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

May 6, 2013

EA 10-020

Matthew W. Sunseri, 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 05000482/2013002

Dear Mr. Sunseri:

On March 30, 2013, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Wolf Creek Generating Station. The enclosed inspection report documents the inspection results which were discussed on April 10, 2013, with Mr. R. Smith, Site Vice President, and other members of your staff.

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

Two NRC identified and one self-revealing findings of very low safety significance (Green) were identified during this inspection.

Both of these findings were determined to involve violations of NRC requirements. Further, a licensee-identified violation which was determined to be of very low safety significance is listed in this report. The NRC is treating these violations as non-cited violations consistent with Section 2.3.2a of the Enforcement Policy.

If you contest these non-cited violations, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington DC 20555-0001; with copies to the Regional Administrator, Region IV; the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC Resident Inspector at 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 Regional Administrator, Region IV; and the NRC Resident Inspector at Wolf Creek Generating Station.

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

Sincerely,

/RA/

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

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

Enclosure: Inspection Report 05000482/2013002
w/ Attachment: Supplemental Information

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SUNSI Rev Compl.	☑Yes ☐ No	ADAMS	☑Yes ☐ No	Reviewer Initials	NFO
Publicly Avail.	☑Yes ☐ No	Sensitive	☐Yes ☑ No	Sens. Type Initials	NFO

SRI:DRP/B	C:DRS/TSB	C:DRS/EB1	C:DRS/EB2	C:DRS/OB	C:DRS/PSB1
CPeabody	RKellar	TFarnholtz	GMiller	VGaddy	MHaire
/Via Email/	/CAlldredge for/	/GGeorge for/	/SGarchow/	/RA/	/RA/
5/1/13	5/2/13	5/2/13	5/1/13	5/2/13	5/2/13
C:DRS/PSB2	BC:DRP/B				
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U.S. NUCLEAR REGULATORY COMMISSION

REGION IV

Docket:	05000482
License:	NPF-042
Report:	05000482/2013002
Licensee:	Wolf Creek Nuclear Operating Corporation
Facility:	Wolf Creek Generating Station
Location:	1550 Oxen Lane NE, Burlington, Kansas
Dates:	January 1 through March 30, 2013
Inspectors:	C. Peabody, Sr. Resident Inspector M. Bloodgood, Senior Project Engineer L. Carson, II, Senior Health Physics Inspector N. Green, Ph.D., Health Physics Inspector T. Hartman, Sr. Resident Inspector – Callaway J. Laughlin, Emergency Preparedness Inspector, NSIR R. Kopriva, Sr. Reactor Inspector M. Williams, Reactor Inspector M. Bloodgood, Senior Project Engineer D. You, Project Engineer
Approved By:	Neil O'Keefe, Chief Project Branch B Division of Reactor Projects

SUMMARY OF FINDINGS

IR 05000482/2013002, 01/01/2013 - 03/30/2013, Wolf Creek Generating Station, Integrated Resident and Regional Report; Follow-up of Events and Notices of Enforcement Discretion

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

A. NRC-Identified Findings and Self-Revealing Findings

Cornerstone: Initiating Events

- Green. The inspectors reviewed a self-revealing NCV of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Actions," for the failure to promptly identify and correct the source of a reactor coolant system pressure boundary leak from about August, 2012, through February 5, 2013. On February 4, 2013, Wolf Creek was performing a routine boric acid walkdown of containment as part of Refueling Outage 19. A cracked weld spraying reactor coolant pump seal water was observed on the upstream side of valve BBV130, reactor coolant pump A seal water supply line drain valve. The licensee had attributed increased leakage to reactor coolant system leakage identified in early June 2012, past emergency core cooling system check valves, without conducting inspections to rule out pressure boundary leakage. This issue was entered into the Corrective Action Program (CAP) as Condition Report (CR) 62946.

  Wolf Creek's failure to promptly identify and correct the cause of reactor coolant system pressure boundary leakage is a performance deficiency. The issue is more than minor because, if left uncorrected, it would have the potential to lead to a more significant safety concern in that leakage could increase over time. The inspectors assessed the significance of the issue using IMC 609, Appendix A, “Significance Determination Process for Findings at Power,” Exhibit 1, “Initiating Events Screening Questions,” Section A , “Loss of Coolant Accident Initiators.” The inspectors determined that the finding was of very low safety significance (Green) because after a reasonable assessment of degradation, the finding could not result in exceeding the reactor coolant system leak rate for a small loss of coolant accident and the finding would not have affected other systems used to mitigate a loss of coolant accident resulting in a total loss of their function (e.g., Interfacing System LOCA). The inspectors determined that this issue had a cross-cutting aspect in the human performance cross-cutting area because Wolf Creek did not maintain long term plant safety by minimization of long-standing equipment issues to support safety. Specifically, the pressure boundary leakage was more difficult to identify because of concurrent check

valve leakage into emergency core cooling systems, an intermittent but long-standing issue [H.2(a)] (Section 4OA3.2).

Cornerstone: Mitigating Systems

- Green. The inspectors identified a NCV of 10 CFR 50 Appendix B, Criterion XVI, "Corrective Actions." The licensee did not initiate a CR for a hardware failure of an emergency diesel generator structural component identified in October 2006. On October 15, 2006, while performing planned maintenance on the emergency diesel generator B, a broken cylinder head stud was discovered while disassembling the number four cylinder. None of the other seven studs on that cylinder showed any visible damage, so maintenance and engineering personnel assumed a surface nick was the cause of the failure and simply replaced the bolt under Work Order WO 06-288926-000. No CR was written so there was no formal cause evaluation, no hardware failure analysis to specify the mode of degradation, or any consideration of extent of condition for potential common cause failures. On January 7, 2013, a broken cylinder head stud was found during maintenance on emergency diesel generator B. An independent laboratory determined that the stud had failed due to high cycle fatigue. Subsequent analysis of the stud that failed in 2006 confirmed the same failure cause. This issue was entered into the CAP as CR 65912.

  Failure to identify, determine the cause and take actions to prevent recurrence for a broken emergency diesel generator cylinder head stud, a significant condition adverse to quality, is a performance deficiency. The performance deficiency is more than minor and therefore a finding because, if left uncorrected, would have the potential to lead to a more significant safety concern because the failure to determine the cause, evaluate the extent of condition, and take action to preclude repetition was later confirmed to have left an additional degraded or failed studs undetected for over six years. The inspectors screened the finding using Inspection Manual Chapter 0609, Appendix A, "Significance Determination Process for Findings at Power," Exhibit 2, "Mitigating Systems Screening Questions," Section A. The finding screened as Green because it was a design or qualification issue where affected system, structures, or components maintain their operability or functionality. No cross-cutting aspect was assigned associated with the 2006 events because the primary causes of this finding were not indicative of current licensee performance (Section 4OA3.1).

B. Licensee-Identified Violations

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

REPORT DETAILS

Summary of Plant Status

Wolf Creek began the inspection period at 100% power. On February 3, 2012, Wolf Creek shut down for Refueling Outage 19, and remained offline for the remainder of the inspection period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

1R01 Adverse Weather Protection (71111.01)

.1 Readiness for Seasonal Extreme Weather Conditions

a. Inspection Scope

The inspectors performed a review of the adverse weather procedures for seasonal extremes (low temperatures). The inspectors verified that weather-related equipment deficiencies identified during the previous year were corrected prior to the onset of seasonal extremes and evaluated the implementation of the adverse weather preparation procedures and compensatory measures for the affected conditions before the onset of, and during, the adverse weather conditions.

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

- January 7, 2013, essential service water warming (essential service water, component cooling water)

These activities constitute completion of one readiness for seasonal adverse weather sample as defined in Inspection Procedure 71111.01-05.

b. Findings

No findings were identified.

1R04 Equipment Alignment (71111.04)

.1 Partial Walkdown

a. Inspection Scope

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

- February 4, 2013, A train residual heat removal system
- March 26, 2013, B train Class 1E 480Vac electrical distribution system
- March 26, 2013, A train Class 1E 480Vac electrical distribution system

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

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

b. Findings

No findings were identified.

.2 Complete Walkdown

a. Inspection Scope

On February 14, 2013, the inspectors performed a complete system alignment inspection of the spent fuel pool cooling system to verify the functional capability of the system. The inspectors selected this system because it was considered both safety significant and risk significant in the licensee's probabilistic risk assessment. The inspectors inspected the system to review mechanical and electrical equipment line ups, electrical power availability, system pressure and temperature indications, as appropriate, component labeling, component lubrication, component and equipment cooling, hangers and supports, operability of support systems, and to ensure that ancillary equipment or debris did not interfere with equipment operation. The inspectors

reviewed a sample of past and outstanding work orders to determine whether any deficiencies significantly affected the system function. In addition, the inspectors reviewed the corrective action program database to ensure that system equipment-alignment problems were being identified and appropriately resolved. Specific documents reviewed during this inspection are listed in the attachment.

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

b. Findings

No findings were identified.

