



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**
REGION IV
1600 E. LAMAR BLVD.
ARLINGTON, TX 76011-4511

September 3, 2015

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

SUBJECT: WOLF CREEK GENERATING STATION – NRC EVALUATIONS OF CHANGES,
TESTS, AND EXPERIMENTS AND PERMANENT PLANT MODIFICATIONS
BASELINE INSPECTION REPORT 05000482/2015007

Dear Mr. Heflin:

On July 23, 2015, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at the Wolf Creek Generating Station and discussed the results of this inspection with you and other members of your staff. Inspectors documented the results of this inspection in the enclosed inspection report.

The NRC inspectors did not identify any findings or violations during this inspection.

In accordance with Title 10 of the *Code of Federal Regulations* 2.390, "Public Inspections, Exemptions, Requests for Withholding," 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's Public Document Room or from the Publicly Available Records (PARS) component of the NRC's Agencywide Documents 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/

Thomas R. Farnholtz, Chief
Engineering Branch 1
Division of Reactor Safety

Docket No: 05000482
License No: NPF-42

Enclosure: Inspection Report 05000482/2015007
w/Attachment: Supplemental Information

U.S. NUCLEAR REGULATORY COMMISSION

REGION IV

Docket: 50-482

License: NPF-42

Report: 05000482/2015007

Licensee: Wolf Creek Nuclear Operating Corporation

Facility: Wolf Creek Generating Station

Location: 1550 Oxen Lane NE
Burlington, Kansas

Dates: July 6, 2015, to July 23, 2015

Inspectors: J. Braisted, Reactor Inspector, Lead
N. Okonkwo, Reactor Inspector
G. Larkin, Emergency Response Coordinator

Approved By: T. Farnholtz, Chief, Engineering Branch 1
Division of Reactor Safety

SUMMARY OF FINDINGS

IR 05000482/2015007; Wolf Creek Generating Station; Evaluations of Changes, Tests, and Experiments and Permanent Plant Modifications.

This report covers a two-week announced baseline inspection on evaluations of changes, tests, and experiments and permanent plant modifications. The inspection was conducted by Region IV based engineering inspectors. No findings were identified. The significance of most findings is indicated by their color (i.e., greater than Green, or Green, White, Yellow, Red) using Inspection Manual Chapter (IMC) 0609, "Significance Determination Process" (SDP). Cross-cutting aspects were determined using IMC 0310, "Aspects Within the Cross-Cutting Areas." Findings for which the SDP does not apply may be Green or be assigned a severity level after NRC management review. All violations of NRC requirements are dispositioned in accordance with the NRC's Enforcement Policy, dated July 9, 2013. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 5, dated February 2014.

A. NRC-Identified Findings and Self-Revealed Findings

No findings were identified.

B. Licensee-Identified Violations

No findings were identified.

REPORT DETAILS

1. REACTOR SAFETY

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

1R17 Evaluations of Changes, Tests, and Experiments and Permanent Plant Modifications (71111.17T)

.1 Evaluations of Changes, Tests, and Experiments

a. Inspection Scope

The inspectors reviewed 19 evaluations performed pursuant to Title 10, Code of Federal Regulations (CFR), Part 50, Section 59, to determine whether the evaluations were adequate and that prior NRC approval was obtained as appropriate. The inspectors also reviewed 6 screenings, where licensee personnel had determined that a 10 CFR 50.59 evaluation was not necessary. The inspectors reviewed these documents to determine if:

- the changes, tests, and experiments performed were evaluated in accordance with 10 CFR 50.59 and that sufficient documentation existed to confirm that a license amendment was not required;
- the safety issue requiring the change, tests and experiment was resolved;
- the licensee conclusions for evaluations of changes, tests, and experiments were correct and consistent with 10 CFR 50.59; and
- the design and licensing basis documentation was updated to reflect the change.

The inspectors used, in part, Nuclear Energy Institute (NEI) 96-07, "Guidelines for 10 CFR 50.59 Implementation," Revision 1, to determine acceptability of the completed evaluations and screenings. The NEI document was endorsed by the NRC in Regulatory Guide 1.187, "Guidance for Implementation of 10 CFR 50.59, Changes, Tests, and Experiments," dated November 2000. The list of evaluations, screenings and/or applicability determinations reviewed by the inspectors is included as an Attachment to this report.

