



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

July 24, 2018

Mr. Ken J. Peters, Senior Vice President
and Chief Nuclear Officer
Vistra Operations Company LLC
P.O. Box 1002
Glen Rose, TX 76043

**SUBJECT: COMANCHE PEAK NUCLEAR POWER PLANT – NRC INTEGRATED
INSPECTION REPORT 05000445/2018002 AND 05000446/2018002, AND
INDEPENDENT SPENT FUEL STORAGE INSTALLATION INSPECTION
REPORT 07200074/2018001**

Dear Mr. Peters:

On June 30, 2018, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Comanche Peak Nuclear Power Plant, Units 1 and 2. On July 12, 2018, the NRC inspectors discussed the results of this inspection with Mr. Tom McCool, Site Vice President, and other members of your staff. The results of this inspection are documented in the enclosed report.

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

If you contest the violations or significance of these NCVs, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001; with copies to the Regional Administrator, Region IV; the Director, Office of Enforcement; and the NRC Resident Inspector at the Comanche Peak Nuclear Power Plant.

If you disagree with a cross-cutting aspect assignment in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your disagreement, to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001; with copies to the Regional Administrator, Region IV; and the NRC Resident Inspector at the Comanche Peak Nuclear Power Plant.

This letter, its enclosure, and your response (if any) will be made available for public inspection and copying at <http://www.nrc.gov/reading-rm/adams.html> and at the NRC Public Document Room in accordance with 10 CFR 2.390, "Public Inspections, Exemptions, Requests for Withholding."

Sincerely,

/RA/

Mark S. Haire, Chief
Project Branch A
Division of Reactor Projects

Docket No(s). 50-445, 50-446, and 72-074
License No(s). NPF-87 and NPF-89

Enclosure:

Inspection Report 05000445/2018002,
05000446/2018002 and
07200074/2018001 w/ Attachments

1. Documents Reviewed
2. RFI for Public Radiation Safety
Inspection

**U.S. NUCLEAR REGULATORY COMMISSION
Inspection Report**

Docket Numbers: 05000445, 05000446, and 07200074

License Numbers: NPF-87, NPF-89

Report Numbers: 05000445/2018002, 05000446/2018002, and 07200074/2018001

Enterprise Identifier: I-2018-002-0011 and I-2018-001-0112

Licensee: Vistra Operations Company, LLC

Facility: Comanche Peak Nuclear Power Plant, Units 1 and 2; and Independent Spent Fuel Storage Installation

Location: Glen Rose, Texas

Inspection Dates: April 1, 2018 to June 30, 2018

Inspectors: J. Josey, Senior Resident Inspector
R. Kumana, Resident Inspector
E. Uribe, Acting Resident Inspector
K. Clayton, Senior Operations Engineer
L. Carson II, Senior Health Physicist
N. Greene, PhD, Senior Health Physicist
P. Hernandez, Health Physicist
S. Money, Health Physicist
E. Simpson, CHP, Health Physicist
L. Brookhart, Senior ISFSI inspector

Approved By: Mark S. Haire
Chief, Project Branch A
Division of Reactor Projects

Enclosure

SUMMARY

The U.S. Nuclear Regulatory Commission (NRC) continued monitoring the licensee’s performance by conducting an integrated inspection at Comanche Peak Nuclear Power Plant, Units 1 and 2, in accordance with the Reactor Oversight Process. The Reactor Oversight Process is the NRC’s program for overseeing the safe operation of commercial nuclear power reactors. Refer to <https://www.nrc.gov/reactors/operating/oversight.html> for more information. Findings and violations being considered in the NRC’s assessment are summarized in the table below.

List of Findings and Violations

Failure to Identify and Correct a Condition Adverse to Quality			
Cornerstone	Significance	Cross-cutting Aspect	Report Section
Mitigating Systems	Green NCV 05000445/2018002-01; 05000446/2018002-01 Closed	H.11 – Human Performance, Challenge the Unknown	71152 Problem Identification and Resolution
<p>The inspectors identified a Green, non-cited violation of 10 CFR 50, Appendix B, Criterion XVI, “Corrective Action,” associated with the licensee’s failure to identify and correct a condition adverse to quality associated with unacceptable main steam isolation valve (MSIV) stroke times. Specifically, during stroke time testing of MSIV 2-02 the valve’s stroke time was outside of the acceptance limit and the licensee failed to determine why the stroke time was out of specification and correct the issue prior to declaring the valve operable and placing it in service. The licensee entered this issue into the corrective action program as Condition Report CR-2018-002189.</p>			

Unacceptable Preconditioning of Main Steam Isolation Valves			
Cornerstone	Significance	Cross-cutting Aspect	Report Section
Mitigating Systems	Green NCV 05000445/2018002-02; 05000446/2018002-02 Closed	H.7 – Human Performance, Documentation	71152 Problem Identification and Resolution
<p>The inspectors identified a non-cited violation of 10 CFR Part 50, Appendix B, Criterion XI, “Test Controls,” for the licensee’s unacceptable preconditioning of the Unit 1 main steam isolations valves (MSIV) prior to performing as-found in-service stroke time testing. Specifically, the licensee raised accumulator pressure prior to stroke time testing and this potentially masked an issue with MSIV 1-01. The licensee entered this issue into the corrective action program as Condition Report CR-2018-002405.</p>			

Failure to Incorporate Design Information Into System Test Procedures			
Cornerstone	Significance	Cross-cutting Aspect	Report Section
Mitigating Systems	Green NCV 05000445/2018002-03; 05000446/2018002-03 Closed	None	71152 Problem Identification and Resolution
<p>The inspectors identified a non-cited violation of 10 CFR Part 50, Appendix B, Criterion XI, "Test Controls," for the licensee's failure to ensure that the station's in-service testing program for main steam isolation valves (MSIVs) incorporated the requirements and acceptance limits contained in applicable design documents. Specifically, the licensee's in-service procedures did not direct testing of the valves be performed at the minimum required pressure and this resulted in the licensee's failure to identify two degraded MSIVs during in-service testing. The licensee entered this issue into the corrective action program as Condition Report CR-2018-003229.</p>			

Failure to Follow the Site's Dry Cask Storage Project Foreign Material Exclusion Plan Inside a High Risk FME Zone			
Cornerstone	Significance	Cross-cutting Aspect	Report Section
Other	Severity Level IV NCV 07200074/2018001-01 Closed	Not Applicable	60855.1
<p>The inspectors identified a Severity Level IV, non-cited violation of 10 CFR 72.150, "Instructions, Procedures, and Drawings," for the licensee's failure to establish an foreign material exclusion (FME) monitor and an FME log during certain dry fuel storage evolutions, as required by site procedures. The licensee entered this issue into the corrective action program as Condition Report CR-2018-003509.</p>			

PLANT STATUS

Unit 1 began the inspection period at rated thermal power. On May 5, 2018, the unit was down powered to approximately 70 percent for turbine overspeed testing. The unit was returned to rated thermal power the same day, and remained at or near rated thermal power for the remainder of the inspection period.

Unit 2 began the inspection period at rated thermal power. On May 26, 2018, the unit was down powered to approximately 70 percent for turbine overspeed testing. The unit was returned to rated thermal power the same day, and remained at or near rated thermal power for the remainder of the inspection period.

INSPECTION SCOPES

Inspections were conducted using the appropriate portions of the inspection procedures (IPs) in effect at the beginning of the inspection unless otherwise noted. Currently approved IPs with their attached revision histories are located on the public website at <http://www.nrc.gov/reading-rm/doc-collections/insp-manual/inspection-procedure/index.html>. Samples were declared complete when the IP requirements most appropriate to the inspection activity were met consistent with Inspection Manual Chapter (IMC) 2515, "Light-Water Reactor Inspection Program - Operations Phase." The inspectors performed plant status activities described in IMC 2515 Appendix D, "Plant Status" and conducted routine reviews using IP 71152, "Problem Identification and Resolution." The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel to assess licensee performance and compliance with Commission rules and regulations, license conditions, site procedures, and standards.

REACTOR SAFETY

71111.01—Adverse Weather Protection

Summer Readiness (1 Sample)

The inspectors evaluated summer readiness of offsite and alternate alternating current power systems.

External Flooding (1 Sample)

The inspectors evaluated readiness to cope with external flooding, on April 25, 2018.

