: Performance Indicator Verification

PROCEDURES

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
PI-0002	NRC & INPO Performance Indicator: Initiating Events Cornerstone (by Unit) and Barrier Integrity Cornerstone (by Unit) Desktop Guidelines	5, 6

Section 4OA2: Problem Identification and Resolution

CONDITION REPORTS

13-3032	13-4475	13-5529	13-6145
13-4005	13-4656	13-6001	13-6548

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

CONDITION REPORTS

13-325	13-568	13-2949	13-4694
13-525	13-1058		

MISCELLANEOUS

<u>NUMBER</u>	<u>TITLE</u>	<u>DATE</u>
AT13A020	Laboratory Analysis of Spalled FAG 6326 Deep Groove Ball Bearing	2/19/13

Section 4OA5: Other Activities

PROCEDURES

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
OPGP04-ZA-0606	Underground Piping and Tank Program	Rev 4
OPEP10-ZA-0039	Visual Examination of Buried Piping Components	Rev 0
OPEP10-ZA-0005	Ultrasonic Thickness Examination	Rev 4
OPSP15-EW-0001	Essential Cooling Water Pressure Test	Rev 9
OPEP01-ZA-0305	Testing/Programs Engineering Program Requirements	Rev 1
OPEP07-NM-0003	Plant Yard Cathodic Protection Potential Survey	Rev 7
OPEP07-NM-0004	Adjustment of Cathodic Protection Rectifiers	Rev 3

CONDITION RECORDS

12-24572	13-4335	09-19867	12-21628	10-6122
10-16579	11-16664	12-23618	12-23774	12-24061
12-24572	12-31134	13-262	13-1733	13-1969
13-4355	13-5572			

MISCELLANEOUS

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
NACE SP0169-2007	Standard Practice: Control of Corrosion on Underground or Submerged Metallic Piping Systems	3/15/07
NACE Standard TM0497-2012	Standard Test Method: Measurement Techniques Related to Criteria for Cathodic Protection on Underground or Submerged Metallic Piping Systems	6/23/12
PMWO EM-0-01000663	Cathodic Protection Rectifier PM	Rev 10.0
PMWO EM-0-12000334	Cathodic Protection Rectifier Voltage and Current Checks	Rev 1.0
PMWO EM-0-93001319	Cathodic Protection Rectifier Clean and Inspect	Rev 1.0
	Underground Piping List of Completed Inspections and Reports	
	Underground Pipe and Tank Integrity Condition Assessment Plan	Rev 1
	Underground Piping Program Health	4 th Qtr 2012

**The following items are requested for the
Occupational Radiation Safety Inspection
at South Texas Project
April 1-15, 2013
Integrated Report 2013003**

Inspection areas are listed in the attachments below.

Please provide the requested information.

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 Larry Ricketson at (817) 200-1165 or Larry.Ricketson@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.

2. Occupational ALARA Planning and Controls (71124.02)

Date of Last Inspection: October 22, 2012

- A. List of contacts and telephone numbers for ALARA program personnel
- B. Applicable organization charts
- C. Copies of audits, self-assessments, and LERs, written since date of last inspection, focusing on ALARA
- D. Procedure index for ALARA Program
- 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. ALARA Program
 - 2. ALARA Committee
 - 3. Radiation Work Permit Preparation
- F. A summary list of corrective action documents (including corporate and subtiered systems) written since date of last inspection, related to the ALARA program. In addition to ALARA, the summary should also address Radiation Work Permit violations, Electronic Dosimeter Alarms, and RWP Dose Estimates

NOTE: The lists should indicate the significance level of each issue and the search criteria used. Please provide documents which are "searchable."
- G. List of work activities greater than 1 rem, since date of last inspection. Include original dose estimate and actual dose.
- H. Site dose totals and 3-year rolling averages for the past 3 years (based on dose of record)
- I. Outline of source term reduction strategy

4. Occupational Dose Assessment (Inspection Procedure 71124.04)

Date of Last Inspection: March 11, 2011

- A. List of contacts and telephone numbers for the following areas:
 - 1. Dose Assessment personnel
- B. Applicable organization charts
- C. Audits, self assessments, vendor or NUPIC audits of contractor support, and LERs written since date of last inspection, related to:
 - 1. Occupational Dose Assessment
- D. Procedure indexes for the following areas
 - 1. Occupational Dose Assessment
- E. Please provide specific procedures related to the following areas noted below. Additional Specific Procedures will be requested by number after the inspector reviews the procedure indexes.
 - 1. Radiation Protection Program
 - 2. Radiation Protection Conduct of Operations
 - 3. Personnel Dosimetry Program
 - 4. Radiological Posting and Warning Devices
 - 5. Air Sample Analysis
 - 6. Performance of High Exposure Work
 - 7. Declared Pregnant Worker
 - 8. Bioassay Program
- F. List of corrective action documents (including corporate and subtiered systems) written since date of last inspection, associated with:
 - 1. NVLAP accreditation
 - 2. Dosimetry (TLD/OSL, etc.) problems
 - 3. Electronic alarming dosimeters
 - 4. Bioassays or internally deposited radionuclides or internal dose
 - 5. Neutron dose

