



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

October 27, 2011

Rafael Flores, Senior Vice President
and Chief Nuclear Officer
Luminant Generation Company, LLC
Comanche Peak Nuclear Power Plant
P.O. Box 1002
Glen Rose, TX 76043

Subject: COMANCHE PEAK NUCLEAR POWER PLANT - NRC INTEGRATED INSPECTION
REPORT 05000445/2011004 AND 05000446/2011004

Dear Mr. Flores:

On September 17, 2011, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Comanche Peak Nuclear Power Plant. The enclosed integrated inspection report documents the inspection findings, which were discussed on September 28, 2011, with Mr. M. Lucas, Site Vice President, and other members of your staff.

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

This report documents one self-revealing and two NRC-identified findings of very low safety significance (Green). All of these findings were determined to involve violations of NRC requirements. However, because of the very low safety significance and because they were entered into your corrective action program, the NRC is treating these findings as noncited violations, consistent with Section 2.3.2 of the NRC Enforcement Policy. If you contest the noncited violations or the significance of the noncited violations, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, D.C. 20555-0001, with copies to the Regional Administrator, U.S. Nuclear Regulatory Commission, Region IV, 612 E. Lamar Blvd, Suite 400, Arlington, Texas, 76011-4125; the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555-0001; and the NRC Resident Inspector at the Comanche Peak Nuclear Power Plant. In addition, if you disagree with the cross-cutting aspect of the findings 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 Comanche Peak Nuclear Power Plant.

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

Sincerely,

/RA/

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

Docket: 50-445: 50-446
License: NPF-87; NPF-89

Enclosure:
NRC Inspection Report 05000445/2011004 and 05000446/2011004
w/Attachment: Supplemental Information

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U.S. NUCLEAR REGULATORY COMMISSION

REGION IV

Docket: 50-445, 50-446

License: NPF-87, NPF-89

Report: 05000445/2011004 and 05000446/2011004

Licensee: Luminant Generation Company LLC

Facility: Comanche Peak Nuclear Power Plant, Units 1 and 2

Location: FM-56, Glen Rose, Texas

Dates: June 19 through September 17, 2011

Inspectors: J. Kramer, Senior Resident Inspector
B. Tindell, Resident Inspector
M. Young, Reactor Inspector
M. Williams, Reactor Inspector
C. Henderson, Project Engineer
S. Hedger, Operations Engineer
M. Bloodgood, Operations Engineer
J. Watkins, Reactor Inspector
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Approved By: Wayne Walker, Chief, Project Branch A
Division of Reactor Projects

SUMMARY OF FINDINGS

IR 05000445/2011004, 05000446/2011004; 6/19/2011 - 9/17/2011; Comanche Peak Nuclear Power Plant, Units 1 and 2; Integrated Resident and Regional Report, Licensed Operator Requalification Program; Refueling and Other Outage Activities

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

A. NRC-Identified Findings and Self-Revealing Findings

Cornerstone: Initiating Events

- Green. The inspectors reviewed a self-revealing noncited violation of Technical Specification 5.4.1.a for the failure of the unit supervisor to adequately maintain responsibility for the operation of Unit 1 and the supervision of operations personnel during preparations for a reactor startup. As a result, when an operator performed a trip of the main feedwater pump, the motor driven auxiliary feedwater pumps received an engineered safety features actuation and initiated full auxiliary feedwater flow to the steam generators. Operators throttled feedwater flow to prevent overflow of the steam generators and excessive cool down of the reactor coolant system. The licensee entered the finding into the corrective action program as Condition Report CR-2011-008052.

The failure of the unit supervisor to maintain responsibility for the operation of Unit 1 and the supervision of operations personnel during preparations for a reactor startup was a performance deficiency and resulted in an unplanned engineered safety features actuation of the auxiliary feedwater pumps. The finding was more than minor because it was associated with the configuration control attribute of the initiating events cornerstone and affected the cornerstone objective, in that, it increased the likelihood of those events that upset plant stability. Using NRC Manual Chapter 0609, Attachment 4, "Phase 1 - Initial Screening and Characterization of Findings," the finding was determined to be of very low safety significance because the finding did not contribute to both the likelihood of a reactor trip and the likelihood that mitigating equipment would not be available. This finding has a human performance crosscutting aspect associated with decision making, in that, the unit supervisor failed to communicate the decision to install the auxiliary feedwater pump auto start fuses to all control room personnel [H.1c] (Section 1R20).

Cornerstone: Mitigating Systems

- Green. The inspectors identified a noncited violation of 10 CFR Part 55.49, "Integrity of Examinations and Tests," for the failure of the licensee to ensure the integrity of annual operating exams. During the 2009 annual operating exam, 17 licensed operators received three of five job performance measures, and 17 additional licensed operators received four of five job performance measures for their operating tests that had been administered to other licensed operators in previous weeks. In addition, five licensed operators received two of three crew simulator scenarios as part of their operating test that had been administered to other licensed operators in previous weeks. Allowing more than 50 percent of an operating test section to be comprised of exam material previously administered on any other test in the same examination cycle is considered an exam integrity compromise. However, evaluation of the 2009 exam results for the affected population showed that the compromise did not have an actual effect on the equitable and consistent administration of the examination. The licensee entered the finding into the corrective action program as Condition Report CR-2010-010851.

The failure of the licensee's training staff to maintain the integrity of examinations administered to licensed operations personnel was a performance deficiency. The finding was more than minor because it adversely impacted the human performance attribute of the mitigating systems cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Additionally, if left uncorrected, the performance deficiency could have become more significant in that allowing licensed operators to return to the control room without valid demonstration of appropriate knowledge on the annual operating examinations could be a precursor to a more significant event. Using NRC Manual Chapter 0609, "Significance Determination Process," Phase 1 worksheets, and the corresponding Appendix I, "Licensed Operator Requalification Significance Determination Process," the finding was determined to have very low safety significance because, although the 2009 finding resulted in a compromise of the integrity of operating test job performance measures and simulator scenarios with no compensatory actions immediately taken when the compromise should have been discovered in 2009. The equitable and consistent administration of the test was not actually impacted by this compromise. This finding has a crosscutting aspect in the area of resources associated with ensuring that procedures are accurately translated from industry standards, such that the 50 percent maximum overlap criteria was not exceeded [H.2c] (Section 1R11).

- Green. The inspectors identified a noncited violation of 10 CFR 55.53, "Conditions of License," for the failure of the licensee to ensure that licensed operators met all the conditions of their licenses in order to be considered an active watch stander. Specifically, the licensee failed to ensure that three licensed operators met the complete plant tour requirement specified in 10 CFR 55.53(f) prior to license reactivation and subsequent performance of licensed operator duties. The licensee entered the finding into the corrective action program as Condition Report CR-2011-004990.

The failure of the licensee to ensure that all individuals authorized by a license to operate the controls of the facility met the conditions of their licenses as defined in 10 CFR Part 55.53 was a performance deficiency. This finding was more than minor because it was associated with the human performance attribute of the mitigating system cornerstone and affects the cornerstone's objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Using NRC Manual Chapter 0609, "Significance Determination Process," Phase 1 worksheets, and the corresponding Appendix I, "Licensed Operator Requalification Significance Determination Process," the finding was determined to have very low safety significance because more than 20 percent of the license reactivation records reviewed contained these deficiencies. This finding has a crosscutting aspect in the area of resources that support human performance in that the licensee failed to ensure that procedures are complete and accurate to ensure licensed operators maintain all conditions of their licenses in accordance with 10 CFR 55.53 [H.2c] (Section 1R11).

B. Licensee-Identified Violations

A violation of very low safety significance, which was identified by the licensee, has been reviewed by the inspectors. Corrective actions taken or planned by the licensee have been entered into the licensee's corrective action program. This violation and corrective action program condition report numbers are listed in Section 4OA7.

REPORT DETAILS

Summary of Plant Status

Unit 1 began the inspection period at approximately 100 percent power. On July 5, 2011, operators reduced power to approximately 77 percent as a result of an extraction steam bellows leak inside the main condenser. On July 11, 2011, operators shut down the unit to repair the bellows and performed a plant cooldown to Mode 4. On July 18, 2011, the operators performed a reactor startup and placed the unit on the grid. The unit achieved approximately 100 percent power the following day. On August 26, operators reduced power to approximately 55 percent power to repair main feedwater pump 1A. The following day, operators raised power to approximately 62 percent power to maximize generation output. On August 30, 2011, operators reduced power to approximately 55 percent power to recover the main feedwater pump and then initiated a power ascension. On August 31, 2011, the unit returned to approximately 100 percent power and operated at approximately 100 percent power for the remainder of the reporting period.

Unit 2 began the inspection period at approximately 100 percent power and operated at approximately 100 percent power for the entire inspection period.

1. REACTOR SAFETY

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

1R01 Adverse Weather Protection (71111.01)

a. Inspection Scope

The inspectors performed a review of the licensee's preparations for summer weather including conditions that could lead to loss-of-offsite power and conditions that could result from high temperatures. Additionally, the inspectors reviewed the final safety analysis report and verified that operator actions were appropriate as specified by plant procedures. The inspectors toured offsite and onsite power systems in order to review the summer readiness and material condition of the equipment. The inspectors reviewed corrective action program items to verify that the licensee was identifying adverse weather issues at an appropriate threshold and entering them into their corrective action program in accordance with station corrective action procedures. Specific documents reviewed during this inspection are listed in the attachment.

