



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

February 11, 2019

Mr. Adam C. Heflin, President
and Chief Executive Officer
Wolf Creek Nuclear Operating Corporation
P.O. Box 411
Burlington, KS 66839

SUBJECT: WOLF CREEK GENERATING STATION – NRC INTEGRATED INSPECTION
REPORT 05000482/2018004

Dear Mr. Heflin:

On December 31, 2018, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Wolf Creek Generating Station. On January 23, the NRC inspectors discussed the results of this inspection with Mr. C. Reasoner, Chief Nuclear Officer and Senior Vice President, and other members of your staff. The results of this inspection are documented in the enclosed report.

NRC inspectors documented two findings of very low safety significance (Green) in this report. Both of these findings involved violations of NRC requirements. Further, inspectors documented two licensee-identified violations, which were determined to be of very low safety significance in this report. The NRC is treating these violations as non-cited violations (NCVs) consistent with Section 2.3.2 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 Wolf Creek Generating Station.

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 Wolf Creek Generating Station.

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/

Nicholas H. Taylor, Chief
Project Branch B
Division of Reactor Projects

Docket No. 50-482
License No. NPF-42

Enclosure:
Inspection Report 05000482/2018004
w/Attachment: Documents Reviewed

cc: Electronic Distribution to Wolf Creek
Generating Station

U.S. NUCLEAR REGULATORY COMMISSION
Inspection Report

Docket Number: 05000482

License Number: NPF-42

Report Number: 05000482/2018004

Enterprise Identifier: I-2018-004-0012

Licensee: Wolf Creek Nuclear Operating Corporation

Facility: Wolf Creek Generating Station

Location: Burlington, Kansas

Inspection Dates: October 1, 2018, to December 31, 2018

Inspectors: D. Dodson, Senior Resident Inspector
F. Thomas, Resident Inspector
E. Combs, Project Engineer
J. Melfi, Project Engineer
D. Proulx, Senior Project Engineer
B. Tharakan, Senior Project Engineer
P. Vossmar, Senior Resident Inspector

Approved By: N. Taylor
Chief, Project 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. NRC-identified and self-revealed findings, violations, and additional items are summarized in the table below. Licensee-identified non-cited violations are documented in the Inspection Results at the end of this report.

List of Findings and Violations

Failure to Identify and Perform Required Design Basis Testing of the Class 1E Electrical Equipment Air Conditioning Recirculation Subsystem			
Cornerstone	Significance	Cross-cutting Aspect	Inspection Procedure
Mitigating Systems	Green NCV 05000482/2018004-01 Closed	[H.3] – Change Management	71111.22 – Surveillance Testing
The inspectors identified a Green, non-cited violation of 10 CFR Part 50, Criterion XI, "Test Control," for the licensee's failure to perform testing in accordance with written test procedures incorporating design basis requirements and acceptance limits. Specifically, design basis flow rates for the Class 1E electrical equipment air conditioning recirculation subsystem were not incorporated into testing procedures or other instructions to test the system on an ongoing basis. As a result, unacceptable degradation of recirculation system air flow rates would not have been identified.			

Programmatic Deficiencies in the Control and Separation of Stainless Steel Tools			
Cornerstone	Significance	Cross-cutting Aspect	Inspection Procedure
Initiating Events	Green NCV 05000482/2018004-02 Closed	[H.9] – Training	71152 – Problem Identification and Resolution
The inspectors identified a Green, non-cited violation of 10 CFR Part 50, Criterion V, "Instructions, Procedures, and Drawings," which requires, in part, that activities affecting quality shall be accomplished in accordance with instructions, procedures, or drawings. Specifically, the inspectors identified a programmatic failure to adequately implement control and separation of stainless steel tools in accordance with Procedure, AI 12-003, "Control and Separation of Tools to be Used on Stainless Steel," Revision 1, which required, in part, that tools/equipment designated for stainless steel use only, shall be identified, stored, and issued in accordance with this procedure. If left uncorrected, the failure to adequately control and separate tools would have the potential to lead to a more significant safety concern such as corrosion of safety system piping or an initiating event.			

Additional Tracking Items

Type	Issue number	Title	Inspection Procedure	Status
LER	05000482/2017-003-00	ARV and MSSV Tornado Missile Vulnerabilities Result in Unanalyzed Condition	71153 Inspection Results	Discussed
LER	05000482/2018-001-00	Inappropriate Use of Blind Flange for Containment Isolation Valve Results in Condition Prohibited by Technical Specifications	71153 Inspection Results	Closed

PLANT STATUS

Wolf Creek Generating Station began the inspection period operating at full power. On December 16, 2018, operators reduced power to approximately 98 percent following main feedwater regulating valve erratic operation. Following maintenance activities the plant was restored to approximately full power on December 21, 2018, and the plant operated at or near full power for the remainder of the 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 (1 Sample)

The inspectors evaluated readiness for seasonal extreme weather conditions prior to the onset of seasonal cold temperatures.

71111.04—Equipment Alignment

Partial Walkdown (4 Samples)

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

- (1) Containment purge system on November 5, 2018
- (2) Train A Class 1E electrical equipment air conditioning unit SGK05A and other control building heating, ventilation, and air conditioning system components on November 6 and 7, 2018
- (3) Class 1E 125 volt direct current supply trains A and B on November 13, 2018
- (4) Emergency exhaust system trains A and B on December 26, 2018

71111.05AQ—Fire Protection Annual/Quarterly

Quarterly Inspection (4 Samples)

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

- (1) Control building, elevation 1,984 feet, fire area C-6, access control area, above and below suspended ceiling and southwest stairway, on October 4, 2018, and December 18, 2018
- (2) Auxiliary building, elevation 1,974 feet, fire area A-2, safety related pump rooms, train A, on December 21, 2018
- (3) Auxiliary building, elevation 2,000 feet, fire area A-14, auxiliary feedwater pump room, train A, on December 21, 2018
- (4) Auxiliary building, elevation 2,047 feet, fire area A-19, general area, building filter and heating, ventilation, and air conditioning units, on December 21, 2018

71111.06—Flood Protection Measures

Internal Flooding (1 Sample)

The inspectors evaluated internal flooding mitigation protections in auxiliary feedwater corridor areas on December 13, 2018.

71111.11—Licensed Operator Regualification Program and Licensed Operator Performance

Operator Regualification (1 Sample)

The inspectors observed and evaluated licensed operator simulator regualification activities that included multiple instrument and component malfunctions, a failure of the reactor to trip in automatic, and a loss of feedwater scenario on October 23, 2018.

Operator Performance (1 Sample)

The inspectors observed and evaluated control and shutdown rod operability verification in accordance with Procedure STS SF-001, "Control and Shutdown Rod Operability Verification," on October 18, 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) Performance of the 2018 maintenance rule program (a)(3) periodic assessment, dated August 21, 2018

- (2) Failure of motor control center XNG04D distribution transformer ground fault relay during testing on September 13, 2017

Quality Control (1 Sample)

The inspectors evaluated maintenance and quality control activities associated with essential service water train A strainer motor lead inspections and terminations on November 13, 2018, and quality control ultrasonic testing of train B essential service water strainer piping leakage on November 27, 2018.

71111.13—Maintenance Risk Assessments and Emergent Work Control (1 Sample)

The inspectors evaluated the risk assessments for unplanned and emergent work activities associated with steam generator B main feedwater regulating valve erratic operation between December 17 and December 20, 2018.

71111.15—Operability Determinations and Functionality Assessments (1 Sample)

The inspectors evaluated the operability determination associated with essential service water system train B through wall leakage on October 6, 2018.

71111.18—Plant Modifications (1 Sample)

The inspectors evaluated Temporary Modification TMO-16-010-BG, "Outboard Bearing Housing on PBG05B," associated with train B centrifugal charging pump B.

71111.19—Post Maintenance Testing (8 Samples)

The inspectors evaluated the following post-maintenance tests:

- (1) Train B control room air conditioning unit SGK04B following planned maintenance on October 3, 2018
- (2) Technical support center diesel following unplanned non-functionality on October 5, 2018
- (3) Refueling water storage tank to residual heat removal pump B suction valve BNHV8812B following planned maintenance on October 10, 2018
- (4) Residual heat removal pump train B following planned maintenance on October 10, 2018
- (5) Train A emergency diesel generator following planned maintenance on October 17, 2018
- (6) Station blackout diesel generators following fix-it-now maintenance on October 24, 2018
- (7) Containment cooler fan D, SGN01D, following planned maintenance on October 30, 2018
- (8) Train B Class 1E electrical equipment air conditioning unit SGK05B following planned maintenance on November 7, 2018

71111.22—Surveillance Testing

The inspectors evaluated the following surveillance tests:

Routine (2 Samples)

- (1) STN GK-001A, "Class 1E Recirculation System Train A Functional Test," on October 24, 2018
- (2) STN RP-002E, "[Emergency Diesel Generator] Control [Circuit] and [Fuel Oil Transfer] Pump [Isolation] Switch," on October 29, 2018

In-service (1 Sample)

- (1) STS SJ-201, "Nuclear Sample System Inservice Valve Test," on September 19, 2018

OTHER ACTIVITIES – BASELINE

71151—Performance Indicator Verification (3 Samples)

The inspectors verified licensee performance indicator submittals listed below:

- (1) MS05: Safety System Functional Failures (SSFFs) Sample (10/01/2017–09/30/2018)
- (2) MS08: Heat Removal Systems (10/01/2017–09/30/2018)
- (3) MS09: Residual Heat Removal Systems (10/01/2017–09/30/2018)

71152—Problem Identification and Resolution

Semiannual Trend Review (1 Sample)

The inspectors reviewed the licensee's corrective action program for trends in the area of safety conscious work environment (SCWE) and mitigating system performance indicator accounting and reporting that might be indicative of more significant safety issues.

