



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**

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

February 3, 2020

Mr. Cleve Reasoner, Chief Executive Officer
and Chief Nuclear Officer
Wolf Creek Nuclear Operating Corp.
P.O. Box 411
Burlington, KS 66839

SUBJECT: WOLF CREEK GENERATING STATION – INTEGRATED INSPECTION
REPORT 05000482/2019004

Dear Mr. Reasoner:

On December 31, 2019, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at Wolf Creek Generating Station. On January 9, 2020, the NRC inspectors discussed the results of this inspection with Mr. J. McCoy, Site Vice President, and other members of your staff. The results of this inspection are documented in the enclosed report.

No findings or violations of more than minor significance were identified during this inspection.

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 Title 10 of the *Code of Federal Regulations* 2.390, "Public Inspections, Exemptions, Requests for Withholding."

Sincerely,

/RA Russell L. Bywater Acting for/

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

Docket No. 05000482
License No. NPF-42

Enclosure:
As stated

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WOLF CREEK GENERATING STATION – INTEGRATED INSPECTION
 REPORT 05000482/2019004 – February 3, 2020

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DATE	1/21/2020	1/22/2020	1/22/2020	1/17/2020	1/22/2020	2/3/2020

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

Docket Number: 05000482

License Number: NPF-42

Report Number: 05000482/2019004

Enterprise Identifier: I-2019-004-0012

Licensee: Wolf Creek Nuclear Operating Corporation

Facility: Wolf Creek Generating Station

Location: Burlington, KS 66839

Inspection Dates: October 1, 2019, to December 31, 2019

Inspectors: D. Dodson, Senior Resident Inspector
C. Alldredge, Allegations/Enforcement Specialist
I. Anchondo-Lopez, Reactor Inspector
R. Azua, Inspection Programs & Assessment Team Leader
B. Baca, Resident Inspector
R. Bywater, Acting Senior Project Engineer
P. Elkmann, Senior Emergency Preparedness Inspector
S. Hedger, Emergency Preparedness Inspector
P. Jayroe, Reactor Inspector
J. Melfi, Project Engineer
A. Meyen, Physical Security Inspector
W. Sifre, Senior Reactor Inspector
M. Stafford, Acting Senior Resident Inspector
F. Thomas, Reactor Inspector
J. Vera, Resident Inspector

Approved By: Neil F. O'Keefe, Chief
Reactor Projects Branch B
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 Wolf Creek Generating Station, 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.

List of Findings and Violations

No findings or violations of more than minor significance were identified.

Additional Tracking Items

Type	Issue Number	Title	Report Section	Status
LER	05000482/2017-003-00	[Atmospheric Relief Valve] and [Main Steam Safety Valve] Tornado Missile Vulnerabilities Result in Unanalyzed Condition	71153	Discussed
LER	05000482/2019-001-00	Loss of Startup Transformer Results in Emergency Diesel Generator Actuation	71153	Closed
LER	05000482/2019-002-00	Emergency Diesel Generator Inoperable Due to Temperature Control Valve Failure	71153	Closed

PLANT STATUS

Wolf Creek Generating Station began the inspection period shutdown for Refueling Outage 23. The reactor was restarted on November 5, 2019, and power ascension was commenced. The unit was returned to approximately rated thermal power on November 9, 2019, 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

Seasonal Extreme Weather Sample (IP Section 03.02) (1 Sample)

- (1) The inspectors evaluated readiness for seasonal extreme weather conditions prior to the onset of seasonal cold temperatures for the following systems:
 - Essential service water
 - Refueling water storage tank

71111.04Q - Equipment Alignment

Partial Walkdown Sample (IP Section 03.01) (3 Samples)

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

- (1) Component cooling water train A on October 3, 2019
- (2) Spent fuel pool cooling train B on November 18, 2019
- (3) Containment purge system on December 27, 2019

71111.04S - Equipment Alignment

Complete Walkdown Sample (IP Section 03.02) (1 Sample)

- (1) The inspectors evaluated system configurations during a complete walkdown of the residual heat removal system on November 8, 2019.

71111.05Q - Fire Protection

Quarterly Inspection (IP Section 03.01) (4 Samples)

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

- (1) Auxiliary building, elevation 1,974 feet, fire areas A-2 and A-3, on October 2, 2019
- (2) Essential service water vertical loop chase, elevation 1,974 feet through 2,087 feet, fire area ESWC, on November 29, 2019
- (3) Auxiliary building, elevation 2,026 feet, fire areas A-17 and A-18, on December 30, 2019
- (4) Essential service water pump house, elevation 2,000 feet, fire areas ESWA and ESWB, on December 31, 2019

71111.06 - Flood Protection Measures

Inspection Activities - Internal Flooding (IP Section 02.02a.) (2 Samples)

The inspectors evaluated internal flooding mitigation protections in the:

- (1) Residual heat removal pump A room on October 10, 2019
- (2) Spent fuel pool cooling train B room on October 17, 2019

71111.07A - Heat Sink Performance

Annual Review (IP Section 02.01) (1 Sample)

The inspectors evaluated readiness and performance of:

- (1) Component cooling water heat exchanger train B on October 24, 2019

71111.08P - Inservice Inspection Activities (PWR)

PWR Inservice Inspection Activities Sample (IP Section 03.01) (1 Sample)

- (1) The inspectors verified that the reactor coolant system boundary, steam generator tubes, reactor vessel internals, risk-significant piping system boundaries, and containment boundary are appropriately monitored for degradation and that repairs and replacements were appropriately fabricated, examined and accepted by reviewing the following activities from September 28, 2019, to October 3, 2019:

03.01.a - Nondestructive Examination and Welding Activities

- Ultrasonic examination, main feedwater loop 2, AE-4S026-A pipe to elbow
- Ultrasonic examination, main feedwater loop 2, AE-4S026-B elbow to pipe
- Ultrasonic examination, residual heat removal A, EJ-01-S017-F pipe to elbow
- Ultrasonic examination, residual heat removal A, EJ-01-S017-B pipe to tee
- Ultrasonic examination, residual heat removal A, EJ-01-S017-D tee to pipe
- Ultrasonic examination, residual heat removal A, EJ-01-S017-G elbow to pipe

- Radiographic examination, boron thermal regeneration, 17-434419-004 pipe to pipe
- Dye penetrant, boron injection, EM-02-R008, pipe to pipe

03.01.b - Pressurized-Water Reactor Vessel Upper Head Penetration Examination Activities

- Visual examination of reactor head penetrations 1 through 79

03.01.c – Pressurized-Water Reactor Boric Acid Corrosion Control Activities

- The inspector reviewed the following work orders associated with boric acid leaks: 19-453764-000, 19-453325-000, 19-453324-000, 19-453323-000, 19-451840-000, and 19-451734-000.

03.01.d – No steam generator tube inspections were performed this inspection period.

03.01.e – Problem Identification and Resolution

- The inspector reviewed 31 condition reports associated with inservice and operating experience issues and concluded that nondestructive evaluation/in-service inspection related issues and operating experience are put into the corrective action program at a low threshold to ensure conditions and problems are identified.

71111.11Q - Licensed Operator Requalification Program and Licensed Operator Performance

Licensed Operator Performance in the Actual Plant/Main Control Room (IP Section 03.01) (1 Sample)

- (1) The inspectors observed and evaluated licensed operator performance in the control room during reactor startup on November 5, 2019.

Licensed Operator Requalification Training/Examinations (IP Section 03.02) (1 Sample)

- (1) The inspectors observed and evaluated just-in-time training for reactor startup on October 24, 2019.