This inspection constituted 6 samples of evaluations and 19 samples of screenings and/or applicability determinations as defined in IP 71111.17-04.

b. Findings

No findings were identified.

.2 Permanent Plant Modifications

a. Inspection Scope

The inspectors reviewed 12 permanent plant modifications that had been installed in the plant during the last three years. This review included in-plant walkdowns for portions of the diesel generator, component cooling water, and turbine-driven auxiliary feedwater pump systems. The modifications were selected based upon risk significance, safety significance, and complexity. The inspectors reviewed the modifications selected to determine if:

- the supporting design and licensing basis documentation was updated;
- the changes were in accordance with the specified design requirements;
- the procedures and training plans affected by the modification have been adequately updated;
- the test documentation as required by the applicable test programs has been updated; and
- post-modification testing adequately verified system operability and/or functionality.

The inspectors also used applicable industry standards to evaluate acceptability of the modifications. The list of modifications and other documents reviewed by the inspectors is included as an Attachment to this report.

This inspection constituted 12 permanent plant modification samples as defined in IP 71111.17-04.

.2.1 Main Condenser Vacuum Pump Seal Water Heat Exchangers Replacement

The inspectors reviewed Change Package 012862, implemented to replace the tube bundles of the main condenser vacuum pump seal water heat exchangers ECG01A, ECG01B, and ECG01C, and also to replace the heat exchanger shells. These heat exchangers remove heat from the main condenser vacuum pump seals and the main condenser vacuum pumps remove non-condensable gasses from the main condenser during all modes of plant operation except shutdown. The licensee had identified material loss on the tube bundles and had changed plant secondary side chemistry. Because of the material loss and the change in chemistry, the licensee decided to replace the tube bundles and shells with new bundles and shells of materials less susceptible to the types of corrosion they had identified. The inspectors did not identify any issues with the change package.

.2.2 Installation of New Component Cooling Water Flow Restriction Device

The inspectors reviewed Change Package 013540, implemented to install a flow restriction device in the component cooling water (CCW) system. The CCW system provides both nonsafety- and safety-related cooling to various plant heat loads. The NRC inspectors in 2010 raised questions about whether the CCW surge tanks had the capacity to keep up with the maximum blow down rate due to a large break in the nonsafety-related side of the CCW piping prior to isolation of the break. The licensee's response to the NRC's questions was the development of this change package. The change package involved the installation of an orifice plate, changes to pipe supports, rerouting or removal of piping, replacement of valves, and rerouting of instrument tubing. The inspectors did not identify any issues with the change package.

.2.3 Train B Emergency Diesel Generator and Essential Service Water Ventilation Issues

The inspectors reviewed Change Package 013800, implemented to address issues the licensee identified as a result of a post-fire safe shutdown assessment. Specifically, the licensee identified that train B emergency diesel generator (EDG) and train B essential service water (ESW) room ventilation dampers may have control function challenges during extreme weather conditions that are aggravated during a postulated control room fire. The change package evaluated and approved relocation of the controls of the train B EDG and ESW dampers to eliminate the probability of a control room fire affecting the required function of these dampers. The inspectors did not identify any issues with the change package.

.2.4 Spent Fuel Pool Cooling Heat Exchanger Tube Plugging

The inspectors reviewed Configuration Change Package 014494, implemented to stake and plug tubes in the spent fuel pooling cooling (FPC) heat exchangers. The FPC heat exchangers, EEC01A and EEC01B, function to transfer decay heat from the fuel pool cooling system water to the component cooling water system. The licensee had identified a through wall leak in one tube of EEC01A, which the licensee attributed to fatigue failure caused by flow induced vibration. The change package evaluated and approved the tube staking and plugging method implemented in this change since the vendor manual was silent on staking and found the plugging method not workable. The inspectors did not identify any issues with the change package.