1R05 Fire Protection (71111.05)

.1 Quarterly Fire Inspection Tours

a. Inspection Scope

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

- February 14, 2013, Fuel Building 2047' elevation
- February 14, 2013, Fuel Building 2026' elevation
- February 14, 2013, Fuel Building 2000' elevation
- March 28, 2013, Turbine Building 2065' elevation

The inspectors reviewed areas to assess if licensee personnel had implemented a fire protection program that adequately controlled combustibles and ignition sources within the plant; effectively maintained fire detection and suppression capability; maintained passive fire protection features in good material condition; and had implemented adequate compensatory measures for out of service, degraded or inoperable fire protection equipment, systems, or features, in accordance with the licensee's fire plan. The inspectors selected fire areas based on their overall contribution to internal fire risk as documented in the plant's Individual Plant Examination of External Events with later additional insights, their potential to affect equipment that could initiate or mitigate a plant transient, or their impact on the plant's ability to respond to a security event. Using the documents listed in the attachment, the inspectors verified that fire hoses and extinguishers were in their designated locations and available for immediate use; that fire detectors and sprinklers were unobstructed; that transient material loading was within the analyzed limits; and fire doors, dampers, and penetration seals appeared to be in satisfactory condition. The inspectors also verified that minor issues identified during the inspection were entered into the licensee's corrective action program. Specific documents reviewed during this inspection are listed in the attachment.

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

b. Findings

No findings were identified.

1R07 Heat Sink Performance - Annual (71111.07)

a. Inspection Scope

The inspectors reviewed licensee programs, verified performance against industry standards, and reviewed critical operating parameters and maintenance records for the B train essential service water to component cooling water heat exchanger. The inspectors verified that performance tests were satisfactorily conducted for heat exchangers/heat sinks and reviewed for problems or errors; the licensee utilized the periodic maintenance method outlined in EPRI Report NP 7552, "Heat Exchanger Performance Monitoring Guidelines"; the licensee properly utilized biofouling controls; the licensee's heat exchanger inspections adequately assessed the state of cleanliness of their tubes; and the heat exchanger was correctly categorized under 10 CFR 50.65, "Requirements for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants." Specific documents reviewed during this inspection are listed in the attachment.

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

b. Findings

No findings were identified.

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

.1 Quarterly Observation of Licensed Operator Performance

a. Inspection Scope

On February 3-4, 2013, the inspectors observed the performance of on-shift licensed operators in the plant's main control room. At the time of the observations, the plant was in a period of heightened activity due to unit shutdown for refueling. The inspectors observed the operators' performance of the following activities:

- Primary reactivity changes: control rod manipulations and borations
- Secondary plant load changes: automatic and manual load set changes
- Securing of main feed pump
- Securing of condensate pump
- Swap over from main feed regulating valves to bypass feed regulating valves
- Swap over of plant electrical loads from unit auxiliary transformer to the start-up transformer

- Main generator output breaker opening and turbine trip
- Mode changes to Mode 2 and 3
- Verification of sub-criticality and shutdown margin
- Insertion of all control and shutdown rod banks

In addition, the inspectors assessed the operators' adherence to plant procedures, including AP 21-001, "Conduct of Operations," and other operations department policies.

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

b. Findings

No findings were identified.

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

a. Inspection Scope

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

- January 7, 2013, broken B emergency diesel generator cylinder head bolt
- January 20, 2013, A emergency diesel generator maintenance outage
- February 10, 2013, planned Orange risk for reduced reactor coolant system inventory
- March 13, 2013, Red electrical power shutdown risk indicator for loss of both onsite electrical power sources

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

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

b. Findings

No findings were identified.

1R15 Operability Evaluations and Functionality Assessments (71111.15)

a. Inspection Scope

The inspectors reviewed the following assessments:

- January 21, 2013, unit vent radiation monitor GTRE-21B iodine and particulate sampler failure
- March 8, 2013, turbine driven auxiliary feedwater pump stuffing box extension through wall leak
- March 11, 2013, train B residual heat removal pump diffuser vane damage
- January 7, 2013, train B emergency diesel generator broken cylinder head stud

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

These activities constitute completion of three operability evaluations inspection samples as defined in Inspection Procedure 71111.15-05.

b. Findings

No findings were identified.

1R18 Plant Modifications (71111.18)

Permanent Modifications

a. Inspection Scope

The inspectors reviewed key parameters associated with energy needs, materials, replacement components, timing, control signals, equipment protection from hazards, operations, flow paths, pressure boundary, structural, licensing basis, and failure modes for the permanent modification identified as non-safety auxiliary feedwater pump installation.

The inspectors verified that modification preparation, staging, and implementation did not impair emergency/abnormal operating procedure actions, key safety functions, or operator response to loss of key safety functions; post-modification testing will maintain the plant in a safe configuration during testing by verifying that unintended system interactions will not occur; systems, structures and components' performance characteristics still meet the design basis; the modification design assumptions were appropriate; the modification test acceptance criteria will be met; and licensee personnel identified and implemented appropriate corrective actions associated with permanent plant modifications. Specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of one sample for plant modifications as defined in Inspection Procedure 71111.18-05.

b. Findings

No findings were identified.

1R19 Post-Maintenance Testing (71111.19)

a. Inspection Scope

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

- February 27, 2013, train B emergency service water pipe replacement leak checks
- February 22, 2013, NK012 125Vdc vital battery duty cycle testing
- February 21, 2013, NK014 125Vdc vital battery duty cycle testing
- February 28, 2013, emergency diesel generator B run following maintenance outage
- March 13, 2013, emergency diesel generator B jacket water pressure switch replacement
- March 19, 2013, train A emergency service water pipe replacement leak checks

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

- The effect of testing on the plant had been adequately addressed; testing was adequate for the maintenance performed

- Acceptance criteria were clear and demonstrated operational readiness; test instrumentation was appropriate

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

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

b. Findings

No findings were identified.

1R20 Refueling and Other Outage Activities (71111.20)

a. Inspection Scope

The inspectors reviewed the outage safety plan and contingency plans for the refueling outage, conducted on December 20, 2012, to confirm that licensee personnel had appropriately considered risk, industry experience, and previous site-specific problems in developing and implementing a plan that assured maintenance of defense in depth. During the refueling outage, the inspectors observed portions of the shutdown and cooldown processes and monitored licensee controls over the outage activities listed below.

- Configuration management, including maintenance of defense in depth, is commensurate with the outage safety plan for key safety functions and compliance with the applicable technical specifications when taking equipment out of service.

- Clearance activities, including confirmation that tags were properly hung and equipment appropriately configured to safely support the work or testing.

- Installation and configuration of reactor coolant pressure, level, and temperature instruments to provide accurate indication, accounting for instrument error.

- Status and configuration of electrical systems to ensure that technical specifications and outage safety-plan requirements were met, and controls over switchyard activities.

- Monitoring of decay heat removal processes, systems, and components.

- Verification that outage work was not impacting the ability of the operators to operate the spent fuel pool cooling system.

- Reactor water inventory controls, including flow paths, configurations, and alternative means for inventory addition, and controls to prevent inventory loss.

- Controls over activities that could affect reactivity.

- Refueling activities, including fuel handling and sipping to detect fuel assembly leakage.

- Licensee identification and resolution of problems related to refueling outage activities.

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

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

b. Findings

No findings were identified.

1R22 Surveillance Testing (71111.22)

a. Inspection Scope

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

- Preconditioning

- Evaluation of testing impact on the plant

- Acceptance criteria

- Test equipment

- Procedures

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

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

- January 21, 2013, diesel generator A 24-hour run
- February 24, 2013, train B Class 1E switchgear air conditioning system flow rate verification
- March 13, 2013, train A emergency service water pump comprehensive flow test (IST)
- March 30, 2013, residual heat removal pump A reference pump curve determination (IST)

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

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

b. Findings

No findings were identified.

Cornerstone: Emergency Preparedness

1EP4 Emergency Action Level and Emergency Plan Changes (71114.04)

a. Inspection Scope

The NSIR headquarters staff performed an in-office review of the latest revisions of various Emergency Plan Implementing Procedures (EPIPs) and the Emergency Plan located under ADAMS accession numbers ML13025A085 and ML130020566 as listed in the Attachment.

The licensee determined that in accordance with 10 CFR 50.54(q), the changes made in the revisions resulted in no reduction in the effectiveness of the Plan, and that the revised Plan continued to meet the requirements of 10 CFR 50.47(b) and Appendix E to 10 CFR Part 50. The NRC review was not documented in a safety evaluation report and did not constitute approval of licensee-generated changes; therefore, this revision is subject to future inspection. The specific documents reviewed during this inspection are listed in the Attachment.

These activities constitute completion of two samples as defined in Inspection Procedure 71114.04-05.

b. Findings

No findings were identified.

2. RADIATION SAFETY

Cornerstones: Public Radiation Safety and Occupational Radiation Safety

2RS1 Radiological Hazard Assessment and Exposure Controls (71124.01)

a. Inspection Scope

This area was inspected to: (1) review and assess licensee's performance in assessing the radiological hazards in the workplace associated with licensed activities and the implementation of appropriate radiation monitoring and exposure control measures for both individual and collective exposures, (2) verify the licensee is properly identifying and reporting Occupational Radiation Safety Cornerstone performance indicators, and (3) identify those performance deficiencies that were reportable as a performance indicator and which may have represented a substantial potential for overexposure of the worker.