71111.12 - Maintenance Effectiveness

Routine Maintenance Effectiveness Inspection (IP Section 02.01) (2 Samples)

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

- (1) Station blackout diesel generator control failure sample completed on October 23, 2019
- (2) Residual heat removal system performance review completed on October 25, 2019

71111.13 - Maintenance Risk Assessments and Emergent Work Control

Risk Assessment and Management Sample (IP Section 03.01) (2 Samples)

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

- (1) Planned essential service water train B maintenance during the refueling outage on October 7, 2019
- (2) Planned train swap activity control during the refueling outage on October 11, 2019

71111.15 - Operability Determinations and Functionality Assessments

Operability Determination or Functionality Assessment (IP Section 02.02) (7 Samples)

The inspectors evaluated the following operability determinations and functionality assessments:

- (1) Boric acid leak from normal charging check valve on October 21, 2019
- (2) Essential service water train B traveling screen elevated vibrations on October 22, 2019
- (3) Fuel assembly containing foreign material on October 24, 2019
- (4) Digital rod position indication alarms prior to reactor restart on October 27, 2019
- (5) Component cooling water to rad waste relief valve failed as found/as left tests on November 4, 2019
- (6) Load shedder and emergency load sequencer testing methodology questions identified on October 18, 2019
- (7) Main steam isolation action circuitry issue on November 7, 2019

71111.19 - Post-Maintenance Testing

Post-Maintenance Test Sample (IP Section 03.01) (8 Samples)

The inspectors evaluated the following post-maintenance tests:

- (1) Emergency diesel generator train B post-maintenance testing following outage maintenance on October 10, 2019
- (2) Component cooling water heat exchanger train B following eddy current testing on October 18, 2019
- (3) Emergency diesel generator train A post-maintenance testing following outage maintenance on October 18, 2019
- (4) Component cooling water train B check valve post-maintenance testing on October 20, 2019
- (5) Essential service water train B post maintenance testing activities on October 22, 2019
- (6) Residual heat removal train B post-maintenance valve testing on October 22, 2019
- (7) Containment cooler B post maintenance testing on October 27, 2019
- (8) South electrical penetration room cooler post-maintenance testing on December 30, 2019

71111.20 - Refueling and Other Outage Activities

Refueling/Other Outage Sample (IP Section 03.01) (1 Sample)

- (1) The inspectors evaluated Refueling Outage 23 activities from October 1 to November 6, 2019. The inspectors completed IP Sections 03.01.c, 03.01.d, and 03.01.e.

71111.22 - Surveillance Testing

The inspectors evaluated the following surveillance tests:

Surveillance Tests (other) (IP Section 03.01) (1 Sample)

- (1) STS-KJ-001A, "Integrated [Diesel Generator] and Safeguards Actuation Test – Train A," Revision 65, on October 29, 2019, and STS-KJ-001B, "Integrated [Diesel Generator] and Safeguards Actuation Test – Train B," Revision 63, on October 30, 2019

Inservice Testing (IP Section 03.01) (2 Samples)

- (1) Train B essential service water vertical loop vacuum breaker valves (EF-V482 and EF-V484) inservice testing in accordance with STS KJ-001B, "Integrated [Diesel Generator] and Safeguards Actuation Test – Train B," Revision 63, on October 29, 2019
- (2) STS EF-100A, "[Essential Service Water] System Inservice Pump A & [Essential Service Water] A Check Valve Test," Revision 47, on November 2, 2019

Containment Isolation Valve Testing (IP Section 03.01) (1 Sample)

- (1) STS PE-125, "[Local Leak Rate Test] Valve Lineup for Penetration 25," Revision 9, on October 17, 2019

71114.01 - Exercise Evaluation

Inspection Review (IP Section 02.01-02.11) (1 Sample)

- (1) The inspectors evaluated the biennial emergency plan exercise conducted December 3, 2019. The exercise scenario simulated two seismic events, losses of vital safety-related electric buses, a partial loss of offsite power, a loss of coolant accident inside containment, and a containment penetration failure causing a filtered and monitored radiological release through the plant vent. The inspectors also observed the licensee's management critique on December 17, 2019, and participated at the Federal Emergency Management Agency Region VII public meeting conducted on December 6, 2019. The inspectors discussed the performance of the licensee emergency response organization and offsite responders with Federal Emergency Management Agency Region VII staff on December 6, 2019.

71114.04 - Emergency Action Level and Emergency Plan Changes

Inspection Review (IP Section 02.01-02.03) (1 Sample)

- (1) The inspectors evaluated the Wolf Creek Radiological Emergency Response Plan, Revision 19, on December 4, 2019, and Revision 20, on December 11, 2019. These evaluations do not constitute NRC approval.

RADIATION SAFETY

71124.01 - Radiological Hazard Assessment and Exposure Controls

Radiological Hazard Assessment (IP Section 02.01) (1 Sample)

The inspectors evaluated radiological hazards assessments and controls.

- (1) The inspectors reviewed the following:

Radiological Surveys

- Survey M-20190921-5, "Downpost Survey for Upper Cavity"
- Survey M-20190924-21, "Bottom Mounted Instrumentation (BMI) Inspection, Under Vessel"
- Survey M-20190926-14, "Core Exit Thermocouple Nozzle Assembly (CETNA) Removal"
- Survey M-20190927-25, "Refueling (RF) 23 Reactor Head Lift"
- Survey M-20190930-3, "Valve Removal EM-V0212"
- Survey M-20190930-22, "Reactor Head on Head Stand"
- Survey M-20191002-18, "2047' Containment Weekly for Wednesday"
- Survey M-20191002-36, "B Residual Heat Removal (RHR) Pump Room - Lead and Insulation Removal"
- Survey M-20191003-14, "RadWaste Filter Change FEC01A"

Risk Significant Radiological Work Activities

- Fuel building transfer canal entries for repair/inspection and decontamination activities
- Radwaste filter change FEC01A
- Reactor head lift
- Reactor cavity activities
- Under reactor vessel cavity ring and incore tunnel inspections

Air Sample Survey Records

- Air Sample 19-0045, "Aux Building 2000' Filter (FBG06) Change Out"
- Air Sample 19-0134, "Post Maintenance Survey inside Transfer Canal 2047' Fuel Building"
- Air Sample 19-0143, "Grinding on SJHV0133 North Pipe Pen, Aux Building 2000' elevation"
- Air Sample 19-0254, "B Residual Heat Removal Pump Boric Acid Clean Up"
- Radwaste building filter pits
- Train B safety injection pump room for EM-V0212 valve removal

- Refueling outage (RF) 23 reactor head lift

Instructions to Workers (IP Section 02.02) (1 Sample)

The inspectors evaluated instructions to workers including radiation work permits used to access high radiation areas.

- (1) The inspectors reviewed the following:

Radiation Work Packages

- Radiation Work Permit 190051, "Access to High Radiation Areas and Locked High Radiation Areas for Contaminated System Breaches and Boron Removal," Revision 1
- Radiation Work Permit 190061, "Fuel Building Transfer Canal Entry for Repair/Inspection and Decontamination of Fuel Building Transfer System and other work activities," Revision 1
- Radiation Work Permit 191101, "Under Reactor Vessel (RV) Cavity Seal Ring Inspections (Annulus) Access," Revision 0
- Radiation Work Permit 191102, "Incore Tunnel Inspections, Maintenance & Decontamination," Revision 0
- Radiation Work Permit 195001, "Reactor Cavity Decon Activities," Revision 0
- Radiation Work Permit 196000, "Lower Refueling Cavity Pre & Post Flooding Maintenance Activities," Revision 1

Electronic Alarming Dosimeter Alarms

The inspectors reviewed the licensee's corrective action program and selected five condition reports and associated documentation regarding electronic alarming dosimeter alarms for additional review:

- Condition Report 120680
- Condition Report 120975
- Condition Report 121726
- Condition Report 124071
- Condition Report 131088

Labeling of Containers

- Four radioactive material trash bags
- Six barrels of steam generator sludge lancing material and TriNuke filters and hoses
- Six Westinghouse refueling equipment boxes
- Two dry active waste sealand containers

Contamination and Radioactive Material Control (IP Section 02.03) (1 Sample)

The inspectors evaluated licensee processes for monitoring and controlling contamination and radioactive material.