.2.5 Elimination of Generator Excitation Volts per Hertz Relay Single Point Vulnerability

The inspectors reviewed Design Change Package 012079, implemented to eliminate a single point vulnerability (SPV) in the main generator excitation and voltage regulation system, which could trip the turbine/generator, as presented by the volts per hertz relays MBMB04STV1 and MBMB04STV2. The volts per hertz relay scheme is designed to protect the generator and unit transformer from excessive heating associated with operating the unit with the alternating current voltage regulator in service at reduced generator speed (offline) or having the direct current voltage regulator in service following a load rejection where turbine/generator speed increases above 1,800 revolutions per minute. To eliminate the SPV and to still maintain volts per hertz

protection, this change package added the two-out-of-three redundancy for the volts per hertz relay protection by installing four additional volts per hertz relays (MBMB04STV3, MBMB04STV4, MBMB04STV5, and MBMB04STV6) to the generator protection logic. The existing volts per hertz relays now have two of the four new relays set with the same ratio and time values for redundancy. The other two relays are calibrated to actuate on slightly different sensed volts per hertz ratios and delay times. The inspectors did not identify any concerns with the change package.

.2.6 Protection of Control Circuit Cables for Motor Operated Valves

The inspectors reviewed Change Package 013614, implemented to reconfigure the control circuits for boron injection tank (BIT) outlet isolation valves EMHV8801A and EMHV8801B. The opening and damaging of the BIT outlet isolation valve EMHV8801A and EMHV8801B are postulated to occur due to a control room fire. Also a spurious start of the centrifugal charging pumps is postulated for the fire that causes valve EMHV8801A and EMHV8801B to open. Spurious opening or damaging of these valves could create a flow path that may produce excessive flow, causing overfill of the pressurizer if not mitigated in a timely manner. This change package reconfigured the control circuits for EMHV8801A and EMHV8801B so that a hot short in the control room due to fire will not bypass the torque and limit switches. Specifically, this was accomplished by reconfiguring control logic for EMHV8801A and EMHV8801B by relocating the circuit conductors for each of the valve's torque and limit switches from the line side of the contactor coils to the neutral side of the contactor coils. With this new reconfiguration, each of the valve's torque and limit switches will remain capable of breaking control current to the contactor coil, even in the event of a hot short on the line (control room) side of the circuit. The inspectors did not identify any concerns with the change package.

.2.7 Diesel Fire Pump Controller Modifications

The inspectors reviewed Change Package 014501, implemented to eliminate the spurious remote start signal which the diesel fire pump engine experienced in coincident with grounds on PK0. The change package approved the removal of 125 VDC power from the remote start circuit to correct this issue. Diesel fire pump 1FP01PB is a 100 percent capacity pump which provides fire protection water to the power block and out-building water based fire suppression systems and standpipes. This change package also replaced the existing 125 VDC remote start hand switch 1HSFP0003A with a 24 VDC hand switch to drive the 24 VDC indicator lights thus eliminating the voltage dropping resistors (as was originally installed) in the existing switch 125 VDC hand switch. Diesel fire pump controller 1PL0006J provides the 24 VDC output will provide the supply voltage to illuminate the indicator lights. The inspectors did not identify any concerns with the change package.

.2.8 Turbine Driven Auxiliary Feedwater Pump Control Modification

The inspectors reviewed Design Change Package 012958, implemented to replace the original Woodward governor control system for the turbine driven auxiliary feedwater pump (TDAFWP) which was no longer supported by the supplier. Specifically, the

manufacturer no longer provided complete repair and refurbishment of components and spare parts are no longer available from the manufacturer. The auxiliary feedwater (AFW) system automatically supplies feedwater to the steam generators to remove decay heat from the reactor coolant system upon the loss of normal feedwater supply. The AFW pumps normally take suction through a common suction line from the condensate storage tank (CST). Should the CST become unavailable, cooling water is available from the essential service water (ESW) system. In order to ensure reliable operation of the TDAFWP and support maintenance or repair activities, this change package replaced the original analog Woodward governor controls for the turbine driven auxiliary feed water pump controls with new current generation digital TDAFWP control system supplied by Dresser-Rand. The inspectors did not identify any concerns with the change package.