Annual Follow-up of Selected Issues (2 Samples)

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

- (1) Design basis strategy to achieve cold shutdown following a loss of offsite power and a single failure impacting the station's ability to open a residual heat removal suction isolation valve on November 21, 2018
- (2) Stainless steel tool use and separation program on December 17 through 21, 2018

71153—Follow-up of Events and Notices of Enforcement Discretion

Licensee Event Reports (1 Sample)

The inspectors evaluated Licensee Event Report 05000482/2018-001-00, "Inappropriate Use of Blind Flange for Containment Isolation Valve Results in Condition Prohibited by Technical Specifications," dated October 4, 2018, which can be accessed at <https://lersearch.inl.gov/LERSearchCriteria.aspx>.

INSPECTION RESULTS

Licensee-Identified Non-Cited Violation	71111.04 – Equipment Alignment
<p>This violation of very low safety-significance was identified by the licensee and has been entered into the licensee corrective action program and is being treated as a non-cited violation, consistent with Section 2.3.2 of the Enforcement Policy.</p>	
<p>Violation: Technical Specification 5.4.1.a, requires, in part, that procedures shall be established, implemented, and maintained covering the applicable procedures recommended by Regulatory Guide 1.33, Appendix A, Revision 2. Section 9.a of Appendix A of Regulatory Guide 1.33, Revision 2, states, in part, that "maintenance that can affect the performance of safety-related equipment should be properly pre-planned and performed in accordance with written procedures, documented instructions, or drawings appropriate to the circumstances." The licensee established Procedure AP 30A-005, "Training and Qualification," to meet the Regulatory Guide 1.33 requirement. Step 6.6.3 of Procedure AP 30A-005 requires, in part, that no person shall be considered qualified until the individual's name is reflected in the respective qualification database.</p> <p>Contrary to the above, from April 8, 2018, until May 31, 2018, persons were considered qualified before the individuals' names were reflected in the respective qualification database. Specifically, during modification work in Refueling Outage 22 on the train B essential service water supply and return lines to the essential switchgear cooling units, individuals whose names were not reflected in the respective qualification database and who were not qualified via an exception, incorrectly installed pipe supports. As a result, the safety-related essential service water system was degraded from May 2018 until August 2, 2018, when bolts on the pipe support were verified to be satisfactory.</p> <p>Significance/Severity Level: The inspectors determined the performance deficiency was more than minor because it adversely affected the human performance attribute of the Mitigating Systems Cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors assessed the significance of the finding using Exhibit 2, "Mitigating Systems Screening Questions," of Inspection Manual Chapter 0609, Appendix A, "Significance Determination Process (SDP) for Findings At-Power," issued June 19, 2012, and determined this finding affected the design or qualification of a mitigating structure, system, and component (SSC) and that SSC maintained its operability. Therefore, the inspectors determined the finding was of very low safety significance (Green).</p> <p>Corrective Action References: Condition Reports 123902, 124107, and 129581</p>	

Failure to Identify and Perform Required Design Basis Testing of the Class 1E Electrical Equipment Air Conditioning Recirculation Subsystem			
Cornerstone	Significance	Cross-cutting Aspect	Inspection Procedure
Mitigating Systems	Green NCV 05000482/2018004-01 Closed	[H.3] – Change Management	71111.22 – Surveillance Testing
<p>The inspectors identified a Green, non-cited violation of 10 CFR Part 50, Criterion XI, “Test Control,” for the licensee’s failure to perform testing in accordance with written test procedures incorporating design basis requirements and acceptance limits. Specifically, design basis flow rates for the Class 1E electrical equipment air conditioning recirculation subsystem were not incorporated into testing procedures or other instructions to test the system on an ongoing basis. As a result, unacceptable degradation of recirculation system air flow rates would not have been identified.</p>			
<p><u>Description:</u> The Class 1E electrical equipment air conditioning trains (SGK05A and SGK05B) provide a suitable environment for the Class 1E electrical equipment. These trains are operated in a continuous recirculation mode to maintain the engineered safety feature switchgear rooms at a temperature of less than or equal to 90 degrees Fahrenheit. With one Class 1E electrical equipment air conditioning train inoperable, the system design includes a recirculation subsystem that provides adequate area cooling for both trains of electrical equipment during normal and accident conditions. The recirculation subsystem’s installation was completed in the Spring of 2018.</p> <p>Design Change Package 14269, “Permanent Compensatory Modifications,” Revision 6, implemented this design change that included new permanently installed fans, ductwork, dampers, and other components. The licensee also documented Calculation GK-M-016, “Wolf Creek Control Building Loss of Class 1E [Air Conditioning] Gothic Room Heat Up Analysis With Installed Crosstie Fans and Louvers,” Revision 2, and utilized GK-E-001, “Electrical Equipment Heat Loads in [Engineered Safety Feature Switchgear, Direct Current Switchboard] and Battery Rooms,” Revision 5, to confirm a single Class 1E electrical equipment air conditioning train could maintain area temperatures for both trains of electrical equipment with the implementation of mitigating actions of placing a permanently installed recirculation subsystem train in service. Additionally, the licensee created Technical Requirements Manual Surveillance Requirement 3.7.23.2 to verify each Class 1E electrical equipment air conditioning recirculation subsystem train actuates and provides recirculation air flow on an 18 month frequency.</p> <p>Work Order 16-414781-000 implemented Design Change Package 14269. Work Order 16-414781-157, which was performed on April 22, 2018, performed post modification testing that verified train A air flow rates associated with subsystem fans and air conditioning units CGK05A, CGK06A, CGK07A, and SGK05A. Similarly, Work Order 16-414781-158, which was performed on May 10, 2018, performed post modification testing that verified train B air flow rates associated with subsystem fans and air conditioning units CGK05B, CGK06B, CGK07B, and SGK05B. The inspectors previously observed portions of these post-modification verification activities and noted the satisfactory but tight margins associated with some of the air flows. Post modification testing acceptance criteria and actual results are shown in the following table.</p>			

Subsystem SSCs	Air Flow Acceptance Criteria (at designated locations)	Actual Post Modification Flow (at designated locations)
CGK05A Fan	6,379 cubic feet per minute (cfm)	9,208 cfm
CGK06A Fan	6,379 cfm	7,052 cfm
CGK07A Fan	4,706 cfm	4,752 cfm
SGK05A A/C Unit & Fan	10,673 cfm	11,973.5 cfm
CGK05B Fan	6,379 cfm	8,408 cfm
CGK06B Fan	6,379 cfm	9,124 cfm
CGK07B Fan	4,500 cfm	5,103 cfm
SGK05B A/C Unit & Fan	11,168 cfm	11,179.25 cfm

On October 24, 2018, the inspectors observed the first time performance of STN GK-001A, "Class 1E Recirculation System Train 'A' Functional Test," Revision 0. The procedure's purpose is to demonstrate proper operation of the train A Class 1E electrical equipment air conditioning recirculation subsystem fan and associated dampers. The acceptance criteria section of the procedure states, "Perform a start of 'A' recirculation subsystem train, verify fan running indication, verify the correct damper position indications (light indications or local) and verify air flow into the associated rooms." Step 8.1.3 performs the verification of air flow in three locations—it states, "...Verify air flow from the outlet of damper GK HZ-192...Verify air flow from outlet of CGK06A...Verify air flow from CGK05A..." To accomplish Step 8.1.3, test performers used their hands or tape on a stick to verify air flow. The inspectors questioned how test performers holding up their hands to feel for air flow adequately tested the system to ensure the design basis air flows were being achieved. The inspectors also noted that neither Step 8.1.3, nor any other step, procedure, nor preventive maintenance task measured air flow against specific quantitative criteria. Unless the fan failed to start or run, the test would not have been able to reasonably detect a degradation in the system's air flow characteristics, which, in some cases, have a small amount of margin. Therefore, the inspectors concluded that the procedure did not adequately test the system's air flow against the established design basis requirements and demonstrate proper operation of the system.

Corrective Actions: The licensee documented the concern in Condition Report 128121 and plans to revise the testing procedure to incorporate flow testing.

Corrective Action Reference: Condition Reports 128121 and 129579

Performance Assessment:

Performance Deficiency: The failure to perform testing in accordance with written test procedures incorporating design requirements and acceptance limits was a performance deficiency.

Screening: The inspectors determined the performance deficiency was more than minor because it adversely affected the procedure quality attribute of the Mitigating Systems Cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). Specifically, unacceptable degradation of recirculation system flow rates would not have been identified.

Significance: The inspectors assessed the significance of the finding using Exhibit 2, “Mitigating Systems Screening Questions,” of Inspection Manual Chapter 0609, Appendix A, “Significance Determination Process (SDP) for Findings At-Power,” issued June 19, 2012, and determined this finding is not a deficiency affecting the design or qualification of a mitigating SSC, the finding does not represent a loss of system and/or function, the finding does not represent an actual loss of function of at least a single train for greater than its Technical Specification allowed outage time or two separate safety systems out-of-service, and the finding does not represent an actual loss of function of one or more non-Technical Specification trains of equipment designated as high safety-significant in accordance with the licensee’s maintenance rule program. Therefore, the inspectors determined the finding was of very low safety significance (Green).

Cross-Cutting Aspect: The inspectors determined that the finding has a human performance cross-cutting aspect in the area of change management in that leaders did not use a systematic process for evaluating and implementing change so that nuclear safety remains the overriding priority. Specifically, managers did not maintain a clear focus on nuclear safety when implementing the change management process during recent modification package implementation to ensure that significant unintended consequences are avoided. As a result, design required performance criteria for recirculation system testing were not incorporated into applicable testing procedures.

Enforcement:

Violation: Title 10 CFR Part 50, Appendix B, Criterion XI, “Test Control,” requires, in part, that required testing is identified and performed in accordance with written test procedures that incorporate the requirements and acceptance limits contained in applicable design documents.