- (1) The inspectors verified the following sealed sources are accounted for and are intact:
- 98-CHL-041
 - 00-HPL-009
 - 03-HPL-028

- 82-HPL-088/82-HPL-089
- 84-HPL-326
- 92-HPL-009

Radiological Hazards Control and Work Coverage (IP Section 02.04) (1 Sample)

The inspectors evaluated in-plant radiological conditions during facility walkdowns and observation of radiological work activities.

- (1) The inspectors also reviewed the following radiological work package for areas with airborne radioactivity:
- Radiation Work Permit 190050, "No High Radiation Area (HRA), Contaminated Systems Valve and Pump RWP," Revision 1
 - Radiation Work Permit 190061, "Fuel Building Transfer Canal Entry," Revision 1
 - Radiation Work Permit 194482, "Reactor Vessel (RV) Head Disassembly to include, Canopy Seal Clamp (Vendor Activities)," Revision 2
 - Radiation Work Permit 194483, "Reactor Vessel (RV) Head Reassembly to include, Canopy Seal Clamp (Vendor Activities)," Revision 1

High Radiation Area and Very High Radiation Area Controls (IP Section 02.05) (1 Sample)

- (1) The inspectors evaluated risk-significant high radiation area and very high radiation area controls.

Radiation Worker Performance and Radiation Protection Technician Proficiency (IP Section 02.06) (1 Sample)

- (1) The inspectors evaluated radiation worker performance and radiation protection technician proficiency.

71124.03 - In-Plant Airborne Radioactivity Control and Mitigation

Engineering Controls (IP Section 02.01) (1 Sample)

The inspectors evaluated airborne controls and radioactive monitoring.

- (1) The inspectors reviewed the following:

Installed Ventilation Systems

- Fuel building emergency exhaust system
- Containment purge exhaust system

Temporary Ventilation System Setups

- 500 cubic feet per minute high efficiency particulate air unit, Radiation Work Permit 194050

Portable or Installed Monitoring Systems

- Containment 2047 feet
- Containment 2000 feet

Use of Respiratory Protection Devices (IP Section 02.02) (1 Sample)

The inspectors evaluated the licensee's use of respiratory protection devices by:

- (1) Observing in-field applications; verifying the licensee validated the level of protection provided by the devices; inspecting the material condition of devices, reviewing records and certification of devices issued for use; reviewing the qualifications of workers that use the devices; and observing workers' donning, doffing, and testing devices.

Self-Contained Breathing Apparatus for Emergency Use (IP Section 02.03) (1 Sample)

The inspectors evaluated self-contained breathing apparatus program implementation.

- (1) The inspectors reviewed the following:

Status and Surveillance Records for Self-Contained Breathing Apparatus

- S/N 115S1543108008
- S/N 115S1543016987
- S/N 115S1543009024

Self-Contained Breathing Apparatus Fit for On-Shift Operators

- On Shift Operators, Tuesday, October 1, 2019, Day Shift
- On Shift Operators, Thursday, October 3, 2019, Day Shift

Self-Contained Breathing Apparatus Maintenance Check

- S/N 115S1543108008
- S/N 115S1543016987
- S/N 115S1543009024

OTHER ACTIVITIES – BASELINE

71151 - Performance Indicator Verification

The inspectors verified licensee performance indicator submittals listed below:

EP01: Drill/Exercise Performance (IP Section 02.12) (1 Sample)

- (1) The inspectors reviewed Drill/Exercise Performance opportunities conducted between April 2018 and September 2019.

EP02: ERO Drill Participation (IP Section 02.13) (1 Sample)

- (1) The inspectors reviewed ERO Drill Participation data for drills and exercises conducted between April 2018 and September 2019.

EP03: Alert & Notification System Reliability (IP Section 02.14) (1 Sample)

- (1) The inspectors reviewed tests of offsite emergency warning sirens conducted between April 2018 and September 2019.

MS05: Safety System Functional Failures (SSFFs) Sample (IP Section 02.04) (1 Sample)

- (1) October 1, 2018, to September 30, 2019

MS08: Heat Removal Systems (IP Section 02.07) (1 Sample)

- (1) October 1, 2018, to September 30, 2019

MS09: Residual Heat Removal Systems (IP Section 02.08) (1 Sample)

- (1) October 1, 2018, to September 30, 2019

OR01: Occupational Exposure Control Effectiveness Sample (IP Section 02.15) (1 Sample)

- (1) April 1, 2018, to September 30, 2019

PR01: Radiological Effluent Technical Specifications/Offsite Dose Calculation Manual
Radiological Effluent Occurrences (RETS/ODCM) Radiological Effluent Occurrences Sample
(IP Section 02.16) (1 Sample)

- (1) April 1, 2018, to September 30, 2019

71152 - Problem Identification and Resolution

Semiannual Trend Review (IP Section 02.02) (1 Sample)

- (1) The inspectors reviewed the licensee's corrective action program for potential adverse trends in the area of safety conscious work environment (SCWE) and assessed the licensee's progress in addressing the SCWE theme.

Annual Follow-up of Selected Issues (IP Section 02.03) (2 Samples)

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

- (1) NRC Operating Experience Smart Sample 2018/01, "Evaluation of Licensee Actions Taken in Response to 10 CFR Part 21 Notification of the Potential Existence of Defects Related to Control Rod Drive Mechanism Thermal Sleeves"
- (2) Fuel identified with foreign material during the refueling outage

71153 - Followup of Events and Notices of Enforcement Discretion

Event Report (IP Section 03.02) (2 Samples)

The inspectors evaluated the following licensee event reports (LERs):

- (1) LER 05000482/2019-001-00, "Loss of Startup Transformer Results in Emergency Diesel Generator Actuation" (ADAMS Accession: ML19281C061). The inspectors determined that it was not reasonable to foresee or correct the cause discussed in the LER; therefore, no performance deficiency was identified. The inspectors also concluded that no violation of NRC requirements occurred. This licensee event report is closed.
- (2) LER 5000482/2019-002-00, "Emergency Diesel Generator Inoperable Due to Temperature Control Valve Failure" (ADAMS Accession: ML19295D729). The inspectors determined that it was not reasonable to foresee or correct the cause discussed in the LER; therefore, no performance deficiency was identified. The inspectors also concluded that no violation of NRC requirements occurred. This licensee event report is closed.

INSPECTION RESULTS

Observation: Semiannual Trend Review	71152
The inspectors reviewed the licensee's corrective action program for potential adverse trends in the area of Safety-Conscious Work Environment (SCWE).	
<u>SCWE</u>	
<p>The NRC conducted semiannual baseline inspections during this year to assess the corrective actions taken to address the existing SCWE cross-cutting theme. Based on these recent inspections and review of the licensee's actions taken and planned in response to the issuance of a violation of 10 CFR 50.7, the NRC determined that a theme in the SCWE area continued to exist; however, recent survey results indicate an improvement in some areas, Engineering And Security, but mixed results in others.</p> <p>Consistent with NRC guidance, the licensee's progress in addressing the SCWE theme will continue to be reviewed on a semiannual basis. During the current inspection, the inspectors' review included consideration of previous NRC reviews of the licensee's progress in addressing the SCWE theme, recent actions that the licensee has completed or planned to address the cross-cutting theme in the SCWE area, and consideration of recent enforcement actions taken by the NRC.</p> <p>The inspectors reviewed approximately 38 condition reports that were directly or potentially related to SCWE. The number of condition reports from January 2019 to June 2019 was compared against the number of SCWE condition reports that were written between July 2019 to December 2019. The specific content of the SCWE condition reports was evaluated and the number of anonymous SCWE condition reports was assessed. In addition, the inspectors reviewed and compared results of the licensee's September 2018 SCWE pulse survey and April 2019 site-wide SCWE survey. The inspectors also reviewed a June 2019 peer (STARs) assessment, a Nuclear Safety Culture Assessment conducted in August 2019, and a Level of Effort Evaluation completed in October 2019.</p>	

Assessment

With regard to actions taken to address the cross-cutting theme in the SCWE area, it appears that the licensee is applying the corrective actions as described in its improvement plan. Many of the corrective actions taken include senior management presentations to the staff (referred to as "blitzes"), group training for managers, group training for employees, and procedural changes. At the time of this inspection, the licensee had completed nearly three quarters of their planned actions. All the blitzes and planned procedure changes have been completed, and the licensee was expecting to complete all associated training by December 31, 2019. The licensee still had some actions remaining on their plan, including evaluating the effectiveness of the completed actions. The inspectors reviewed the licensee's actions and did not identify any significant concerns.