71111.04—Equipment Alignment

Partial Walkdown (3 Samples)

The inspectors evaluated system configurations during partial walkdowns of the following systems/trains:

- (1) Unit 2 safety chilled water system on, May 1, 2018
- (2) Units 1 and 2 transformer XST1, on May 22, 2018
- (3) Unit 1 containment isolation system on June 26, 2018

71111.05AQ—Fire Protection Annual/Quarterly

Quarterly Inspection (5 Samples)

The inspectors evaluated fire protection program implementation in the following selected areas:

- (1) fire zone EC48 and EH55, Unit 2 battery rooms, on April 20, 2018
- (2) fire zone AB24, Unit 1 centrifugal charging pump 1-01, on June 18, 2018
- (3) fire zone AC29, Unit 2 centrifugal charging pump 2-01, on June 18, 2018
- (4) fire zone AA21B, Unit 1 charging valve room, on June 25, 2018
- (5) fire zone AA21B, Unit 2 charging valve room, on June 25, 2018

71111.11—Licensed Operator Requalification Program and Licensed Operator Performance

Operator Requalification (1 Sample)

The inspectors observed and evaluated a crew during an evaluated simulator scenario, on May 31, 2018.

Operator Performance (1 Sample)

The inspectors observed and evaluated unit 1 control room operators during manual steam generator level control, on May 2, 2018.

Operator Exams (1 Sample)

The inspectors reviewed and evaluated requalification examination results, on April 30, 2018.

71111.12—Maintenance Effectiveness

Routine Maintenance Effectiveness (2 Samples)

The inspectors evaluated the effectiveness of routine maintenance activities associated with the following equipment and/or safety significant functions:

- (1) chemical and volume control system performance, on April 26, 2018
- (2) safety related check valve performance, on May 24, 2018

71111.13—Maintenance Risk Assessments and Emergent Work Control (6 Samples)

The inspectors evaluated the risk assessments for the following planned and emergent work activities:

- (1) Units 1 and 2 rigging and lifting over the service water intake structure, on April 10, 2018
- (2) Unit 2 failure of safety chiller 2-06, on May 1, 2018
- (3) Unit 1 component cooling water leak, on May 13, 2018
- (4) Unit 1 control room air conditioning unit X-02 out of service, on May 15, 2018
- (5) Units 1 and 2 maintenance on transformer XST2, on May 23, 2018
- (6) Unit 1 turbine driven auxiliary feedwater pump flow control valve work, on June 4, 2018

71111.15—Operability Determinations and Functionality Assessments (6 Samples)

The inspectors evaluated the following operability determinations and functionality assessments:

- (1) Unit 1 incorrect configuration on safety related card, on April 10, 2018
- (2) Unit 1 environmental qualification analyses issues due to incorrect component cooling water flows, on April 12, 2018
- (3) Units 1 and 2 incorrect grease used in safety related fan coolers, on April 27, 2018
- (4) Units 1 and 2 incorrect temperature used to calculate hydrogen off-gassing in battery rooms, on May 1, 2018
- (5) Unit 1 failure of hot shutdown panel control switch, on May 15, 2018
- (6) Units 1 and 2 incomplete ASME code required testing on component cooling water pumps, on June 28, 2018

71111.19—Post Maintenance Testing (4 Samples)

The inspectors evaluated the following post maintenance tests:

- (1) Unit 2 circuit breaker 2EA1-2 testing following maintenance, on April 17, 2018
- (2) Unit 1 turbine driven auxiliary feedwater pump governor testing following maintenance, on April 19, 2018
- (3) Unit 2 safety chiller 2-06 testing following repair of purge unit, on May 2, 2018
- (4) Unit 2 containment spray valve 2-LV-4755-MO following maintenance, on May 9, 2018

71111.22—Surveillance Testing

The inspectors evaluated the following surveillance tests:

Routine (3 Samples)

- (1) Unit 2, OPT-471B train A safeguard aux relay 2-AFWX/0615B actuation test, on April 12, 2018
- (2) Unit 2, OPT-206B auxiliary feedwater pump operability test, on April 17, 2018
- (3) Unit 2, OPT-442B reactor trip breaker test, on April 23, 2018

In-service (1 Sample)

- (1) Unit 2, OPT-218B, containment spray valve 2-LV-4755, on May 9, 2018

71114.06—Drill Evaluation

Drill/Training Evolution (1 Sample)

The inspectors evaluated an emergency preparedness drill, on April 4, 2018.

RADIATION SAFETY

71124.05—Radiation Monitoring Instrumentation

Walk Downs and Observations (1 Sample)

The inspectors evaluated radiation monitoring instrumentation during plant walkdowns.

Calibration and Testing Program (1 Sample)

The inspectors evaluated the licensee's calibration and testing program.

71124.06—Radioactive Gaseous and Liquid Effluent Treatment

Walk Downs and Observations (1 Sample)

The inspectors evaluated the licensee's radioactive gaseous and liquid effluent treatment systems during plant walkdowns.

Calibration and Testing Program (Process and Effluent Monitors) (1 Sample)

The inspectors evaluated the licensee's gaseous and liquid effluent monitor instrument calibration and testing.

Sampling and Analyses (1 Sample)

The inspectors evaluated radioactive effluent sampling and analysis activities.

Instrumentation and Equipment (1 Sample)

The inspectors evaluated radioactive effluent instrumentation and equipment.

Dose Calculations (1 Sample)

The inspectors evaluated dose calculations.

71124.07—Radiological Environmental Monitoring Program

Site Inspection (1 Sample)

The inspectors evaluated the licensee's radiological environmental monitoring program.

Groundwater Protection Initiative Implementation (1 Sample)

The inspectors evaluated the licensee's groundwater monitoring program.

71124.08—Radioactive Solid Waste Processing and Radioactive Material Handling, Storage, and Transportation

Radioactive Material Storage (1 Sample)

The inspectors evaluated the licensee's radioactive material storage.

Radioactive Waste System Walk-down (1 Sample)

The inspectors evaluated the licensee's radioactive waste processing facility during plant walkdowns.

Waste Characterization and Classification (1 Sample)

The inspectors evaluated the licensee's radioactive waste characterization and classification.

Shipment Preparations (1 Sample)

The inspectors evaluated the licensee's radioactive material shipment preparation processes.

Shipment Records (1 Sample)

The inspectors evaluated the licensee's non-excepted package shipment records.

OTHER ACTIVITIES – BASELINE

71151—Performance Indicator Verification (6 Samples)

The inspectors verified licensee performance indicators submittals listed below:

- (1) MS05: Units 1 and 2, Safety System Functional Failures (SSFFs) Sample (04/01/2017–03/31/2018)
- (2) BI01: Units 1 and 2, Reactor Coolant System (RCS) Specific Activity Sample (04/01/2017–03/31/2018)
- (3) BI02: Units 1 and 2, RCS Leak Rate Sample (04/01/2017–03/31/2018)

71152—Problem Identification and Resolution

Semiannual Trend Review (1 Sample)

The inspectors reviewed the licensee's corrective action program for trends that might be indicative of a more significant safety issue.

Annual Follow-up of Selected Issues (1 Sample)

The inspectors reviewed the licensee's implementation of its corrective action program related to the following issues:

- (1) Main steam isolation valve test failures

OTHER ACTIVITIES – TEMPORARY INSTRUCTIONS, INFREQUENT AND ABNORMAL

60855.1—Operation of an Independent Spent Fuel Storage Installation

The inspectors evaluated the licensee's operation of the Independent Spent Fuel Storage Installation (ISFSI) from May 14-18, 2018, on-site at the Comanche Peak Nuclear Power Plant (CPNPP) and conducted an in-office review of additional documentation, including quality assurance (QA) audit reports, condition reports, and documents related to the licensee's maintenance of their cask handling crane.

The CPNPP ISFSI is a 26,724 sq. ft. (102 ft. by 262 ft.) expanse of concrete designed to store up to 84 Holtec International HI-STORM 100S Version B casks. The ISFSI contained a total of 34 HI-STORM overpacks loaded with MPC-32 canisters at the time of the routine NRC inspection. CPNPP was currently loading canisters in accordance with Holtec Certificate of Compliance 1014, Amendment 7, and Final Safety Analysis Report (FSAR), Revision 9. By the end of the loading campaign, the licensee is expected to have 36 loaded casks on the ISFSI pad.