.2.9 Steam Generator Feed Pump Protection and Control Replacement

The inspectors reviewed Change Package 013380, implemented to replace the existing feedwater pump turbine speed control and protection systems for the steam generator feedwater pumps (SGFPs). Operating experience at the site had revealed to the licensee that the system was becoming increasingly unreliable and was leading to more frequent plant problems, including start-up delays, over speed testing issues, unplanned transients and forced outages. The licensee also identified that the manufacturer no longer supports the components and aftermarket components are only available. The function of the SGFP protection and control system is to generate position signals for the high pressure and low pressure control valves, the SGFP recirculation valves, and the condensate pump recirculation valves. Changing the position of the steam valves provides the method of controlling the SGFP turbine speed. This engineering change package replaced the existing system electronic speed governor control systems, turbine protection systems and selected process instrumentation and operator interfaces of SGFP turbine drives KFC01A and KFC01B and their attached feed pumps PAE01A and PAE01B. The inspectors did not identify any concerns with the change package.

.2.10 Replacement of the Residual Heat Removal Room Cooler

The inspectors reviewed Configuration Change Package 11994. Room cooler SGL10B removes heat from the residual heat removal (RHR) train B pump room to prevent overheating of the RHR train B pump motor. Following work on the room cooler, the licensee determined that the cooling coils were installed upside down such that the existing inlet and outlet piping flanges were misaligned with the flanges of the cooler. The licensee modified portions of the supply and return piping and a pipe support to realign the existing flanges to make proper fit up with the room cooler flanges. The licensee also approved the continued use of the RHR room cooler coil with the modified piping. At the cooler's next scheduled outage, the station will inspect the cooling coils to ensure satisfactory installation and use of the cooler. The inspectors did not identify any concerns with the change package.

.2.11 Modification of the Main Steam Feedwater Isolation Signal

The inspectors reviewed Change Package 013361, implemented to modify the control logic needed to open the main feedwater isolation valves (MFIVs) by implementing a pressure open mode. The pressure open mode provides greater capacity to open the MFIVs when a high differential pressure exists across the valve discs. In refueling Outage 17, high differential pressure developed a crossed the valve's disc faces, following a separate plant modification that relocated check valves in the main feedwater system, preventing valve opening. The change package is a corrective fix for the failure of MFIVs to open during refueling Outage 17. The modification's open logic is located within the finite state machine of the main steam feedwater isolation signal MFIV controls. The inspectors did not identify any concerns with the change package.

.2.12 RF20 Auxiliary Feedwater Vents

The inspectors reviewed Design Change Package 014485. The modification installed four vent valves in the safety-related auxiliary feedwater system to remove non-condensable air from the suction of the auxiliary feedwater pumps. Following maintenance that had previously drained the suction piping, the piping was subject to incomplete filling. The licensee attributed to pressure fluctuations and turbulence in the pump's suction line to the failure to remove non-condensable air from the suction piping. The inspectors reviewed the material, mechanical, seismic environmental conditions, structural, operational and welding, and test aspects of the modification to verify that the installed installation meet design requirements of the facility. The inspectors did not identify any concerns with the change package.

b. Findings

No findings were identified.

4. OTHER ACTIVITIES

40A2 Problem Identification and Resolution

.1 Review of Corrective Action Program Documents

a. Inspection Scope

The inspectors reviewed 18 corrective action program documents that identified or were related to 10 CFR 50.59 program and permanent plant modifications. The inspectors reviewed these documents to evaluate the effectiveness of corrective actions related to permanent plant modifications and evaluations of changes, tests, and experiments. In addition, corrective action documents written on issues identified during the inspection were reviewed to verify adequate problem identification and incorporation of the problems into the corrective action system. The list of specific corrective action documents that were sampled and reviewed by the inspectors are listed in the Attachment to this report.

b. Findings

No findings were identified.

4OA6 Meetings

.1 Exit Meeting Summary

On July 23, 2015, the inspectors presented the preliminary inspection results to Mr. Adam Heflin, President and Chief Executive Officer, and other members of the licensee's staff. The licensee acknowledged the results as presented. While some proprietary information was reviewed during this inspection, no proprietary information was included in this report.

4OA7 Licensee-Identified Violation(s)

No findings were identified.