During a previous inspection, the inspectors identified to the licensee that it appeared that the licensee's corrective action plan had a focus on staff level interactions with first line supervision. Specifically, the corrective action plan had a focus on identifying those behaviors in the first line supervision and mid-level management that might contribute to a chilled work environment. The inspectors, based on the cause of the violation in question, asked the licensee if there were any actions planned for senior management with regard to peer review and assessment (i.e., training that focused on mid-level management reporting on senior management behaviors that may contribute to a chilled work environment, or senior manager peer-to-peer reporting). The licensee wrote Condition Report 133982. The licensee indicated in this condition report that the training provided as part of the overall plan should be adequate, but the licensee noted that it would re-evaluate adequacy in 2020 to see if other actions were needed to address this question.

The inspectors reviewed the licensee's survey results and Level of Effort Evaluation, and it was noted that the results were mixed. Some priority groups, such as Security and Engineering, showed some improvement, while other groups, such as Maintenance Support, appeared to remain static. In addition, there were a couple of condition reports that raised concerns that some supervisors had not significantly altered their behaviors or communication styles following the "blitzes."

Regarding the trend of SCWE-related condition reports, the inspectors did note a slight decrease in number. However, with respect to anonymous condition reports, the inspectors noted that the quantity did not appear to decrease, which may indicate that there are still employees who do not feel comfortable bringing their concerns directly to their management. Finally, the licensee has made a change to the documenting process for anonymous condition reports. Specifically, anonymous condition reports cannot be entered electronically anymore, they can only be entered via paper. This resulted in a couple of condition reports critiquing this action.

Observation: Potential Existence of Defects Related to Control Rod Drive Mechanism Thermal Sleeves

71152

The inspectors completed a review of the licensee's response to a Westinghouse 10 CFR Part 21 notification (ADAMS Accession No. ML18143B678) regarding the potential existence of defects related to control rod drive mechanism thermal sleeves. The inspection was performed in accordance with NRC Operating Experience Smart Sample (OpESS) 2018/01 (ADAMS Accession No. ML18263A261).

The inspectors reviewed evaluation LTR-RIDA-18-223, "Evaluation of Thermal Sleeve Flange and OD/ID Wear Conditions and Recommendations," Revision 0, and associated corrective actions taken by the licensee. The inspectors reviewed and verified the adequacy of identified assumptions (i.e., accuracy of measurement technique and applicable wear rates) and the use of plant specific information to identify the most limiting thermal sleeves given the present wear rates. The inspectors also reviewed the results of the licensee's thermal sleeve flange wear inspections to verify that the licensee was using the correct thermal sleeve metal wastage in their evaluation. The inspectors verified that the recommended reinspection period of 7.5 effective full power years was aligned with the most limiting locations before reaching their yielding criteria (i.e., ASME Code allowable). Subsequently, the inspectors verified that the licensee had placed the reinspection of control rod drive mechanism thermal sleeves and the evaluation for possible repair or replacement of these components into their corrective action program.

The inspectors concluded that the licensee had used available operating experience and had adequately evaluated for the potential existence of defects in the control rod drive mechanism thermal sleeves. Furthermore, the inspectors verified that applicable corrective actions had been communicated to the appropriate organizations for implementation.

LER (Discussed)	[Atmospheric Relief Valve] and [Main Steam Safety Valve] Tornado Missile Vulnerabilities Result in Unanalyzed Condition LER 05000482/2017-003-00	71153
<p>Discussion: On September 7, 2017, the licensee identified that there was no retrievable analysis proving that a single tornado driven design basis missile is not capable of affecting more than two atmospheric relief valves. This vulnerability was identified as part of the licensee's review of operating experience regarding potential nonconforming conditions related to tornado generated missile effects on main steam safety valves and atmospheric relief valves. These tornado missile vulnerabilities have existed since original plant construction. The licensee invoked Enforcement Guidance Memorandum 15-002, "Enforcement Discretion for Tornado-Generated Missile Protection Noncompliance," Revision 1, implemented initial compensatory measures, and returned the structure, system, and component to an operable-degraded/non-conforming status. NRC Inspection Report 05000482/2017003 (ADAMS Accession No. ML17311B223) dated November 7, 2017, documented that the NRC exercised enforcement discretion by not issuing an enforcement action and allowing continued reactor operation.</p> <p>At the end of the inspection period, the inspectors had reviewed LER 2017-003-00 and the status of the licensee's corrective actions. The inspectors were unable to close the LER pending licensee action.</p>		

EXIT MEETINGS AND DEBRIEFS

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

- On October 3, 2019, the inspectors presented the IP 71124, Radiation Safety - Public and Occupational cornerstone inspection results to Mr. R. Bayer, Plant Manager, and other members of the licensee staff.

- On October 3, 2019, the inspectors presented the IP 71111.08, "Inservice Inspection Activities (PWR)," inspection results to Mr. R. Bayer, Plant Manager, and other members of the licensee staff.
- On December 18, 2019, the inspectors presented the 2019 emergency preparedness exercise inspection results to Mr. J. McCoy, Site Vice President, and other members of the licensee staff.
- On January 9, 2020, the inspectors presented the integrated inspection results to Mr. J. McCoy, Site Vice President, and other members of the licensee staff.
- On January 16, 2020, the inspectors presented the 2019 emergency preparedness exercise inspection results to Mr. M. Dekat, Superintendent Emergency Planning.

DOCUMENTS REVIEWED

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
71111.01	Procedures	SYS EC-121	Cold Weather Operations	7A
71111.01	Procedures	SYS EF-205	ESW/Circ Water Cold Weather Operations	42A
71111.01	Procedures	SYS OPS-008	Cold Weather Operations	7A
71111.04Q	Corrective Action Documents	Condition Reports	139565, 139569	
71111.04Q	Drawings	M-12EC01	Piping & Instrumentation Diagram Fuel Pool Cooling and Clean-Up System	23
71111.04Q	Drawings	M-12EC02	Piping & Instrumentation Diagram Fuel Pool Cooling and Clean-Up System	7
71111.04Q	Drawings	M-12EG01	Piping & Instrumentation Diagram Component Cooling Water System	25
71111.04Q	Drawings	M-12EG02	Piping & Instrumentation Diagram Component Cooling Water System	27
71111.04Q	Drawings	M-12GT01	Piping & Instrumentation Diagram Containment Purge Systems HVAC	31
71111.04Q	Miscellaneous	CO: D-OP-S-005	CO Coversheet: Secure System Per Procedure Before Tagging Drawing Revisions Must Be Verified - GTHZ0007	12/26/2019
71111.04Q	Procedures	AP 21G-001	Control of Locked Component Status	77A
71111.04Q	Procedures	CKL EC-120	Fuel Pool Cooling and Cleanup System Normal Valve Lineup/Breaker Checklist	18A
71111.04Q	Procedures	CKL EG-120	Component Cooling Water System Valve, Switch and Breaker Lineup	49
71111.04Q	Procedures	CKL GT-131	Containment Purge System Elec Checklist	11
71111.04S	Corrective Action Documents	Condition Reports	109111, 120554, 121018, 121296, 122457, 123146, 125123, 125273, 127207, 127305, 128264, 128659, 128851, 137260, 137268, 137321, 137369	
71111.04S	Drawings	M-189-REK01	Piping and Instrumentation Diagram Residual Heat Removal System	1
71111.04S	Procedures	CKL EJ-120	RHR System Lineup	46
71111.05Q	Corrective Action Documents	Condition Reports	136534, 136540	
71111.05Q	Miscellaneous	E-1F9905	Fire Hazard Analysis	10