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

b. Findings

No findings were identified.

1R04 Equipment Alignments (71111.04)

a. Inspection Scope

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

- June 21, 2011, Unit 2, diesel generator 2-02 when diesel generator 2-01 was unavailable during maintenance
- June 23, 2011, Unit 1, motor driven auxiliary feedwater pumps 1-01 and 1-02 when the turbine driven auxiliary feedwater pump was unavailable during maintenance
- September 2, 2011, Unit 1, AC distribution when the turbine driven auxiliary feedwater pump was unavailable during maintenance
- September 9, 2011, Unit 1, reactivity controls while performing main generator reactive load testing

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

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

b. Findings

No findings were identified.

1R05 Fire Protection (71111.05AQ)

a. Inspection Scope

The inspectors conducted fire protection walkdowns in the following risk-significant plant areas:

- September 9, 2011, fire pumps and fire pump building

- September 14, 2011, fire zone 2SG10B, diesel generator 2-01 equipment room
- September 14, 2011, fire zone 2SG12B, diesel generator 2-02 equipment room
- September 15, 2011, fire area EH, Unit 2, train A, battery and uninterruptable power supply rooms
- September 15, 2011, fire area EC, Unit 2, train B, battery and uninterruptable power supply rooms

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, 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. 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.

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

b. Findings

No findings were identified.

1R07 Heat Sink Performance (71111.07)

a. Inspection Scope

The inspectors reviewed licensee programs, verified performance against industry standards, and reviewed critical operating parameters and maintenance records for the Unit 1 component cooling water heat exchanger 1-02. The inspectors verified the licensee utilized the periodic maintenance method outlined in Electric Power Research Institute Report NP 7552, "Heat Exchanger Performance Monitoring Guidelines." In addition, the inspectors verified the licensee properly utilized biofouling controls; the licensee's heat exchanger inspections adequately assessed the state of cleanliness of the tubes; and the heat exchanger was correctly categorized under 10 CFR 50.65, "Requirements for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants."

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

b. Findings

No findings were identified.

1R11 Licensed Operator Requalification Program (71111.11)

.1 Quarterly Licensed Operator Requalification Program Inspection

a. Inspection Scope

On August 22, 2011, the inspectors observed gas intrusion training of licensed operators to verify that operator requalification training was adequate, evaluators were identifying and documenting gas intrusion issues and training was being conducted in accordance with licensee procedures. The inspectors evaluated the following areas:

- Licensed operator knowledge of precursors
- Communication of risk-significant changes to procedures
- Communication of operating experience and lessons-learned
- Training met established objectives

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

b. Findings

No findings were identified.

.2 Biennial Licensed Operator Requalification Program Inspection

The licensed operator requalification program involved two training cycles 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 conducted personnel interviews, reviewed both the operating tests and written examinations, and observed ongoing operating test activities.

The inspectors interviewed 10 licensee personnel, including operators, instructors/evaluators, and training supervisors, to determine their understanding of the policies and practices for administering requalification examinations. The inspectors also reviewed operator performance on the written exams and operating tests. These reviews included observations of portions of the operating tests by the inspectors. The operating tests observed included four job performance measures and three dynamic simulator 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 nine licensed operators for conformance to

license conditions and the licensee's system for tracking qualifications and records of license reactivation for seven 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." In addition, the inspectors reviewed examination security measures, simulator fidelity, and existing logs of simulator deficiencies.

These activities constituted completion of one biennial licensed operator requalification program sample as defined in Inspection Procedure 71111.11.

b. Findings

1. Failure to Maintain Operator Licensing Examination Integrity

Introduction. The inspectors identified a Green noncited violation of 10 CFR Part 55.49, "Integrity of Examinations and Tests," for the failure of the licensee to ensure that the integrity of annual operating and biennial written tests administered to licensed operators were maintained. During the 2009 annual operating exam, 17 licensed operators received three of five job performance measures, and 17 additional licensed operators received four of five job performance measures for their operating tests that had been previously administered to other licensed operators in previous weeks. In addition, five licensed operators received two of two crew simulator scenarios as part of their operating test that had been previously administered to other licensed operators in previous weeks. Allowing more than 50 percent of an operating test section to be comprised of exam material previously administered on any other test in the same examination cycle is considered an exam integrity compromise. However, evaluation of the 2009 exam results for the affected population showed that the compromise did not have an actual effect on the equitable and consistent administration of the examination.

Description. The licensee typically administers the required annual operating exam to the licensed operators over the course of a six-week cycle. In this case, week 1 is assigned for licensed operators on their training staff (Training Staff week), and licensed operators on operating crews or in other staff positions are evaluated in weeks 2 through 6 (Licensed Operator Requalification Training (LORT) Weeks 1 through 5). On December 1, 2010, the inspectors discovered that during the LORT Week 3 of the licensee's 2009 annual operating exam, 17 licensed operators received three of five job performance measures for their operating test that had been previously administered to other licensed operators during the Training Staff and LORT Week 1 exams. During the LORT Week 5 exam, another 17 licensed operators received four of five job performance measures for their operating test that had previously been administered to other licensed operators during the LORT Week 2 and Week 3 exams. Also, five licensed operators on their staff received two of three crew simulator scenarios as part of

their operating test that had been previously administered to other licensed operators during the LORT Week 1 and 3 exams. This resulted in these groups of licensed operators receiving the following amounts of overlap on their operating test components:

- The 17 licensed operators evaluated on LORT Week 3 had 60 percent overlap on their operating test job performance measures.
- The 17 licensed operators evaluated on LORT Week 5 (combination of license holders on operational crew and in staff positions) had 80 percent overlap on their operating test job performance measures.
- The five licensed operators evaluated on LORT Week 5 (staff positions) had 67 percent overlap on their operating test simulator scenarios.

The licensee addressed the acceptable amount of exam content overlap in Procedure NTG-102, "Design," Revision 1. Section 1.5, "Examination Security," paragraph A, stated that exams administered up to including a week apart can repeat up to 70 percent of the material from the previous week. This does not cover the extent of the review of exam material expected by industry standard (compared to any other exam given during the exam cycle), nor does it match the industry standard evaluation criteria of no more than 50 percent. The inspectors noted that the licensee failed to ensure portions of the 2009 annual operating exam were constrained by the 50 percent overlap criteria, which constituted a compromise of examination integrity required by 10 CFR 55.49 in that it is a practice which, if left uncorrected, could affect the equitable and consistent administration of the exams.

The affected licensed operators were in Crew 11, Staff Group 1, Crew 13, and Staff Group 3. At the time of discovery, the members of Crew 11, Staff Group 1, and Crew 13 had completed their 2010 annual operating tests satisfactorily. For Staff Group 3, five members were scheduled to have their 2010 annual operating exam the week of December 13, 2010. Three out of the five members currently had inactive licenses, so they were not standing watch. Two out of five members were active watch standers, with one of them standing watch as a licensed operator that day. The licensee took action to have this individual relieved of watch standing that day, and suspended both of the active watch standers in the group from standing watch until satisfactory completion of their 2010 annual operating exam. To date, the majority (all but one) of the operators involved completed their 2010 annual operating exam and biennial written exams satisfactorily. One of the operators in question failed his biennial written exam, and the licensee requested that the NRC terminate his license based on these results (in a letter received March 9, 2011, effective termination date February 23, 2011).

The licensee evaluated the 2009 overlap event to determine its effect on the equitable and consistent administration of the exam. This evaluation was submitted to the NRC on May 26, 2011. The scope of the evaluation included review of exam security agreements signed by the licensed operators during exam administration, interviews with the licensed operator population to determine if information about the content of the exam was discussed amongst them during the exam administration period, and a review of exam performance to see if there was a noticeable increase in satisfactory performance in the exam elements. Based on this review, there was no indication that the exam overlap issue had an actual effect on the results of the 2009 annual operating exam. During this review it was determined that grades for the job performance

measures and scenario sets evaluated were at the same pass rate as those observed during the initial administration of the exam material in question. The inspectors concluded that, although the integrity of the 2009 operating test was not maintained, no actual effect on the equitable and consistent administration of the 2009 operating test had occurred. The licensee documented this issue in Condition Report CR-2010-010851.

The licensee evaluated this issue using an apparent cause evaluation associated with Condition Report CR-2010-010851 to fully understand the extent of condition, the causal factors, and appropriate corrective actions. The licensee determined there was a misconception about how the 50 percent overlap requirement was to be applied when developing requalification exam materials. Industry standards on this topic modified the requirement in 2007 to include its application to exam materials between and among all aspects of the examination and operating tests. The licensee referenced this 2007 industry standard when developing 2009 and 2010 exam material, but did not recognize that modification to this requirement had been made in comparison to previous industry standard. The inspectors concluded the licensee did not fully understand the meaning of this industry standard and the NRC's expectation regarding examination and operating test overlap requirements.