The ISFSI activities specifically reviewed during the on-site inspection and the subsequent in-office review included:

- (1) Evaluated and observed fuel selection and fuel loading operations associated with canister #35.
- (2) Evaluated and observed welding of the canister, non-destructive testing of the welds, pressure testing, drying, backfill, heavy load movements out of the spent fuel pool, stack-up, downloading, and transportation of the canister to the ISFSI pad.
- (3) Reviewed the licensee's loading, processing, and heavy load procedures associated with its current dry fuel storage campaign.
- (4) Reviewed licensee's corrective action program implementation for ISFSI operations since the last routine ISFSI inspection, which was completed in November 2016.
- (5) Reviewed QA program implementation, including recent QA audits, surveillances, and quality control activities.
- (6) Reviewed documentation related to Technical Specification (TS) required operational surveillance activities and FSAR required annual maintenance activities.
- (7) Reviewed the licensee's radiological monitoring data for the calendar years 2016, 2017, and 2018.

- (8) Reviewed spent fuel documentation for the canisters loaded since the last routine ISFSI inspection to confirm the fuel met all TS requirements for storage and transportation (canisters 30–35).
- (9) Reviewed annual maintenance activities for heavy lifting components, which included special lifting devices and the site’s cask handling crane.
- (10) Reviewed all 72.48 safety evaluations/screenings for changes made to the licensee’s ISFSI operations in accordance with Inspection Procedure 60857 since the last routine ISFSI inspection.
- (11) Reviewed changes made to the licensee’s 72.212 Report from Revision 9 to Revision 10.

INSPECTION RESULTS

Failure to Identify and Correct a Condition Adverse to Quality			
Cornerstone	Significance	Cross-cutting Aspect	Report Section
Mitigating Systems	Green NCV 05000445/2018002-01; 05000446/2018002-01 Closed	H.11 – Human Performance, Challenge the Unknown	71152 Problem Identification and Resolution
<p>The inspectors identified a Green, non-cited violation of 10 CFR 50, Appendix B, Criterion XVI, “Corrective Action,” associated with the licensee’s failure to identify and correct a condition adverse to quality associated with unacceptable main steam isolation valve (MSIV) stroke times. Specifically, during stroke time testing of MSIV 2-02, the valve’s stroke time was outside of the acceptance limit, and the licensee failed to determine why the stroke time was out of specification and correct the issue prior to declaring the valve operable and placing it in service.</p>			
<p><u>Description:</u> While reviewing work and testing history for MSIVs, inspectors reviewed CR-2017-005973. This condition report was written to document the need for a preconditioning evaluation. Specifically, operators wrote that during stroke time testing of the Unit 2 MSIVs in accordance with station Procedure OPT-509B, “MSIV Testing,” all nitrogen accumulator pressures were out of specification low before testing resulting in unsatisfactory data on all MSIVs. Additionally, the licensee’s staff documented that MSIV 2-02 had an unsatisfactory stroke time test of 5.08 seconds (acceptance criteria of less than or equal to 5 seconds). Operations personnel had raised accumulator pressures and re-performed stroke time testing and MSIV 2-02 passed with a time of 4.46 seconds. Operations personnel subsequently determined that only MSIV 2-02 required evaluation because all other valves had passed prior to raising pressure.</p>			
<p>Station engineering determined that raising the pressure from 1930 psig to 2140 psig in the accumulator for MSIV 2-02 was unacceptable preconditioning and the subsequent stroke time testing was not valid. Engineering subsequently determined that since the actuator for MSIV 2-02 was replaced with a rebuilt spare actuator during refueling outage 2RF16 that maintenance had caused the change in stroke time and the corrective action for this was to adjust the flow control valve setting for the actuator which would reduce stroke time.</p>			

Inspectors determined that the MSIV function is to close in less than or equal to 5 seconds to terminate steam flow from unaffected steam generators during a steam line break. In order to generate the force necessary to shut the valves in the specified time, the installed nitrogen accumulators require nitrogen pressure to be a minimum of 1839 psig. Inspectors noted that the initial stroke performed on MSIV 2-02 occurred with an accumulator pressure of 1930 psig and the stroke time of 5.08 seconds. Operators then raised pressure to 2140 psig and the valve stroked in 4.46 seconds and following adjustment of the flow control the licensee had stroked MSIV 2-02 twice more and valve stroke times did not improve (4.54 and 4.46 seconds).

Based on this, inspectors questioned the operability of MSIV 2-02 and engineering's determination of maintenance being the cause of the slow stroke time. Specifically, the actuator had been rebuilt and tested by a vendor, the site had not performed any maintenance on the actuator, and the flow control valve adjustment had not changed stroke speed. Inspectors informed the licensee of their concerns and the licensee initiated Condition Report CR-2018-002189 to address these concerns.

The licensee subsequently determined that MSIV 2-02 would most likely not close in the required time with accumulator pressure at 1839 psig and performed an operability evaluation which determined that the valve was operable but degraded, and required accumulator pressure be maintained by procedure at 1962 psig or above. The licensee also determined that the causes of the slow stroke time were (1) that the valve actuator had been setup using an accumulator pressure greater than 1839 psig, and (2) vendor and site post work testing procedures were inadequate to detect the improper setup.

During extent of condition reviews the licensee determined that MSIV 1-01 also would not close in the required time at 1839 psig. The licensee performed an operability evaluation which determined that the valve was operable but degraded and required accumulator pressure be maintained by procedure at 1997 psig or above.

Corrective Action(s): The licensee performed an operability determination that established a reasonable expectation of operability for the two MSIVs pending development of additional corrective actions. While the licensee continues to assess how to correct the condition that caused the valves to be unable to meet the stroke time requirement, the licensee has implemented acceptable compensatory measures to assure the valves remain operable.

Corrective Action Reference(s): CR-2018-002189

Performance Assessment:

Performance Deficiency: The licensee's failure to identify and correct a condition adverse to quality was a performance deficiency.

Screening: The inspectors determined the performance deficiency was more than minor because it adversely affected the equipment performance attribute of the Mitigating Systems cornerstone and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the failure to identify and correct the cause of the slow stroke time resulted in unidentified degraded equipment being placed in service.

Significance: The inspectors assessed the significance of the finding using Inspection Manual Chapter 0609, Attachment 04, "Initial Characterization of Findings," dated October 7, 2016, and Inspection Manual Chapter 0609, Appendix A, "Significance Determination Process for Findings At-Power," Exhibit 2, "Mitigating Systems Screening Questions," and determined the finding was of very low safety significance (Green) because: (1) it was not a design deficiency; (2) it did not represent a loss of system and/or function; (3) it did not represent an actual loss of function of at least a single train for longer than its technical specification allowed outage time; and (4) it did not result in the loss of a high safety significant non-technical specification train.

Cross-cutting Aspect: The finding has a cross-cutting aspect in the area of human performance, challenge the unknown, because the licensee did not stop when faced with uncertain conditions following the failed stroke time test of MSIV 2-02 [H.11].

Enforcement:

Violation: Title 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," requires, in part, measures shall be established to assure that conditions adverse to quality, such as failures, malfunctions, deficiencies, deviations, defective material and equipment, and nonconformance's are promptly identified and corrected.

Contrary to the above, from May 23, 2017 through present, the licensee failed to promptly identify and correct a condition adverse to quality associated with improper stroke time of MSIV 2-02. Specifically, during stroke time testing of MSIV 2-02, the valve's stroke time was outside of the acceptance limit, and the licensee failed to determine why the stroke time was out of specification and correct the issue prior to declaring the valve operable and placing it in service.

Disposition: This violation is being treated as a Non-Cited Violation, consistent with Section 2.3.2 of the Enforcement Policy.

Unacceptable Preconditioning of Main Steam Isolation Valves

Cornerstone	Significance	Cross-cutting Aspect	Report Section
Mitigating Systems	Green NCV 05000445/2018002-02; 05000446/2018002-02 Closed	H.7 – Human Performance, Documentation	71152 Problem Identification and Resolution

The inspectors identified a non-cited violation of 10 CFR Part 50, Appendix B, Criterion XI, "Test Controls," for the licensee's unacceptable preconditioning of the Unit 1 main steam isolations valves (MSIV) prior to performing as-found in-service stroke time testing. Specifically, the licensee raised accumulator pressure prior to stroke time testing and this masked an issue with MSIV 1-01.