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
71111.05Q	Procedures	AP 10-106	Fire Preplans	18A
71111.06	Drawings	10466-A-1319	Architectural Fuel Bldg. Floor Plan El. 2000'-0" & 2026'-0"	0
71111.06	Drawings	10466-A-1320	Fuel Building Floor Plan El. 2047'-6" and Roof Plan	2
71111.06	Drawings	C-1C1112	Auxiliary Building - Area 1 Concrete Neat Lines Plan - Base Slab El. 1974' - 0"	2
71111.06	Drawings	C-1C1910	Auxiliary Building Conc. Neat Lines & Reinforcing Wall Elevation - Sheet 10	0
71111.06	Drawings	E-1RII22(Q)	Embedded Conduit Auxiliary Building Area -2 El. 1974' - 0"	1
71111.06	Drawings	M-12EC01	Piping & Instrumentation Diagram Fuel Pool Cooling System	23
71111.06	Drawings	M-12EJ01	Piping and Instrumentation Diagram Residual Heat Removal System	55
71111.06	Drawings	M-12LF05	Piping & Instrumentation Diagram Auxiliary Building Floor & Equip. Drain System	9
71111.06	Drawings	M-13EC05	Piping Isometric Fuel Pool Cooling & Clean-Up Sys. Fuel Building	5
71111.06	Drawings	M-13EC07	Piping Isometric Fuel Pool Cooling & Clean-Up Sys. Radwaste Building	4
71111.06	Drawings	M-1P1121	Embedded Drainage Systems (LF) Auxiliary Building El. 1967' - 0" & 1974' - 0" Area 2	0
71111.06	Drawings	M-663-00017	Wolf Creek Nuclear Operating Corporation Penetration Seal Typical Details	W22
71111.06	Drawings	M-OT1261	Fuel Bldg/Hot Mach. Shop Trench Piping Plan & Sections	4
71111.06	Miscellaneous	APF 05D-001-01	Calculation Sheet: Calculation No. FL-02	2
71111.06	Miscellaneous	APF 05D-001-01	Calculation Cover Sheet: Flooding of Fuel Building EL 2000'-0" Rooms - Calculation No. FL-09	1
71111.06	Miscellaneous	M-12LF05	Piping & Instrumentation Diagram Auxiliary Building Floor & Equip. Drain System	9
71111.07A	Procedures	STS PE-033	CCW Heat Exchanger Performance Test	13
71111.07A	Work Orders		18-443630-000	
71111.08P	Corrective Action Documents	Condition Reports	121793, 122185, 122379, 122440, 122447, 122485, 122562, 122710, 122802, 123098, 123902, 124064, 124279, 124647, 124966, 126010, 126046, 128153, 128246, 128716, 129065, 129501, 129758, 130114, 130292, 130775, 130851, 130910, 131148, 132260, 133009, 133424	

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
71111.08P	Miscellaneous	L-2018-LLR-0068	Wolf Creek Generating Station, Unit 1 - Request for Relief 14R-06 from American Society of Mechanical Engineers Boiler and Pressure Vessel Code Visual Examination Requirements for Reactor Vessel Head Penetration Nozzle Weld Specified by Code Case N-729-4	10/18/2018
71111.08P	Miscellaneous	MF7423	Wolf Creek Generating Station- Request for Relief 14R-01 to Continue Use of an Alternative Risk-Informed Methodology in Selecting Class 1 and Class 2 Piping Welds for Inservice Inspection During the Forth 10-Year Interval	11/30/2016
71111.08P	Miscellaneous	MF7425	Wolf Creek Generating Station- Request for Relief 14R-02 for Alternative to ASME Code Inspection Requirements for Class 1 Reactor Pressure Vessel Supports	08/23/2016
71111.08P	Miscellaneous	L-2018-LLR-0101	Wolf Creek Generation Station, Unit 1 - Request for Relief from Requirements of the American Society of Mechanical Engineers Boiler and Pressure Vessel Code, Code Case N-666-1	12/12/2018
71111.08P	Miscellaneous	MF8456	Wolf Creek Generating Station- Relief from Certain American Society of Mechanical Engineers Boiler and Pressure Vessel Code Inservice Inspection Requirements for Reactor Vessel Closure Head Penetration Nozzles During Refueling Outage 21 and the Fourth 10-Year Inservice Inspection Interval	05/01/2017
71111.08P	Miscellaneous	MF9639	Wolf Creek Generating Station - Request for Relief 14R-05 from Certain Pressure Test Requirements of the American Society of Mechanical Engineers Boiler and Pressure Vessel Code for Reactor Pressure Vessel Leak-Off Lines for the Fourth 10-Year Inservice Inspection Interval	08/02/2017
71111.08P	Miscellaneous	WCRE-30	Inservice Inspection Program Plan, Wolf Creek Generating Station, Interval 4	02/22/2018
71111.08P	Procedures	AI 16F-001	Evaluation of Boric Acid Leakage	11
71111.08P	Procedures	AI 16F-002	Boric Acid Leakage Management	11
71111.08P	Procedures	AP 16F-001	Boric Acid Corrosion Control Program	9
71111.08P	Procedures	DC24 07/02/2019	Welding Program Manual	27
71111.08P	Procedures	LMT-08-PDI-UT-1	Ultrasonic Examination of Ferritic Piping Welds	0

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
71111.08P	Procedures	LMT-08-PDI-UT-2	Ultrasonic Examination of Austenitic Piping Welds	0
71111.08P	Procedures	LMT-08-PDI-UT-3	Ultrasonic Through Wall Sizing in Piping Welds	0
71111.08P	Procedures	LMT-08-UT-004	Ultrasonic Examination of Vessel Welds and Adjacent Base Metal > 2.0" in Thickness	1
71111.08P	Procedures	QCP-20-501	Visible Dye Penetrant Examination	10A
71111.08P	Procedures	QCP-20-502	Magnetic Particle Examination AC/DC Yoke and AC Coil Techniques	9
71111.08P	Procedures	QCP-20-503	Ultrasonic Examination for Component Wall Thinning	5
71111.08P	Procedures	QCP-20-508	Radiographic Examination of Welds	4B
71111.08P	Procedures	QCP-20-541	VT-3 Visual Examination	3
71111.08P	Procedures	WPD-1	Welding Program Description	6
71111.08P	Self-Assessments	QH-2019-1866	Assessment for NRC RF23 ISI inspection	06/06/2019
71111.08P	Self-Assessments	QH-2019-1871	Boric Acid Program Assessment for NRC RF23 ISI inspection	06/17/2019
71111.08P	Self-Assessments	QH-2019-1875	RF23 Readiness for NRC ISI Inspection	06/19/2019
71111.08P	Self-Assessments	SA-2018-0140	ISI Pressure Test Self Assessment	01/17/2019
71111.08P	Work Orders		14-387463, 17-422890, 17-422899, 17-426657, 18-438730, 18-438963, 18-439101, 18-439263, 18-440094,	
71111.11Q	Procedures	AP 21-001	Conduct of Operations	83A
71111.11Q	Procedures	GEN 00-002	Cold Shutdown to Hot Standby	103
71111.11Q	Procedures	GEN 00-003	Hot Standby to Minimum Load	102
71111.11Q	Procedures	RXE 01-002	Reload Low Power Physics Testing	27
71111.12	Corrective Action Documents	Condition Reports	125518, 125777, 126839, 129032, 135326, 136537, 136880, 137321	
71111.12	Miscellaneous		Maintenance Rule Final Scope Evaluation: Shutdown Diesel Generators - KU-01	10/09/2019
71111.12	Miscellaneous		Maintenance Rule Final Scope Evaluation: Shutdown Diesel Generators - KU-02	10/09/2019
71111.12	Miscellaneous		Maintenance Rule Final Scope Evaluation: Residual Heat Removal/MSPI Residual Heat Removal System - EJ-01	10/02/2019
71111.12	Miscellaneous		Maintenance Rule Final Scope Evaluation: Residual Heat Removal/MSPI Residual Heat Removal System - EJ-02	10/02/2019