The inspectors used the requirements in 10 CFR Part 20, the technical specifications, and the licensee's procedures required by technical specifications as criteria for determining compliance. During the inspection, the inspectors interviewed the radiation protection manager, radiation protection supervisors, and radiation workers. The inspectors performed walkdowns of various portions of the plant, performed independent radiation dose rate measurements and reviewed the following items:

- Performance indicator events and associated documentation reported by the licensee in the Occupational Radiation Safety Cornerstone

- The hazard assessment program, including a review of the licensee's evaluations of changes in plant operations and radiological surveys to detect dose rates, airborne radioactivity, and surface contamination levels

- Instructions and notices to workers, including labeling or marking containers of radioactive material, radiation work permits, actions for electronic dosimeter alarms, and changes to radiological conditions

- Programs and processes for control of sealed sources and release of potentially contaminated material from the radiologically controlled area, including survey performance, instrument sensitivity, release criteria, procedural guidance, and sealed source accountability

- Radiological hazards control and work coverage, including the adequacy of surveys, radiation protection job coverage, and contamination controls; the use of electronic dosimeters in high noise areas; dosimetry placement; airborne radioactivity monitoring; controls for highly activated or contaminated materials (non-fuel) stored within spent fuel and other storage pools; and posting and physical controls for high radiation areas and very high radiation areas

- Radiation worker and radiation protection technician performance with respect to radiation protection work requirements

- Audits, self-assessments, and corrective action documents related to radiological hazard assessment and exposure controls since the last inspection

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

These activities constitute completion of the one required sample as defined in Inspection Procedure 71124.01-05.

b. Findings

No findings were identified.

2RS3 In-plant Airborne Radioactivity Control and Mitigation (71124.03)

a. Inspection Scope

This area was inspected to verify in-plant airborne concentrations are being controlled consistent with ALARA principles and the use of respiratory protection devices on-site do not pose an undue risk to the wearer. The inspectors used the requirements in 10 CFR Part 20, the technical specifications, and the licensee's procedures required by technical specifications as criteria for determining compliance. During the inspection, the inspectors interviewed licensee personnel, performed walkdowns of various portions of the plant, and reviewed the following items items:

- The licensee's use, when applicable, of ventilation systems as part of its engineering controls

- The licensee's respiratory protection program for use, storage, maintenance, and quality assurance of NIOSH certified equipment, qualification and training of personnel, and user performance

- The licensee's capability for refilling and transporting SCBA air bottles to and from the control room and operations support center during emergency conditions, status of SCBA staged and ready for use in the plant and associated surveillance records, and personnel qualification and training

- Audits, self-assessments, and corrective action documents related to in-plant airborne radioactivity control and mitigation since the last inspection

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

These activities constitute completion of the one sample as defined in Inspection Procedure 71124.03-05.

b. Findings

No findings were identified.

4. OTHER ACTIVITIES

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

4OA1 Performance Indicator Verification (71151)

.1 Data Submission Issue

a. Inspection Scope

The inspectors performed a review of the performance indicator data submitted by the licensee for the 4th Quarter 2012 performance indicators for any obvious inconsistencies prior to its public release in accordance with Inspection Manual Chapter 0608, "Performance Indicator Program."

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

b. Findings

No findings were identified.

.2 Unplanned Scrams per 7000 Critical Hours (IE01)

a. Inspection Scope

The inspectors sampled licensee submittals for the unplanned scrams per 7,000 critical hours performance indicator for the period from the first quarter 2012 through the fourth quarter 2012. To determine the accuracy of the performance indicator data reported during those periods, the inspectors used definitions and guidance contained in NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6. The inspectors reviewed the licensee's operator narrative logs, issue reports, event reports, and NRC integrated inspection reports for the period of January 2012 through December 2012, to validate the accuracy of the submittals. The inspectors also reviewed the licensee's issue report database to determine if any problems had been identified with the performance indicator data collected or transmitted for this indicator and none were identified. Specific documents reviewed are described in the attachment to this report.

These activities constitute completion of one unplanned scrams per 7,000 critical hours sample as defined in Inspection Procedure 71151-05.

b. Findings

No findings were identified.

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

a. Inspection Scope

The inspectors sampled licensee submittals for the unplanned power changes per 7,000 critical hours performance indicator for the period from the first quarter 2012 through the fourth quarter 2012. To determine the accuracy of the performance indicator data reported during those periods, the inspectors used definitions and guidance contained in NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6. The inspectors reviewed the licensee's operator narrative logs, issue reports, maintenance rule records, event reports, and NRC integrated inspection reports for the period of January 2012 through December 2012, to validate the accuracy of the submittals. The inspectors also reviewed the licensee's issue report database to determine if any problems had been identified with the performance indicator data collected or transmitted for this indicator and none were identified. Specific documents reviewed are described in the attachment to this report.

These activities constitute completion of one unplanned transients per 7,000 critical hours sample as defined in Inspection Procedure 71151-05.

b. Findings

No findings were identified.

.4 Unplanned Scrams with Complications (IE04)

a. Inspection Scope

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

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

b. Findings

No findings were identified.

.5 Occupational Exposure Control Effectiveness (OR01)

a. Inspection Scope

The inspectors reviewed performance indicator data for the fourth quarter of 2012. The objective of the inspection was to determine the accuracy and completeness of the performance indicator data reported during these periods. The inspectors used the definitions and clarifying notes contained in NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6, as criteria for determining whether the licensee was in compliance.

The inspectors reviewed corrective action program records associated with high radiation area (greater than 1 rem/hr) and very high radiation area non-conformances. The inspectors reviewed radiological, controlled area exit transactions greater than 100 mrem. The inspectors also conducted walkdowns of high radiation areas (greater than 1 rem/hr) and very high radiation area entrances to determine the adequacy of the controls of these areas.

These activities constitute completion of the occupational exposure control effectiveness sample as defined in Inspection Procedure 71151-05.

b. Findings

No findings were identified.

.6 Radiological Effluent Technical Specifications/Offsite Dose Calculation Manual Radiological Effluent Occurrences (PR01)

a. Inspection Scope

The inspectors reviewed performance indicator data for the fourth quarter of 2012. The objective of the inspection was to determine the accuracy and completeness of the performance indicator data reported during these periods. The inspectors used the definitions and clarifying notes contained in NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6, as criteria for determining whether the licensee was in compliance.

The inspectors reviewed the licensee's corrective action program records and selected individual annual or special reports to identify potential occurrences such as unmonitored, uncontrolled, or improperly calculated effluent releases that may have impacted offsite dose.

These activities constitute completion of the radiological effluent technical specifications/offsite dose calculation manual radiological effluent occurrences sample as defined in Inspection Procedure 71151-05.

b. Findings

No findings or violations were identified.

4OA2 Problem Identification and Resolution (71152)

.1 Routine Review of Identification and Resolution of Problems

a. Inspection Scope

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

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

b. Findings

No findings were identified.

.2 Daily Corrective Action Program Reviews

a. Inspection Scope

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

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

b. Findings

No findings were identified.

4OA3 Follow-up of Events and Notices of Enforcement Discretion (71153)

.1 (Closed) Licensee Event Report (LER) 2013-001-00 and Notice of Enforcement Discretion 2013-4-001, Broken Cylinder Head Stud Causes Inoperable Diesel Generator Longer than Technical Specification Completion Time Event Description

On January 8, 2013, while performing planned maintenance on emergency diesel generator B a broken cylinder head stud on the number 7 cylinder was found to be broken. Engineering ordered a hardware failure analysis to determine the failure mode. When reviewing internal operating experience, the licensee noted a work request documenting a similar failure in 2006. The remains of that stud were located and sent off for a similar analysis. All 108 train B diesel generator cylinder head studs were ping tested and ultrasonically tested to confirm no additional bolt failures existed. All remaining number 7 cylinder head studs were removed and visually inspected; the two adjacent bolts were replaced, but returned to the warehouse for future use following a satisfactory non-destructive examination. All of this work was expected to take longer than the 72 hour completion time allowed by Technical Specification 3.8.1; therefore Wolf Creek requested and was granted enforcement discretion (NOED 2013-4-001) by the Nuclear Regulatory Commission on January 10, 2013, to allow an additional 96 hours to restore the diesel generator. The repairs and postmaintenance testing were satisfactorily completed within the enforcement discretion window on January 12, 2013. Extent of condition ping and ultrasonic testing for emergency diesel generator A was completed on January 20, 2013. No additional failed bolts were identified.

On January 15, 2013, Fairbanks Morse provided Wolf Creek with a computer modeled engine analysis verifying the ability of the engine to complete its seven day mission time with one of 108 cylinder head studs broken. On January 31, 2013, Exelon Power Labs provided the hardware failure analysis of the number 4 and number 7 cylinder bolts. The conclusions were identical for each bolt. The failure was low stress high cycle fatigue, with a contributing cause of outer diameter fretting corrosion.

On March 11, 2013, Wolf Creek submitted Licensee Event Report (LER) 2013-001-00 to document the details and cause of this event. The inspectors reviewed this LER.