Description: During their review of information described in NCV 05000445/2018002-01; 5000446/2018002-01 (above), inspectors noted that the licensee had performed a procedure change that would allow for preconditioning of MSIVs. Specifically, Condition Report CR-2017-005973 was written to document the need for a preconditioning evaluation because operators had thought that during stroke time testing of the Unit 2 MSIVs per station Procedure OPT-509B, "MSIV Testing," all nitrogen accumulator pressures were low out of specification. This condition report closed an action to CR-2017-006304, which changed

Procedure OPT-509B, "MSIV Testing," and added a prerequisite step to charge the valves accumulators in accordance with procedure MSM-C0-6856, "MSIV Accumulator Hemisphere Charging," prior to testing. Inspectors also noted that the licensee had used this revised procedure when stroke time testing the Unit 1 MSIVs on November 10, 2017.

Inspectors reviewed procedure MSM-C0-6856 and determined that, regardless of as found pressure, this procedure directed the accumulators be charged to the high end of the log limit (approximately 2140 psig). Inspectors noted that MSIV function is to close in less than or equal to 5 seconds to terminate steam flow from unaffected steam generators during a steam line break, and in order to generate the force necessary to shut the valves in the specified time the installed nitrogen accumulators require nitrogen pressure to be a minimum of 1839 psig.

Inspectors questioned whether this procedure change to charge the accumulators before testing constituted unacceptable preconditioning. Inspectors reviewed Inspection Manual Technical Guidance Part 9900, "Maintenance - Preconditioning of Structures, Systems, and Components Before Determining Operability," and noted that this defines preconditioning, in part, as:

"The alteration, variation, manipulation, or adjustment of physical condition of an SSC [structure, system, or component] before or during Technical Specification surveillance or ASME code testing."

The technical guidance also defines unacceptable preconditioning, in part, as:

"The alteration, variation, manipulation, or adjustment of physical condition of an SSC before or during Technical Specification surveillance or ASME code testing that will alter one or more of an SSC's operational parameters, which results in acceptable test results. Such changes could mask the actual as-found condition of the SSC and possibly result in an inability to verify the operability of the SSC. In addition, unacceptable preconditioning could make it difficult to determine whether the SSC would perform its intended function during an event in which the SSC might be needed."

Technical Guidance Part 9900 further describes that some types of preconditioning may be considered acceptable, but that, "this preconditioning should have been evaluated and documented in advance of the surveillance."

Inspectors informed the licensee of their concerns and the licensee initiated Condition Report CR-2018-002405 to capture this concern in the station's corrective action program. During discussion, inspectors determined that the licensee had not evaluated the procedure change for the potential to precondition the MSIVs. Instead the licensee was focused on ensuring that the accumulators pressures were within log limits prior to testing because that was the pressure band at which they were normally operated. Inspectors questioned this logic because increasing pressure would result in the valve stroking faster. During conversations with the actuator vendor, the licensee discovered that raising pressure in the accumulator did in fact affect stroke time. Specifically, the vendor informed the licensee that a 300 psig increase resulted in an approximate speed increase of 0.15 seconds.

Based on this information, the inspectors determined that the licensee's procedure change would unacceptably precondition the MSIVs. Specifically, raising accumulator pressure could help the valves pass in-service testing while masking degraded conditions that would prevent the valves from performing their intended function during an event.

During extent of condition reviews for NCV 05000445/2018002-01; 5000446/2018002-01 the licensee determined that MSIV 1-01 would not close in the required time at 1839 psig. The licensee performed an operability evaluation which determined that the valve was operable but degraded and required accumulator pressure be maintained by procedure at 1997 psig or above.

Corrective Action(s): The licensee performed an operability determination that established a reasonable expectation of operability pending development of additional corrective actions.

Corrective Action Reference(s): CR-2018-002189; CR-2018-002405

Performance Assessment:

Performance Deficiency: The licensee's unacceptable preconditioning of the Unit 1 main steam isolation valves was a performance deficiency.

Screening: The inspectors determined the performance deficiency was more than minor because it adversely affected the equipment performance attribute of the Mitigating Systems cornerstone and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the licensee raised accumulator pressure prior to stroke time testing, which potentially masked a degraded condition with MSIV 1-01.

Significance: The inspectors assessed the significance of the finding using Inspection Manual Chapter 0609, Attachment 04, "Initial Characterization of Findings," dated October 7, 2016, and Inspection Manual Chapter 0609, Appendix A, "Significance Determination Process for Findings At-Power," Exhibit 2, "Mitigating Systems Screening Questions," and determined the finding was of very low safety significance (Green) because: (1) it was not a design deficiency; (2) it did not represent a loss of system and/or function; (3) it did not represent an actual loss of function of at least a single train for longer than its technical specification allowed outage time; and (4) it did not result in the loss of a high safety significant non-technical specification train.

Cross-cutting Aspect: The finding has a cross-cutting aspect in the area of human performance, documentation, because the licensee failed to maintain accurate documentation for MSIV in-service testing which contributed to the performance deficiency [H.7].

Enforcement:

Violation: Title 10 CFR Part 50, Appendix B, Criterion XI, "Test Control," requires, in part, that a test program shall be established to assure that all testing required to demonstrate components will perform satisfactorily in service is identified and performed in accordance with written procedures which incorporate the requirements and acceptance limits contained in applicable design documents.

Contrary to the above, on November 10, 2017, the licensee failed to establish a test program to assure that all testing required to demonstrate components will perform satisfactorily in

service is identified and performed in accordance with written procedures which incorporate the requirements and acceptance limits contained in applicable design documents. Specifically, the licensee unacceptably preconditioned the Unit 1 main steam isolation valves prior to conducting as-found in-service stroke time testing.

Disposition: This violation is being treated as a Non-Cited Violation, consistent with Section 2.3.2 of the Enforcement Policy.

Failure to Incorporate Design Information Into System Test Procedures			
Cornerstone	Significance	Cross-cutting Aspect	Report Section
Mitigating Systems	Green NCV 05000445/2018002-03; 05000446/2018002-03 Closed	Not assigned	71152 Problem Identification and Resolution
<p>The inspectors identified a non-cited violation of 10 CFR Part 50, Appendix B, Criterion XI, "Test Controls," for the licensee's failure to ensure that the station's in-service testing program for MSIVs incorporated the requirements and acceptance limits contained in applicable design documents. Specifically, the licensee's in-service procedures did not direct testing of the valves be performed at the minimum required pressure, and this resulted in the licensee's failure to identify two degraded MSIVs during in-service testing.</p>			
<p>Description: During their review of information described in NCVs 05000445/2018002-01; 5000446/2018002-01 and 05000445/2018002-02; 5000446/2018002-02, inspectors noted that the licensee had failed to incorporate all relevant design information into the MSIV in-service testing program. Specifically, the licensee's in-service test program only contained a timing requirement for the MSIVs (less than or equal to 5 seconds to close) but did not specify a corresponding pressure requirement for this closing time.</p> <p>Inspectors had determined that the MSIV function is to close in less than or equal to 5 seconds to terminate steam flow from unaffected steam generators during a steam line break. In order to generate the force necessary to shut the valves in the specified time the installed nitrogen accumulators require nitrogen pressure to be a minimum of 1839 psig, and raising accumulators above the minimum required pressure resulted in faster closing time of the valves. Raising pressure in the accumulator 300 psig increases stroke speed by approximately 0.15 seconds. However, the licensee was not stroke time testing the valves at the minimum pressure, nor did they establish a correlation for pressure versus stroke time for the pressures the valves were tested.</p> <p>The inspectors determined that the inadequate in-service testing procedures resulted in the licensee's failure to identify degraded conditions with MSIVs 1-01 and 2-02 (discussed in NCVs 05000445/2018002-01; 5000446/2018002-01 and 05000445/2018002-02; 5000446/2018002-02).</p> <p>Inspectors informed the licensee of their concerns and the licensee initiated Condition Report CR-2018-003229. Through discussions with the licensee inspectors determined that in 2000 testing requirements were changed and the requirements to test the valves at 1839 psig was</p>			

removed. The licensee determined that the change to the testing methodology was a result of the vendor changing their test procedures for how they tested the actuators.