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
71111.12	Miscellaneous		Maintenance Rule Final Scope Evaluation: Residual Heat Removal/MSPI Residual Heat Removal System - EJ-06	10/02/2019
71111.12	Miscellaneous	AIF 28A-100-08	Equipment Performance Evaluation: CR Number - 125518	3
71111.12	Miscellaneous	APF 23M-001-01	Maintenance Rule (a)(1) Determination Section I: Station Blackout Diesel Generation System (KU)	12/19/2018
71111.12	Miscellaneous	EDI 23M-050	Engineering Desktop Instruction Monitoring Performance to Criteria and Goals: Function Failure Determination Checklist - System: KU	11/29/2018
71111.12	Procedures	AI 28A-100	Condition Report Resolution	16
71111.12	Procedures	AP 23M-001	WCGS Maintenance Rule Program	12
71111.13	Miscellaneous	APF 22B-001	Shutdown Safety Function Status & Assessment Summary	12A
71111.13	Procedures	AP 22B-001	Outage Risk Management	20
71111.13	Work Orders		13-372401-018	
71111.15	Calculations	P-254	Normal Charging Loop 1 Snubber Reduction Analysis - Reactor Building	005
71111.15	Corrective Action Documents	Condition Reports	136012, 136383, 136412, 136553, 136672, 136709, 136749, 136750, 136752, 136790, 136851, 136940, 137333, 137389, 137826, 139619	
71111.15	Drawings	J-104-00079	Schematic Input Buffer	12/22/1977
71111.15	Drawings	J-105A-00004	SA075A Main Steam (MS) One Line Diagram	W01
71111.15	Drawings	J-105A-00006	SA075B Main Steam (MS) One Line Diagram	W01
71111.15	Drawings	KL1909	Logic Block Diagram Load Shedding & Emergency Load Sequencing System (LSELS)	09/29/1978
71111.15	Drawings	M-12AB02	Piping & Instrumentation Diagram Main Steam System	15
71111.15	Drawings	M-13HB33	Small Piping Isometric Liquid Radwaste System Radwaste Building	2
71111.15	Drawings	M-151-00004	Nozzle Type Relief Valve	W07
71111.15	Miscellaneous		Engineering White Paper	12/17/2019
71111.15	Miscellaneous		Pictures of fuel assemblies: AA17, AA59, AC47, and AC53	
71111.15	Miscellaneous	020322	Design Equivalent Change Package: Encapsulation to Seal BB8378A Bonnet Boric Acid Leakage	0
71111.15	Miscellaneous	9002-DRPI-000	Principles of Operation (Figure 2-30)	
71111.15	Miscellaneous	AIF 16F-001-01	Boric Acid Evaluation: CVCS Normal Charging to Loop 1 Check Valve	10/08/2019

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
71111.15	Miscellaneous	APF 05C-004-01	Basic Engineering Disposition: ESW-B Traveling Screen High Vibration 19-455350-001	10/15/2019
71111.15	Miscellaneous	APF 26A-001-01	RER Reportability Determination: RER No. 2019-021	10/22/2019
71111.15	Miscellaneous	Letter WO 96-0068	Docket No. 50-482: Response to Generic Letter 96-01, "Testing of Safety Related Logic Circuits"	04/18/1996
71111.15	Miscellaneous	TS Bases	Technical Specification Bases	18
71111.15	Miscellaneous	TS Bases	Technical Specification Bases	74
71111.15	Procedures	AP 26C-004	Operability Determination and Functionality Assessment	38A
71111.15	Procedures	EMG E-O	Reactor Trip or Safety Injection	41A
71111.15	Procedures	STS IC-208A	4KV Loss of Voltage & Degraded Voltage TADOT NB01 Bus - SEP GRP 1	6B
71111.15	Procedures	STS IC-208B	4KV Loss of Voltage & Degraded Voltage TADOT NB02 Bus - SEP GRP 4	5
71111.15	Procedures	STS RE-017	DRPI Operability Verification	10B
71111.15	Work Orders	Work Orders	17-426808-000, 19-454475	
71111.19	Corrective Action Documents	Condition Reports	114660, 139590	
71111.19	Drawings	M-12GL01	Piping & Instrumentation Diagram Auxiliary Building HVAC	13
71111.19	Miscellaneous	APF 29B-003-01	Surveillance Test Routing Sheet: Train B RHR System Inservice Valve Test	10/17/2019
71111.19	Procedures	MPE RC-001	Room Cooler Maintenance	11
71111.19	Procedures	QCP-20-514	Eddy Current Testing	6
71111.19	Procedures	STN EG-003B	CCW Train B Void Monitoring & Venting	9
71111.19	Procedures	STN PE-037B	ESW Train B Heat Exchanger Flow and DP Trending	22
71111.19	Procedures	STS EF-100B	ESW System Inservice Pump B & ESW B Check Valve Test	49
71111.19	Procedures	STS EJ-209B	Train B RHR System Inservice Valve Test	4
71111.19	Procedures	STS GN-001	CTMT Cooling Fans Operability Test	11
71111.19	Procedures	STS KJ-005B	Manual/Auto Start, Sync & Loading of EDG NE02	65A
71111.19	Procedures	STS KJ-011A	EDG NE01 24 Hour Run	37
71111.19	Procedures	STS MT-077	CCW Return to CCW Pumps Check Valve Inspection	3
71111.19	Procedures	SYS EF-201	ESW Screen Wash Operation	20A
71111.19	Procedures	SYS EG-400	Component Cooling Water System Fill and Vent	36
71111.19	Procedures	SYS GN-120	Containment Cooling System Operation	48

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
71111.19	Procedures	SYS KJ-124	Post Maintenance Run of Emergency Diesel Generator B	69
71111.19	Work Orders	Work Orders	13-364660, 13-372401, 15-399213-013, 15-402735, 15-406050, 16-418607, 17-432437-014, 18-441543-000, 18-441543-002, 18-442257, 18-442288, 18-442401, 18-443270, 18-443621-001, 18-443732, 18-443783, 19-451230-000	
71111.20	Corrective Action Documents	Condition Reports	137772, 138117, 138118, 139349	
71111.20	Drawings	C-OC1211	Auxiliary Building Area 1 Concrete Neat Lines Plan Floor EL. 1988'- 0"	12
71111.20	Drawings	C-OC1221	Auxiliary Building Area 2 Concrete Neat Lines Plan Floor EL. 1988' - 0"	7
71111.20	Drawings	M-12BB01	Piping & Instrumentation Diagram Reactor Coolant System	39
71111.20	Drawings	M-12BG01	Piping & Instrumentation Diagram Chemical and Volume Control System	24
71111.20	Drawings	M-OX1221	Auxiliary Building Area 2 Penetration Closure Plan Floor EL. 1988' - 0"	2
71111.20	Miscellaneous	APF 15C-002-01	Procedure Cover Sheet: Reload Low Power Physics Testing - RXE 01-002	27
71111.20	Miscellaneous	CO: D-OP-S-005	CO Coversheet: Secure System Per Procedure Before Tagging Drawing Revisions Must Be Verified - GTHZ0007	12/26/2019
71111.20	Miscellaneous	CO: R-BG-L-001	CO Coversheet: Secure System Per Procedure Before Tagging Drawing Revisions Must Be Verified - BGHV8149A	11/01/2019
71111.20	Miscellaneous	EmpCenter Data (15 Workers)	Work Hour Reports	09/07/2019 to 11/15/2019
71111.20	Miscellaneous	M-663-00017	Wolf Creek Nuclear Operating Corporation Penetration Seal Typical Details	W22
71111.20	Procedures	AP 13-001	Fatigue Management	20D
71111.20	Procedures	GEN 00-003	Hot Standby To Minimum Load	103
71111.20	Procedures	STN KU-001B	SBO DG to NB02 Functional Test	10
71111.20	Procedures	STS KJ-001A	Integrated D/G and Safeguards Actuation Test - Train A	65
71111.20	Procedures	STS KJ-001B	Integrated D/G and Safeguards Actuation Test - Train B	63
71111.22	Procedures	I-ENG-026	Local Leak Rate Test	7