Analysis. The failure of the licensee's training staff to maintain the integrity of examinations administered to licensed operations personnel was a performance deficiency. The performance deficiency is more than minor because it adversely impacted the human performance attribute of the mitigating systems cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Additionally, if left uncorrected, the performance deficiency could have become more significant in that, allowing licensed operators to return to the control room without valid demonstration of appropriate knowledge and abilities on the annual operating exams could be a precursor to a significant event if undetected performance deficiencies develop. Using Manual Chapter 0609, "Significance Determination Process," Phase 1 worksheets, and the corresponding Appendix I, "Licensed Operator Requalification Significance Determination Process," the finding was determined to have very low safety significance (Green) because, although the finding resulted in a compromise of the integrity of operating test components (job performance measures and simulator scenario sets) and compensatory actions were not immediately taken when the compromise should have been discovered in 2009. The equitable and consistent administration of the test was not actually impacted by this compromise.

This finding has a crosscutting aspect in the area of resources associated with ensuring that procedures are accurately translated from NRC and industry standards. Examples included the following:

- The licensee's exam security process is addressed in portions of various procedures (NTG-102, OTDI-8, OTDI-9, OTDI-12, and NTG-104) with no clear direction on what the exam security policy is on site.
- In November 2010, the licensee revised procedure TRA-204, "Licensed Operator Requalification Training," to remove Attachment 8.A, "Licensed Operator Annual Requalification Exam Development and Security Guidelines." This attachment

contained exam security guidelines and exam overlap criteria that were not placed in other site procedures.

- Exam overlap was addressed during the inspection in procedure NTG-102, "Design," Section 1.5 (9/11/2008), where it stated that exam material for a given exam may overlap with content given in the previous week's exam by 70 percent. The topic was addressed in procedure OTDI-17, "LORT Exam Development Process," (9/30/2010), consistent with the industry standard 50 percent overlap criteria. However, the two procedures were in conflict with each other.

Interviews with licensed operator requalification program staff and licensed operators indicated that they have an adequate knowledge of exam security guidelines documented in NUREG-1021, Revision 9, Supplement 1, but the documentation of these guidelines, as well as industry standards, in station procedures contributed to their issues in maintaining exam integrity [H.2c].

Enforcement. Title 10 CFR 55.49, "Integrity of Examinations," requires, in part, that facility licensees shall not engage in any activity that compromises the integrity of any application, test, or examination. The integrity of a test or examination is considered compromised if any activity, regardless of intent, affected, or, but for detection, would have affected the equitable and consistent administration of the test or examination. This includes activities related to the preparation, administration, and grading of tests and examinations. Contrary to the above, during the weeks of November 30 and December 14, 2009, the licensee engaged in an activity that compromised the integrity of a test required by 10 CFR Part 55. Specifically, training personnel administered three job performance measures to 17 licensed operators for their operating tests (week of November 30, 2009) that had been previously administered to other licensed operators the weeks of November 9 and 16, 2009. In addition, training personnel administered four job performance measures to 17 licensed operators for their operating tests (week of December 14, 2009) that had been previously administered to other licensed operators the weeks of November 23 and 30, 2009. Also, training personnel administered two dynamic simulator scenarios to five licensed operators for their operating tests that had been previously administered to other licensed operators the weeks of November 16 and 30, 2009. This resulted in these groups of licensed operators receiving between 60 and 80 percent overlap on portions of their annual operating examinations. Administering an operating test with greater than 50 percent overlap from previously administered operating tests is considered a compromise of the integrity of the test in that it is a practice that, but for detection, would affect the equitable and consistent administration of the these tests.

The inspectors determined that the compromise of the 2009 operating test did not result in an actual effect on the equitable and consistent administration of the test. Because this finding is of very low safety significance and has been entered into the licensee's corrective action program as Condition Report CR-2010-010851, this violation is being treated as a noncited violation consistent with Section 2.3.2 of the NRC Enforcement Policy: NCV 05000445/2011004-01; 05000446/2011004-01, "Failure to Maintain Licensed Operator Examination Integrity."

2. Failure to Ensure All Licensed Conditions Are Met for Licensed Operators

Introduction. The inspectors identified a Green noncited violation of 10 CFR 55.53, "Conditions of License," for the failure of the licensee to ensure that licensed operators met all the conditions of their licenses in order to be considered an active watchstander. Specifically, the licensee failed to ensure that three licensed operators met the complete plant tour requirement specified in 10 CFR 55.53(f) prior to license reactivation and subsequent performance of licensed operator duties.

Description. During the period of March 2009 through March 2010, seven licensed senior operators entered the process to reactivate their licenses. Three of these individuals, based on review of key card access logs on the site, performed inadequate tours of the Radiological Controlled Area (RCA) as part of their complete plant tour. Licensed operators are required to perform a complete plant tour per 10 CFR 55.53(f) prior to the reactivation of the license. Procedure ODA-315, "Licensed Operator Maintenance Tracking," Revision 5, described the administrative and documentation requirements to maintain a license as active, including the reactivation of an inactive license in accordance with 10 CFR 55.53. Procedure ODA-315, Section 6.3.1, requires a comprehensive tour of the plant including the power block and intake structures in order to reactivate a Senior Reactor Operator or Reactor Operator license. The inspectors determined that the licensee did not specify the contents of a comprehensive plant tour but expects operators to tour the RCA as part of a comprehensive tour of the power block. The operator tours of the RCA consisted of one operator not entering the RCA, two operators stayed in the RCA for only 20 minutes, and the other four operators toured the RCA for times ranging from 31 minutes to just over two hours as identified in the key card logs. These times included entry into the area, obtaining the required dosimeter and radiological briefings, comprehensive tour and egress from the RCA. The licensee initiated Condition Report CR-2011-004990 in response to this issue to clarify expectations for the plant tour in Procedure ODA-315 and to specify areas to be included as part of the required complete tour. In addition, the licensee instituted administrative controls with shift management to ensure any license reactivation tours are reviewed by management while the procedure is being reviewed and modified.

Analysis. The failure of the licensee to ensure that all individuals authorized by a license to operate the controls of the facility met the conditions of their licenses as defined in 10 CFR Part 55.53 was a performance deficiency. Specifically, the licensee failed to ensure that three licensed operators met the complete plant tour requirement specified in 10 CFR 55.53(f) prior to license reactivation and subsequent performance of licensed operator duties. This finding was more than minor because the issue is associated with the human performance attribute of the mitigating system cornerstone and affects the cornerstone's objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Using NRC Manual Chapter 0609, "Significance Determination Process," Phase 1 worksheets, and the corresponding Appendix I, "Licensed Operator Requalification Significance Determination Process," the finding was determined to have very low safety significance and is being characterized as a Green noncited violation. The finding was determined to be Green because more than 20 percent of the license reactivation records reviewed contained these deficiencies. This finding has a crosscutting aspect in the area of resources that support human performance in that the licensee failed to develop adequate procedures to ensure licensed operators maintain all conditions of their licenses were in accordance with 10 CFR 55.53 [H.2c].

Enforcement. Title 10 CFR 55.53, "Conditions of License," states, in part, that if a licensed operator has not been actively performing the functions of an operator or senior operator, the licensed operator may not resume activities authorized by a license issued under this part except as permitted by 10 CFR 55.53(f). Contrary to the above, three inactive licensed senior operators failed to perform the complete plant tour specified in 10 CFR 55.53(f) prior to reactivation of their licenses. Specifically, the licensed senior operators failed to adequately tour the RCA and therefore performed an inadequate plant tour in accordance with Procedure ODA-315 and 10 CFR 55.53. Because this was of very low safety significance and was entered into the licensee's corrective action program as Condition Report CR-2011-004990, this violation is being treated as a noncited violation, consistent with Section 2.3.2 of the NRC Enforcement Policy: NCV 05000445/2011004-02; 05000446/2011004-02, "Failure to Ensure that All License Conditions Are Met for Licensed Operators."

1R12 Maintenance Effectiveness (71111.12)

a. Inspection Scope

The inspectors evaluated the following risk significant systems and components:

- Instrument air system
- Unit 2 diesel generators
- Maintenance rule periodic assessment, November 5, 2007 through September 20, 2009

The inspectors reviewed events where ineffective equipment maintenance had resulted in failures 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)

The inspectors verified 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 that 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 constituted completion of three 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:

- July 11, 2011, Unit 1 forced outage
- August 24, 2011, switchyard maintenance activities and testing of diesel generator 1-02
- September 2, 2011, Unit 1 switchyard and AC distribution walkdown while turbine driven auxiliary feedwater pump out of service
- September 9, 2011, Unit 1 maintenance during main generator reactive load testing

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.

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

a. Findings

No findings were identified.

1R15 Operability Evaluations (71111.15)

a. Inspection Scope

The inspectors reviewed the following issues:

- CR-2007-001224, emergency core cooling isolation valves unable to shut against full pump discharge pressure
- CR-2009-004885, effect of auxiliary feedwater pump seal leakage on condensate storage tank required inventory
- CR-2011-001492, acceptability of revised inadvertent safety injection accident analysis for power uprate
- CR-2011-004247, safety chiller 2-06 corrosion
- CR-2011-009029, Unit 1 component cooling water heat exchanger 1-01 fouling
- CR-2011-009031, degraded primary plant ventilation exhaust fans X-21 and X-22

The inspectors selected these potential operability issues based on the risk-significance of the associated components and systems. The inspectors evaluated the technical adequacy of the evaluations to ensure that technical specification operability was properly justified and the subject component or system remained available such that no unrecognized increase in risk occurred. The inspectors compared the operability and design criteria in the appropriate sections of the technical specifications and Final Safety Analysis Report to the licensee's evaluations, to determine whether the components or systems were operable. Where compensatory measures were required to maintain operability, the inspectors determined whether the measures in place would function as intended and were properly controlled. The inspectors determined, where appropriate, compliance with bounding limitations associated with the evaluations. Additionally, the inspectors 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 evaluation inspection samples as defined in Inspection Procedure 71111.15-05.

b. Findings

No findings were identified.