Corrective Action(s): The licensee performed operability determinations that established a reasonable expectation of operability for the MSIVs pending development of additional corrective actions.

Corrective Action Reference(s): CR-2018-003229

Performance Assessment:

Performance Deficiency: The licensee's failure to ensure that the station's in-service testing program for MSIVs incorporated the requirements and acceptance limits contained in applicable design documents was a performance deficiency.

Screening: The inspectors determined the performance deficiency was more than minor because it adversely affected the equipment performance attribute of the Mitigating Systems cornerstone and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the licensee's failure to incorporate requirements for the MSIVs to be tested at the minimum required pressure resulted in the failure to identify two degraded MSIVs during in-service testing.

Significance: The inspectors assessed the significance of the finding using Inspection Manual Chapter 0609, Attachment 04, "Initial Characterization of Findings," dated October 7, 2016, and Inspection Manual Chapter 0609, Appendix A, "Significance Determination Process for Findings At-Power," Exhibit 2, "Mitigating Systems Screening Questions," and determined the finding was of very low safety significance (Green) because: (1) it was not a design deficiency; (2) it did not represent a loss of system and/or function; (3) it did not represent an actual loss of function of at least a single train for longer than its technical specification allowed outage time; and (4) it did not result in the loss of a high safety significant non-technical specification train.

Cross-cutting Aspect: The finding was not assigned a cross-cutting aspect because the finding was not indicative of present performance.

Enforcement:

Violation: Title 10 CFR Part 50, Appendix B, Criterion XI, "Test Control," requires, in part, that a test program shall be established to assure that all testing required to demonstrate components will perform satisfactorily in service is identified and performed in accordance with written procedures which incorporate the requirements and acceptance limits contained in applicable design documents.

Contrary to the above, from 2000 until present, the licensee failed to establish a test program to assure that all testing required to demonstrate components will perform satisfactorily in service is identified and performed in accordance with written procedures, which incorporate the requirements, and acceptance limits contained in applicable design documents. Specifically, the licensee failed to ensure that the station's in-service testing program for MSIVs incorporated the requirements and acceptance limits contained in applicable design documents

Disposition: This violation is being treated as a Non-Cited Violation, consistent with Section 2.3.2 of the Enforcement Policy.

Failure to Follow the Site's Dry Cask Storage Project Foreign Material Exclusion Plan Inside a High Risk FME Zone

Cornerstone	Significance	Cross-cutting Aspect	Report Section
Other	Severity Level IV NCV 07200074/2018001-01 Closed	Not Applicable	60855.1

The inspectors identified a Severity Level IV, non-cited violation (NCV) of 10 CFR 72.150, "Instructions, Procedures, and Drawings," for the licensee's failure to establish an foreign material exclusion (FME) monitor and an FME log during certain dry fuel storage evolutions, as required by site procedures.

Description: On May 15, 2018, the licensee's contract group for dry fuel storage (DFS) operations, Holtec International, was in the process of performing a crane lift for moving a HI-TRAC transfer cask containing a loaded MPC-32 canister from the Unit-1/2 spent fuel pool (SFP) to the dry cask pit location for decontamination and MPC lid-to-shell welding. This cask movement is described in the Comanche Peak Nuclear Power Plant (CPNPP) Dry Cask Storage Procedure Manual as an FME High Risk Activity. Section 4.6.3 of the licensee's Dry Cask Storage Project FME Plan (FME Plan) states that "once [the High Risk FME zone is] established, a trained FME monitor... will be required to control logging and inspecting of any material or tools before it is allowed to be taken [into] an FME Zone." The inspectors noted High Risk FME Zone signage on an area platform a few levels above the location of the dry cask pit. However, once the HI-TRAC/MPC was set down in the dry cask pit, welders were observed entering and exiting the High Risk FME Zone without the presence of a FME monitor. When questioned by the NRC inspector, the welders were not knowledgeable of the FME exclusion zone requirements, the requirement for an FME monitor, or the location the FME log.

The NRC inspectors also noted a general absence of licensee presence to provide contractor oversight during key DFS loading operations. The NRC inspectors attributed the lack of site procedure adherence to the site's FME Plan to the licensee's poor oversight during DFS activities. The CPNPP Dry Cask Storage Project FME Plan is a licensee procedure. The contractors should have been adequately trained on the site's FME Plan and been compliant with the site's procedures. The NRC inspectors identified the contractor's non-compliance with site procedures on the sixth canister of a seven canister campaign. It was identified that both the welding contractors and the Holtec loading contractors were unaware of the site's FME Plan procedural requirements.

Corrective Action(s): The licensee assigned an individual to the role of FME monitor and established a current FME log as required by site procedures. The condition was entered into the licensee's corrective action program.

Corrective Action Reference(s): CR-2018-003509

Performance Assessment:

Not applicable to traditional enforcement findings.

Enforcement:

Severity: Dry fuel storage operations are governed by the regulations of 10 CFR 72. Part 72 regulations are dispositioned using traditional enforcement. This violation was more than minor because the non-compliance, if allowed to continue, could have created the potential for a more than minor safety consequence if left uncorrected.

Violation: 10 CFR 72.150, "Instructions, Procedures, and Drawings," states, in part, that activities affecting quality shall be prescribed by documented procedures and shall be accomplished in accordance with these procedures. Procedures shall include appropriate quantitative or qualitative acceptance criteria for determining that important activities have been accomplished.

Comanche Peak Procedure DCS-100, Dry Fuel Storage Campaign Guidelines, Attachment 10.1.8, "Dry Cask Storage Project FME Plan," established that movement of a loaded HI-TRAC to the dry cask pit and MPC lid-to-shell welding while in the dry cask pit were FME High Risk Activities. Further the FME Plan stated that "the fuel building High Risk FME Zone for Dry Cask Operations and the dedicated FME monitor will be established just prior [to] commencing fuel building [dry cask storage] operations and will remain in effect until placement of the HI-STORM overpack lid is made on the last loaded MPC of the campaign following stackup and all FME logs have been balanced."

Contrary to the above requirements, on May 15, 2018, the licensee failed to accomplish activities affecting quality in accordance with licensee procedure DCS-100. Specifically, the position of FME monitor was not staffed during FME High Risk Activities, as required by the site FME Plan. Further, when questioned, the licensee could not produce any quantitative or qualitative evidence that the contractors followed the site's FME Plan during the FME high risk activities for the five previously loaded MPCs dating back to the beginning of the DFS campaign in early April 2018.

Disposition: Because this violation was not repetitive or willful, and was entered into the licensee's corrective action program as CR-2018-003509, this violation is being treated as a Non-Cited Violation (NCV), consistent with Section 2.3.2 of the Enforcement Policy.

Observation	Report Section 71152
<p>NCV 05000445/2017003-02; 05000446/2017003-02, Programmatic Failures to Control Transient Combustible Material in Accordance with a Fire Protection Procedure, documents programmatic failures by the licensee to implement controls of transient combustible materials. Inspectors reviewed the licensee's program to date to determine what corrective actions were implemented and if these actions were correcting the issue. Inspectors determined that the licensee's actions were not having the desired effect. Specifically, inspectors identified multiple minor examples where transient combustibles were being stored in Group B storage areas without proper controls. This was determined to be due to lack of station supervision engagement with regard to procedural compliance. Inspectors determined that initially station management focused heavily on transient combustible</p>	

controls but over time this focus shifted to other areas, and as a result, station compliance with transient combustible controls degraded. Inspectors shared their observations with the licensee who in turn implemented new actions to address the identified program shortcomings.

EXIT MEETINGS AND DEBRIEFS

The inspectors verified no proprietary information was retained or documented in this report.

On April 30, 2018, the inspectors presented the annual requalification inspection results to Mr. J. Ruby, Requalification Exam Lead, and other members of the licensee staff.

On May 11, 2018, the inspectors presented the occupational radiation protection inspection results to Mr. S. Sewell, Senior Director, Engineering & Regulatory Affairs, and other members of the licensee staff.

On May 17, 2018, the inspectors presented the routine ISFSI inspection results to Mr. K. Peters, Vice President and Chief Nuclear Officer, and other members of the licensee staff.