NOTE: The lists should indicate the significance level of each issue and the search criteria used.
- G. List of positive whole body counts since date of last inspection, names redacted if desired
- H. Part 61 analyses/scaling factors

TEMPORARY INSTRUCTION 2515-182 (Phase 2) INSPECTION DOCUMENT REQUEST

Inspection Dates: June 10, 2013 – June 14, 2013

Inspection Procedures: TI 2515-182, "Review of Implementation of the Industry Initiative to Control Degradation of Underground Piping and Tanks"

Inspector: Peter Jayroe (817) 200-1174
Pete.Jayroe@nrc.gov

A. Information Requested for the Preparation and Completion of the In-Office Inspection

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 May 28, 2013, to facilitate the preparation for the onsite inspection week. Please 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.

1. Organization list of site individuals responsible for the site's Underground Piping and Tanks program.
2. Copy of Site Underground Piping and Tanks program.
3. Review the Enclosure "TI-182 Phase 2 Questions" list and provide the response and/or document requests.
4. Schedule for completion of the following NEI 09-14, "Guideline For The Management of Underground Piping and Tank Integrity," Revision 3, attributes:

Buried Piping

- Procedures and Oversight
- Risk Ranking
- Inspection Plan
- Plan Implementation
- Asset Management Plan

Underground Piping and Tanks

- Procedures and Oversight
- Prioritization
- Condition Assessment Plan
- Plan Implementation
- Asset Management Plan

The inspector may select specific items from the information requested for the preparation week and request follow-up documents during the on-site inspection week.

B. Information to be provided On-Site to the Inspector following the Entrance Meeting

1. Location maps of buried & underground piping and tanks identified by the inspector from the information requested for the preparation week.
2. Copy of Electric Power Research Institute (EPRI) document "Recommendations for an Effective Program to Control the Degradation of Buried Pipe."
3. Self or third party assessments of the Underground Piping and Tanks Program (if any have been performed).
4. For any of the NEI 09-14 Rev.3 attributes identified below which have been completed prior to the NRC's onsite inspection, provide written records that demonstrate that the program attributes are complete.

Buried Piping

- Procedures and Oversight
- Risk Ranking
- Inspection Plan
- Plan Implementation
- Asset Management Plan

Underground Piping and Tanks

- Procedures and Oversight
- Prioritization
- Condition Assessment Plan
- Plan Implementation
- Asset Management Plan

Inspector Contact Information

Jayroe
Reactor Inspector
817-200-1174
Pete.Jayroe@nrc.gov

Mailing Address Peter

US NRC- Region IV
Attn: Peter Jayroe
1600 East Lamar Blvd.
Arlington, Texas 76011-4511

TI-182 Phase 2 Questions

		Questions	Response
Question Number	Subpart		
		Initiative Consistency	
Prep		Has the licensee taken any deviations to either of the initiatives?	Yes / No
Onsite		If so, what deviations have been taken and what is (are) the basis for these deviations	Provide documentation of deviations and any associated corrective action reports.
Prep		Does the licensee have an onsite buried piping program manager (owner) and, potentially, a staff?	Yes / No
Onsite		How many buried piping program owners have there been since January 1, 2010?	
Onsite		How many other site programs are assigned to the buried piping program owner?	
Onsite		Does the licensee have requirements to capture program performance, such as system health reports and performance indicators?	Yes / No
Prep		Are these requirements periodic or event driven?	Periodic / Event Driven / None
Onsite		Are there examples where these requirements have been successfully used to upgrade piping systems or to avert piping or tank leaks?	Yes / No
Prep		Does the licensee have a program or procedure to confirm the as-built location of buried and underground piping and tanks at the plant?	Yes / No
Prep		Has the licensee used this program?	Yes / No
Prep		Was the program effective in identifying the location of buried pipe?	Yes / No

Prep/ Onsite		For a sample of buried pipe and underground piping and tanks (sample size at least 1 high and 1 low risk/priority pipe or tank), did the risk ranking and/or prioritization process utilized by the licensee produce results in accordance with the initiative guidelines, i.e., which emphasize the importance of components which have a high likelihood and consequence of failure and deemphasize the importance of components which have a low likelihood and consequence of failure?	Yes / No Sample size examined Prep: Provide copy of site's risk ranking documents including documents pertaining to the actual risk rankings and methodology used. Prep: Provide documents/drawings and/or list which identifies the risk ranking for each pipe segment or tank in each system within the scope of these programs. Onsite: Provide the documents which record/describe how the risk methodology was applied to determine the risk of pipe segments or tanks as selected by the inspector during the preparation week.
Prep		As part of its risk ranking process did the licensee estimate/determine the total length of buried/underground piping included in the initiatives?	Yes / No
Prep		As part of its risk-ranking process did the licensee estimate/determine the total length of high risk buried/underground piping included in the initiatives?	Yes / No