1R18 Plant Modifications (71111.18)

a. Inspection Scope

The inspectors reviewed the temporary plant modification associated with the flow indication for condensate cooling to steam generator blowdown heat exchanger. The inspectors reviewed Condition Report CR-2011-009677 and the associated safety evaluation screenings against the system design bases documentation, including the Final Safety Analysis Report and the technical specifications, and verified that the modifications did not adversely affect the system operability or availability. The inspectors also verified that the installation and restoration were consistent with the modification documents and that configuration control was adequate. Additionally, the inspectors verified that the temporary modifications were identified on control room drawings, appropriate tags were placed on the affected equipment, and licensee personnel evaluated the combined effects on mitigating systems.

These activities constitute completion of one temporary plant modification inspection sample as defined in Inspection Procedure 71111.18-05.

b. Findings

No findings were identified.

1R19 Postmaintenance Testing (71111.19)

a. Inspection Scope

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

- August 15, 2011, Unit 1, safety injection pump 1-01 testing following breaker replacement
- September 1, 2011, Unit 2 personnel airlock seal and barrel test following seal replacement
- September 14, 2001, Unit 2, diesel generator 2-01 testing following replacement of the fuel oil booster pump discharge relief valve

The inspectors selected these activities based upon the structure, system, or component's ability to affect risk. The inspectors evaluated the activities to ensure the testing was adequate for the maintenance performed, the acceptance criteria were clear, and the test ensured equipment operational readiness.

The inspectors evaluated the activities against technical specifications, the Final Safety Analysis Report, 10 CFR Part 50 requirements, licensee procedures, and various NRC generic communications to ensure that the test results adequately ensured that the equipment met the licensing basis and design requirements. In addition, the inspectors reviewed corrective action documents associated with postmaintenance tests to determine whether the licensee was identifying problems and entering them into 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 three postmaintenance 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)

a. Inspection Scope

The inspectors reviewed the outage safety plan and contingency plans for the Unit 1 forced outage, conducted July 11 through July 18, 2011, to confirm that licensee personnel had appropriately considered risk, industry experience, and previous

site-specific problems in developing and implementing a plan that assured maintenance of defense-in-depth. During the refueling outage, the inspectors observed portions of the shutdown of the reactor 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
- Monitoring of decay heat removal processes, systems, and components
- Controls over activities that could affect reactivity
- Startup and ascension to full power operation and tracking of startup prerequisites
- Licensee identification and resolution of problems related to outage activities

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

b. Findings

Introduction. The inspectors reviewed a Green self-revealing noncited violation of Technical Specification 5.4.1.a for the failure of the unit supervisor to adequately maintain responsibility for the operation of Unit 1 and the supervision of operations personnel during preparations for a reactor startup. As a result, when an operator performed a planned trip of a main feedwater pump, the motor driven auxiliary feedwater pumps received an engineered safety features actuation and initiated full auxiliary feedwater flow to the steam generators.

Description. On July 18, 2011, Unit 1 was in Mode 3 following a maintenance outage. Operators were performing Procedure IPO, "Plant Startup from Hot Standby," Revision 20. A reactor operator, assigned to the outage control center, was assisting the crew with the secondary system alignments. A portion of the alignment prepared main feedwater pump 1-01 for operation through the trip/reset process directed by Procedure SOP-302A, "Feedwater System," Revision 17. The unit supervisor noted that main feedwater pump 1-01 did not have a trip alarm and believed the pump trip had been reset in preparation for the startup. The unit supervisor did not ask the outage control center reactor operator the status of the main feedwater pump startup preparations and directed the installation of the auxiliary feedwater auto start fuses. This action enabled the auxiliary feedwater pump automatic start on a loss of main feedwater pumps.

Shortly after the fuses were installed, the outage control center reactor operator continued with the main feedwater pump startup preparations. The reactor operator failed to inform the unit supervisor about the action to trip the main feedwater pump and tripped pump 1-01. The main feedwater pump trip caused an engineered safety features actuation and both motor driven auxiliary feedwater pumps went to full water flow to the steam generators and steam generator blowdown and condensate storage tank isolation valves closed. Control room operators recognized the full flow condition and initiated action to control auxiliary feedwater flow and maintain steam generator level.

The inspectors determined, through discussion with licensee personnel and review of the Condition Report CR-2011-008052, that the cause of the event was ineffective communications.

Analysis. The failure of the unit supervisor to maintain responsibility for the operation of Unit 1 and the supervision of operations personnel during preparations for a reactor startup was a performance deficiency. The finding was more than minor because it was associated with the configuration control attribute of the initiating events cornerstone and affected the cornerstone objective, in that, it increased the likelihood of those events that upset plant stability. Using NRC Manual Chapter 0609, Attachment 4, "Phase 1 - Initial Screening and Characterization of Findings," the finding was determined to be of very low safety significance because the finding did not contribute to both the likelihood of a reactor trip and the likelihood that mitigating equipment would not be available. This finding has a human performance crosscutting aspect associated with decision making, in that, the licensee failed to communicate the decision to install the auxiliary feedwater pump auto start fuses to all control room personnel [H.1c].

Enforcement. Technical Specification 5.4.1.a requires, in part, that written procedures shall be established, implemented, and maintained covering the applicable procedures recommended in Regulatory Guide 1.33, "Quality Assurance Program Requirements," Revision 2, Appendix A. Regulatory Guide 1.33, Appendix A, Step 1.b recommends administrative procedures for authority and responsibilities for safe operation and shutdown. Procedure ODA-102, "Conduct of Operations," Revision 26, delineates the authority and responsibilities of the members of the operations department. Step 6.6, "Duties/Responsibilities of the Unit Supervisor," states, in part, that the unit supervisor is responsible for the operation of the assigned unit, supervision of the operating personnel on that shift, and responsible for the systems operations. Contrary to the above, on July 18, 2011, the unit supervisor did not maintain responsibility for the operation of Unit 1 and supervision of operation's personnel during preparations for a reactor startup. As a result, when an operator performed a trip of the main feedwater pump, the motor driven auxiliary feedwater pumps received an engineered safety features actuation and initiated full auxiliary feedwater flow to the steam generators. Since the violation was of very low safety significance and was documented in the licensee's corrective action program as Condition Report CR-2011-008052, it is being treated as a noncited violation, consistent with Section 2.3.2 of the NRC Enforcement Policy: NCV 05000445/2011004-03, "Inadequate Supervision Causes Inadvertent Engineered Safety Features Actuation."

1R22 Surveillance Testing (71111.22)

a. Inspection Scope

The inspectors reviewed the Final Safety Analysis Report, procedure requirements, technical specifications, and corrective action documents 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:

Pump or Valve Inservice Test

- August 15, 2011, Unit 1, inservice test of safety injection pump 1-01 in accordance with procedure OPT-204A, "SI System," Revision 14

Reactor Coolant System Leakage Detection Surveillance Testing

- September 16, 2011, Units 1 and 2, reactor coolant system leakrate detection surveillance test in accordance with procedure OPT-303, "Reactor Coolant System Water Inventory," Revision 13

Routine Surveillance Testing

- July 27, 2011, Unit 1, auxiliary feedwater flow channel calibration in accordance with procedure INC-7417A, "Channel Calibration Steam Generator 1-02 Auxiliary Feedwater Flow, Train B, Channel 2464B," Revision 4
- August 18, 2011, Unit 1, turbine driven auxiliary feedwater pump testing in accordance with procedure OPT-206A, "AFW System," Revision 28
- August 30, 2011, Unit 1, quadrant power tilt ratio calculation in accordance with procedure OPT-302, "Calculating Power Tilt Ratio," Revision 11
- September 7, 2011, Unit 1, diesel generator 1-01 fast start in accordance with procedure OPT-214A, "Diesel Generator Operability Test," Revision 21
- September 12, 2011, Unit 2, solid state protection system actuation logic test in accordance with procedure OPT-447B, "Mode 1, 3 and 4 Train A SSPS Actuation Logic Test," Revision 9
- September 13, 2011, Unit 2, reactor coolant system dose equivalent iodine in accordance with procedure CLI-768, "Calculation of Dose Equivalent I-131," Revision 5

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
- Reference setting data
- Annunciators and alarms setpoints

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

These activities constitute completion of eight surveillance testing inspection samples (one pump or valve inservice test sample, one reactor coolant system leakage detection surveillance testing sample, and six routine surveillance testing samples) as defined in Inspection Procedure 71111.22-05.

b. Findings

No findings were identified.

1EP6 Drill Evaluation (71114.06)

a. Inspection Scope

On September 14, 2011, the inspectors evaluated the conduct of licensee emergency drills to identify any weaknesses and deficiencies in classification, notification, and protective action recommendation development activities. The inspectors observed emergency response operations in the simulator, technical support center, and the emergency operations facility to determine whether the event classification, notifications, and protective action recommendations were performed in accordance with procedures. The inspectors also compared any inspector-observed weakness with those identified by the licensee staff in order to evaluate the critique and to verify whether the licensee staff was properly identifying weaknesses and entering them into the corrective action program.