Contrary to the above, from May 2018 until January 23, 2018, all required testing was not identified and performed in accordance with written test procedures that incorporate the requirements and acceptance limits contained in applicable design documents. Specifically, the licensee failed to identify in testing procedures design basis required performance criteria for Class 1E electrical equipment air conditioning recirculation subsystem air flows in specific locations. As a result, unacceptable degradation of Class 1E electrical equipment air conditioning recirculation subsystem air flows rates would not have been identified.

Enforcement Action: This violation is being treated as a non-cited violation, consistent with Section 2.3.2 of the Enforcement Policy.

Programmatic Deficiencies in the Control and Separation of Stainless Steel Tools			
Cornerstone	Significance	Cross-cutting Aspect	Inspection Procedure
Initiating Events	Green NCV 05000482/2018004-02 Closed	[H.9] - Training	71152 – Problem Identification and Resolution
The inspectors identified a Green, non-cited violation of 10 CFR Part 50, Criterion V, “Instructions, Procedures, and Drawings,” which requires, in part, that activities affecting quality shall be accomplished in accordance with instructions, procedures, or drawings. Specifically, the inspectors identified a programmatic failure to adequately implement control			

and separation of stainless steel tools in accordance with Procedure, AI 12-003, "Control and Separation of Tools to be Used on Stainless Steel," Revision 1, which required, in part, that tools/equipment designated for stainless steel use only shall be identified, stored, and issued in accordance with this procedure.

Description: As of result of the inspectors' questions about control and separation of stainless steel tools and equipment, the licensee conducted an audit of the stainless steel tool control program. The following deficiencies were identified and documented in Condition Report 125600 on August 6, 2018:

- No stainless steel program owner was established in accordance with Procedure AI 12-003.
- Corrective actions implemented in 2012 and documented in Condition Report 36444 required pre-outage training for contractors/supplemental personnel, which has not occurred since 2016.
- Training to onsite maintenance personnel was discontinued after initial just-in-time training in 2012.

The inspectors also performed tours of the tool rooms and interviewed maintenance personnel. The inspectors identified that licensee personnel were justifying the use of uncontrolled tools in the tool rooms for use in stainless steel applications. Additionally, the inspectors identified multiple tool storage areas in the plant where tools were stored in unlocked and uncontrolled drawers marked as stainless steel or "S.S.," or where tools were stored in unlocked and uncontrolled drawers and possibly being marked for stainless steel use. The licensee initiated Condition Reports 128104, 128116, 128124, and 128330 to address the inspectors' questions and observations.

Procedure AI 12-003, Section 6.1, "Tool Rooms," Step 6.1.1, states that tools and equipment designated for stainless steel use only, shall be identified, stored, and issued such that a tool is clearly marked identifying the tool for stainless steel use only. Step 6.1.2 states, "Store tools/equipment designated for stainless steel use only in designated storage location (drawer/s) marked clearly as 'Stainless Steel Use Only'." Step 6.1.2.1, states, "Storage locations shall be locked when not in use."

The inspectors reviewed previous condition reports written since April 2018 and determined that the licensee performed additional tool control program spot checks in which the licensee's Quality Assurance department identified the following additional deficiencies:

- The licensee identified stainless steel tools in the pipe fabrication shop that were in an unlocked stainless steel storage container, improperly marked stainless steel tools, rusty stainless steel tools indicating possible contamination with carbon steel, and stainless steel tools not segregated from general use tools.
- Cadmium plated washers and bolts were stored in the stainless steel only drawer in the hot tool room.
- Procedure AI 12-003 tasks were performed 11 times by personnel who had not received the required training prior to performing these tasks.

The inspectors determined that station personnel were not adequately trained on the tool separation requirements as required by the procedure. When the licensee's quality assurance department identified that personnel performing tool control inventory and separation activities were not receiving initial or recurring training on the tool separation requirements, the licensee decided to remove the training from the training system and rely on personnel following the written procedure. However, based on the answers to the inspectors' questions about tool separation requirements, it was apparent that individuals performing these tasks were neither adequately aware of the requirements nor adequately trained on the requirements. The inspectors did not identify any contamination of stainless steel structures, systems, or components in the plant; however, because of the multiple deficiencies identified since April of 2018, the inspectors concluded that a programmatic failure of the licensee's stainless steel tool control program to prevent or eliminate cross contamination of stainless steel tools and equipment had occurred.

Corrective Actions: The licensee has implemented new training requirements for personnel involved with the control and separation of stainless steel tools.

Corrective Action References: Condition Reports 125600, 128104, 128116, 128124, 128330, and 129578

Performance Assessment:

Performance Deficiency: The failure to follow the programmatic requirements of Procedure AI 12-003, "Control and Separation of Tools to be used on Stainless Steel," was a performance deficiency.

Screening: The inspectors determined the performance deficiency was more than minor because it adversely affected the human performance attribute of the Initiating Events Cornerstone objective to limit the likelihood of events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Specifically, if left uncorrected, the failure to adequately control and separate tools would have the potential to lead to a more significant safety concern such as corrosion of safety system piping or an initiating event.

Significance: The inspectors assessed the significance of the finding using Exhibit 1, "Initiating Events Screening Questions," of Inspection Manual Chapter 0609, Appendix A, "Significance Determination Process (SDP) for Findings At-Power," issued June 19, 2012, and determined this finding did not result in exceeding the reactor coolant system leak rate for a small loss of coolant accident and could not have likely affected other systems used to mitigate a loss of coolant accident resulting in a total loss of function. Therefore, the inspectors determined the finding was of very low safety significance (Green).

Cross-Cutting Aspect: The inspectors determined that the finding has a human performance cross-cutting aspect in the area of training in that the organization did not provide training and ensure knowledge transfer to maintain a knowledgeable, technically competent workforce and instill nuclear safety values. Specifically, individuals, including supplemental workers, were not adequately trained on the stainless steel tool control program to ensure technical competency and an understanding of standards and work requirements. As a result, stainless steel tools were not properly controlled and could have contaminated stainless steel SSCs in the plant.

Enforcement:

Violation: Title 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings", requires, in part, that activities affecting quality shall be prescribed by documented instructions, procedures, or drawings, of a type appropriate to the circumstances and shall be accomplished in accordance with these instructions, procedures, or drawings. Licensee Procedure AI 12-003, "Control and Separation of Tools to be used on Stainless Steel," an Appendix B quality related procedure, provides instructions for controlling and maintaining separation of tools to be used on stainless steel. Procedure AI 12-003, Steps 6.1.1, 6.1.2, and 6.1.2.1, required, in part, that tools and equipment designated for stainless steel use only shall be identified, appropriately marked for stainless steel use only, stored in designated storage locations, and that storage locations are locked when not in use.

Contrary to the above, from April 2018 through November 2018, tools and equipment designated for stainless steel use only were not identified, appropriately marked for stainless steel use only, stored in designated storage locations, and storage locations were not locked when not in use. Specifically, the licensee failed to implement the programmatic requirements of AI 12-003, "Control and Separation of Tools to be used on stainless Steel," Revision 1, resulting in the collocation of stainless and non-stainless steel tools which could have led to degradation of stainless steel SSCs in the plant.

Enforcement Action: This violation is being treated as a non-cited violation, consistent with Section 2.3.2 of the Enforcement Policy.

Observation	71152 – Problem Identification and Resolution
<p><u>Safety Conscious Work Environment (SCWE)</u></p> <p>The inspectors reviewed the licensee's progress in addressing the cross-cutting theme in the SCWE area, as discussed in the 2017 Annual Assessment Letter for Wolf Creek Generating Station (Inspection Report 05000482/2017006, Agencywide Documents Access and Management System (ADAMS) Accession No. ML18052A345). This semi-annual review effort included consideration of previous NRC reviews of the licensee's progress in addressing the SCWE theme, recent actions that Wolf Creek has completed and planned to address the cross-cutting theme in the SCWE area, and consideration of recent enforcement actions taken by the NRC.</p> <ul style="list-style-type: none">• Background <p>Inspection Report 05000482/2017004 (ADAMS Accession No. ML18043A114) contains a Green NCV of 10 CFR Part 50, Appendix B, Criterion V, for failure to initiate a condition report to evaluate the operability of control rod drive mechanisms that had boric acid residue on them. The inspectors determined that the finding had a SCWE cross-cutting aspect in the area of SCWE policy, in that an individual did not feel free to raise nuclear safety concerns without fear of retribution, with confidence that his/her concerns will be addressed. Specifically, an individual was reluctant to write a condition report to document boric acid residue on control rod drive mechanisms because he believed leaders were not concerned, and he did not want to diminish the relationship he had with the leaders.</p>	

Two additional problem identification and resolution inspection inputs documented a biennial team inspection (Inspection Report 0500482/2016009, ADAMS Accession No. ML6222A733) and a focused annual sample (Inspection Report 05000482/2017003, ADAMS Accession No. ML7311B223), which identified that some personnel within the security and maintenance departments would be reluctant to raise important issues (including nuclear safety issues) without fear of retaliation.

Considering all of this information, the NRC determined that a cross-cutting theme existed in the area of SCWE at Wolf Creek. This theme was documented in the 2017 Annual Assessment Letter for Wolf Creek Generating Station (Inspection Report 05000482/2017006, ADAMS Accession No. ML18052A345) on March 1, 2018.

- **Previous Inspection Efforts**

The NRC's review of the licensee's progress in addressing the SCWE theme was previously accomplished within the scope of the biennial problem identification and resolution inspection, which was completed on June 28, 2018. NRC Inspection Report 05000482/2018007 (ADAMS Accession No. ML18218A265), dated August 8, 2018, discusses the results of this inspection, which concluded that actions taken to address the work environment challenges in the maintenance support group had not yet been effective.