LER 2013-001-00 and NOED 2013-4-001 are closed.

b. Findings

Introduction. The inspectors identified a Green, NCV of 10 CFR 50 Appendix B, Criterion XVI, "Corrective Actions." The licensee did not initiate a CR for a hardware failure of an emergency diesel generator structural component identified in October 2006, determine the cause, and take actions to prevent recurrence for a broken emergency diesel generator cylinder head stud. A similar failure with the same cause was identified in January of 2013.

Description. On October 15, 2006, while performing planned maintenance on the emergency diesel generator B, a broken cylinder head stud was discovered while disassembling the number 4 cylinder. None of the other seven studs on that cylinder showed any visible damage, so maintenance and engineering personnel assumed a surface nick was the cause of the failure and replaced the stud under Work Order 06-288926-000. No CR was written, so there was no formal cause evaluation, no hardware failure analysis to specify the mode of degradation, or any other consideration of extent of condition for potential common cause failures was implemented.

The inspectors concluded that the licensee failed to recognize that the failure represented a significant condition adverse to quality because they did not attempted to verify their failure theory with a hardware failure analysis. If they had done this then the licensee would have been aware of a potential common cause failure mechanism at work, and established a monitoring program that would have identified the failed bolt on the number seven cylinder much sooner, possibly even before it failed.

Analysis. Failure to identify, determine the cause and take actions to prevent recurrence for a broken emergency diesel generator cylinder head stud, a significant condition adverse to quality, is a performance deficiency. The performance deficiency is more than minor and therefore a finding because, if left uncorrected, would lead to a more significant safety concern; specifically, because the failure to evaluate extent of condition was later confirmed to have left additional degraded or failed studs undetected for over six years. The inspectors screened the finding using Inspection Manual Chapter 0609, Appendix A, "Significance Determination Process for Findings at Power," Exhibit 2, "Mitigating Systems Screening Questions," Section A. The finding screened as Green because it was a design or qualification issue where affected system, structures, or components maintain their operability or functionality. No cross-cutting aspect associated with the 2006 events was assigned because the primary causal factor contributing to this finding was not indicative of current licensee performance. Specifically the inspectors observed that the proactive decision making by engineering management in the 2013 bolt failure including the condition reporting, hardware failure analyses, and extent of condition testing missing from the 2006 event were promptly carried out with no impetus from government or industry regulators.

Enforcement. Title 10 CFR 50, Appendix B, “Quality Assurance Criteria for Nuclear Power Plants”, Criterion XVI, “Corrective Action,” states, in part, that measures shall be established to assure that conditions adverse to quality, such as failures, malfunctions, deficiencies, deviations, defective material and equipment, and non-conformances are promptly identified and corrected. In the case of significant conditions adverse to quality, the measures shall assure that the cause of the condition is determined and corrective action taken to preclude repetition. The identification of the significant condition adverse to quality, the cause of the condition, and the corrective action taken shall be documented and reported to appropriate levels of management. Contrary to the above, from October 15, 2006, through January 20, 2013, a significant condition adverse to quality was not entered into the CAP and the extent of condition was indeterminate. Specifically, the failure of a number 4 emergency diesel generator B cylinder head stud was not entered into the CAP, no cause evaluation was performed, and no corrective actions to preclude repetition were taken. An identical failure was identified on a cylinder head stud for cylinder number 7 on January 8, 2013, and was properly evaluated with all repairs and the extent of condition testing to preclude further repetition was completed on January 20, 2013. Because the finding is of very low safety significance and has been entered into the licensee’s CAP as CR 65912, this violation is being treated as a NCV consistent with Section 2.3.2 of the NRC Enforcement Policy:
NCV 05000482/2013002-01, “Failure to Initiate a Condition Report and Determine Extent of Condition for Emergency Diesel Generator Head Stud Failure.”

.2 (Closed) Licensee Event Report 2013-002-00, Pressure Boundary Leakage on a Seal Water Injection Drain Line due to Low Stress High Cycle Fatigue

a. Event Description

On February 4, 2013, Wolf Creek was performing a routine boric acid walkdown of containment as part of Refueling Outage 19. A cracked weld spraying reactor coolant pump seal injection water was observed on the upstream side of valve BBV130, reactor coolant pump A seal water supply line drain valve. This line was spraying an estimated 0.03-0.04 gpm stream of borated reactor coolant water at 160 degrees Fahrenheit (F) and 2235 psi. This leakage was coming from a Class 1 weld on a ¾-inch austenitic stainless pipe stub inside the bioshield wall, an area not accessible with the reactor critical. The pipe stub was cut out and replaced prior to plant restart. LER 2013-002-00 was submitted on April 2, 2013. The inspectors reviewed the LER and the corrective action evaluations and analyses to verify that the licensee had appropriately considered the cause of the event and taken actions to prevent recurrence. The inspectors also reviewed the reactor coolant system leak rate data from cycle 19 to determine if any opportunities to identify and correct leakage were missed.

LER 2013-002-00 is closed.

b. Findings

Introduction: The inspectors reviewed a self-revealing Green NCV of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Actions," for failure to promptly identify and correct the source of an reactor coolant system (RCS) pressure boundary leak from about July 27, 2012, through February 5, 2013.

Description: On February 4, 2013, Wolf Creek was performing a routine boric acid walkdown of containment as part of Refueling Outage 19. A cracked weld spraying reactor coolant pump seal injection water was observed on the upstream side of valve BBV130, reactor coolant pump A seal water supply line drain valve. Boric acid had covered the surrounding area and the floor below was wet. This valve is inside the bioshield which is not accessible with the reactor critical. The licensee wrote CR 62946 and reported the event to the NRC as Event Notification 48713. A subsequent hardware failure analysis determined the cause of the failure to be low stress, high cycle fatigue. The weld material, thickness, and form was determined to be acceptable per the design specifications. The leakage flow rate was estimated to be 0.02-0.04 gpm based on the dimensions of the crack. The valve was replaced during the refueling outage.

Wolf Creek last performed a boric acid walkdown inside containment following a loss of offsite power on January 14, 2012. No leakage was noted in the vicinity of this component. The plant computer system recorded an increase of about 0.06 gpm in reactor coolant system leakage in early June 2012. This leakage was also accompanied by pressurization of the residual heat removal system and safety injection accumulator level increases, both are direct indications of emergency core cooling system check valve leakage. Wolf Creek attempted to quantify this leakage on June 28, 2012, but could only identify approximately 0.02-0.03 gpm of leakage using the safety injection system test line. Wolf Creek attributed this to imperfections in the test methodology, and closed the corrective actions under the auspice that the increase in leakage was wholly attributable to the check valve leakage.

Using a computer model and boron recovery estimates, the licensee believes that the leak from the cracked weld originated sometime between June and August, 2012.

A cracked weld leading to a leak in this location constituted reactor coolant pressure boundary leakage, a condition prohibited by Technical Specification 3.4.13. The inspectors noted that the licensee did not adequately consider the potential for RCS pressure boundary leakage, despite the difference between the total RCS leakage measured and the smaller value of leakage into the emergency core cooling system. The licensee's leakage monitoring program did not require consideration of new leakage sources once a leakage source had been identified, so all leakage was attributed to the single source that was identified.

Analysis: The failure to promptly identify and correct the cause of RCS pressure boundary leakage is a performance deficiency. The issue is more than minor because, if left uncorrected, would lead to a more significant safety concern in that leakage could increase over time. The inspectors assessed the significance of the issue using IMC 609, Appendix A, "Significance Determination Process for Findings at Power," Exhibit 1, "Initiating Events Screening Questions," Section A, "LOCA Initiators". The inspectors determined that the finding was of very low safety significance (Green) because after a reasonable assessment of degradation, the finding result could not result in exceeding the reactor coolant system leak rate for a small loss of coolant accident and the finding would not have likely affected other systems used to mitigate a loss of coolant accident resulting in a total loss of their function (e.g., Interfacing System LOCA). The inspectors determined that this issue had a cross-cutting aspect in the Human Performance cross-cutting area, because Wolf Creek did not maintaining long term plant safety by minimization of long-standing equipment issues to support safety. Specifically, the pressure boundary leakage was more difficult to identify because of concurrent check

valve leakage into emergency core cooling systems, an intermittent but long-standing issue [H.2(a)].

Enforcement: Title 10 CFR 50, Appendix B, Criterion XVI, "Corrective Actions," states, in part, that, measures shall be established to assure that conditions adverse to quality, such as failures, malfunctions, deficiencies, deviations, defective material and equipment, and non-conformances are promptly identified and corrected. In the case of significant conditions adverse to quality, the measures shall assure that the cause of the condition is determined and corrective action taken to preclude repetition." Contrary to the above, Wolf Creek did not promptly identify and correct RCS pressure boundary leakage, a condition adverse to quality, from about August, 2012, to February 5, 2013.

Because this was of very low safety significance and was entered into the licensee's CAP as CR 62946, this violation is being treated as a NCV, consistent with Section 2.3.2 of the NRC Enforcement Policy:
NCV 05000482/2013002-02, “Failure to Promptly Identify and Correct Reactor Coolant System Pressure Boundary Leakage.”