These activities constituted completion of one drill/training evolution sample as defined in Inspection Procedure 71114.06-05.

b. Findings

No findings were identified.

2. RADIATION SAFETY

Cornerstones: Occupational and Public Radiation Safety

2RS03 In-Plant Airborne Radioactivity Control and Mitigation (71124.03)

a. Inspection Scope

This area was inspected to verify in-plant airborne concentrations are being controlled consistent with ALARA principles and the use of respiratory protection devices on-site does not pose an undue risk to the wearer. 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, performed walkdowns of various portions of the plant, and reviewed the following items:

- 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 of 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

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

These activities constitute completion of the one in-plant airborne radioactivity control and mitigation sample as defined in Inspection Procedure 71124.03-05.

b. Findings

No findings were identified.

40A1 Performance Indicator Verification (71151)

.1 Data Submission Issue

a. Inspection Scope

The inspectors performed a review of the data submitted by the licensee for the second quarter 2011 performance indicators for any obvious inconsistencies prior to its public release in accordance with NRC 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 Reactor Coolant System Specific Activity (BI01)

a. Inspection Scope

The inspectors sampled licensee submittals for the reactor coolant system specific activity performance indicator for Units 1 and 2 for the period from the third quarter 2010 through the second quarter 2011. To determine the accuracy of the performance indicator data reported during those periods, performance indicator definitions and guidance contained in Nuclear Energy Institute Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6, was used. The inspectors reviewed the licensee's reactor coolant system chemistry samples, technical specification requirements, condition reports, and NRC integrated inspection reports to validate the accuracy of the submittals. The inspectors also reviewed the licensee's condition report database to determine if any problems had been identified with the performance indicator data collected or transmitted for this indicator and none were identified.

These activities constitute completion of two reactor coolant system specific activity samples as defined by Inspection Procedure 71151-05.

b. Findings

No findings were identified.

.3 Reactor Coolant System Leakage (BI02)

a. Inspection Scope

The inspectors sampled licensee submittals for the reactor coolant system leakage performance indicator for Units 1 and 2 for the period from the third quarter 2010 through the second quarter 2011. To determine the accuracy of the performance indicator data reported during those periods, performance indicator definitions and guidance contained in Nuclear Energy Institute Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6, was used. The inspectors reviewed the licensee's operator logs, reactor coolant system leakage tracking data, condition reports, and NRC integrated inspection reports to validate the accuracy of the submittals. The inspectors also reviewed the licensee's condition report database to determine if any problems had been identified with the performance indicator data collected or transmitted for this indicator.

These activities constitute completion of two reactor coolant system leakage samples as defined by Inspection Procedure 71151-05.

b. Findings

No findings were identified.

.4 Safety System Functional Failures (MS05)

a. Inspection Scope

The inspectors sampled licensee submittals for the safety system functional failures performance indicator for Units 1 and 2 for the period from the third quarter 2010 through

the second quarter 2011. To determine the accuracy of the performance indicator data reported during those periods, performance indicator definitions and guidance contained in Nuclear Energy Institute Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6, and NUREG-1022, "Event Reporting Guidelines 10 CFR 50.72 and 50.73," definitions and guidance were used. The inspectors reviewed the licensee's operator narrative logs, operability assessments, maintenance rule records, maintenance work orders, condition reports, and NRC integrated inspection reports to validate the accuracy of the submittals. The inspectors also reviewed the licensee's condition report database to determine if any problems had been identified with the performance indicator data collected or transmitted for this indicator and none were identified. Specific documents reviewed are described in the attachment to this report.

These activities constitute completion of two safety system functional failures samples as defined by Inspection Procedure 71151-05.

b. Findings

No findings were identified.

.5 Mitigating Systems Performance Index - Emergency ac Power System (MS06)

a. Inspection Scope

The inspectors sampled licensee submittals for the mitigating systems performance index emergency ac power system performance indicator for Units 1 and 2 for the period from the third quarter 2010 through the second quarter 2011. To determine the accuracy of the performance indicator data reported during those periods, the inspectors used definitions and guidance contained in Nuclear Energy Institute Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6. The inspectors reviewed the licensee's operator narrative logs, mitigating systems performance index derivation reports, condition reports, and NRC integrated inspection reports to validate the accuracy of the submittals. The inspectors reviewed the mitigating systems performance index component risk coefficient to determine if it had changed by more than 25 percent in value since the previous inspection, and if so, that the change was in accordance with applicable Nuclear Energy Institute guidance. The inspectors also reviewed the licensee's condition report database to determine if any problems had been identified with the performance indicator data collected or transmitted for this indicator and none were identified.

These activities constitute completion of two mitigating systems performance index emergency ac power system samples as defined in Inspection Procedure 71151-05.

b. Findings

No findings were identified.

.6 Mitigating Systems Performance Index - High Pressure Injection Systems (MS07)

a. Inspection Scope

The inspectors sampled licensee submittals for the mitigating systems performance index high pressure injection systems performance indicator for Units 1 and 2 for the period from the third quarter 2010 through the second quarter 2011. To determine the accuracy of the performance indicator data reported during those periods, the inspectors used definitions and guidance contained in Nuclear Energy Institute Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6. The inspectors reviewed the licensee's operator narrative logs, condition reports, mitigating systems performance index derivation reports, and NRC integrated inspection reports to validate the accuracy of the submittals. The inspectors reviewed the mitigating systems performance index component risk coefficient to determine if it had changed by more than 25 percent in value since the previous inspection, and if so, that the change was in accordance with applicable Nuclear Energy Institute guidance. The inspectors also reviewed the licensee's condition report database to determine if any problems had been identified with the performance indicator data collected or transmitted for this indicator and none were identified.

These activities constitute completion of two mitigating systems performance index high pressure injection system samples as defined in Inspection Procedure 71151-05.

b. Findings

No findings were identified.

.7 Mitigating Systems Performance Index - Heat Removal System (MS08)

a. Inspection Scope

The inspectors sampled licensee submittals for the mitigating systems performance index heat removal system performance indicator for Units 1 and 2 for the period from the third quarter 2010 through the second quarter 2011. To determine the accuracy of the performance indicator data reported during those periods, the inspectors used definitions and guidance contained in Nuclear Energy Institute Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6. The inspectors reviewed the licensee's operator narrative logs, condition reports, mitigating systems performance index derivation reports, and NRC integrated inspection reports to validate the accuracy of the submittals. The inspectors reviewed the mitigating systems performance index component risk coefficient to determine if it had changed by more than 25 percent in value since the previous inspection, and if so, that the change was in accordance with applicable Nuclear Energy Institute guidance. The inspectors also reviewed the licensee's condition report database to determine if any problems had been identified with the performance indicator data collected or transmitted for this indicator and none were identified.

These activities constitute completion of two mitigating systems performance index heat removal system samples as defined in Inspection Procedure 71151-05.

b. Findings

No findings were identified.

40A2 Problem Identification and Resolution (71152)

.1 Routine Review of Problem Identification and Resolution

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, so these reviews did not constitute any separate inspection samples.

b. Findings

No findings were identified.

40A3 Event Followup (71153)

The inspectors performed a review of licensee event reports and related documents to determine the accuracy of the licensee event reports, appropriateness of corrective actions, violations of requirements, and generic issues.

These activities constitute completion of five event followup samples as defined in Inspection Procedure 71153-05.

.1 (Closed) Licensee Event Reports 05000445/2010-003-00 and 05000445/2010-003-01, Inadequate Surveillance Test Procedure Resulting in Failure to Meet Technical Specification Requirements

On June 18, 2010, inspectors identified that surveillance test Procedures OPT-216A/B, "Remote Shutdown Operability Test," verified the transfer of functional control from the control room to the remote shutdown panel, but did not provide assurance that the control room circuits were isolated from the remote shutdown panel. The inspectors determined that it was possible for individual isolation contacts to fail to reposition, which would allow fire damage in the control room to affect the circuit. The licensee documented this issue in Condition Report CR-2010-006120.

Based on the design of the transfer switches, the licensee demonstrated that it was not plausible for the switch to successfully transfer control while allowing any individual contacts to fail to reposition. The only plausible switch failure would be readily apparent because all contacts would fail to reposition. In addition, the switches had been tested successfully in the past. This licensee revised Procedures OPT-216A for Unit 1 and OPT-216B for Unit 2 to verify isolation of the control room circuitry for those devices required for remote shutdown capability on transfer of controls to the remote shutdown panel from the control room. During the spring 2011 outage, the licensee tested Unit 2 and no contact failures were identified. Unit 1 testing was scheduled for the next refueling outage.

The inspectors performed an in-office evaluation of these related reports and associated documentation. In addition, the inspectors reviewed the switch design and circuits for a representative sample of the switches for a detailed construction inspection, as well as the revised procedures. No new information was provided in the licensee event report. The successful testing confirmed the previous conclusion that the impact of inadequate testing was minor.

The failure to comply with technical specification remote shutdown panel surveillance requirements constituted a violation of minor significance that is not subject to enforcement action in accordance with the NRC's Enforcement Policy. This licensee event report is closed.