The problem identification and resolution inspection team noted that Condition Report 119954 and its associated apparent cause evaluation were performed by the licensee to evaluate circumstances that led to the SCWE cross-cutting theme following receipt of the NRC's 2017 Annual Assessment letter. The problem identification and resolution inspection team also noted that Condition Report 124660 documented the inspectors' observation that the licensee's effectiveness measures may validate that the planned actions have been accomplished but not whether they had been successful at correcting the deficiency they were intended to correct.

- **Recent Issues**

In a letter dated July 12, 2018 (ADAMS Accession No. ML18136A501), the NRC notified the licensee of an apparent violation of 10 CFR 50.7, "Employee protection," which the NRC was considering for escalated enforcement action in accordance with the NRC Enforcement Policy. The licensee initiated Condition Report 125270, which was downgraded from a significant condition adverse to quality and a root cause assessment to a condition adverse to quality and a find, fix, and action needed designation with a gap assignment (Action 125270-03-01).

On September 10, 2018, the NRC held a predecisional enforcement conference (PEC) at the NRC Headquarters office in Rockville, Maryland, with members of the licensee staff to discuss the apparent violation, its significance, the root cause(s), and any corrective actions. The licensee agreed to subsequently provide its corrective actions in writing. In a letter dated September 17, 2018 (ADAMS Accession No. ML18324A514), the licensee provided its corrective actions to the NRC.

In a letter dated December 17, 2018 (ADAMS Accession No. ML18333A043), the NRC issued EA-18-037, "Wolf Creek Nuclear Operating Corporation – Notice of Violation and Proposed Imposition of Civil Penalty - \$232,000 (Office of Investigations Report

No. 4-2017-020),” which determined that a contract employee engaged in protected activity when the employee initiated a condition report for an incident during the 2016 refueling outage, communicated related concerns directly to licensee management, and raised retaliation and SCWE concerns directly to licensee management. Subsequently, the former contractor was placed on paid administrative leave. The letter, dated December 17, 2018, also concluded that the licensee’s investigation did not focus on the concerns raised by the contract employee. Instead, the licensee’s investigation focused primarily on the contract employee’s behavior and did not review the employee’s claim of retaliation. The letter also states that the NRC considers violations of 10 CFR 50.7 significant because of the potential that individuals might not raise safety issues for fear of retaliation. Based on the level of management involved in the adverse action, this violation was categorized in accordance with the “NRC Enforcement Policy” at Severity Level II.

The licensee initiated Condition Report 128909 associated with the Severity Level II violation. As of January 8, 2019, the issue was considered by the licensee to be a significant condition adverse to quality requiring a root cause analysis, which had not yet been completed.

- **Completed Actions**

As previously noted, Condition Report 119954 and its associated apparent cause evaluation were performed by the licensee to evaluate circumstances that led to the SCWE cross-cutting theme following receipt of the NRC’s 2017 Annual Assessment letter. The inspectors noted that the apparent cause evaluation associated with Condition Report 119954 concluded that there were no significant SCWE issues identified, but it noted that some of the questionnaires indicated “potential work environment issues.” The evaluation went on to state, “While these were not SCWE issues, the behaviors associated with the identified work environment issues have many of the same behaviors that could cause SCWE concerns if left unchecked.” Actions to address these conclusions included Remedial Action 119954-03-05, “Develop Leadership Training,” which included a 1-day continuing leadership development presentation and a 1-day dynamic learning activity that included three activities to emphasize appropriate/inappropriate behaviors related to job performance appraisals, gossip in the workplace, and employee reluctance to use internal avenues for reporting concerns. Preventive Action 119954-03-06 required oral boards for leaders following completion of the dynamic learning activity.

Additional actions to address these conclusions included Remedial Action 119954-03-01, “Revise AI 36-001,” which revised Procedure AI 36-001, “Nuclear Safety Culture Panel,” to include changes in panel membership, quorum requirements, and scoring guidance. The purpose of AI 36-001 is described as, “An ongoing holistic, objective, transparent and safety-focused process, which uses the information available, to provide early indication of potential problems, linked to culture.” Revision 6 of AI 36-001, issued September 19, 2018, implemented Action 119954-03-01.

Other actions to address the conclusions included training corrective action program screening review team members on applying nuclear safety culture traits and attributes to condition reports; developing a charter for the Senior Leadership Team meeting, which includes work environment and safety culture topics on a set

periodicity; revising site meeting schedules to ensure time for supervisors to meet with personnel and perform observations; and implementing a requirement for new leaders to be assigned a mentor for a minimum period of six months.

As previously described, following the PEC on September 10, 2018, the licensee agreed to subsequently provide its corrective actions in writing. In a letter dated September 17, 2018 (ADAMS Accession No. ML18324A514), the licensee provided its corrective actions to the NRC. In a letter dated January 15, 2019 (ADAMS Accession No. ML19031C779), the licensee notified the NRC that the corrective actions documented in the September 17, 2018, letter to the NRC and in Condition Report 125270 have been completed. The inspectors validated a sampling of these actions were completed.

Specifically, on September 17, 2018, the licensee initiated Corrective Action 125270-03-03, "Provide training for executive leaders on SCWE consistent with the training provide[d] in the Chilling Effects Letter." This action was completed on December 6, 2018. Also on September 17, 2018, the licensee initiated Corrective Actions 125270-03-04, "Revise the [Personnel Action Review Board (PARB)] procedure with the intent of improving scope," and 125270-05, "Revise the PARB process to direct general council awareness." Step 4.12, "Personnel Action," of Procedure AI 13C-003, "Personnel Action Review Board (PARB)," was revised to include the placing of an individual on administrative leave as an event that would trigger a PARB. Additionally, Step 6.5, "PARB Review Process," was revised to require a PARB to be completed within two days of an individual being placed on leave. Step 5.2 of the procedure was also revised to ensure Vice President Engineering and Legal Counsel are informed prior to taking any personnel action.

Subsequently, the inspectors also observed other SCWE-related licensee actions, which included aspects of the licensee's November SCWE communications and December 2018 "SCWE Blitz." These activities included a site-wide stand down that communicated to employees on SCWE topics described in the new primer, "SCWE: Our Role in Nuclear Safety;" all employee meetings discussing SCWE topics; and additional communications on SCWE topics.

- **Planned Actions**

Corrective Action 125270-03-06, "Develop comprehensive SCWE strategy," was also initiated on September 17, 2018. An overarching SCWE strategy was initiated and then completed on December 14, 2018, which included discussions of policy, responsibilities and behaviors, training, a communication plan, ongoing monitoring, and oversight. The SCWE strategy also described specific planned actions, which included:

- "The SCWE policy is maintained within the Corporate Policy Manual and will be reviewed and updated for sufficiency;"
- "The Employee Handbook, Principles of Integrity and the Wolf Creek way will be reviewed;"
- "Standard [supplemental employee] contract language will be reviewed and updated for sufficiency;"

- “[SCWE] responsibility and behaviors will be emphasized through organizational learning and employee development;”
- “Training will be required at each level of the organization (executives, leadership, employees and supplemental personnel), on an annual basis;”
- “Leadership of centralized functions between Wolf Creek and its majority owner company, Evergy, will also be included in the SCWE training;”
- “Specific training will be embedded into...new hire orientation, supplemental personnel onboarding, and...leadership development program;”
- “A long-term SCWE Communication Plan will be established, and will be implemented by Corporate Communications and leadership;”
- “Additional [SCWE] blitzes will occur in 2019 and beyond;”
- “Wolf Creek will use ongoing monitoring to continually assess progress towards achieving and maintaining a strong and healthy SCWE;” and
- “Information gathered during...ongoing monitoring process will be considered for training enhancements, coaching opportunities, communication changes, organizational changes, and survey topics.”

The SCWE strategy and related actions are expected to be tracked by non-condition adverse to quality Condition Report 128709. This condition report was open as of January 8, 2019, and no specific actions, as discussed in the SCWE strategy document, had yet been identified for tracking.

The SCWE strategy also concluded that implementation of the SCWE strategy and action plans associated with initiative #1 of the station’s 2019-2021 business plan will lead to a healthy SCWE. The “Drive to Excellence” business plan actions are expected to be tracked by non-condition adverse to quality Condition Report 128711. This condition report was open as of January 8, 2019, and no specific actions had yet been identified.

- **Assessment**

In response to inspector observations documented in NRC Inspection Report 05000482/2018007, the licensee created Remedial Action 124660-01-01 on July 25, 2018, to conduct surveys with target groups and compare results to baseline survey results; the success criteria was established as survey results indicating improvement in the work environment of the target groups. The inspectors noted Procedure AP 28A-100, “Corrective Action Program,” Revision 24, defines remedial actions as, “Corrective actions necessary to restore compliance of the [condition adverse to quality].” The inspectors noted that AI 28A-100, “Condition Report Resolution,” describes an effectiveness follow-up plan as, “A plan that contains established criteria that defines how effectiveness of corrective actions for adverse conditions will be determined.” The procedure also states, “Establish quantitative and qualitative acceptance criteria for monitoring or evaluating the attributes. Specify at

what depths recurrence will be tolerated and determine if non-consequential precursor events are acceptable.” The inspectors identified that Remedial Action 124660-01-01 did not include specific quantitative acceptance criteria language or what level of recurrence would be tolerated. The inspectors communicated these observations to the licensee.