		Preventive Actions / System Maintenance	
Prep		For uncoated steel piping, has the licensee developed a technical basis for concluding that structural (e.g. ASME Code minimum wall, if applicable) and leaktight integrity of buried piping can be maintained?	Yes / No / Not Applicable (no uncoated buried steel pipe)
Onsite		Is the technical basis provided as justification by the licensee consistent with the initiative (including its reference documents) or industry standards (e.g. NACE SP0169)?	Yes / No Provide documented technical basis including referencing documents.
Prep		For buried steel, copper, or aluminum piping or tanks which are not cathodically protected, has the licensee developed a technical basis for concluding that structural (e.g. ASME Code minimum wall, if applicable) and leak tight integrity of buried piping can be maintained?	Yes / No / Not Applicable (no buried steel, copper, or aluminum piping which is not cathodically protected)
Onsite		Is the technical basis provided as justification by the licensee consistent with the initiative (including its reference documents) or industry standards (e.g. NACE SP0169)?	Yes / No Provide documented technical basis including referencing documents.
Prep		For licensees with cathodic protection systems, does the licensee have procedures for the maintenance, monitoring and surveys of this equipment?	Yes/No/ Not Applicable (no cathodic protection systems)
Onsite		Are the licensee procedures consistent with the initiative (including its reference documents) or industry standards (e.g. NACE SP0169)?	Yes / No Provide copy of procedures if applicable
Onsite		Is the cathodic protection system, including the evaluation of test data, being operated and maintained by personnel knowledgeable of, or trained in, such activities	Yes / No Provide documentation of training or qualification records of personnel.

Onsite		Is there a program to ensure chase and vault areas which contain piping or tanks subject to the underground piping and tanks initiative are monitored for, or protected against, accumulation of leakage from these pipes or tanks?	Yes / No / N/A (No piping in chases or vaults) Provide documentation of training or qualification records of personnel.
		Inspection Activities / Corrective Actions	
Prep		Has the licensee prepared an inspection plan for its buried piping and underground piping and tanks?	Yes / No
Onsite		Does the plan specify dates and locations where inspections are planned?	Yes / No Provide copy of inspection plan and associated implementation procedures.
Prep		Have inspections, for which the planned dates have passed, occurred as scheduled or have a substantial number of inspections been deferred?	Occurred as Scheduled / Deferred
Prep		Has the licensee experienced leaks and/or significant degradation in safety related piping or piping carrying licensed material since January 1, 2009?	Leaks Yes / No Degradation Yes / No
Prep		If leakage or significant degradation did occur, did the licensee determine the cause of the leakage or degradation?	Yes / No
Onsite		Based on a review of a sample of root cause analysis for leaks from buried piping or underground piping and tanks which are safety related or contain licensed material, did the licensee's corrective action taken as a result of the incident include addressing the cause of the degradation?	Yes / No / N/A (no leaks)
Onsite		Did the corrective action include an evaluation of extent of condition of the piping or tanks and possible expansion of scope of inspections? (Preference should be given to high risk piping and "significant" leaks where more information is likely to be available).	Yes / No / N/A (no leaks) Provide root cause analyses of identified leaks if applicable.

Prep		Based on a review of a sample of NDE activities which were either directly observed or for which records were reviewed, were the inspections conducted using a predetermined set of licensee/contractor procedures?	Yes / No Provide list of scheduled NDE activities scheduled during onsite week and list of NDE activities that have already been conducted.
Onsite		Were these procedures sufficiently described and recorded such that the inspection could be reproduced at a later date?	Yes / No Provide copies of NDE procedures for the various NDE activities that have occurred or are scheduled to occur.
Prep		Were the procedures appropriate to detect the targeted degradation mechanism?	Yes / No
Prep		For quantitative inspections, were the procedures used adequate to collect quantitative information?	Yes / No
Onsite		Did the licensee disposition direct or indirect NDE results in accordance with their procedural requirements?	Yes / No Provide sample of direct and/or indirect NDE results and the subsequent evaluations of these NDE results.
Onsite		Based on a sample of piping segments, is there evidence that licensees are substantially meeting the pressure testing requirements of ASME Section XI IWA-5244?	Yes / No Provide the completed records for the last two required Section XI periodic pressure/flow test on safety-related buried pipe segments.