.2 (Closed) Licensee Event Report 05000446/2011-001-00, Inoperability of Emergency Core Cooling System Trains Due to Gas Void

On April 26, 2011, the licensee identified a 3.71 cubic foot void in the emergency core cooling system suction piping for Unit 2. The licensee initially declared both trains of safety injection, residual heat removal, and containment spray inoperable as a result of the void. The licensee vented the system, ultrasonically verified the piping free of voids,

and declared the systems operable. The licensee documented the issue in Condition Report CR-2011-005288. The licensee performed additional analysis and ultimately determined that only one train of containment spray was inoperable due to the void. The licensee determined that the root cause of the event was weaknesses in the implementation of the gas intrusion program that resulted in a failure to identify a unique system configuration and untimely identification and removal of a gas void. The licensee documented several planned corrective actions in the license event report and the condition report. The corrective actions included procedure changes and void verification prior to Mode 4.

The licensee determined that one train of containment spray was inoperable when Unit 2 entered Mode 4 on April 24, 2011, until the system was vented approximately 44.4 hours later. This action was contrary to the requirements of Technical Specifications 3.6.6 and 3.0.4. The enforcement aspects of the licensee event report are discussed in Section 4OA7. This licensee event report is closed.

.3 (Closed) Licensee Event Report 05000446/2010-001-00, Loss of XST1 due to Breakers 7030 and 7040 Opening as a Result of a B-Phase to Ground Fault

On April 12, 2010, the plant experienced a phase-to-ground fault on the transmission line between the 138 kV switchyard and transformer XST1, the preferred offsite power source to Unit 2 and the alternate offsite power source to Unit 1 safety related 6.9 kV buses. The Unit 2 safety-related 6.9 kV buses transferred to transformer XST2. The Unit 1 safety-related 6.9 kV buses were not affected by the fault since they were already powered from transformer XST2. As a result of the transfer, the Unit 2 motor driven and the turbine driven auxiliary feedwater pumps started as expected. The inspectors documented the event in inspection report 05000445/2010003 and 05000446/2010003, Section 4OA3. The inspectors documented an operability evaluation of the auxiliary feedwater pump 2-01, condition report CR-2010-003775, in Section 1R15. The licensee documented the event in condition report CR-2010-003783. No new information was provided in the licensee event report. The inspectors did not identify a licensee performance deficiency. This licensee event report is closed.

.4 (Closed) Licensee Event Report 05000445/2010-001-00, Unit 1 Trip due to Pressure Relay Actuation on Main Transformer 01

On January 9, 2010, the Unit 1 main turbine tripped due to a pressure relay actuation on main transformer 01. The turbine trip caused an automatic reactor trip. Upon notification of the reactor trip, the inspectors responded to the control room to evaluate the plant and operator response. All systems responded normally during and following the event. The licensee determined that an internal fault caused the over pressurization of the transformer. The licensee replaced the failed transformer with a spare transformer recently removed from Unit 2 until the Unit 1 refueling outage in the spring of 2010. During the refueling outage, the Unit 1 main transformers were replaced with new larger transformers. The licensee documented the event in Condition Report CR-2010-000266. The inspectors did not identify a licensee performance deficiency. This licensee event report is closed.

40A5 Other

(Closed) NRC Temporary Instruction 2515/177, "Managing Gas Accumulation in Emergency Core Cooling, Decay Heat Removal, and Containment Spray Systems (NRC Generic Letter 2008-01)"

a. Inspection Scope

The inspectors evaluated whether the licensee maintained documents, installed system hardware, and implemented actions that were consistent with the information provided in their response to NRC Generic Letter 2008-01, "Managing Gas Accumulation in Emergency Core Cooling, Decay Heat Removal, and Containment Spray Systems." Specifically, the inspectors verified that the licensee has implemented or was in the process of implementing the commitments, modifications, and programmatically controlled actions described in the response to Generic Letter 2008-01. The inspectors conducted their review in accordance with Temporary Instruction 2515/177 and considered the site-specific supplemental information provided by the Office of Nuclear Reactor Regulation to the inspectors.

b. Inspection Documentation

The inspectors reviewed the licensing basis, design, testing, and corrective actions as specified in the temporary instruction. The specific items reviewed and any resulting observations are documented below.

Licensing Basis: The inspectors reviewed selected portions of licensing basis documents to verify that they were consistent with the Office of Nuclear Reactor Regulation assessment report and that the licensee properly processed any required changes. The inspectors reviewed selected portions of technical specifications, technical specification bases, and the Final Safety Analysis Report. The inspectors also verified that applicable documents that described the plant and plant operation, such as calculations, piping and instrumentation diagrams, procedures, and corrective action program documents addressed the areas of concern and were changed, if needed, following plant changes. The inspectors confirmed that the licensee performed surveillance tests at the frequency required by the technical specifications. The inspectors verified that the licensee tracked their commitment to evaluate and implement any changes that will be contained in the technical specification task force traveler.

Design: The inspectors reviewed design documents, performed system walkdowns, and interviewed plant personnel to verify that the licensee addressed design and operating characteristics. The inspectors verified that the licensee had identified the applicable gas intrusion mechanisms for their plant.

The inspectors verified that the licensee had established void acceptance criteria consistent with the void acceptance criteria identified by the Office of Nuclear Reactor Regulation. The inspectors also confirmed that the range of flow conditions evaluated by the licensee was consistent with the full range of design basis and expected flow rates for various break sizes and locations.

The inspectors reviewed documents, including calculations, and engineering evaluations with respect to gas accumulation in the emergency core cooling systems, decay heat removal, and containment spray systems. The inspectors verified that these documents

addressed venting requirements, aspects where pipes were normally voided such as some containment spray piping inside containment, void control during maintenance activities, and the potential for vortex effects that could ingest gas into the systems during design basis events.

The inspectors conducted a walk down of selected regions of the emergency core cooling systems in sufficient detail to assess the licensee's walk downs. The inspectors completed a full system alignment inspection of the Unit 1 and Unit 2 high head safety injection system in an earlier inspection period. The inspectors documented additional activities that counted towards the completion of this temporary instruction in Section 4OA5 of Inspection Reports 05000445/2010003, 05000446/2010003, 05000445/2011003 and 05000446/2011003. The inspectors verified that the information obtained during the licensee's walkdown was consistent with the items identified during the inspectors' independent walkdown.

The inspectors verified that piping and instrumentation diagrams and isometric drawings that describe the residual heat removal and safety injection system configurations. The review of the selected portions of isometric drawings considered the following:

- High point vents were identified.
- High points without vents were recognizable.
- Other areas where gas could accumulate and potentially impact operability, such as at orifices in horizontal pipes, isolated branch lines, heat exchangers, improperly sloped piping, and under closed valves, were described in the drawings or in referenced documentation.
- Horizontal pipe centerline elevation deviations and pipe slopes in nominally horizontal lines that exceed specified criteria were identified.
- All pipes and fittings were clearly shown.
- The drawings were up-to-date with respect to recent hardware changes, and that any discrepancies between as-built configurations and the drawings were documented and entered into the corrective action program for resolution.

The inspectors verified that the licensee had completed their walkdowns and selectively verified that the licensee identified discrepant conditions in their corrective action program and appropriately modified affected procedures and training documents.

Testing: The inspectors reviewed surveillance test, post-modification test, and postmaintenance test procedures and results implemented during power and shutdown operations to verify that the licensee had approved and was using procedures that appropriately addressed gas accumulation and intrusion into the subject systems. This review included the verification of procedures used for conducting surveillances and determination of void volumes to ensure that the void criteria were satisfied and will continue to be satisfied until the next scheduled void surveillance. Also, the inspectors reviewed procedures used for filling and venting following conditions that may have introduced voids into the subject systems to verify that the procedures addressed testing for such voids and provided processes for their reduction or elimination. The inspectors reviewed the performance of the Unit 1 residual heat removal system fill and vent

surveillance in an earlier inspection period. This additional activity counted towards the completion of this temporary instruction and was documented in Inspection Report 05000445/2010003 and 05000446/2010003. The inspectors reviewed a Unit 2 emergency core cooling system fill and vent as part of the licensee event report closure that is documented in Section 4OA3.2.

Corrective Actions: The inspectors reviewed the corrective action program documents to assess how effectively the licensee addressed the issues in the corrective action program associated with Generic Letter 2008-01. In addition, the inspectors verified that the licensee implemented appropriate corrective actions for selected corrective actions identified in the nine-month and supplemental responses. The inspectors determined that the licensee had effectively implemented the actions required by Generic Letter 2008-01.

Based on this review, the inspectors concluded that there is reasonable assurance that the licensee will complete all outstanding items and incorporate this information into the design basis and operational practices. This temporary instruction is closed.

c. Findings

No findings were identified.

4OA6 Meetings

Exit Meeting Summary

On December 2, 2010, the inspectors discussed the results of the licensed operator requalification program inspection with Mr. R. Flores, Senior Vice President and Chief Nuclear Officer, and other members of the licensee's staff. On August 8, 2011, the inspectors telephonically exited with Mr. S. Smith, Plant Manager. The licensee acknowledged the findings presented. The inspectors asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

On August 25, 2011, the inspectors presented the Temporary Instruction 2515/177 inspection results to Mr. M. Lucas, Site Vice President, 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 September 14, 2011, the inspectors presented the results of the review of Licensee Event Report 50-445/2010-003 (original and supplement 1) to Mr. G. Merka, Regulatory Affairs Engineer. The licensee acknowledged the issues presented. No proprietary information was reviewed.