The inspectors noted that Procedure AP 28A-100, “Corrective Action Program,” Revision 24, defines non-conditions adverse to quality as issues that may warrant management resolution that have no regulatory basis for inclusion in the corrective action program. The procedure states, “These conditions are not part of the [corrective action program].” The inspectors also noted that Procedure AI 28A-100, “Condition Report Resolution,” Revision 15, Step 6.1.3, states, “A [condition report] can be closed to another [condition report] of equal or higher severity type and/or evaluation level (i.e., a [basic cause] evaluation can be closed to a [root cause evaluation], but a [root cause evaluation] cannot be closed to a [basic cause] evaluation.” Additionally, the procedure states, “The [condition report] remaining open will specifically identify the closed [condition report’s] condition and how it has been addressed prior to the closure justification of the final [condition report].” The inspectors identified that Condition Report 128709, a non-condition adverse to quality, was being utilized to track completion of an action first identified in Condition Report 125270, a condition adverse to quality. The inspectors communicated these insights to the licensee, and the licensee subsequently initiated Condition Report 129494. The inspectors also identified that Condition Report 128711, a non-condition adverse to quality, was being utilized to track completion of an action coming out of the SCWE strategy, which was first identified in Condition Report 125270, a condition adverse to quality. The inspectors communicated these insights to the licensee, and the licensee also subsequently initiated Condition Report 129494.

With respect to overall progress in addressing the cross-cutting theme in the SCWE area, the licensee had completed or planned a number of actions to address SCWE concerns as of January 8, 2019. The inspectors determined that there are important planned actions that still need to be completed, there are important outstanding actions still to be articulated, and the adequate implementation of these actions is necessary to adequately address SCWE at Wolf Creek. Specifically, specific actions described in the SCWE strategy and Condition Report 128709 need to be appropriately articulated and tracked within the corrective action program to ensure effective implementation. Completion of and effective implementation of the 2019-2021 business plan, its associated described actions, and Condition Report 128711 is also an important part of the licensee’s planned corrective actions. The licensee’s conclusions and actions associated with the Severity Level II issue and Condition Report 128909 are required to prevent recurrence of the significant condition adverse to quality. Finally, effective actions to monitor and measure working level employees’ willingness to raise concerns are necessary to ensure SCWE issues are being resolved and individuals feel free to raise safety concerns. Future NRC oversight activities to determine the licensee’s progress in addressing the cross-cutting theme in the SCWE area should include a detailed review of all of these actions.

Mitigating System Performance Indicators

The inspectors also considered whether there was an emerging trend associated with inaccurate accounting and reporting of mitigating system performance indicator data.

Considering that each mitigating system performance indicator is only reviewed by inspectors on an annual basis the inspectors considered issues identified during 2016, 2017, and 2018 mitigating system performance indicator inspections. Some of these issues included:

- In response to a request from the inspectors, the licensee identified an error in the October 2015 unavailability data for train A safety injection pump. On September 13, 2016, Condition Report 107112 documented this issue. In response to a request from the inspectors, the licensee identified an error in the July 2015 unavailability data for train A auxiliary feedwater. On October 17, 2016, Condition Report 108475 documented this issue.
- During review of March 2017 unreliability data for the train B component cooling water pump licensee personnel identified test run hours that were inappropriately counted. On June 27, 2017, Condition Report 114069 documented this issue.
- On October 4, 2017, Condition Report 116357 documented NRC identified issues associated with safety injection, residual heat removal, essential service water, and component cooling water system unavailability and demand data.
- On October 23, 2017, Condition Report 116832 documented three unavailability and demand data entry errors associated with the residual heat removal and auxiliary feedwater systems.
- On November 2, 2017, Condition Report 117159 documented licensee identified issues associated with component cooling water test demand data.
- On December 19, 2017, Condition Report 118203 documented that Quick Hit Self-Assessment QH-2017-1577 had noted the conditions identified by Condition Reports 107112, 108475, and 114069, as previously described.
- On January 4, 2018, Condition Report 118500 documented November and December 2016 auxiliary feedwater reliability data errors identified by the inspectors.
- On May 30, 2018, Condition Report 123890 documented a licensee identified issue associated with train B emergency diesel generator unreliability data.
- On June 28, 2018, Quick Hit Self-Assessment QH-2018-1693, "Nuclear Regulatory Commission (NRC) Reactor Oversight Program (ROP) Performance Indicator Program," was completed. The licensee assessment identified three errors in mitigating system performance indicator reliability data. The errors were in the March 2015 demand data for the residual heat removal supply to safety injection pump B isolation valve, the June 2015 demand data for train A safety injection pump, and the November 2015 train B charging pump run-time data.

The inspectors also identified during 2018 inspections numerous mitigating system performance indicator errors requiring updates to consolidated data entries. Some of these issues included:

- The inspectors identified a January 2018 start of the train A centrifugal charging pump that was recorded as a non-test demand and should have been recorded as a test demand; this necessitated revisions to the demand and run-time data.
- The inspectors identified a March 2018 train A safety injection pump start that was inappropriately recorded as a non-test demand for the opposite train; this necessitated revisions to the demand and run-time data for both trains of safety injection.
- The inspectors identified that the number of non-test demands for train A essential service water pumps included an extra non-test demand in April 2018; this necessitated revisions to the demand data for the train.
- The inspectors identified train A emergency diesel run time in May 2018 that was not reported as test run time; this necessitated revisions to the reliability data.
- The inspectors questioned the unavailability associated with train A component cooling water and train A essential service water. As a result of the inspector's questions the licensee determined that the mitigating system performance indicator data for both trains required revision.

The licensee initiated Condition Reports 127496, 127526, and 127634, in response to the inspectors concerns. Updated unreliability and unavailability data entries were made by the licensee, and no cases were identified where data entry updates caused a performance indicator threshold to be exceeded.

Remedial and preventive actions to correct the data and provide training to engineers responsible for data collection and reporting, respectively, were created associated with Condition Report 127634.

The inspectors determined that this collection of errors was indicative of an adverse trend. The inspectors shared this observation with the licensee and the licensee expressed agreement with the trend and documented it in Condition Report 129198 on January 8, 2019.

Licensee-Identified Non-Cited Violation	71153 – Follow-up of Events and Notices of Enforcement Discretion
This violation of very low safety-significance was identified by the licensee and has been entered into the licensee corrective action program and is being treated as a non-cited violation, consistent with Section 2.3.2 of the Enforcement Policy.	
<p>Violation: Technical Specification 3.6.3, "Containment Isolation Valves," requires, in part, that with one or more penetration flow paths with one or more containment purge valves that is not within leakage limits, the affected penetration flow path must be isolated by use of at least one closed and de-activated automatic valve, closed manual valve, or blind flange within 24 hours.</p> <p>Contrary to the above, from May 15, 2018, until August 8, 2018, with one or more penetration flow paths with one or more containment purge valves not within leakage limits, the affected penetration flow path was not isolated by use of at least one closed and de-activated automatic valve, closed manual valve, or blind flange within 24 hours. Specifically, containment shutdown purge isolation valve GTHZ0006 was found to have leakage that was</p>	

not within leakage limits, and a non-safety related and non-seismically qualified blind flange was utilized to isolate the affected penetration flow path.

Significance/Severity Level: The inspectors determined the performance deficiency was more than minor because it adversely affected the configuration control attribute of the Barrier Integrity Cornerstone objective to provide reasonable assurance that physical design barriers (fuel cladding, reactor coolant system, and containment) protect the public from radionuclide releases caused by accidents or events. Specifically, the operability of a containment penetration flow path was adversely impacted. The inspectors assessed the significance of the finding using Exhibit 3, "Barrier Integrity Screening Questions," of Inspection Manual Chapter 0609, Appendix A, "Significance Determination Process (SDP) for Findings At-Power," issued June 19, 2012, and determined this finding does not represent an actual open pathway in the physical integrity of reactor containment, containment isolation system, and heat removal components, and the finding does not involve an actual reduction in function of hydrogen igniters in the reactor containment. Therefore, the inspectors determined the finding was of very low safety significance (Green).

Corrective Action References: Condition Reports 123255, 123360, 125673, and 129580

Observation	71153 – Follow-up of Events and Notices of Enforcement Discretion
<p>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 from the Callaway Plant 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 SSCs 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>The licensee initiated Correction Action 115590-06-06, "Exit Enforcement [Discretion] and Retract LER." Specifically, this corrective action would retract Licensee Event Report (LER) 2017-003-00, "[Atmospheric Relief Valve] and [Main Steam Safety Valve] Tornado Missile Vulnerabilities Result in Unanalyzed Condition."</p> <p>At the end of the inspection period, the inspectors had reviewed LER 2017-003-00 and noted the remedial corrective action to retract the aforementioned licensee event report. The inspectors were unable to close LER 2017-003-00 with this corrective action pending. The inspectors will revisit possible closure of LER 2017-003-00 when the licensee's corrective actions are completed.</p>	

EXIT MEETINGS AND DEBRIEFS

On January 23, 2019, the inspector presented the quarterly resident inspector inspection results to Mr. C. Reasoner, Chief Nuclear Officer and Senior Vice President, and other members of the

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

DOCUMENTS REVIEWED

71111.01—Adverse Weather Protection

Procedures Number	Title	Revision
SYS EF-205	ESW/CIRC Water Cold Weather Operations	40
SYS EF-205	ESW/CIRC Water Cold Weather Operations	42
SYS GN-120	Containment Cooling System Operation	47
SYS OPS-008	Cold Weather Operations	7

Condition Reports

14513	36992	117026	127285	128501
128819	128820	128821	128824	128826
128904				

Miscellaneous Documents

Number	Title	Date
APF 21-001-02	Control Room Turnover Checklist – On-Coming CRS/WC SRO/RO/BOP Review: Night Shift	December 18, 2018
APF 28A-001-01	Performance Improvement Request – PIR: 96-0316	February 5, 1996