On July 12, 2018, the inspectors presented the quarterly resident inspector inspection results to Mr. T. McCool, Site Vice President, and other members of the licensee staff.

DOCUMENTS REVIEWED

71124.05—Radiation Monitoring Instrumentation

Procedures Number	Title	Revision
CHM-104	Quality Assurance and Quality Control	22
CLI-782	APEX Gamma Spectroscopy Counting System	02
ICI-4995X	Channel Calibration Plant Vent Stack Gas Channels: X-RE-5567A and X-RE-5567B	06
INC-2047	DRMS Calibration Reference Activities	03
INC-4915X	Channel Calibration Auxiliary Building Vent Duct Exhaust Gas Process Radiation Monitor – Channel X-RE-5701	02
INC-7096	Channel Operational Test and Channel Calibration Containment Particulate, Iodine, and Gas – Channels: 1-RE-5502/5503/5566 and 2-RE-5502/5503/5566	05
INC-7099X	GPRM Channel Operational Test and Channel Calibration Control Room Vent Intake – South Channel X-RE-5896B or North Channel X-RE-5895A	04
RPI-508	Calibration of the Stand Up Whole Body Counter	14
RPI-534	Calibration of Electronic Personal Dosimeters and Pocket Ion Chambers	13
RPI-800	Control of Radiation Protection Equipment	17
RPI-802	Performance of Source Checks	26
STA-608	Control of Measurement and Test Equipment	22
STA-658	Radiation Protection Equipment Calibration Program	12
Audits and Self-Assessments Number	Title	Date
Eval-2015-007	Radwaste/Effluents/Environmental/Chemistry Audit	October 16, 2015
Eval-2017-008	Work Management / Radiation Protection	July 13, 2017
Condition Reports (CRs)		
CR-2016-002470	CR-2016-002705	CR-2016-005393
		CR-2017-002591

CR-2017-006448	CR-2017-006550	CR-2017-009734	CR-2018-000364
CR-2018-000413	CR-2018-001360	CR-2018-003382	TR-2016-007173
TR-2016-010988	TR-2017-006548	TR-2017-012052	TR-2018-000170

Installed Radiation
Instrument Calibration
Records

Work Number	Title	Date
5063233	Control Room Ventilation North Intake Radiation Monitor – X-RUK-5895B	February 28, 2018
5063238	Liquid Waste Processing Discharge Radiation Monitor – X-RUK-5253	April 19, 2018
5066857	North Vent Stack Discharge Gas Radiation Detector – X-REK-5567B	January 27, 2017
5181545	Unit 2 Containment EL 905 High Range Area Monitor – 2-RE-6290A	April 25, 2017
5237586	Unit 1 Containment Air Particulate/Iodine/Gas Radiation Monitor – 1-REK-5502/03/66	August 11, 2017
5551744	Main Steam Line Radiation Detector – 2-RE-2326	March 6, 2018

Portable Radiation
Instrument Calibration
Records

Records Number	Title	Date
618	Eberline ASP-1 (Remball)	May 24, 2017
1118	Ludlum Model 177	December 7, 2017
1119	Ludlum Model 177	December 7, 2017
4111	Thermo RO-20AA	January 9, 2018
1906	TelePole	March 1, 2018
3163	Eberline Model RO-7	March 17, 2018

Stationary Radiation
Instrument Calibration
Records Number

Records Number	Title	Date
3259	Ludlum Model 3030E	November 13, 2017
ASCAN	Canberra Accuscan	November 30, 2017
0063	SAM-11	December 14, 2017
FSCAN	Canberra FastScan	December 18, 2017
2140	AMS-4 Continuous Air Monitor	March 8, 2018
0058	ARGOS	March 21, 2018
0077	GEM-5	March 22, 2018

Air Sampler Calibration
Records

Records	Title	Date
2181B	Low Volume Air Sampler	January 18, 2018
2192	Low Volume Air Sampler	January 18, 2018
2214	Low Volume Air Sampler	January 18, 2018
2221	Low Volume Air Sampler	January 18, 2018
2223	Low Volume Air Sampler	January 18, 2018
2225	Low Volume Air Sampler	January 18, 2018

Miscellaneous
Documents Number

Documents Number	Title	Revision or Date
720061	Canberra ISOCS/LabSOCS Detector Characterization Report	February 8, 2008
	CPNPP Radiation Monitoring System Status Report	2017
	Offsite Dose Calculation Manual	33
	CPNPP FSAR: Chapters 11 and 12	105

71124.06—Radioactive Gaseous and Liquid Effluent Treatment

Procedures Number	Title	Revision
CHM-170	Liquid and Gaseous Effluent Program	4
CHM-230	Guidelines for Sample Collection	3
CLI-741	Setpoint Modification and Digital Radiation Monitoring System Pre-Release Surveillance	8
CLI-744	Radioactive Effluent Pre-Release Permit Processing	2
CLI-745	Radioactive Effluent Post-Release Permit Processing and Surveillance Tracking	3
CLI-769	Gamma Analysis of Charcoal and Particulate Filters	3
CLI-774	Wide Range Gas Monitor Filter Replacement	7
CLI-777	Use of Gaseous Waste Sampling Equipment	6
COP-801A	Containment Ventilation	3
COP-801B	Containment Ventilation	3
COP-816	Plant Ventilations	6
RPI-714	Land Use Census	6
STA-603	Control of Station Radioactive Effluents	21

Audits, Self-Assessments, and Surveillances Number	Title	Date
TR-2016-001935	Chemistry Department Strategic Self-Assessment of Effluent Controls	March 23, 2017
EVAL-2017-010	NOS: Radwaste/Effluents/Environmental (Radiological and Non-Radiological) Chemistry Audit	October 5, 2017

Condition Reports (CRs)

CR-2018-003247	CR-2018-000463	CR-2017-009983	CR-2016-005855
TR-2017-000757	TR-2017-000759	TR-2017-004071	TR-2017-009981

Effluent Release Permits			
Permit Number	Type	Release System	Date
L2018-016	Liquid	PET X-02	May 3, 2018
G2017-214	Gas	Plant Vent Stack A Pre-Release Data	December 26, 2017
G2017-214	Gas	Plant Vent Stack A Post-Release Data	January 2, 2018
G2016-132	Gas	Unit 1 Containment Vent Pre-Release Data	August 11, 2016
G2016-132	Gas	Unit 1 Containment Vent Post-Release Data	August 11, 2016
L2018-010	Liquid	Low Volume Waste Pond Pre-Release Data	April 1, 2018
L2018-010	Liquid	Low Volume Waste Pond Post-Release Data	May 1, 2018
L2017-059	Liquid	Plant Effluent Tank 2 Pre-Release Data	August 16, 2017
L2017-059	Liquid	Plant Effluent Tank 2 Post-Release Data	August 16, 2017

Work Order	System	Date
5571501	LVW/EVAP Pond Vent and Drain Header Radiation Detector 5251A	March 7, 2018
5047396	Primary Plant Ventilation Exhaust Filter Unit X-15	March 7, 2017
5199651	Primary Plant Ventilation Exhaust Filter Unit X-02	April 20, 2017
5309749	Primary Plant Ventilation Exhaust Filter Unit X-02	January 22, 2018
5319196	Primary Plant Ventilation Exhaust Filter Unit X-16	February 5, 2018

Miscellaneous Documents Title	Revision or Date
2017 Annual Radioactive Effluent Release Report	March 13, 2018
2016 Radioactive Effluent Release Report	April 23, 2017
Final Safety Analysis Report - Chapter 11 Radioactive Waste Management	105
Final Safety Analysis Report – Chapter 12 Radiation Protection	105
Offsite Dose Calculation Manual	32
Sampling Gas Decay Tank X-04	May 8, 2018
Gamma Spectrum Analysis WGDT-4	May 8, 2018
Gamma Spectrum Analysis Containment Gas, Iodine, Particulate	August 11, 2016
Gamma Spectrum Analysis Stack Iodine, Particulate	January 2, 2018
Gamma Spectrum Analysis WGDT-5	May 29, 2018
Gamma Spectrum Analysis Waste Water Holdup Tank 1	May 7, 2018