.3 Notice of Unusual Event for Two Diesel Generators Out of Service due to B Train Diesel Generator Governor Oil Level High

a. Event Description

On March 1, 2013, while Wolf Creek was defueled for a planned refueling outage and diesel generator A was disassembled for planned maintenance, a local operator discovered that the B diesel generator governor oil level was above the top of the sight glass. At 10:35 p.m. the shift manager declared the B diesel generator inoperable. The control room staff dispatched the fix it now team to drain the oil to an acceptable level. At 10:42 p.m. Wolf Creek declared a Notification of Unusual Event (NOUE) on EAL-6, Loss of Electrical Power/Assessment Capability, because both emergency diesel generators were inoperable. At 11:07 p.m. the oil had been drained to an appropriate level, and the NOUE was terminated at 11:21 p.m.

Wolf Creek initiated CR 64828 to investigate the as-found condition. The evaluation concluded that a procedural inadequacy in the system operability restoration process was the cause, and directed procedure changes to the diesel generators’ operating logs (alignment checklist), system operating procedures, and preventive maintenance procedures that would ensure that this activity is not overlooked in the future.

The licensee subsequently concluded that the engine had remained capable of performing its intended safety function, as the high oil level in the governor had been present during the postmaintenance testing that had been performed earlier in the day, and the engine had not exhibited any unusual governor response.

b. Findings

A licensee identified finding associated with this event is documented in Section 4OA7 of this inspection report.

.4 Notice of Unusual Event for Two Diesel Generators Out of Service due to B Train Diesel Generator Jacket Water Pressure Switch Failure

On March 13, 2013, the reactor was defueled for a planned refueling outage and the A emergency diesel generator disassembled for planned maintenance. At 1:34 a.m. the control room received the B Diesel Generator Trouble Alarm. The local operator found the shutdown relay in the control cabinet had actuated and would not reset. The engine was declared inoperable and Wolf Creek declared a NOUE for two onsite electrical sources being unavailable. Instrumentation and controls technicians troubleshooting the condition determined that the control circuitry was working properly, but a jacket water pressure switch diaphragm had failed and the water that leaked was shorting out the electrical switch, causing a false positive signal. This signal rendered the engine inoperable because the resulting logic state indicated the engine was running with no lube oil pressure and locked in a protective trip. The pressure switch was repaired and the engine was tested and returned to service on March 14, 2013 at 2:21a.m., terminating the NOUE. The inspectors are continuing to review the cause of this event, and any issues of concern identified will be addressed in a future inspection report.

4OA5 Other Activities

.1 (Closed) NRC Temporary Instruction 2515/188, Inspection of (Fukushima Daiichi) Near-Term Task Force Recommendation 2.3 Seismic Walkdowns

The inspectors accompanied Wolf Creek staff and contractors performing the following seismic walkdowns:

- September 18, 2012, main control room
- September 19, 2012, turbine driven auxiliary feedwater pump room

The inspectors verified that Wolf Creek staff confirmed the following seismic features associated with the main control room instrumentation and control panels (RL017, RL020, and RL021) and the turbine driven auxiliary feedwater pump (PAL02), its local control panel, were free of potential adverse seismic conditions:

- Anchorage was free of bent, broken, missing or loose hardware
- Anchorage was free of corrosion that is more than mild surface oxidation
- Anchorage was free of visible cracks in the concrete near the anchors
- Anchorage configuration was consistent with plant documentation
- Strucutres, systems and components will not be damaged from impact by nearby equipment or structures
- Overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls are secure and not likely to collapse onto the equipment

- Attached lines have adequate flexibility to avoid damage
- The area appears to be free of potentially adverse seismic interactions that could cause flooding or spray in the area
- The area appears to be free of potentially adverse seismic interactions that could cause a fire in the area
- The area appears to be free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g. scaffolding, lead shielding)

The inspectors independently performed walkdowns and verified that the following Seismic Walkdown Equipment List Items were appropriately evaluated by the licensee:

- March 12, 2013, centrifugal charging pump B
- March 12, 2013, 4.16kV-480V transformer XNG02

The inspectors observed no unacceptable conditions on the independent walkdown.

Wolf Creek does not have any systems, structures, or components that could allow the spent fuel pool to drain down rapidly.

No NRC-identified or self-revealing findings were identified. Temporary Instruction 2515/188 is closed.

.2 (Open) Temporary Instruction 2515/188 – Review of the Implementation of the Industry Initiative to Control Degradation of Underground Piping and Tanks (Phase 1 of 2)

The inspectors reviewed Wolf Creek's buried and underground piping and tanks program in accordance with Section 03.01a through 03.01c of this temporary instruction. The attributes of NEI 09-14, Revision 1, Section 3.3 A and B, have been incorporated into the Wolf Creek Buried Piping and Tanks Program as described by station Administrative Procedure 23L-003. Completion dates in the program are in accordance with the NEI guidance and thus far, all have been completed on or ahead of schedule. Wolf Creek meets all applicable aspects of NEI 09-14, Revision 1, as set forth in Table 1 of the temporary instruction. The inspectors also visually observed the material condition of exhumed refueling water storage tank piping during Refuel Outage 19.

Temporary Instruction 2515/188 will remain open pending the completion of remaining licensee inspections, the results of which will be discussed in Phase 2.

.3 (Closed) Notice of Violation 05000482/2009005-11, Failure to Correct Vessel Head Vent Path (EA 10-020)

On February 11, 2010, Wolf Creek was issued Violation 05000482/2009005-11 (EA 10-020) because from December 2, 2003, to December 31, 2009, Wolf Creek failed to ensure the design basis of the reactor vessel head vent path was correctly translated into specifications, drawings and procedures. Specifically, Wolf Creek designed and installed a reactor vessel head permanent vent piping modification which failed to vent

noncondensable gases to the pressurizer during shutdown operations. This resulted in the formation of voids in the reactor vessel head while the plant was shut down and depressurized in successive refueling outages.

In performing corrective actions in response to this violation, Wolf Creek determined that the vent path geometry was too complex for proper venting. In Refuel Outage 18, in the spring of 2011, Wolf Creek determined a suitable location for a more simple vent path to the cavity drains. That design was implemented and confirmed to operate satisfactorily in Refuel Outage 19, in the spring of 2013, when the reactor head was satisfactorily drained in a slow and controlled manner. The success of these actions was documented in CR 63301. The inspectors did not identify any additional concerns.

Violation 05000482/2009005-11 (EA 10-020) is closed.

4OA6 Meetings, Including Exit

Exit Meeting Summary

On February 7, 2013, the inspectors presented the results of the radiation safety inspections to Mr. M. Sunseri, President and Chief Executive Officer, and other members of the licensee staff. The licensee acknowledged the issues presented. The inspectors asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

On April 10, 2013, the inspectors presented the resident inspector inspection results to Mr. R. Smith, Site Vice President, and other members of the licensee staff. The licensee acknowledged the issues presented. The inspector asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

On May 3, 2013, the inspectors recharacterized one finding in a meeting with Mr, R. Smith, Site Vice President. The licensee acknowledged the issue presented. No proprietary information was identified.

4OA7 Licensee-Identified Violations

The following violation of very low safety significance (Green) was identified by the licensee and is a violation of NRC requirements which meets the criteria of the NRC Enforcement Policy for being dispositioned as a NCV.

.1 Inadequate Procedures Allow Diesel Generator Restoration without Adjusting Governor Oil Level

The licensee identified a Green NCV of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for inadequate procedures to ensure all post-maintenance testing activities are completed prior to restoration. Specifically, the B EDG governor lube oil was not drained to its proper level prior to declaring the diesel generator and taking the opposite train out of service for planned maintenance on February 28, 2013. The violation is more than minor because it affects the procedure quality attribute of the mitigating systems cornerstone objective to ensure the availability and reliability of systems which respond to initiating events to prevent undesirable

consequences. The inspectors determined the finding to be Green, or of very low safety significance, using IMC 0609, Appendix A, "Significance Determination Process for findings at Power," Exhibit 2, "Mitigating Systems Screening Questions," Section A, because the finding did not meet any of the criteria requiring a detailed risk evaluation. Title 10 CFR 50 Appendix B, Criterion V, states, 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. Instructions, procedures, or drawings shall include appropriate quantitative or qualitative acceptance criteria for determining that important activities have been satisfactorily accomplished. Contrary to the above, from 5:49 a.m. to 11:07 p.m. on March 1, 2013, procedure number, title and revision was inappropriate to the circumstances because it caused the B emergency diesel generator to be inappropriately restored due to inadequate guidance to ensure that the governor oil level was properly adjusted.