71111.04—Equipment Alignment

Procedures Number	Title	Revision
AI 26C-004	Technical Specification Application For Containment Isolation Valves	7A
CKL GG-120	Normal Fuel Building HVAC Valve, Breaker and Handswitch Checklist	10
CKL GK-131	Control Building HVAC Electrical Checklist	31
CKL GK-121	Control Building HVAC Valve Checklist	18
CKL GL-121	Auxiliary Building HVAC System Valve Lineup	23D
CKL GL-131	Auxiliary Building HVAC Electrical Lineup	16A
CKL GT-120	Containment Purge System Valve Lineup	18C
CKL GT-131	Containment Purge System Elec Checklist	11
CKL NK-131	NK Distribution Switchboard Switch Lineup Checklist	10
STS GT-002	CTMT Purge Supply/Exhaust ISO Valve Verification	8
STS PE-015	Containment Purge Valve Leakage Test	22

Drawings Number	Title	Revision
10466-J-104-0018	Schematic +48 Volt DC Power Supply	3
Bechtel Drawing: J-12GG11	Fuel Building HVAC Spent Fuel Pool Area Unit Heaters	1
E-11NK01	Class 1E 125V DC System Meter & Relay Diagram	20
E-12NF01	Load Shedding and Emergency Load Sequencing Logic	4
E-13GK35A	Schematic Diagram SGK05 Recirculation Air Flow Fans and Dampers	3
E-13NF00	Load Shedder/Emergency Load Sequencer Schematic Index Sheet	3
E-13NF01	Schematic Diagram Load Shedder/Emergency Load Sequencer	3
E-13NK10	125 Volt DC Class 1E Power System Schematic	4
E-13NK10A	125 Volt DC Class 1E Power System Schematic Train A	3
M-12GG01	Piping and Instrumentation Diagram Fuel Building HVAC	8
M-12GG02	Piping and Instrumentation Diagram Fuel Building HVAC	10
M-12GK03	Piping & Instrumentation Diagram Control Building HVAC	21
M-12GK04	Piping & Instrumentation Diagram Control Building HVAC	14
M-12GL01	Piping and Instrumentation Diagram Auxiliary Building HVAC	13
M-12GL02	Piping and Instrumentation Diagram Auxiliary Building HVAC	17
M-12GT01	Piping & Instrumentation Diagram Containment Purge Systems HVAC	29
Condition Reports		
123255	123360	125673
		127820
		127837
Work Orders		
18-446415-000		
Miscellaneous Documents		
Number	Title	Date
2018-001-00	Docket No. 50-482: Licensee Event Report 2018-001-00, "Inappropriate Use of Blind Flange For Containment Isolation Valve Results in Condition Prohibited by Technical Specifications"	October 4, 2018
APF 21-001-02	Control Room Turnover Checklist: On-Coming CRS/WC SRO/RO/BOP Review – Night Shift	October 18, 2018

Miscellaneous Documents

Number	Title	Date
APF 29B-003-01	Surveillance Test Routing Sheet (STRS) – Containment Purge Valve Leakage Test	February 5, 2018
APF 29B-003-01	Surveillance Test Routing Sheet (STRS) – Containment Purge Valve Leakage Test	May 12, 2018
APF 29B-003-01	Surveillance Test Routing Sheet (STRS) – Containment Purge Valve Leakage Test	May 14, 2018
APF 29B-003-01	Surveillance Test Routing Sheet (STRS) – Containment Purge Valve Leakage Test	August 6, 2018
APF 29B-003-01	Surveillance Test Routing Sheet (STRS) – Containment Purge Valve Leakage Test	November 5, 2018
APF 29B-003-01	Surveillance Test Routing Sheet (STRS) – LLRT Valve Lineup for Penetration 161	May 14, 2018

71111.05AQ—Fire Protection Annual/Quarterly

Procedures Number	Title	Revision
AP 10-106	Fire Preplans	18A
STN FP-440	Fire Door Visual Inspection	15

Drawings Number	Title	Revision
10466-A-1907	Architectural Door Schedule	18

Condition Reports

127083	127447	128819	128820	128821
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Miscellaneous Documents

Number	Title	Revision/Date
APF 24C-007-01	Purchase Order: Order # 784927/0 – Overhead Door Co of Kansas City	September 27, 2018
E-1F9905	Fire Hazard Analysis	8
E-1F9910	Post-Fire Safe Shutdown Area Analysis	16
XX-X-004	Combustible Fire Loading for Each Room in the Various Fire Areas at WCNO	4

71111.06—Flood Protection Measures

Drawings Number	Title	Revision
M-I PI902	Drainage Systems Auxiliary Building Sections	1

Drawings Number	Title	Revision
M-0P1151	Drainage Systems (LE) Auxiliary Building El. 1974'-0", El. 1989'-0" & El. 2000'-0" Area 5	6
M-0P1451	Drainage System (LE) Auxiliary BLDG El. 2013'-6" & El. 2026'-0"	4

Condition Reports

100653	100654	100655	128659
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Work Orders

15-397860-000	15-409973-000	16-416247-034	16-416247-038
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Miscellaneous Documents Number	Title	Revision/Date
APF 05D-001-01	Appendix 3 – AFT Fathom Inputs – Calculation No. FL-13	1
APF 05D-001-01	Calculation Cover Sheet – Auxiliary Building Area 5 Flooding – Calculation No. FL-13	2
APF 21-001-02	Control Room Turnover Checklist – On-Coming CRS/WC SRO/RO/BOP Review – Dayshift	December 12, 2018
APF 21-001-02	Control Room Turnover Checklist – On-Coming CRS/WC SRO/RO/BOP Review – Nightshift	December 13, 2018
LF	Maintenance Rule Final Scope Evaluation: Floor & Equipment Drains System – LF-07	0

71111.11—Licensed Operator Requalification Program and Licensed Operator Performance

Procedures Number	Title	Revision
STS SF-001	Control and Shutdown Rod Operability Verification	29
STS SF-001	Control Rod Parking	20

Miscellaneous Documents Number	Title	Revision/Date
16-01	Requalification Exam	2
APF 29B-003-01	Surveillance Test Routing Sheet – Control and Shutdown Rod Operability Verification: STS SF-001	October 18, 2018
APF 29B-003-01	Surveillance Test Routing Sheet – Control Rod Parking: STN SF-001	October 18, 2018

71111.12—Maintenance Effectiveness

Procedures Number	Title	Revision		
AI 230-001	Functional Importance Determination	7		
AP 21E-001	Clearance Orders	41		
AP 23M-001	WCGS Maintenance Rule Program	12		
AP 24E-001	Identification and Control of Materials, Parts and Components	17		
MGE EOOP-05	Insulation Resistance Testing	25		
Drawings Number	Title	Revision		
E-018-0154	Circuit Breaker 30 KVA Transformer 24 Circuit PNL. BRD.	6		
E-11032	Substation and Plant Transformer Tap Settings	5		
E-11NG02	Low Voltage System Class IE 480 V. Single Line Meter & Relay Diagram	16		
E-11NG20	MCC-NG04D	15B		
E-11NG20	Motor Control Center Summary	304		
E-11NG21	Motor Control Center Distribution Panel Summary	31		
J-104-00124	Schematic ATI Panel LSELS	W10		
M-12KJ01	Piping & Instrumentation Diagram Standby Diesel Generator “A” Cooling Water System	13		
M-12KJ03	Piping & Instrumentation Diagram Standby Diesel Generator “A” Lube Oil System	18		
MGE LT-001	Torque Switch Balancing	7A		
Condition Reports				
88796	88826	91473	92075	98395
100440	105970	105971	105972	105973
105976	111183	115725	117441	125908
125909	125914	125915	125944	128116
128124	128277			
Work Orders				
17-425385-000	17-433474-005			
Miscellaneous Documents				
Number	Title			Revision/Date
	Current WCNOG Maintenance Rule (a)(1) Issues			Printed December 15, 2018

Miscellaneous
Documents
Number

	Title	Revision/Date
	Functional Failure Determination Checklist for EJ– CR 122879	May 22, 2018
	Functional Failure Determination Checklist for KJ – CR 108783	Review Date April 27, 2017
	Functional Failure Determination Checklist for KJ – CR 108258	Review Date November 1, 2016
	Functional Failure Determination Checklist for KJ – CR 108423	Review Date November 5, 2016
	Functional Failure Determination Checklist for KJ – CR 112131	Review Date November 15, 2016
	Functional Failure Determination Checklist for KJ – CR 115725	Review Date October 1, 2017
	Functional Failure Determination Checklist for KJ – CR 117441	Review Date December 5, 2017
APF 23M-001-01	Maintenance Rule (a)(1) Determination	0
APF 23M-001-02	Maintenance Rule (a)(2) Determination	0
Bulletin 18.1-4A	Ground-Fault Protection Application Guide	
CR 111183	Trend CR 111183 – Failures Attributed Age-Related Component and Sub Component Degradation	
KJ	Maintenance Rule Final Scope Evaluation: Standby Diesel Engine System – KJ-01	Printed October 15, 2018
KJ	Maintenance Rule Final Scope Evaluation: Standby Diesel Engine System – KJ-02	Printed October 15, 2018
KJ	Maintenance Rule Final Scope Evaluation: Standby Diesel Engine System – KJ-03	Printed October 15, 2018
KJ	Maintenance Rule Final Scope Evaluation: Standby Diesel Engine System – KJ-04	Printed October 15, 2018
KJ	Maintenance Rule Final Scope Evaluation: Standby Diesel Engine System – KJ-05	Printed October 15, 2018
KJ	Maintenance Rule Final Scope Evaluation: Standby Diesel Engine System – KJ-06	Printed October 15, 2018

Miscellaneous
Documents
Number

	Title	Revision/Date
KJ	Maintenance Rule Final Scope Evaluation: Standby Diesel Engine System – KJ-07	Printed October 15, 2018
MGE TL-001	Wiring Termination and Lug/Connector Installation	26
QH-2016-1324	2018 Maintenance Rule (a)(3) Periodic Assessment	August 21, 2018
TMO 18-012-EF	Design Equivalent Change Package: Soft Patch on ESW B Train Strainer Discharge Pipe, EF196HBC-3”	0