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
71111.22	Procedures	STS EF-001A	ESW System Inservice Pump A & ESW A Check Valve Test	47
71111.22	Procedures	STS KJ-001B	Integrated D/G and Safeguards Actuation Test - Train B	63
71111.22	Procedures	STS PE-125	LLRT Valve Lineup for Penetration 25	9
71114.01	Corrective Action Documents	Condition Reports	119506,119507, 119869, 119911, 119915, 119941, 120109, 121171, 121173, 121729, 122130, 122348, 125976, 126201, 126213, 126222, 126240, 127643, 127649, 127651, 127665, 128016, 128018, 128019, 129197, 129586, 129774, 130241, 130282, 130286, 130296, 130301, 130306, 130313, 130321, 130440, 130679, 131782, 131802, 131821, 131822, 131851, 131944, 132067, 132249, 132417, 132424, 132430, 132450, 132772, 133765, 134128, 134497, 134924, 134930, 134933, 134946, 134948, 134953, 134964, 134966, 134967, 135038, 138628, 138707, 138723, 139116	
71114.01	Corrective Action Documents Resulting from Inspection	Condition Reports	138995, 139002, 139006, 139008, 139009, 139011, 139012, 139013, 139015, 139016, 139017, 139019, 139020, 139021, 139025, 139026, 139027, 139028, 139037, 139039, 139040, 139045, 139047, 139048, 139050, 139053, 139054, 139063, 139126, 139130	
71114.01	Miscellaneous	TR 2018-215	Training Request	
71114.01	Miscellaneous		Procedure Change Requests PCR 69855, PCR 69858, PCR69859	
71114.01	Miscellaneous	18-SA-02	Drill Type: Semi-Annual, Drill Requirements: Full Scope, HP, PPX, Communications Drill, Radiological Monitoring	11/15/2018
71114.01	Miscellaneous	APF 06-002-02	Emergency Action Levels Technical Bases	0B
71114.01	Miscellaneous	EP-06-002	Radiological Emergency Response Plan, R20	9/11/2019
71114.01	Miscellaneous	EPF 06-018-11	Technical Support Center Inventory Checklist	15
71114.01	Miscellaneous	EPF 06-018-12	Emergency Operations Facility Inventory Checklist	17
71114.01	Miscellaneous	RA 19-0014	Docket No. 50-482: Revision of One Procedure that Implements the Radiological Emergency Response Plan (RERP) for Wolf Creek Generating Station (WCGS)	1/30/2019
71114.01	Miscellaneous	RA 19-0022	Docket No. 50-482: Revision of Two Forms that Implement the Radiological Emergency Response Plan (RERP) for Wolf Creek Generating Station (WCGS)	2/11/2019

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
71114.01	Miscellaneous	RA 19-0059	Docket No. 50-482: Revision of Two Procedures and Four Forms that Implement the Radiological Emergency Response Plan (RERP) for Wolf Creek Generating Station (WCGS)	5/28/2019
71114.01	Procedures	AI 28A-010	Screening Condition Reports	31
71114.01	Procedures	AP 21-001	Conduct of Operations	83A
71114.01	Procedures	EPP 06-018	Maintenance of Emergency Facilities and Communications Checks	14
71114.01	Procedures	EPP 06-019	Alert and Notification System Sirens	9B
71114.01	Procedures	EPP-06-001	Control Room Operations, R30A	11/8/2019
71114.01	Procedures	EPP-06-002	Technical Support Center Operations, R43	9/11/2019
71114.01	Procedures	EPP-06-003	Emergency Operations Facility Operations, R27	9/11/2019
71114.01	Procedures	EPP-06-005	Emergency Classification, R9A	2/14/2019
71114.01	Procedures	EPP-06-006	Protective Action Recommendations, R10	9/26/2019
71114.01	Procedures	EPP-06-007	Emergency Notifications, R26	9/26/2018
71114.01	Procedures	EPP-06-009	Drill and Exercise Requirements, R11A	11/13/2018
71114.01	Procedures	EPP-06-011	Emergency Team Formation and Control, R12	9/11/2019
71114.01	Procedures	EPP-06-013	Exposure Control and Personnel Protection, R6A	5/6/2018
71114.01	Procedures	EPP-06-015	Emergency Response Organization Callout, R14	9/30/2015
71114.04	Corrective Action Documents	Condition Reports-	126669, 129586	
71114.04	Corrective Action Documents Resulting from Inspection	Condition Reports	139133	
71114.04	Miscellaneous		E-Plan Screening - Activity/Document Number: APF 06-002-02, Revision: 0B	1/10/2019
71114.04	Miscellaneous		E-Plan Screening - Activity/Document Number: APF 06-002-03, Revision: 0B	1/14/2019
71114.04	Miscellaneous	ML19052A546	Wolf Creek Generating Station, Unit 1 - Issuance of Amendment Re: Revision to the Emergency Plan (EPID L-2018-LLA-0138)	4/1/2019
71114.04	Miscellaneous	STARS 480	Changes to the Emergency Plan description that do not reduce the commitments set forth in the previously-approved	7/1/2005

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
			Emergency Plan.	
71114.04	Miscellaneous	WO 18-0016	Docket No. 50-482: License Amendment Request (LAR) for Revision to the Emergency Plan	5/9/2018
71114.04	Miscellaneous	WO 18-0045	Docket No. 50-482: Response to Requests for Additional Information (RAI) Regarding License Amendment Request (LAR) for Revision to the Emergency Plan	11/19/2018
71114.04	Procedures	AP 26A-004	Communications with the Nuclear Regulatory Commission	22
71124.01	Corrective Action Documents	Condition Reports	119737, 119739, 119754, 119762, 120567, 120680, 120708, 120975, 121099, 121159, 121281, 121282, 121495, 121601, 121726, 122202, 124071, 124104, 122444, 124823, 125181, 125880, 126557, 126571, 126577, 127145, 128132, 129523, 131088	
71124.01	Procedures	AP 19C-002	Special Nuclear Material Safeguards and Accountability	16
71124.01	Procedures	AP 25B-100	Radiation Worker Guidelines	53
71124.01	Procedures	FHP 02-019	Spent Fuel Pool Exclusion Area	5
71124.01	Procedures	RPP 02-105	Radiation Work Permit (RWP)	49
71124.01	Procedures	RPP 02-210	Radiation Survey Methods	49B
71124.01	Procedures	RPP 02-215	Posting of Radiological Controlled Areas	34B
71124.01	Procedures	RPP 02-605	Control and Inventory of Radioactive Sources	19
71124.01	Radiation Work Permits (RWPs)	192300	Crane Operators, Riggers, Iron Workers, Tool Crib Workers, Fire Watch, Coatings, Housekeeping, and Cleaner Support Personnel	0
71124.01	Radiation Work Permits (RWPs)	194482	IRV Head Disassembly to include Canopy Seal Clamp (Vendor Activities)	2
71124.01	Radiation Work Permits (RWPs)	194483	RV Head Reassembly to include Canopy Seal Clamp (Vendor Activities)	1
71124.01	Self-Assessments	QS 2019-3094	Quality Assurance Review: Temporary Shielding Request Packages	10/03/2019
71124.01	Self-Assessments	Quick Hit 2019-1893	NRC Inspection Procedure 71124.01, Radiological Hazard Assessment and Exposure Controls	04/17/2019
71124.03	Corrective Action Documents	Condition Reports	120334, 120975, 121159, 121281, 121282, 122130, 122348, 124071, 126557, 126577, 127145, 128131, 130911, 135180, 136261, 136365, 136370,	
71124.03	Procedures	AI 14-009	Industrial Respiratory Protection Program	7