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee Personnel

T. Baban, Manager Systems Engineering
P. Bedgood, Manager, Radiation Protection
M. Brinkmeyer, Fire Protection Technician
J. Broschak, Engineering VP
A. Camp, Plant Manager
B. Carlson, Support Engineer
R. Clemens, Strategic Projects VP
D. Erbe, Manager Security
S. Henry, Manager Operations
J. Hinterweger, Fire Protection Instructor
R. Hobby, Licensing Engineer
S. Kubacka, Instructor 2, Radiation Protection
M. McMullen, Design Engineer
C. Medenciy, Supervisor, Radiation Protection
W. Muilenburg, Supervisor Licensing
G. Pendergrass, Manager Station Recovery
L. Ratzlaff, Manager Maintenance
T. Slenker, Operations CAPCO
R. Smith, Site Vice President
M. Sunseri, President and CEO
M. Westman, Manager Regulatory Affairs
S. Wideman, Licensing Engineer
J. Yunk, Manager Corrective Actions

NRC Personnel

C. Peabody, Sr. Resident Inspector

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Discussed

NRC TI 2515/188	TI	Review of the Implementation of the Industry Initiative to Control Degradation of Underground Piping and Tanks (Phase 1 of 2) (Section 4OA5)

Opened and Closed

05000482/2013-001-00	LER	Broken Cylinder Head Stud Causes Inoperable Diesel Generator Longer than Technical Specification Completion Time (Section 4OA3)
05000482/2013-002-00	LER	Pressure Boundary Leakage on a Seal Water Injection Drain Line due to Low Stress High Cycle Fatigue (Section 4OA3)
05000482/2013002-01	NCV	Failure to Initiate a Condition Report and Determine Extent of Condition for Emergency Diesel Generator Head Stud Failure (Section 4OA3)
05000482/2013002-02	NCV	Failure to Promptly Identify and Correct Reactor Coolant System Pressure Boundary Leakage (Section 4OA3)

Closed

NRC TI 2515/188	TI	Inspection of (Fukushima Daiichi) Near-Term Task Force Recommendation 2.3 Seismic Walkdowns (Section 4OA5)
05000482/2009005-11	VIO	Failure to Correct Vessel Head Vent Path (Section 4OA5)

LIST OF DOCUMENTS REVIEWED

Section 1R04: Equipment Alignment

PROCEDURES

NUMBER	TITLE	REVISION / DATE
CKL EJ-120	RHR System Lineup	40

DRAWINGS

NUMBER	TITLE	REVISION / DATE
M-12EJ01	Piping and Instrumentation Diagram, Residual Heat Removal System	46
KD-7496	One Line Diagram	41

Section 1R05: Fire Protection

PROCEDURES

NUMBER	TITLE	REVISION / DATE
AP 10-106	Fire Preplans	13
AP 10-102	Control of Combustible Materials	17
AP 10-100	Fire Protection Program	17

WOLF CREEK CONDITION REPORT

00066660 00066656

Section 1R11: Licensed Operator Requalification Program

PROCEDURES

NUMBER	TITLE	REVISION / DATE
AP 21-001	Conduct of Operations	60
GEN 00-004	Power Operations	69
GEN 00-005	Minimum Load to Hot Standby	73

Section 1R13: Maintenance Risk Assessment and Emergent Work Controls

PROCEDURES

NUMBER	TITLE	REVISION / DATE
AP 22B-001	Outage Risk Management	15
APF 22B-001-10	Shutdown Safety Function Status and Assessment Summary	2/10/13 Day Shift
APF 22B-001-07	Shutdown Risk Assessment, Mode 5 or 6, Lowered Inventory	2/10/13 Day Shift

Section 1R15: Operability Evaluations

PROCEDURES

NUMBER	TITLE	REVISION / DATE
AP 06-002	Radiological Emergency Response Plant (RERP) – Emergency Action Level -1 Radioactive Effluent Release	13
AP 26C-004	Operability Determination and Functionality Assessment	26

WOLF CREEK CONDITION REPORTS

00062146	00064397	00064844	00064597	00064937

WOLF CREEK WORK ORDERS

13-365489-002

MISCELLANEOUS

NUMBER	TITLE	REVISION / DATE
13-364867-001	Engineering Disposition: Justification of AFW Pump PAL02 Stuffing Box Extension Through-Wall	3/8/2013
13-365489-001	Engineering Disposition: PEJ01A Diffuser Volute Vane Damage	2

Section 1R18: Plant Modifications

TEMPORARY MODIFICATION ORDER

NUMBER	TITLE	REVISION / DATE
13-003-KE	Removal of Fuel Transfer System Hold Down Assembly	0

DRAWINGS

NUMBER	TITLE	REVISION / DATE
WIP-8025-C-KG1202-039-B-1	Site Plan	00
WIP-C-0U5014-013-A-1	Underground Utilities	00
WIP-E-1R4342-006-E-1	Exposed Conduit – Turbine Building Area-4 El. 2000'-0"	00
WIP-E-1R4261-002-A-1	Exposed Conduit – Turbine Building Area-6 El. 1983'-0"	00
WIP-E-1L1303-027-A-1	Lighting, Grounding & Communications – Auxiliary & Reactor Buildings Plan El. 2000'-0"	00
WIP-E-1L4303-005-A-1	Lighting, Grounding & Communications – Turbine Building Partial Plan El. 2015'-4"	00
WIP-E-1L4201-004-A-1	Lighting, Grounding & Communications – Turbine Building Condenser Pit-Plan El. 1983'-0"	00
WIP-E-1R4362-007-B-1	Exposed Conduit – Turbine Building Area-6 El. 2000'-0"	00
WIP-E-1W1303-018-A-1	Ltg. & Comm. Wiring & Conduit – Auxiliary & Reactor Buildings Plan El. 2000'-0"	00
WIP-E-0078-035-A-1	Shop Bldg.-13.8KV Swgr. & 480V M.C.C. Front Elev.	00
WIP-E-1019-027-A-1	Key Diagram – Shop Bldg. Demin. Room 480V, MCC SL2B (1SL19E)	00
WIP-E-1340-015-A-1	External Wiring Diagram – 480V Motor Control Center SL2B – Pt.5	00
WIP-E-1390-010-A-1	Internal External Wiring Diagram – Miscellaneous Instruments & Switches	00
WIP-E-0006-005-A-1	Outdoor Elect Ductruns – Turbine Building North Area	01
WIP-HA-CQ017-008-B-1	RCA / PA Fence – General Site Plan Conceptual Layout	00
WIP-M-1G065-005-C-1	Equipment Location – Turbine Building Section "A"	00
WIP-E-15000-066-AS-1	Electrical – Cable, Termination and Raceway List	0
SB001	General Arrangement – Diesel Generator and Transformer Containment	1

DRAWINGS

NUMBER	TITLE	REVISION / DATE
SB002	Foundations – Transformer Pad and Containment Area – Plan & Sections	6
SB003	Foundations – Diesel Generator Pad – Plan & Sections	3
SF001	Structural Steel – Turbine Building – Partial Plans and Detail	2
EE002	Electrical – Schematic Diagram – Non-Safety Auxiliary Feedwater Pump	0
WIP-M-12AD02-009-B-1	Piping & Instrument Diagram – Condensate System	00
WIP-M-12AL01-021-A-1	Piping & Instrument Diagram – Auxiliary Feedwater System	00
WIP-M-12AP01-009-A-1	Piping & Instrument Diagram – Condensate Storage and Transfer System	00
WIP-M-03AP02-005-A-1	Piping Isometric – Condensate Storage & Transfer Sys. – Turbine Bldg.	01
WIP-M-13AL04-002-A-1	Piping Isometric – Turb. Driven Aux. Feedwater Pump Discharge Piping	00
WIP-M-03AD08-000-A-1	Piping Isometric – Reject Condensate to Storage Tk. – Turbine Bldg.	00
WIP-M-15AL04-007-B-1	Hanger Location Dwg. – Turb. Driven Aux. Feedwater Pump Discharge Piping	00
WIP-M-15AP02-004-A-1	Hanger Location Dwg. – Condensate Storage & Transfer Sys. – Turbine Bldg.	01
WIP-C-1C4241-000-A-1	Turbine Building Area 4 – Concrete Neat Line Plan - Foundation	00
WIP-M-1G060-002-B-1	Equipment Location – Turbine Building Condenser Pit-Plan El. 1983’-0”	00
WIP-M-1G065-005-B-1	Equipment Location – Turbine Building Section “A”	00
WIP-M-1X1151-000-C-1	Auxiliary Building Area 5 Penetration Closure – Plan El. 1974’-0”, 1989’-0” & 2000’-0”	00
WIP-M-1X1928-000-B-1	Auxiliary Building Penetration Closure – Wall Elevations - Sheet 28	00

MISCELLANEOUS

NUMBER	TITLE	REVISION / DATE
DCP 014293	Non-Safety Auxiliary Feedwater Pump Electrical Design	0
DCP 014293	Non-Safety Auxiliary Feedwater Pump Electrical Design	1
DCP 014293	Non-Safety Auxiliary Feedwater Pump Electrical Design	2
DCP 014293	Non-Safety Auxiliary Feedwater Pump Electrical Design	3
DCP 014293	Non-Safety Auxiliary Feedwater Pump Electrical Design	4
DCP 014189	Non-Safety Auxiliary Feedwater Pump Installation	0
DCP 014189	Non-Safety Auxiliary Feedwater Pump Installation	1
DCP 014189	Non-Safety Auxiliary Feedwater Pump Installation	2
DCP 014189	Non-Safety Auxiliary Feedwater Pump Installation	3
DCP 014189	Non-Safety Auxiliary Feedwater Pump Installation	4
DCP 014189	Non-Safety Auxiliary Feedwater Pump Installation	5
USAR 15.7.4	Fuel Handling Accidents	21