71111.13—Maintenance Risk Assessments and Emergent Work Control

Procedures
Number

	Title	Revision
AP 16E-002	Post Maintenance Testing Development	19
SYS AE-126	FRV Bypass Operation at Power	2

Drawings
Number

	Title	Revision/Date
10342-I-N	Installation Drawing F/R Booster Model 61H Series 1034251 to 10342513 Incl.	September 7, 1956
M-12AE01	Piping & Instrumentation Diagram Feedwater System	41

Condition Reports

128645	128653
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Work Orders

18-447303-003

Miscellaneous
Documents
Number

	Title	Date
	Nuclear Plant Information System Trends	December 16 – 17, 2018
APF 21-200-06	WCNOC Fourth 10-Year Interval Inservice Testing Program AE – Valve: AEFCV0520 Adverse Condition Monitoring Template – CR 128645	December 13, 2018
APF 22C-003-01	On-Line Nuclear Safety and Generation Risk Assessment: Schedule Week 18-0412	December 17–23, 2018

71111.15—Operability Determinations and Functionality Assessments

Condition Reports

127109	127199	128246
Miscellaneous Documents Number	Title	Date
APF 21-001-02	Control Room Turnover Checklist – On-Coming CRS/WC SRO/RO/BOP Review – Day Shift	October 6, 2018
APF 21-001-02	Control Room Turnover Checklist – On-Coming CRS/WC SRO/RO/BOP Review – Night Shift	October 6, 2018
APF 21-001-02	Control Room Turnover Checklist – On-Coming CRS/WC SRO/RO/BOP Review – Day Shift	October 7, 2018
APF 21-001-02	Control Room Turnover Checklist – On-Coming CRS/WC SRO/RO/BOP Review – Night Shift	October 7, 2018
APF 21-001-02	Control Room Turnover Checklist – On-Coming CRS/WC SRO/RO/BOP Review – Day Shift	October 8, 2018
APF 21-001-02	Control Room Turnover Checklist – On-Coming CRS/WC SRO/RO/BOP Review – Night Shift	October 8, 2018
APF 28-001-01	Operability Evaluation – CR 00127109	October 12, 2018

71111.18—Plant Modifications

Work Orders

15-409013-006	15-409-013-008	
Miscellaneous Documents		
Number	Title	Revision/Date
Basic Engineering Disposition (BED)	Interim Use of Centrifugal Charging Pump B outboard Bearing Housing	October 15, 2016
BED Extension	Interim Use of Centrifugal Charging Pump B Outboard Bearing Housing	May 17, 2018
TMO-16-010-BG	Outboard Bearing Housing on PBG05B	0

71111.19—Post Maintenance Testing

Procedures Number	Title	Revision
AI 15C-006	Management Oversight Requirements for Infrequently Performed and Potentially Degrading Evolutions	22
AI 21-016	Operator Time Critical Actions Validation	14
AP 16E-002	Post Maintenance Testing Development	19

Procedures Number	Title	Revision
AP 26C-004	Operability Determination and Functionality Assessment	36
I-ENG-003	Vibration Monitoring and Analysis	9
INC C-1000	Calibration of Miscellaneous Components	7A
MGE TL-001	Wiring Termination and LUG/Connector Installation	26
MPE GK-003	Control Room and Class 1E A/C [Air Conditioning] Units Preventive Maintenance Activity	7
MPE GK-004	GK Unit Preparation for Work	10
MPM LT-001	Limatorque Operator Minor Maintenance, Lubrication, and Inspection	15
RNM C-0563	Auxiliary Time Delay Relay	9
STN BN-201	Borated Refueling Water Storage System Valve Test	2
STN KU-010	Operation of SBO DG Test	0
STN KU-010	Station Blackout Diesel and Non-Safety AFW Pump Test	9
STN KU-010	Station Blackout Diesel and Non-Safety AFW Pump Test	10
STN TCA-001	Manual Time Critical Action Timing	5
STS CR-004	Shift Log for Additional Monitoring	0
STS EJ-100B	RHR System Inservice Pump B Test	48A
STS GK-001B	Control Room Emergency Ventilation System Train B Operability Test	34
STS GK-002B	Control Room A/C [Air Conditioning] Unit Operability Test	2
STS KJ-005A	Manual/Auto Start, Sync and Loading of EDG NE01	67A
STS VT-001	Verification of OMN-1, MOV Exercise Requirements	5
SYS GK-123	Control Building A/C Units Startup and Shutdown	34
SYS GK-201	Mitigating Actions for Inoperable SGK05 Train	0
Drawings Number	Title	Revision
A-015-K-15H20	TSC Detection System Wiring DIA & Logic Flow DIA	13
A-KAT-15	Technical Support Center Lighting and Receptacle Location & Wiring Plan	14
E-018-00852	Sz. 5 2SP-1WD Schematic	W12
E-018-00853	Wiring Diagram 2 SP IWD (Size 5)	W12
E-025-00007	RWST to RHR PMP "B" Suction ISO – Tag # BNHV8812B	W13
E-13GN02A	Schematic Diagrams Containment Cooler Fans B & D	18
M-12BN01	Piping and Instrumentation Diagram Borated Refueling Water Storage System	18

Drawings Number	Title			Revision
M-12EJ01	Piping and Instrumentation Diagram Residual Heat Removal System			55
M-622.1-00174	Proportional Temperature Controllers			W01
Condition Reports				
123194 127638	127102	127105	127551	127626
Work Orders				
15-400196-051	15-400196-055	17-426879-000	17-429473-000	17-431955-008
17-431955-013	17-433984-001	18-435969-000	18-436916-000	18-436916-001
18-436951-000	18-437267-000	18-443065-000	18-443149-003	18-443149-007
18-444349-003				
Miscellaneous Documents				
Number	Title			Revision/Date
	Vibration Criteria Exceptions (June 11, 2018)			44
020026	Commercial Change Package – TSC Fire System Replacement			0
E-018-0273-01	Bulletin 5600 Series Motor Control Center			December 18, 1978
APF 05C-004-01	Basic Engineering Disposition – TCC for Replacement of TSC Fire System			Prepared September 7, 2018
APF 05D-001-01	Calculation Cover Sheet – Time Available for Injection, ECCS, and Containment Spray Pumps Transfer and Evaluation of Air Entrainment at Empty Alarm – BN-M-013			2
APF 15C-002-01	Procedure Cover Sheet – Post Maintenance Run of Emergency Diesel Generator A			Completed October 17, 2018
APF 15C-004-01	Document Revision Request (DRR) – Station Blackout Diesel and Non-Safety AFW Pump Test			10
APF 22C-003-01	On-Line Nuclear Safety and Generation Risk Assessment			October 4, 2018
APF 26A-003-01	Applicability Determination – Station Blackout Diesel and Non-Safety AFW Pump Test			10
APF 26A-003-01	Applicability Determination – TCC for Replacement of the TSC Fire System			0
APF 29B-003-01	Surveillance Test Routing Sheet (STRS) – Borated Refueling Water Storage System Inservice Valve Test			Completed May 6, 2018

Miscellaneous Documents Number	Title	Revision/Date
APF 29B-003-01	Surveillance Test Routing Sheet (STRS) – Borated Refueling Water Storage System Valve Test	Completed October 22, 2016
APF 29B-003-01	Surveillance Test Routing Sheet (STRS) – Borated Refueling Water Storage System Valve Test	Completed April 12, 2017
APF 29B-003-01	Surveillance Test Routing Sheet (STRS) – Borated Refueling Water Storage System Valve Test	Completed October 10, 2018
APF 29B-003-01	Surveillance Test Routing Sheet (STRS) – Containment Cooling Fans Operability Test	Completed October 30, 2018
APF 29B-003-01	Surveillance Test Routing Sheet (STRS) – Manual/Auto Fast Start, Sync and Loading of EDG NE01	Completed October 17, 2018
APF 29B-003-01	Surveillance Test Routing Sheet (STRS) – Periodic Verification of MOVs (BNHV8812B)	Completed April 12, 2017
APF 29B-003-01	Surveillance Test Routing Sheet (STRS) – RHR System Inservice Pump B Test	Completed October 10, 2018
APF 29B-003-01	Surveillance Test Routing Sheet (STRS) – Station Blackout Diesel and Non-Safety AFW Pump Test	Completed October 24, 2018
APF 29B-003-01	Surveillance Test Routing Sheet (STRS) – TSC Diesel Generator Operation	Completed October 5, 2018
APF 29B-003-01	Surveillance Test Routing Sheet (STRS) – TSC Diesel Generator Operation	Completed October 22, 2018
EDI 23M-050	Engineering Desktop Instruction Monitoring Performance to Criteria and Goals – KU	Completed August 22, 2018
RPF 02-210-01	WCGS Radiological Survey Map – Survey No. M-20181002-1	October 1, 2018
WCRE-34	Fourth 10-Year Interval Inservice Testing Basis Document	9

71111.22—Surveillance Testing

Procedures Number	Title	Revision
AP 15C-002	Procedure Use and Adherence	43
CHS SJ-143F	SJ-143 Sampling Instruction – Infrequently Performed	1
STN GK-001A	Class 1E Recirculation System Train “A” Functional Test	0