71124.07—Radiological Environmental Monitoring Program

Procedures Number	Title	Revision
ENV-323	Groundwater Sampling Program	5
STA-654	Groundwater Protection Program	9
RPI-521	General Area Monitoring Program	12
RPI-710	Radiological Environmental Monitoring, Sampling, and Analysis Program	22
RPI-713	Collection, Preparation, and Shipment of Radiological Environmental Samples	18
RPI-714	Land Use Census	5
STA-714	Meteorological Monitoring Program	4

Condition Reports (CRs)

CR-2016-008692	TR-2017-004730	CR-2016-010803	CR-2016-001459
IR-2017-010245	CR-2017-000365	CR-2018-00407	

Audits and Self-Assessments

Number	Title	Date
EVAL-2017-010	NOS: Radwaste/Effluents/Environmental (Radiological and Non-Radiological) Chemistry Audit	October 5, 2017
	2016 Annual Quality Assurance REMP Report for GEL Laboratories LLC	March 10, 2017
	2017 Annual Quality Assurance REMP Report for GEL Laboratories LLC	March 9, 2018
NUPIC Audit 24229	GEL Laboratories	November 1, 2016

Miscellaneous Documents and Annual Reports Title	Revision or Date
2016 Land Use Census	August 16, 2016
2017 Land Use Census	June 9, 2017
2016 Annual Environmental Operating Report	March 20, 2017
Offsite Dose Calculation Manual – Units 1 and 2	32
Review of CPNPP Groundwater Site Conceptual Model and Changes to Groundwater Program for 2016-2017	January 2017

Miscellaneous Documents and Annual Reports Title	Revision or Date
2017 Annual Radioactive Effluent Release Report	March 13, 2018
2016 Annual Radioactive Effluent Release Report	April 23, 2017

Meteorological Tower Instrument Calibrations Work Order	Title	Date
WO-5590804	Meteorological Primary Temperature B	April 9, 2018
WO-5501106	Meteorological 60M Instrument Channel Calibrations	April 20, 2018
WO-5548787	Meteorological 10M Wind Speed/Direction Calibrations	March 12, 2018
WO-5501047	Meteorological 60M Instrument Channel Calibrations	April 20, 2018
WO-5548670	Meteorological 10M Wind Speed/Direction Calibrations	March 12, 2018
WO-5587184	Meteorological Primary Temperature A	March 29, 2018

71124.08—Radioactive Solid Waste Processing and Radioactive Material Handling, Storage, and Transportation

Procedures Number	Title	Revision
COP-510	Waste Systems	8
DBD-ME-264	Liquid Waste Processing System	16
RPI-202	Receipt of Radioactive Material	19
RPI-204	Radioactive Waste Handling	14
RPI-205	Wet Waste Processing	4
RPI-212	Radioactive Source Control	13
RPI-215	Waste Stream Sampling	7
RPI-230	Radioactive Material Shipments	8
RPI-240	Radioactive Waste Shipments	10
RPI-263	RMC Activities	6
RPI-271	Interim Storage of Low Level Radioactive Waste	3
RPI-800	Control of Radiation Protection Equipment	17

STA-709	Radioactive Waste Management Program	10
Procedures Number	Title	Revision

STA-713	Process Control Program (PCP)	3
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Audits and Self-Assessments	Title	Date
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Eval-2017-010	NOS: Radwaste/Effluents/Environmental (Radiological and Non-Radiological) Chemistry Audit	October 5, 2017
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Condition Reports (CRs)

CR-2016-001223	CR-2016-004879	CR-2016-006334	CR-2017-001483
CR-2017-003110	CR-2017-004307	TR-2017-006141	

Radioactive Material and Waste Shipments

Number	Title	Date
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2017-02	Cask Resin / WCS; Andrews, TX	January 17, 2017
2017-03	Cask Filters / WCS; Andrews, TX	January 12, 2017
2017-04	Cask Resin / WCS; Andrews, TX	January 19, 2017
2017-17	DAW / Energy Solutions; Oak Ridge, TN	March 14, 2017
2017-50	DAW / Energy Solutions; Oak Ridge, TN	September 28, 2017
2018-13	40' Overpack / Eastern Technologies; Ashford, AL	May 9, 2018

Miscellaneous Documents

Title	Date
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DAW Waste Stream	August 29, 2016
Unit 1 RCS Filters Waste Stream	May 2, 2016
Unit 2 RCS Filters Waste Stream	May 2, 2016
FSAR Chapter 11	

71152—Problem Identification and Resolution

Procedures (Number)	Title		Revision Or Date
OPT-509B	MSIV Testing		0
MSM-C0-6856	MSIV Accumulator Hemisphere Charging		7
<u>Condition Reports</u>			
CR-2017-012024	CR-2018-002405	CR-2017-005973	CR-2017-006304
CR-2018-003229	CR-2018-002189		
<u>Work Orders</u>			
5438696	5185046	4946608	5439300
4510367			

4OA5.1 Other Activities (IP 60855.1)

Procedures

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
RFO-106	Development and Implementation of Fuel Shuffle Sequence Plans	27
NUC-212	Spent Fuel Limits for Dry Cask Operations	12
RFO-302	Handling of Fuel Assemblies	21
DCS-201	Transporting Loaded and Unloaded HI-STORM	8
DCS-202	MPC Preparation for Loading	7
DCS-203	MPC Handling and Fuel Loading Operations	8
DCS-204	MPC Closure Operations	8
DCS-205	Stack-up and Transfer of Loaded MPC	8
STA-422	Corrective Action Program	34
STA-421	Control of Issue Reports	21
DCS-110	HI-STORM In-Service Annual Inspection and Maintenance	4
STA-707	10CFR50.59 and 10CFR72.48 Reviews	21

Design Basis Documents

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
ISFSI FSAR CoC 1014	HI-STORM 100 ISFSI Final Safety Analysis Report CoC and Technical Specifications for HI-STORM 100	9 Amendment 7

Miscellaneous Documents

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION/DATE</u>
M-20180416-4	VSDS Standard Map Survey Report	April 16, 2018
M-20180409-8	VSDS Standard Map Survey Report	April 9, 2018
M-20180201-1	VSDS Standard Map Survey Report	February 1, 2018

Miscellaneous Documents

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION/DATE</u>
RRTI-2838-002	Response to Request for Technical Information - Holtec	0
ECE-1.06F10	Engineering Risk/Rigor Assessment	0
CPNPP 212	10 CFR 72.212 Evaluation Report	10
NUC-212-4	Cask Acceptability Report (numerous)	5
CCR-1024	Component Completion Record (numerous)	0
ECO-1023-70	Engineering Change Order	1
PI-CNSTR-OP-HLTC-H-01	Closure Welding of Holtec MPCs	1
WCP-8	Preheating and Postweld Heat Treatment	0
WCP-3	Weld Material Control	2
GQP-15.0	Nonconforming Items	20
GQP-9.6	Visual Examination of Welds	18
GQP-9.2	High Temperature Liquid Penetrant Examination and Acceptance Standards for Welds, Base Materials, and Cladding	10
OPT-102A	Operations Shiftly Routine Tests	15
OPT-102A-1	Mode 1 and 2 Shiftly Surveillances	37
STI-707-4	10 CFR50.59 and 10CFR72.48 Reviews Applicability Determinations (numerous)	5
STA-707-3	72.48 Screen (numerous)	4

Condition Reports

2017-013418	2017-006659	2017-010259	2017-013418
2018-002878	2018-003292	2018-003479	2018-003480
2018-003481	2018-003483	2018-003503	2018-003504
2018-003508	2018-003517	2018-003552	2018-003559
2018-003509	2018-003536	2018-003570	2018-003577

Work Orders

WO5326344	WO5145323	WO5343015	WO5310435
WO5310431	WO5343983	WO5408406_1	

**The following items are requested for the
Public Radiation Safety Inspection
at Comanche Peak
Dates of Inspection: May 7 thru 11, 2018
Integrated Report 2018002**

Inspection areas are listed in the attachments below.

Please provide the requested information on or before **April 30, 2018**.