WORK ORDERS

12-361524 12-357463

Section 1R19: Post-Maintenance Testing

PROCEDURES

NUMBER	TITLE	REVISION / DATE
INC-C-1001	Calibration of Switches	10
MPE BA 014	Battery Impedance Test	4A
MPE E050Q-05	Battery Equalizing Procedure	13A
STS MT-019	125VDC Class 1E Quarterly Battery Inspection	21
STS MT-020	125 Volt DC Battery Inspection/Charger Operational Test	25B
STS MT-021	Service Test for 125Vdc Class 1E Batteries	16A
STS EF-100B	ESW Pump “B” In-service Test and Discharge Check Valve In-service Test	40
SYS GK-123	Control Building A/C Units Startup and Shutdown	21
SYS KJ-124	Post Maintenance Run of Emergency Diesel Generator B	52

WORK ORDERS

11-340517-002	11-341224-001	09-321171-001	11-341337-002	11-342032-004
08-309413-041	09-342741-002	11-341336-003	11-345398-002	09-317266-001
11-343552-002	11-343567-001	12-353040-003	11-345397-002	11-337095-005
11-343332-000	11-343334-000	13-365878-002	11-356031-026	11-356030-026
11-346565-026	12-356029-026	11-346559-026	11-346381-026	12-356778-026
12-356777-026	12-356779-026	11-346016-001		

Section 1R20: Refueling and Other Outage Activities

WOLF CREEK CONDITION REPORTS

00064552	00063645	2007-000368

MISCELLANEOUS

NUMBER	TITLE	REVISION / DATE
	Reactivity Maneuver Plan, 2/3/13 Plant Shutdown	0
CP 14359	Engineering Disposition: Containment Equipment Hatch Guide Rails and Supports	00
NE 12-0097 Attachment 1	Refuel 19 Schedule Risk Assessment Summary	
	Refuel 19 Major Activities Schedule	12/20/2012 and updated
	Refuel 19 Critical Path Summary	1/8/2013 and updated

Section 1R22: Surveillance Testing

PROCEDURES

NUMBER	TITLE	REVISION / DATE
STN EF-100A	ESW Pump A Reference Pump Cure Determination	3
STN EJ-100A	Residual Heat Removal Pump A Reference Pump Curve Determination (3/27/2013 Performance)	10
STS EJ-100A	RHR System Inservice Pump A Test (3/25/2013 Performance)	47
STS KJ-011A	Emergency Diesel Generator “A” 24 Hour Run	29A
STS PE-016B	B Train Class 1E Electrical System A/C Flow Rate Verification	6

PROCEDURES

NUMBER	TITLE	REVISION / DATE
STS PE-040G	Transient Event Walkdown (1/13/2012 Performance)	4

WOLF CREEK CONDITION REPORTS

00064645	00064818	00063049	00065358	00062946

WOLF CREEK WORK ORDERS

12-356756-004	13-364516-001	10-325350-000	12-350158-000

MISCELLANEOUS

NUMBER	TITLE	REVISION / DATE
Altran Labs 763487/0	Transmittal – Final Report on Laboratory Evaluation of Leak at RCP Seal Injection Drain Line Isolation Valve (BBV0130)	March 15, 2013
EN# 48713	Reactor Coolant System Pressure Boundary Leakage Identified	February 4, 2013

Section 1EP4: Emergency Action Level and Emergency Plan Changes

NUMBER	TITLE	REVISION
AP 06-002	Radiological Emergency Response Plan	13
	Evacuation Time Estimate Study Update	

Section 2RS01: Radiological Hazard Assessment and Exposure Controls

PROCEDURES

NUMBER	TITLE	REVISION
AP 19D-100	Radioactive Source Program	4
AP 25A-001	Radiation Protection Manual	16
AP 25A-100	Containment Entry	17
AP 25A-200	Access to Locked High or Very High Radiation Areas	25
AP 25B-100	Radiation Worker Guidelines	45
AP 25B-300	RWP Program	22
RPP 02-105	RWP	37
RPP 02-215	Posting of Radiological Controlled Areas	29
RPP 02-405	RCA Access Control	19
RPP 02-605	Control & Inventory of Radioactive Sources	14B

AUDITS, SELF-ASSESSMENTS, AND SURVEILLANCES

NUMBER	TITLE	DATE
12-03-RP/PC	Quality Assurance Audit Report: Radiation Protection/Process Control Program	May 4, 2012
QS 2012-0292	NRC Occupational Radiation Safety Inspection	October 2, 2012
QS 2012-0303	Follow-Up of CAs from QA Findings Identified in Audit 12-03-RP/PC	October 17, 2012
QS 2012-0307	Health Physics 3rd Quarter 2012 DRUM Meeting	October 24, 2012

CONDITION REPORTS

00054953	00058145	00059360	00059382	00059430
00059514	00059719	00060654	00060884	00061019
00061759	00063081	00061257		

RADIATION WORK PERMITS

NUMBER	TITLE	REVISION
131000	Health Physics Coverage RWP for Pre RF-19 and RF-19 Activities	001
131001	Operations Rover RWP for Pre RF-19 and RF-19 Activities	002
131036	Containment Power Entries	001
132600	Routine Outage Access (No High Radiation Areas Access)	000
132601	Routine Outage Access (No Locked High Radiation Areas Access)	000
132602	Routine Outage Access (No Very High Radiation Areas Access)	001
133220	Primary Side Steam Generator Eddy Current Testing for RF-19	001
134420	Scaffolding Erection / Removal Activities Pre Rf-19 and RF-19	001
135000	Decon Rover and Radwaste Handling Activities for Pre Rf-19 and RF-19 Activities	000

RADIOACTIVE SURVEYS

NUMBER	TITLE	DATE
WCNOC-1204-0400	2047' Fuel Building – Room 6205 – Pre Drain Down Survey	April 30, 2012
12-1325	Airborne Radioactivity Record – Fuel Building 2047' and Above	October 30, 2012
12-1326	Airborne Radioactivity Record – Fuel Building 2047' and Above	October 30, 2012
12-1331	Airborne Radioactivity Record – Fuel Building 2000'	October 30, 2012
WCNOC-1210-0521	2047' Fuel Building – Room 6205 – Post Drain Down Survey	October 30, 2012
WCNOC-1211-0031	2047' Fuel Building – Room 6303 – Weekly Survey and Survey to Verify Conditions Due to Transfer Canal	November 2, 2012
WCNOC-1302-0400	2068' Containment – Southwest Quadrant – Initial Entry Post Shut Down – Mode 3	February 4, 2013
WCNOC-1302-0250	2047' Containment – General Floor Area – Downpost Containment from LHRA	February 4, 2013

MISCELLANEOUS DOCUMENTS

NUMBER	TITLE	DATE
2011-201	Reportability Evaluation Request: Capability of STS IC-450A and STS IC-450B to Ensure Particulate Detector Operation	September 19, 2011
STS HP-001, Att. A	Sealed Source Contamination Surveillance Test (41 sources)	July 18, 2012
NRC Form 748	2013 NSTS Annual Inventory Reconciliation (Source No. 82-HPL-089)	January 8, 2013
STS HP-001, Att. A	Sealed Source Contamination Surveillance Test (41 sources)	January 17, 2013
RPF 03-121-01	Neutron Dose Calculation Sheet for RWP 131036	January 30, 2013

Section 2RS03: Occupational ALARA Planning and Controls

PROCEDURES

NUMBER	TITLE	REVISION
AI 10-001	Fire Brigade Equipment Inventory, Maintenance and Cleaning	11
AI 10-004	Air Fill Station Operation	3B
AP 10-105	Fire Protection Training and Drills	15A
RPP 03-305	Respiratory Protective Equipment (RPE)	21
RPP 05-205	Eberline AMS-4 Operation	8
RPP 05-925	HEPA Portable Ventilation Unit Maintenance and Use	7

AUDITS, SELF-ASSESSMENTS, AND SURVEILLANCES

NUMBER	TITLE	DATE
QS 2012-0292	NRC Occupational Radiation Safety Inspection	October 2, 2012

CONDITION REPORTS

00036945	00038237	00038689	00039334	00043072
00044419	00045899	00046074	00046130	00047002
00048601	00051700	00053501	00053810	

MISCELLANEOUS DOCUMENTS

NUMBER	TITLE	DATE
	SCBA Training Qualifications	February 5, 2013
AIF 10-001-02	SCBA Inspection [3.2.1]	January 31, 2011 – December 18, 2012
	Compressed Air/Gas Quality Testing	January 2011 – December 2012

Section 4OA1: Performance Indicator Verification

MISCELLANEOUS

NUMBER	TITLE	REVISION / DATE
NEI 99-02	Regulatory Assessment Performance Indicator Guideline	6

Section 4OA3: Event Follow-Up

PROCEDURES

NUMBER	TITLE	REVISION / DATE
TMP 13-001	EDG B Post Engine Overhaul Run-In	0
MPM M018Q-01	Standby Diesel Generator Inspection	20
SYS KJ-124	Post Maintenance Run of Emergency Diesel Generator B	52