On September 15, 2011, the inspectors presented the radiation safety inspection results to Mr. M. Lucas, Site Vice President, 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 September 28, 2011, the inspectors presented the resident inspection results to Mr. M. Lucas, Site Vice President, and other members of the licensee staff. The licensee acknowledged the issues presented. The inspectors acknowledged review of proprietary material during the inspection. No proprietary information has been included in the report.

40A7 Licensee-Identified Violations

The following violation of very low safety significance (Green) was identified by the licensee and was a violation of NRC requirements which meet the criteria of Section 2.3.2 of the NRC Enforcement Policy, for being dispositioned as a noncited violation.

Entry into a Mode When a Limiting Condition for Operation is Not Met

Technical Specification 3.0.4 requires, in part, that when a limiting condition for operation is not met, entry into a mode or other specified condition shall only be made when the associated actions to be entered permit continued operation in the mode or other specified condition for an unlimited period of time. Technical Specification Limiting Condition for Operation 3.6.6 requires, in part, that two containment spray trains shall be operable in Modes 1, 2, 3, and 4. Technical Specification 3.6.6 does not permit continued operation in the mode or other specified condition for an unlimited period of time. Contrary to the above, on April 24, 2011, the licensee entered a mode when the associated actions did not permit continued operation for an unlimited time. Specifically, the licensee entered Mode 4 when one train of containment spray was inoperable. The licensee documented the violation in the corrective action program as condition report CR-2011-005288. The violation was determined to be of very low safety significance because it did not represent an actual loss of safety function of a single train for greater than its technical specification allowed outage time. This report addresses the enforcement aspect of licensee event report documented in Section 40A3.2.

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee Personnel

J. Barnette, Licensing Analyst, Regulatory Affairs
S. Bradley, Manager, Radiation Protection
T. Daskam, Licensing Analyst, Regulatory Affairs
S. Feemster, Operations Training Supervisor – Requalification
R. Flores, Senior Vice President and Chief Nuclear Officer
D. Fuller, Manager, Emergency Preparedness
T. Gilder, Director of Performance Improvement
S. Harvey, Shift Operations Manager
C. Herring, Technical Training Manager
T. Hope, Manager, Nuclear Licensing
C. Lemons, Core Performance Technologist
M. Lucas, Site Vice President
F. Madden, Director, Oversight and Regulatory Affairs
M. Marler, Director, Organizational Effectiveness
A. Martin, Design Engineering
D. McGaughey, Operations Support Manager
G. Merka, Regulatory Affairs
R. Moore, Manager, Chemistry
D. O'Connor, Supervisor, Health Physics
M. Page, Director, Training
B. Patrick, Director, Maintenance
J. Patton, Quality Assurance Manager
B. Reppa, Manager, Systems Engineering & Core Performance
S. Sewell, Director, Operations
S. Smith, Plant Manager
K. Tate, Manager, Security
J. Taylor, Manager, Technical Support
M. Weeks, Core Performance Engineering Manager
T. Weyandt, Quality Assurance Surveillance Supervisor
D. Wilder, Director, Plant Support
L. Windham, Design Engineering
E. Skelton, Operations Training Manager
G. Struble, Operations Training Supervisor - Initial
R. Slough, Licensing Engineer, Regulatory Affairs
E. Syas, Quality Assurance Lead Auditor

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened and Closed

05000445/2011004-01 05000446/2011004-01	NCV	Failure to Maintain Operator Licensing Examination Integrity (Section 1R11.2.b.1)
05000445/2011004-02 05000446/2011004-02	NCV	Failure to Ensure All License Conditions Are Met for Licensed Operators (Section 1R11.2.b.2)
05000445/2011004-03	NCV	Inadequate Supervision Causes Inadvertent Engineered Safety Features Actuation (Section 1R20)

Closed

05000445/2010-003-00	LER	Inadequate Surveillance Test Procedure Resulting in Failure to Meet Technical Specification Requirements (Section 4OA3.1)
05000446/2011-001-00	LER	Inoperability of Emergency Core Cooling System Trains Due to Gas Void (Section 4OA3.2)
05000446/2010-001-00	LER	Loss of XST1 due to Breakers 7030 and 7040 Opening as a Result of a B-Phase to Ground Fault (Section 4OA3.3)
05000445/2010-001-00	LER	Unit 1 Trip due to Pressure Relay Actuation on Main Transformer 01 (Section 4OA3.4)
05000445/2010-003-01	LER	Inadequate Surveillance Test Procedure Resulting in Failure to Meet Technical Specification Requirements (Section 4O31)

LIST OF DOCUMENTS REVIEWED

Section 1R01: Adverse Weather Protection

PROCEDURES

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
OPT-215	Class 1E Electrical Systems Operability	14
Operations Guideline 41	"Hands Off" and Grid Notification	November 29, 2010

Section 1R04: Equipment Alignments

CONDITION REPORTS

2011-007253

WORK ORDERS

3978560

PROCEDURES

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
ETP-110A	Reactive and Power Capacity Load Testing	3

Section 1R05: Fire Protection

PROCEDURES

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
ABN-901	Fire Protection System Alarms or Malfunctions	9
ABN-806B	Response to Fire in the Electrical and Control Building	5

Section 1R11: Licensed Operator Requalification

PROCEDURES

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
NTP-603	Simulator Configuration Management	13
SOMI-10	Simulator Testing Program	17
SAPT-001	Steady State Performance Test	1
SAPT-002	Transient Performance Test	1
SAPT-003	Normal Operations Test	1
SAPT-004	Core Performance Test	2
OMI-009	Simulator Configuration Management	9

PROCEDURES

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
ABN-803A	Response to a Fire in the Control Room or Cable Spreading Room	8
ODA-407	Guideline on Use of Procedures	12
ODA-315	Licensed Operator Maintenance Tracking	5
NTG-104	Nuclear Training Guideline: Implementation	3
NTG-102	Nuclear Training Guideline: Design	3
NTG-102	Nuclear Training Guideline: Design	1
OTDI-07	Requalification Simulator Exercise Conduct	September 23, 2008
STA-419	Management Oversight of Training Programs	10
TRA-204	Licensed Operator Requalification Training	15
OTDI-12	Booth Operator	
TRA-204	Licensed Operator Requalification Training	14
IPO-005A/B	Plant Cooldown from Hot Standby to Cold Shutdown (A-Unit 1, B-Unit 2)	21
IPO-010A/B	Reactor Coolant System Reduced Inventory Operations	20
OTDI-08	Candidates Guide to JPM Evaluations	
OTDI-09	Proctoring Written Exams	
ODA-315	Licensed Operator Maintenance Tracking	5
STA-424	Self-Assessment and Benchmarking Programs	5
STA-106	Nuclear Training Records	11
OTDI-17	LORT Exam Development Process	September 30, 2010

AUDITS, SELF-ASSESSMENTS, AND SURVEILLANCES

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
SA-2008-017	Shift Operations Focused Mini-Observation Blitz – Communications, Procedure Use, Alarm Response	April 13, 2008
SA-2008-032	Initial Licensed Operator Training	September 18, 2008
SA-2009-016	Operations Training Programs	August 27, 2009
SA-2009-037	CPNPP Initial License Operator Training Program	June 18, 2009

MISCELLANEOUS DOCUMENTS

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
	"Current List of Licensees with License Restrictions"	November 18, 2010
	Cycle 10-5 Week 3 Training Schedule	November 8, 2010
	List of Completed Simulator Action Requests (SARs) After 11/01/09	
	List of Open SARs dated November 15, 2010	
JPM AO5407B	In Response to a Fire in the Control Room or Cable Spreading Room, Perform PEO #1 Actions to Achieve Hot Shutdown (AB Actions Only)	November 8, 2010
JPM RO3007C	Transfer the Steam Dump System to the Steam Pressure Mode (Job Aid)	October 19, 2009
JPM RO3610C	Respond to a Loss of CCW Flow (Faulted) (Time Critical)	October 21, 2009
JPM RO3007B	Transfer the Steam Dump System to the Steam Pressure Mode (IPO-003, Att. 14)	October 14, 2009
JPM AO5403	Local Dilution Path Isolation	October 22, 2009
JPM AO5403A	Local Dilution Path Isolation (Faulted)	October 22, 2009
JPM RO3610B	Respond to a Loss of All CCW Flow	October 22, 2009
JPM AO6220	Transfer Control Rods to and from DC Hold Power	
JPM RO1506A	Transfer the Residual Heat Removal System form the Injection Phase to Cold Leg Recirculation Phase (Alternate Path)	
JPM RO7005	Isolate Accumulators	
D0056A	Simulator Evaluation Guide LO49.E10.EE4	November 18, 2010
D00112	Simulator Evaluation Guide LO49.E10.EE4	November 18, 2010
D0066B	Simulator Evaluation Guide LO49.E10.EE5	November 18, 2010
D0045	Simulator Evaluation Guide LO49.E09.ET2	November 18, 2009
D0069B	Simulator Evaluation Guide LO49.E09.EE1	October 28, 2009
Lesson Plan OP41.F09.FP1	ABN-803A, Response to a Fire in the Control Room or Cable Spreading Room	January 18, 2010