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

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

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

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

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

PAPERWORK REDUCTION ACT STATEMENT

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

5. Radiation Monitoring Instrumentation (71124.05)

Date of Last Inspection: **February 8, 2016**

- A. List of contacts and telephone numbers for the following areas:
 - 1. Effluent monitor calibration
 - 2. Radiation protection instrument calibration
 - 3. Installed instrument calibrations
 - 4. Count room and Laboratory instrument calibrations
- B. Applicable organization charts
- C. Copies of audits, self-assessments, vendor or NUPIC audits for contractor support and LERs, performed since the date of the last inspection related to:
 - 1. Area radiation monitors, continuous air monitors, criticality monitors, portable survey instruments, electronic dosimeters, teledosimetry, personnel contamination monitors, or whole body counters
 - 2. Installed radiation monitors
- D. Procedure index for:
 - 1. Calibration, use, and operation of continuous air monitors, criticality monitors, portable survey instruments, temporary area radiation monitors, electronic dosimeters, teledosimetry, personnel contamination monitors, and whole body counters.
 - 2. Calibration of installed radiation monitors
- E. Please provide specific procedures related to the following areas noted below. Additional procedures may be requested by number after the inspector reviews the procedure index.
 - 1. Calibration of portable ion chambers
 - 2. Whole body counter calibration
 - 3. Laboratory instrumentation quality control
- F. A summary list of corrective action documents (including corporate and sub-tiered systems) written since the date of the last inspection, related to the following programs:
 - 1. Area radiation monitors, continuous air monitors, criticality monitors, portable survey instruments, electronic dosimeters, teledosimetry, personnel contamination monitors, whole body counters
 - 2. Installed radiation monitors
 - 3. Count room radiation instruments

NOTE: The lists should indicate the significance level of each issue and the search criteria used. Please provide in document formats which are “searchable” so that the inspector can perform word searches.
- G. Most recent calibration data for the whole body counter's.
- H. Radiation Monitoring System health report for the previous 12 months

6. Radioactive Gaseous and Liquid Effluent Treatment (71124.06)

Date of Last Inspection: **February 8, 2016**

- A. List of contacts and telephone numbers for the following areas:
 - 1. Radiological effluent control
 - 2. Engineered safety feature air cleaning systems
- B. Applicable organization charts
- C. Audits, self-assessments, vendor or NUPIC audits of contractor support, and LERs written since the date of the last inspection, related to:
 - 1. Radioactive effluents
 - 2. Engineered Safety Feature Air cleaning systems
- D. Procedure indexes for the following areas
 - 1. Radioactive effluents
 - 2. Engineered Safety Feature Air cleaning systems
- E. Please provide specific procedures related to the following areas noted below. Additional procedures may be requested by number after the inspector reviews the procedure indexes.
 - 1. Sampling of radioactive effluents
 - 2. Effluent monitor setpoint determination
 - 3. Generating radioactive effluent release permits
 - 4. Laboratory instrumentation quality control
 - 5. In-place testing of HEPA filters and charcoal absorbers
- F. List of corrective action documents (including corporate and sub-tiered systems) written since the date of the last inspection, associated with:
 - 1. Radioactive effluents
 - 2. Effluent radiation monitors
 - 3. Engineered Safety Feature Air cleaning systems

NOTE: The lists should indicate the significance level of each issue and the search criteria used. Please provide in document formats which are "searchable" so that the inspector can perform word searches.
- G. Annual Radioactive Effluent Release Reports for calendar years 2016 and 2017, or the two most recent reports.
- H. Current revision of the Offsite Dose Calculation Manual
- I. The 2016 and 2017 inter-laboratory comparison results for laboratory quality control performance of effluent sample analysis, or the two most recent results.
- J. Effluent sampling schedule for the week of the inspection
- K. New entries into 10 CFR 50.75(g) files since the date of the last inspection
- L. Operations department (or other responsible dept.) log records for effluent monitors removed from service or out of service
- M. Listing or log of liquid and gaseous release permits since the date of the last inspection
- N. A list of the technical specification-required air cleaning systems with the two most recent surveillance test dates of in-place filter testing (of HEPA filters and charcoal adsorbers) and laboratory testing (of charcoal efficiency) and the work order numbers associated with the surveillances
- O. System Health Report for radiation monitoring instrumentation. Also, please provide a specific list of all effluent radiation monitors that were considered inoperable for 7 days or more since the date of the last inspection. If applicable, please provide the relative Special Report and condition report(s).
- P. A list of significant changes made to the gaseous and liquid effluent process monitoring system since the date of the last inspection. If applicable, please provide the corresponding UFSAR section in which this change was documented.

Q. A list of any occurrence in which a non-radioactive system was contaminated by a radioactive system since the date of the last inspection. Please include any relevant condition report(s).

7. Radiological Environmental Monitoring Program (71124.07)

Date of Last Inspection: **February 8, 2016**

- A. List of contacts and telephone numbers for the following areas:
1. Radiological environmental monitoring
 2. Meteorological monitoring
- B. Applicable organization charts
- C. Audits, self-assessments, vendor or NUPIC audits of contractor support, and LERs written since the date of the last inspection, related to:
1. Radiological environmental monitoring program (including contractor environmental laboratory audits, if used to perform environmental program functions)
 2. Environmental TLD processing facility
 3. Meteorological monitoring program
- D. Procedure index for the following areas:
1. Radiological environmental monitoring program
 2. Meteorological monitoring program
- E. Please provide specific procedures related to the following areas noted below. Additional procedures may be requested by number after the inspector reviews the procedure indexes.
1. Sampling, collection and preparation of environmental samples
 2. Sample analysis (if performed onsite)
 3. Laboratory instrumentation quality control
- F. A summary list of corrective action documents (including corporate and sub-tiered systems) written since the date of the last inspection, related to the following programs:
1. Radiological environmental monitoring
 2. Meteorological monitoring
- NOTE: The lists should indicate the significance level of each issue and the search criteria used. Please provide in document formats which are “searchable” so that the inspector can perform word searches.
- G. Copies of the two most recent calibration packages for the meteorological tower instruments
- H. Copies of the 2016 and 2017 Annual Radiological Environmental Operating Reports and Land Use Census, and current revision of the Offsite Dose Calculation Manual.
- I. Copy of the environmental laboratory’s inter-laboratory comparison program results for 2016 and 2017, or the two most recent results, if not included in the annual radiological environmental operating report
- J. Data from the environmental laboratory documenting the analytical detection sensitivities for the various environmental sample media (i.e., air, water, soil, vegetation, and milk)
- K. Quality Assurance audits (e.g., NUPIC) for contracted services
- L. Current NEI Groundwater Initiative Plan and status
- M. Technical requirements manual or licensee controlled specifications which list the meteorological instruments’ calibration requirements
- N. If applicable, per NEI 07-07, provide any reports that document any spills/leaks to groundwater since the date of the last inspection.

8. Radioactive Solid Waste Processing, and Radioactive Material Handling, Storage, and Transportation (71124.08)

Date of Last Inspection: **February 8, 2016**

- A. List of contacts and telephone numbers for the following areas:
 - 1. Solid Radioactive waste processing
 - 2. Transportation of radioactive material/waste
- B. Applicable organization charts (and list of personnel involved in solid radwaste processing, transferring, and transportation of radioactive waste/materials)
- C. Copies of audits, department self-assessments, and LERs written since the date of the last inspection related to:
 - 1. Solid radioactive waste management
 - 2. Radioactive material/waste transportation program
- D. Procedure index for the following areas:
 - 1. Solid radioactive waste management
 - 2. Radioactive material/waste transportation
- E. Please provide specific procedures related to the following areas noted below. Additional procedures may be requested by number after the inspector reviews the procedure indexes.
 - 1. Process control program
 - 2. Solid and liquid radioactive waste processing
 - 3. Radioactive material/waste shipping
 - 4. Waste stream sampling and analysis
- F. A summary list of corrective action documents (including corporate and sub-tiered systems) written since the date of the last inspection, related to:
 - 1. Solid radioactive waste
 - 2. Transportation of radioactive material/waste

NOTE: The lists should indicate the significance level of each issue and the search criteria used. Please provide in document formats which are “searchable” so that the inspector can perform word searches.
- G. Copies of training lesson plans for 49 CFR 172 subpart H, for radwaste processing, packaging, and shipping.
- H. A summary of radioactive material and radioactive waste shipments made from the date of the last inspection, to present
- I. Waste stream sample analysis results and resulting scaling factors for 2016 and 2017, or the two most recent results.
- J. A listing of onsite radwaste storage facilities. Please include a summary or list of the items stored in each facility.

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05000445/2018002 AND 05000446/2018002 DATED JULY 24, 2018

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