DOCUMENT REVISION REQUEST

NUMBER	TITLE	REVISION / DATE
13-0449	CKL ZL-005A: A EDG Operating Log Rev 4	3/3/2013
13-0471	CKL ZL-005B: B EDG Operating Log Rev 5	3/3/2013
13-0567	SYS KJ-123: Post Maintenance Run of Emergency Diesel Generator A Rev 53	3/4/2013
13-0568	SYS KJ-124: Post Maintenance Run of Emergency Diesel Generator B Rev 53	3/4/2013
13-0570	MPM M018Q-01: Standby Diesel Generator Inspection Rev 22	3/7/2013
13-0653	SYS KJ-121: Diesel Generator NE01 and NE02 Lineup for Automatic Operation Rev 46	3/3/2013

WOLF CREEK CONDITION REPORT

00064828 00061559

MISCELLANEOUS

NUMBER	TITLE	REVISION / DATE
EN# 48802	NOUE: both diesel generators unavailable	3/1/2013
WO-13-002	Wolf Creek Letter to USNRC: Docket No. 50-482: Request for Notice of Enforcement Discretion from Technical Specification 3.8.1, “AC Sources-Operating”	1/11/2013
PSA-13-001	D/G “B” Enforcement Discretion (Probabilistic Risk Assessment) Evaluation	0
NOED 13-4-001	Notice of Enforcement Discretion for Wolf Creek Nuclear Operating Corporation	1/15/2013

MISCELLANEOUS

NUMBER	TITLE	REVISION / DATE
2013-001-00	Licensee Event Report: Broken Cylinder Head Stud Causes Inoperable Diesel Generator Longer than Technical Specification Completion Time	3/11/2013
13-00138	Fairbanks Morse Engineering Report: Evaluation of Engine Operation with One Broken Cylinder Stud	1/15/2013
WOL-39530	Exelon Power Labs Report: Failure Analysis of Stud from EDG#7 Cylinder and #4 Cylinder	1/31/2013

Section 4OA5: Other Activities

PROCEDURES

NUMBER	TITLE	REVISION / DATE
NEI 09-14	Guideline for the Management of Underground Piping and Tank Integrity	1 and 2
AP 23L-002	Buried Piping and Tanks Program	2
AI 23I-001	Inspection of Buried Pipes and Tanks	1
SYS BB-215	RCS Drain Down with Fuel in Reactor	34

WOLF CREEK CONDITION REPORT

00022080	00028354	00063301

WOLF CREEK WORK ORDERS

12-356794-001	12-356794-003	12-356794-008	12-356794-012

MISCELLANEOUS

NUMBER	TITLE	REVISION / DATE
ET 12-0015	Wolf Creek Letter from J. Broschak to U.S. NRC, Re: Seismic Aspects of Recommendation 2.3 of the Near-Term Task Force Review of the Fukushima Dai-ichi Accident	July 2, 2012
ET 12-0031	Wolf Creek Letter from J. Broschak to U.S. NRC, Re: 180 day response to Recommendation 2.3 of the Near-Term Task Force Review of the Fukushima Dai-ichi Accident	November 27, 2012
EPRI 1025286	Seismic Walkdown Guidance	June 2012

MISCELLANEOUS

NUMBER	TITLE	REVISION / DATE
11-00045	Site Specific (Buried and Underground Piping) Risk Report for Wolf Creek Generating Station, by Structural Integrity Associates Inc.	0
	WCNOC Buried Piping Inspection Plan	0
	WCNOC Buried Piping Inspection Plant (Condition Assessment Plant)	1

The following items are requested for the
Occupational Radiation Safety Inspection
at Wolf Creek Nuclear Generating Station
(February 4 – 8, 2013)
Integrated Report 2013002

Inspection areas are listed in the attachments below.

Please provide the requested information on or before Monday, January 28, 2013.

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

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

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

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

If you have any questions or comments, please contact the lead inspector, Louis Carson, at (817)200-1221 or Louis.Carson@nrc.gov. The other inspector will be Natasha Greene at (817)200-1154 or Natasha.Greene@nrc.gov.

PAPERWORK REDUCTION ACT STATEMENT

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

1. Radiological Hazard Assessment and Exposure Controls (71124.01)
Date of Last Inspection: September 28, 2013

A. List of contacts and telephone numbers for the Radiation Protection Organization Staff and Technicians

B. Applicable organization charts

C. Audits, self assessments, and LERs written since date of last inspection, related to this inspection area

D. Procedure indexes for the radiation protection procedures

E. Please provide specific procedures related to the following areas noted below. Additional Specific Procedures may be requested by number after the inspector reviews the procedure indexes.
1. Radiation Protection Program Description
2. Radiation Protection Conduct of Operations
3. Personnel Dosimetry Program
4. Posting of Radiological Areas
5. High Radiation Area Controls
6. RCA Access Controls and Radworker Instructions
7. Conduct of Radiological Surveys
8. Radioactive Source Inventory and Control
9. Declared Pregnant Worker Program

F. List of corrective action documents (including corporate and subtiered systems) since date of last inspection
1. Initiated by the radiation protection organization
2. Assigned to the radiation protection organization
3. Any corrective action documents related to any locked high radiation area occurrences

NOTE: The lists should indicate the significance level of each issue and the search criteria used. Please provide documents which are "searchable" so that the inspector can perform word searches.

If not covered above, a summary of corrective action documents since date of last inspection involving unmonitored releases, unplanned releases, or releases in which any dose limit or administrative dose limit was exceeded (for Public Radiation Safety Performance Indicator verification in accordance with IP 71151)

G. List of radiologically significant work activities scheduled to be conducted during the inspection period (If the inspection is scheduled during an outage, please also include a list of work activities greater than 1 rem, scheduled during the outage with the dose estimate for the work activity.)

H. List of active radiation work permits

I. Radioactive source inventory list

2. In-Plant Airborne Radioactivity Control and Mitigation (71124.03)
Date of Last Inspection: March 25, 2011

A. List of contacts and telephone numbers for the following areas:
1. Respiratory Protection Program
2. Self contained breathing apparatus

B. Applicable organization charts

C. Copies of audits, self-assessments, vendor or NUPIC audits for contractor support (SCBA), and LERs, written since date of last inspection related to:
1. Installed air filtration systems
2. Self contained breathing apparatuses

D. Procedure index for:
1. use and operation of continuous air monitors
2. use and operation of temporary air filtration units
3. Respiratory protection

E. Please provide specific procedures related to the following areas noted below. Additional Specific Procedures may be requested by number after the inspector reviews the procedure indexes.
1. Respiratory protection program
2. Use of self contained breathing apparatuses
3. Air quality testing for SCBAs

F. A summary list of corrective action documents (including corporate and subtiered systems) written since date of last inspection, related to the Airborne Monitoring program including:
1. continuous air monitors
2. Self contained breathing apparatuses
3. respiratory protection program

NOTE: The lists should indicate the significance level of each issue and the search criteria used. Please provide documents which are "searchable."

G. List of SCBA qualified personnel - reactor operators and emergency response personnel

H. Inspection records for self contained breathing apparatuses (SCBAs) staged in the plant for use since date of last inspection.

I. SCBA training and qualification records for control room operators, shift supervisors, STAs, and OSC personnel for the last year.

A selection of personnel may be asked to demonstrate proficiency in donning, doffing, and performance of functionality check for respiratory devices.

The following items are requested for the Material Control and Accounting Inspection

Report 2013405

Material Control and Accounting (MC&A) (71130.11)

NOTE: In an effort to keep the requested information organized, please submit this information to us using the same lettering system below. For example, all contacts and phone numbers for the above inspector should be in a file/folder titled 2- A, Applicable organization charts in file/folder 2- B, etc.

NOTE: *The information requested for **an in-office review** may be provided in either electronic or paper media or a combination of these.* Information provided in electronic media may be in the form of IMS-CERTREC, e-mail attachments or CD. The agency's text editing software is MS Word; however, we have document viewing capability for Adobe Acrobat (.pdf) text files. *Information requested to be **reviewed on-site** during the inspection week should be paper media.*

A. Organization Charts with MC&A functions; personnel responsible for SNM, fuel and non-fuel and their phone numbers

B. All MC&A and MC&A-related procedures, including:

- Overall control of SNM
- Movement of Fuel
- Reconstitution of Fuel
- Physical Inventory
- Oversight of Contractors
- Movement of Non-Fuel SNM

C. Most recent Spent Fuel Pool Map including containers and rods/rod pieces locations, and locations of non-fuel SNM

D. Records of the physical inventories since May 2010

E. SNM-MC&A Audits, Assessment, & Corrective Actions Documents since May 2010

F. Records of loading and physical inventory of any ISFSIs since CY-2010

G. All reconstitution and fuel failure records, including final disposition of the orphaned rods and rod pieces since CY-2010

During the inspection, we will need access to the Spent Fuel Pool including the bridge, fuel handling equipment and personnel, and cameras to visually verify a selection of assemblies in each spent fuel pool by serial number. Also, we want to visually verify all orphaned rods and pieces are in the spent fuel pool in the locations specified in the records. This can be done viewing a video of the inventory if serial numbers of assemblies can be seen and proper pool location identified.