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
71124.03	Procedures	AI-10-001	Fire Brigade Equipment Inventory, Maintenance and Cleaning	13
71124.03	Procedures	AP 25B-100	Radiation Worker Guidelines	53
71124.03	Procedures	AP 25B-600	Respiratory Protection Program at Wolf Creek	9
71124.03	Procedures	GT1245302	Self-Contained Breathing Apparatus User	16
71124.03	Procedures	RPP 02-105	RWP	49
71124.03	Procedures	RPP-03-310	Respiratory Protection Equipment	21
71124.03	Procedures	SYS GG-201	Fuel Building HVAC System Operation	10A
71124.03	Procedures	SYS GT-121	Containment Shutdown Purge System Operation	34
71124.03	Radiation Work Permits (RWPs)	180049	Decon Inside High Radiation Areas, High Contamination Areas, Discrete Radioactive Particle Area, and Alpha Level 2 Areas	0
71124.03	Radiation Work Permits (RWPs)	182300	Crane Operators, Riggers, Iron Workers, Tool Crib Workers, Fire Watch, Coatings, Housekeeping & Cleaner Support Personnel	0
71124.03	Radiation Work Permits (RWPs)	194050	SI "B" Pump and Motor Work/Inspection 1974'Aux Room 1108	0
71124.03	Radiation Work Permits (RWPs)	196000	Lower Refueling Cavity Pre and Post Flooding Maintenance Activities	1
71124.03	Self-Assessments	Quick Hit Number 2019-1894	NRC Inspection Procedure 71124.03, In-Plant Airborne Radioactivity Control and Mitigation	
71151	Corrective Action Documents	Condition Reports	126201, 126533, 129679, 132774, 133765, 133805, 133901	
71151	Miscellaneous		MSPI Derivation Report - MSPI Residual Heat Removal System - Unavailability Index	12/11/2019
71151	Miscellaneous		MSPI Derivation Report - MSPI Residual Heat Removal System - Unreliability Index	12/11/2019
71151	Miscellaneous		MSPI Derivation Report - MSPI Residual Heat Removal System - Performance Limit Exceeded	12/11/2019
71151	Miscellaneous		MSPI Derivation Report - MSPI Heat Removal System - Unreliability Index	12/11/2019
71151	Miscellaneous		MSPI Derivation Report - MSPI Heat Removal System - Unavailability Index	12/11/2019
71151	Miscellaneous		MSPI Derivation Report - MSPI Residual Heat Removal	12/11/2019

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			System - Performance Limit Exceeded	
71151	Miscellaneous	LER 2018-001-00	Inappropriate Use of Blind Flange for Containment Isolation Valve Results in Condition Prohibited by Technical Specifications	10/04/2018
71151	Miscellaneous	LER 2018-002-00	Modification Activities Affected Control Room Envelope Boundary Causing a Condition Prohibited by Technical Specifications	02/27/2019
71151	Miscellaneous	LER 2019-001-00	Loss of Startup Transformer Results in Emergency Diesel Generator Actuation	07/18/2019
71151	Miscellaneous	STN CH-024	Quarterly/Yearly Dose Projections: April 17, 2018, through September 19, 2019	
71151	Miscellaneous	WCNOC-163	Mitigating System Performance Index (MSPI) Basis Document	12
71151	Procedures	AI 26A-008	INPO/NRC/STARS Performance Indicator Guidelines	3
71151	Procedures	AP 26A-007	NRC Performance Indicators	11
71151	Procedures	EPP-06-019	Alert and Notification Siren Systems, R9B	10/18/2018
71151	Procedures	EPP-06-022	Tone Alert Radio Maintenance/Compensatory Measures	11/13/2018
71151	Work Orders		WR19130402, WR19452760	
71152	Corrective Action Documents	Condition Reports	122351, 123083, 123084, 129698, 132017, 132610, 132652, 132744, 133430, 133543, 133907, 133935, 133979, 133982, 134101, 134102, 134103, 134106, 134722, 134889, 134984, 135205, 135873, 135891, 135950, 136226, 136383, 136412, 136640, 136641, 136672, 136683, 136688, 136709, 136744, 136749, 136750, 136752, 136790, 136801, 136802, 136803, 136804, 136805, 136810, 136851, 136924, 137699, 138224, 138754, 139225	
71152	Drawings	1464F11	Thermal Sleeve	2
71152	Drawings	M-703-00055	Closure Head (SAP) General Assembly	W02
71152	Engineering Evaluations	LTR-RIDA-18-223	Evaluation of Thermal Sleeve Flange and OD/ID Wear Conditions and Recommendations	0
71152	Engineering Evaluations	PWROG-16003-P	Evaluation of Potential Thermal Sleeve Flange Wear	0
71152	Engineering Evaluations	PWROG-16003-P	Evaluation of Potential Thermal Sleeve Flange Wear	1

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
71152	Miscellaneous	MRP 2018-010	Notification of Recent PWR CRDM Thermal Sleeve Flange Wear and Control Rod Motion Stoppage Operating Experience and Recommended Plant Actions	03/20/2018
71152	Miscellaneous	TB-07-2	Reactor Vessel Head Adapter Thermal Sleeve Wear	3
71153	Corrective Action Documents	Condition Reports	13957, 15576, 18497, 20105, 32801, 132693, 134184, 134814	
71153	Drawings	11 908 663	Valve, Thermostatic 3-Way ICW ASME Sect. III, CL 3	05/10/1977
71153	Drawings	11 908 664	Valve, Thermostatic 3-Way J.W. ASME Sect. III, CL 3	05/10/1977
71153	Drawings	11 908 665	Valve, Thermostatic 3-Way L.O. ASME Sect. III, CL 3	05/10/1977
71153	Drawings	N-84984-E2	5" 3-Way Temp. Regulatory ANSI Class 150 Steel	0
71153	Miscellaneous	APF 24G-001-01	Commercial Grade Dedication Package Number 009-P0002	2
71153	Miscellaneous	APF 28A-000-01	Performance Improvement Request Initiation: PIR 2004-2160	08/21/2004
71153	Miscellaneous	APF 28A-001-01	Performance Improvement Request Initiation: PIR 2004-2160	08/21/2004
71153	Miscellaneous	LER 2019-002-00	Emergency Diesel Generator Inoperable Due to Temperature Control Valve Failure	10/14/2019
71153	Miscellaneous	Letter NO 92-0195	Docket No. 50-482: Special Report 92-002	07/08/1992
71153	Miscellaneous	PIR 1999-1886		
71153	Miscellaneous	PIR 2000-2462		
71153	Miscellaneous	PIR 2004-2160		
71153	Miscellaneous	Product Specification I-1285-P, Q, S, T	Robertshaw Sales Manual Section 351	
71153	Miscellaneous	WCNOC-67	Shelf Life Guidelines	9
71153	Miscellaneous	WM 93-0024	Docket No. 50-482; Special Report 89-003, WCNOC Letter NO 90-0009 dated January 8, 1990, from J.A. Bailey, WCNOC to NRC	02/18/1993
71153	Procedures	ALR 501	Standby Diesel Engine System Control Panel KJ-121	29
71153	Procedures	AP 24E-007	Stored Item Maintenance, Shelf Life, Storage Level & Storage Packaging	5
71153	Work Orders		00-220529-050, 01-227134-000, 01-230949-002, 19-450841-000, 19-453254-000, 19-453567-002	