MISCELLANEOUS DOCUMENTS

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
Operations Guideline 3	Operations Standards and Expectations	October 21, 2010
NMG-114	Site Verbal Communications	July 18, 2007
	Operations Training Program Review Board Meeting Minutes	May 14, 2009
	Operations Training Program Review Board Meeting Minutes	July 21, 2009
	Operations Training Program Review Board Meeting Minutes	March 18, 2010
	Operations Training Program Review Board Meeting Minutes	October 19, 2010
	Licensed Operator Requal Training Curriculum Review Committee Meeting Minutes, Cycle 09-01	
	Licensed Operator Requal Training Curriculum Review Committee Meeting Minutes, Cycle 09-02	
	Licensed Operator Requal Training Curriculum Review Committee Meeting Minutes, Cycle 09-03	
	Licensed Operator Requal Training Curriculum Review Committee Meeting Minutes, Cycle 09-04	
	Licensed Operator Requal Training Curriculum Review Committee Meeting Minutes, Cycle 09-05	
	Licensed Operator Requal Training Curriculum Review Committee Meeting Minutes, Cycle 09-06	
	Licensed Operator Requal Training Curriculum Review Committee Meeting Minutes, Cycle 10-01, March 1, 2010	
	Licensed Operator Requal Training Curriculum Review Committee Meeting Minutes, Cycle 10-02, May 13, 2010	
	Licensed Operator Requal Training Curriculum Review Committee Meeting Minutes, Cycle 10-03, June 29, 2010	
SMF 2009-5542	Performance Analysis Worksheet, Prepared for PERC Meeting	October 8, 2009
EV-CR-2010- 010851-7	Apparent Cause (High Tier) Report, 2009 Annual Licensed Operator Exam Exceeded 50% Overlap	
	Response for FCV-121 Questions form 09-10 Cycle 71111.11B Inspection	April 18, 2011
	2009 Requalification Annual Operations Exam Overlap Summary	May 26, 2011

CONDITION REPORTS

2008-001451	2008-001804	2008-003912	2008-003913
2009-000028	2009-000139	2009-004455	2009-003369

CONDITION REPORTS

2009-005250	2009-005251	2009-005313	2009-005542
2009-008940	2010-001442	2010-003390	2010-003391
2010-003392	2010-006838	2010-007406	2010-009368
2010-009994	2010-010588	2010-010851	2010-010872
2010-010875	2010-010893	2011-004990	

Section 1R15: Operability Evaluations

CONDITION REPORTS

2011-003319	2009-001399
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Section 1R18: Plant Modifications

CONDITION REPORTS

2010-002533	2011-006195
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WORK ORDERS

4170699

Section 1R19: Postmaintenance Testing

WORK ORDERS

4188049	3802421	3894839	3734995
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PROCEDURES

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
OPT-802B	Appendix J Leak Rate Test of Personnel Airlock Door Seals	4
OPT-801B	Appendix J Leak Rate Test of Personnel Air Lock	4

Section 1R22: Surveillance Testing

WORK ORDERS

4172317	4220373	3858948
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PROCEDURES

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
CLI-768	Calculation of Dose Equivalent I-131	5
COP-103B	Chemical and Volume Control	15

Section 2RS03: In-Plant Airborne Radioactivity Control and Mitigation

PROCEDURES

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
RPI-880	Operation of the Eberline Beta Particulate Monitor (AMS-4)	3
RPI-888	Calibration of Portable Air Sample Equipment	3
RPI-922	Use and Maintenance of Portable HEPA Filter Ventilation Units	5
RPI-923	Operation of NUCON SN-10 Aerosol Generator and F-100-DD Aerosol Detection Apparatus	4
STA-652	Radioactive Material Control	16
STA-659	Respiratory Protection Program	18
TRA-103	Respiratory Protection Training	11

AUDITS, SELF-ASSESSMENTS, AND SURVEILLANCES

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
SA-2010-0003	Respiratory Protection Program	June 14, 2010

CONDITION REPORTS

2010-000539	2010-007044	2010-007706	2010-008184
2010-009015	2010-010962	2010-011406	2011-005421
2011-006525	2011-007708		

Section 4OA3: Event Followup

PROCEDURES

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
OPT-216A	Remote Shutdown Operability Test	12
OPT-216B	Remote Shutdown Operability Test	10

CONDITION REPORTS

2010-006120

DRAWINGS

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
M2-0260	Residual Heat Removal System	CP-21
M2-0261	Safety Injection System Sheet 1 of 6	CP-15
M2-4260	Residual Heat Removal Train A Pump Suction Paths	CP-1

Section 40A5: Other

CALCULATIONS

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
16345-ME(B)-282	Investigation of the Potential for the Formation of Surface Vortices in the RWST During Final Stage of Pumping	1
ME-CA-0232-5426	Chemical Additive Tank Vortex Flow	0
WPT-17262	Luminant Comanche Peak Nuclear Power Plant Units 1 and 2 ECCS Gas Voids Evaluation	10/15/2008
WPT-17487	Luminant Comanche Peak Nuclear Power Plant Units 1 and 2 Gas Void Volume Calc Note	12/09/2010
WCAP-17276-P	Investigation of Simplified Equation for Gas Transport	1

DRAWINGS

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
M1-4232	Containment Spray Train "A" Pump Suction Paths, Sht. 01A	CP-1
M1-4232	Containment Spray Train "A" Pump Discharge Path 1 of 3, Sht. 02A	CP-1
M1-4260	Residual Heat Removal Train "A" Pump Suction Paths, Sht. 01A	CP-1
M1-4260	Residual Heat Removal Train "A" Cold Leg Path, Sht. 02A	CP-1
M1-4260	Residual Heat Removal Train "A" Hot Leg Path, Sht. 03A	CP-1
M1-4261	Centrifugal Charging Pumps ECCS Suction Paths, Sht. 01	CP-1
M1-4261	Centrifugal Charging Pumps ECCS Discharge Paths, Sht. 02	CP-1
M1-4263	Safety Injection Train "A" Pump Suction Paths, Sht. 01A	CP-1
M1-4263	Safety Injection Train "A" Pump Cold Leg Path, Sht. 02A	CP-1
M1-4263	Safety Injection Train "A" Pump Hot Leg Path, Sht. 03A	CP-1
M1-4263	Safety Injection Test Line Path, Sht. 04	CP-1
M2-4232	Containment Spray Train "A" Pump Suction Paths, Sht. 01A	CP-1
M2-4232	Containment Spray Train "A" Pump Discharge Path 1 of 3, Sht. 02A	CP-1
M2-4260	Residual Heat Removal Train "A" Pump Suction Paths, Sht. 01A	CP-1
M2-4260	Residual Heat Removal Train "A" Cold Leg Path, Sht. 02A	CP-1
M2-4260	Residual Heat Removal Train "A" Hot Leg Path, Sht. 03A	CP-1
M2-4261	Centrifugal Charging Pumps ECCS Suction Paths, Sht. 01	CP-1
M2-4261	Centrifugal Charging Pumps ECCS Discharge Paths, Sht. 02	CP-1

DRAWINGS

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
M2-4263	Safety Injection Train "A" Pump Suction Paths, Sht. 01A	CP-1
M2-4263	Safety Injection Train "A" Pump Cold Leg Path, Sht. 02A	CP-1
M2-4263	Safety Injection Train "A" Pump Hot Leg Path, Sht. 03A	CP-1
BRP-SI-1-YD-001A	Safety Injection	3

PROCEDURES

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
STA-421	Initiation of Condition Reports	17
STA-698	Gas Intrusion Program	1
STA-698	Gas Intrusion Program	0
MSM-G0-0205	Maintenance Section – Mechanical Manual	6
OPT-204A	SI System Surveillance Test	14
OPT-521B	ECCS Operability	5
OWI-404	Operations Vent and Drain Guidelines	7
SOP-101A	Reactor Coolant System	17
SOP-102B	Residual Heat Removal System	12
SOP-204A	Containment Spray System	15
SOP-201B	Safety Injection System	8

MISCELLANEOUS DOCUMENTS

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
DBD-ME-232	Containment Spray System	25
DBD-ME-255	Chemical and Volume Control System	31
DBD-ME-260	Residual Heat Removal System	24
DBD-ME-261	Safety Injection System	27
FDA-2008-003459-00	Final Design Authorization – Response and Commitment to NRC GL 2008-01	August 25,2009

CP-200800540	Comanche Peak Steam Electric Station, Docket Nos. 50-445 and 50-446, Nine Month Response to NRC Generic Letter 2008-01, "Managing Gas Accumulation In Emergency Core Cooling , Decay Heat Removal, and Containment Spray Systems"	October 14, 2008
5059SC-2008-3459-02	Unit 2 Pressure Transmitter Installation	3
FDA-2008-3459-07	Design Basis Document Update	0

CONDITION REPORTS

2011-009429	2011-009414	2011-009165	2011-008729
2011-005328	2010-010906	2010-010478	2010-004700
2009-002162	2009-002161	2008-003662	2008-003459
2008-003048	2006-004117	2008-000640	2010-010480

WORK ORDERS

3717890	3718004	3983174	3983273
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