Procedures Number	Title	Revision	
STN RP-002E	EDG [Emergency Diesel Generator] Control CKT [Circuit] And FO [Fuel Oil] XFER [Transfer] Pump ISO [Isolation] Switch	3	
STS PE-169	LLRT Valve Lineup for Penetration 69	6	
Drawings Number	Title	Revision	
M-018-00077	Electrical Schematic Diesel Gen. Control NE106	W20	
M-018-00105	Electrical Schematic Engine Gauge Panel KJ121	W16	
M-12BB02	Piping & Instrumentation Diagram Reactor Coolant System	29	
M-12SJ01	Piping and Instrumentation Diagram Nuclear Sampling System	15	
Condition Reports			
126321	126748	126800	128121
Work Orders			
16-414781-158	16-414781-160	16-414781-208	17-424589-000
Miscellaneous Documents Number	Title	Revision/Date	
	WCNOC Fourth 10-Year Interval Inservice Testing Program SJ – Valve: SJHV0012		
APF 05D-001-01	Calculation Cover Sheet – Wolf Creek Control Building Loss of Class 1E A/C Gothic Room Heat Up Analysis With Installed Crosstie Fans and Louvers – Calculation No. GK-M-016	2	
APF 15C-004-01	Document Revision Request – Nuclear Sample System Inservice Valve Test	20	
APF 29B-003-01	Surveillance Test Routing Sheet (STRS) – Class 1E Recirculation System Flow Test – Train A	Completed October 24, 2018	
APF 29B-003-01	Surveillance Test Routing Sheet (STRS) – EDG B Control CKT and FD XFER Pump ISOL Switch Test	Completed October 29, 2018	
APF 29B-003-01	Surveillance Test Routing Sheet – LLRT Valve Lineup for Penetration 69	April 10, 2018	
APF 29B-003-01	Surveillance Test Routing Sheet – Nuclear Sampling System Inservice Valve Test	September 3, 2018	
APF 29B-003-01	Surveillance Test Routing Sheet – Nuclear Sampling System Inservice Valve Test	September 19, 2018	

Miscellaneous Documents Number	Title	Revision/Date
APF 29B-003-01	Surveillance Test Routing Sheet – Nuclear Sampling System Inservice Valve Test	September 20, 2018

71151—Performance Indicator Verification

Condition Reports

127634

Miscellaneous Documents Number	Title	Revision/Date
	MSPI Unavailability for Auxiliary Feedwater System AL-01 A	September 19, 2017
	MSPI Unavailability for Chemical & Volume Control System BG-07 A	September 26, 2017
	MSPI Unreliability Data – Auxiliary Feedwater	July through September 2018
	MSPI Unreliability Data – Residual Heat Removal	July through September 2018
Consolidated Data Entry 4.0	MSPI Derivation Report – MSPI Heat Removal System – Performance Limit Exceeded	September 2018
Consolidated Data Entry 4.0	MSPI Derivation Report – MSPI Heat Removal System – Unavailability Index	September 2018
Consolidated Data Entry 4.0	MSPI Derivation Report – MSPI Heat Removal System – Unreliability Index	September 2018
Consolidated Data Entry 4.0	MSPI Derivation Report – MSPI Residual Heat Removal System – Performance Limit Exceeded	September 2018
Consolidated Data Entry 4.0	MSPI Derivation Report – MSPI Residual Heat Removal System – Unavailability Index	September 2018
Consolidated Data Entry 4.0	MSPI Derivation Report – MSPI Residual Heat Removal System – Unreliability Index	September 2018
NEI 99-02	Reactor Oversight Process Performance Indicators – WCNO-163 Mitigating System Performance Index	12

71152—Problem Identification and Resolution

Procedures Number	Title	Revision
AI 12-002	FME Considerations and General Guidance for Major Components	0A
AI 12-003	Control and Separation of Tools to be used on Stainless Steel	1

Procedures Number	Title	Revision
AI 13C-003	Personnel Action Review Board	3
AI 13C-003	Personnel Action Review Board	4
AI 13C-003	Personnel Action Review Board	5
AI 13C-003	Personnel Action Review Board	6
AI 36-001	Nuclear Safety Culture Panel	6
AP 30A-005	Training and Qualification	19
FSG-04	ELAP DC Load Shed/Management	3
SYS FD-002	Operations Annual Flex Tasks	3

Drawings Number	Title	Revision
M-12BB01	Piping & Instrumentation Diagram Reactor Coolant System	37
M-12EJ01	Piping and Instrumentation Diagram Residual Heat Removal System	55
M-13EJ01	Piping Isometric Residual Heat Removal System Auxiliary Bldg. "A" Train	17
M-13EJ02	Piping Isometric Residual Heat Removal System Auxiliary Building – "B" Train	15
M-13EJ04	Piping Isometric Residual Heat Removal System Reactor Building	8

Condition Reports

36444	119954	120391	120555	122626
123381	124660	125270	125600	125748
128104	128116	128124	128143	128144
128152	128216	128330	128479	128495
128659	128709	128711	128865	128897
128909				

Work Orders

12-352584-000

Miscellaneous Documents Number	Title	Date
	Maintenance Health	April 2018
	Maintenance Health	August 2018
	SCWE Strategy	December 13, 2018
QA-2018-0418	Maintenance Fundamentals, Technical Fundamental and Human Performance Tools	March 28, 2018

Miscellaneous Documents Number	Title	Date
QA-2018-0449	RF22 Roll-Up	July 10, 2018
QA-2018-0462	18-Q2 QA CAP/PI Performance Report	July 30, 2018
QA-2018-0496	18-Q3 QA CAP/PI Performance Report	October 4, 2018
QA-2018-0506	QA Assessment of Response to RCS leak rate increase after RF22	November 23, 2018
QA-2018-0511	QA Assessment of LSELS 48VDC Power Supply Failure 11-14-18	December 7, 2018
QA-2018-1660	Wolf Creek NSRB November 2017 Report	April 29, 2018
QH-2018-1612	USAR Self-Assessment for 2018 DBAI	July 17, 2018
QH-2018-1614	Safety Relief Valve Users Group Annual Meeting - 2018	February 15, 2018
QH-2018-1619	2017 Formal Assessment Review	March 12, 2018
QH-2018-1628	FME Quick Hit Self-Assessment	May 23, 2018
QH-2018-1635	SPV Program Gap Analysis to EPRI SPV Guidance	March 14, 2018

71153— Follow-up of Events and Notices of Enforcement Discretion

Procedures Number	Title	Revision
AI 26C-004	Technical Specification Application for Containment Isolation Valves	7A
EPP 06-005	Emergency Classification	9
OFN SG-003	Natural Events	35
STS PE-015	Containment Purge Valve Leakage Test	22

Drawings Number	Title	Revision
M-12GT01	Piping & Instrumentation Diagram Containment Purge Systems HVAC	29

Condition Reports

56874	115475	115590	123255	123360
125673	128909			

Miscellaneous Documents Number	Title	Revision/Date
	Avanti – Safety Data Sheet – AV-315 Microfoam	April 5, 2018
	LLRT Summary (Minimum Pathway Leakage)	August 6, 2018
APF 05D-001-01	Calculation Cover Sheet – Tornado Missile Impact to Atmospheric Relief Valve (ARV) Exhaust Silencers	0

Miscellaneous Documents Number	Title	Revision/Date
APF 05D-001-01	Calculation Cover Sheet – Tornado Missile Impact to Main Steam Safety Valves (MSSV) Exhaust Stacks	0
APF 29B-003-01	Surveillance Test Routing Sheet – Containment Purge Valve Leakage	February 5, 2018
APF 29B-003-01	Surveillance Test Routing Sheet – Containment Purge Valve Leakage	August 6, 2018
APF 29B-003-01	Surveillance Test Routing Sheet – Containment Purge Valve Leakage Test	May 12, 2108
APF 29B-003-01	Surveillance Test Routing Sheet – Containment Purge Valve Leakage Test	May 14, 2108
APF 29B-003-01	Surveillance Test Routing Sheet – LLRT Valve Lineup for Penetration 161	May 14, 2018
LER 2017-003-00	ARV and MSSV Tornado Missile Vulnerabilities Result in Unanalyzed Condition	November 2, 2017
LER 2018-001-00	Inappropriate Use of Blind Flange for Containment Isolation Valve Results in Condition Prohibited by Technical Specifications	October 4, 2018
SY1300600	Emergency Core Cooling System	22

WOLF CREEK GENERATING STATION - NRC INTEGRATED INSPECTION
REPORT 05000482/2018004 – February 11, 2019

DISTRIBUTION

SMorris, RA
MShaffer, DRA
AVegel, DRP
MHay, DRP
RLantz, DRS
GMiller, DRS
DCylkowski, RC
MMcCoppin, RIV/OEDO
VDricks, ORA
JWeil, OCA
BSingal, NRR
AMoreno, RIV/CAO
BMaier, RSLO
RKellar, IPAT
NTaylor, DRP
BTharakan, DRP
JMelfi, DRP
ECombs, DRP
DDodson, DRP
FThomas, DRP
SGalemore, DRP
PJayroe, IPAT
MHerrera, DRMA
R4Enforcement
ROP Reports

Electronic Distribution for Wolf Creek Generating Station

ADAMS ACCESSION NUMBER: ML19042A089

☒ SUNSI Review ADAMS: ☐ Non-Publicly Available ☒ Non-Sensitive Keyword:
By: NTaylor ☒ Yes ☐ No ☒ Publicly Available ☐ Sensitive NRC-002

OFFICE	SRI:DRP/B	RI: DRP/B	C:DRS/OB	C:DRS/PSB2	C:DRS/EB1	C:DRS/EB2
NAME	DDodson	FThomas	GWerner	HGepford	VGaddy	FRamirez
SIGNATURE	DED	FDT	KClayton for	hjj	vgg	FCR
DATE	2/06/2019	2/06/19	2/1/19	2/1/19	2/1/19	2/4/2019
OFFICE	TL:DRS/IPAT	PE:DRP/B	SPE:DRP/B	BC:DRP/B		
NAME	RKellar	JMelfi	BTharakan	NTaylor		
SIGNATURE	RLK	JFM	BKT	NHT		
DATE	02/01/19	8/5/19	2/05/19	2/11/19		

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