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee Personnel

A. Heflin, President and Chief Executive Officer
D. Hendel, Corporate Counsel
R. Clemens, Director, Engineering Projects
T. Harris, Assistant to Engineering Vice President
S. Smith, Plant Manager
D. Dees, Operations Supervisor
D. Grove, Superintendent, Maintenance Planning
R. Audano, Superintendent, Mechanical Maintenance
S. Henry, Manager, Integrated Plant Scheduling
W. Muilenburg, Supervisor, Licensing
D. Erbe, Manager, Security
B. Schafer, Design Engineer
T. Jamar, Principal Engineer
G. Curten, Supervisor, Design Engineering
S. Furfuson, Acting Nuclear Manager
V. Kanal, Supervisor, Design Engineering
C. Hafenstine, Supervisor, Engineering Projects
K. Fredrickson, Licensing Engineer
L. Stevens, Licensing Engineer

NRC Personnel

Douglas Dodson, Senior Resident Inspector, Wolf Creek Generating Station
Raja Stroble, Resident Inspector, Wolf Creek Generating Station
Fred Lyon, Project Manager, Plant Licensing Branch IV-1

LIST OF DOCUMENTS REVIEWED

The following is a list of documents reviewed during the inspection. Inclusion on this list does not imply that the NRC inspectors reviewed the documents in their entirety, but rather, that selected sections of portions of the documents were evaluated as part of the overall inspection effort. Inclusion of a document on this list does not imply the NRC's acceptance of the document or any part of it, unless this is stated in the body of the inspection report.

10 CFR 50.59 Screenings

012499	012862	013404	013540	012976
014494	013890	013614	013275	012514
012958	013380	013270	014512	014503
014106	013220	014485	013130	013513
013539	014209			

10 CFR 50.59 Evaluations

<u>Number</u>	<u>Description or Title</u>	<u>Revision</u>
2012-0002	Turbine Control System (TCS) Upgrade	0
2012-0003	Replace Current Number 1 Seal Inserts in the Four Wolf Creek Model 93A-1 Reactor Coolant Pumps (RCPs) with a Modified Design Called the Shield Shutdown Seal (SDS)	0
2012-0004	Steam Generator Feed Pump Protection and Control System Upgrade	0
2013-0001	Turbine Driven Auxiliary Feedwater Pump Controls	0
2013-0002	HKE25 Conveyer Car Operation with Removal of the Hold Down Latch	1
2013-0003	Probably Maximum Precipitation (PMP) Flood Calculations	0
2014-0001	Thermocouple/Core Cooling Monitor Upgrade	2

Design/Configuration Change Packages

<u>Number</u>	<u>Description or Title</u>	<u>Revision</u>
011994	SGL10B RHR Room Cooler Evaluation	0
012079	SPV - Generator Excitation Volts/Hertz Relays MBMB04STV1, MBMB04STV2	2
012499	Hermavalue to Replace Borg-Warner Diaphragm Y-Type Globe Valve	13
012862	Replacement of the Condenser Vacuum Pump Seal Water Heat Exchangers (ECG01A,B,C)	1
012958	Turbine Driven Auxiliary Feedwater Pump Control Modification	4
012976	Replacement of KJV0820A and KJV0820B Relief Valves	6
013081	Service Water Strainer Replacement	2

Design/Configuration Change Packages

<u>Number</u>	<u>Description or Title</u>	<u>Revision</u>
013361	MSFIV MFIV Open Logic Configuration Change	3
013380	Steam Generator Feed Pump Protection and Control Replacement	18
013404	Terry Turbine Drain Valve Modification	2
013540	Install New CCW/RW Flow Restriction Device	12
013614	PFSSD - Protect Control Circuit Cables for Motor Operated Valves EMHV8801A and EMHV8801B	4
013800	Train B EDG and ESW Ventilation Issues due to Fire in the Control Room	0
013803	EDG Heat Exchangers Vents and Drains	0
014494	Spent Fuel Pool Cooling Heat Exchanger Plugging	0
014501	Diesel Fire Pump Control Modification	0
014523	Fuel Transfer System Car Anti-Tip Latch Modification	1

Condition Reports (Issued)

00098038 00098049

Condition Reports (Reviewed)

00091845	00020099	00024529	00070420	00031408
00030350	00025002	00098038	00039762	00015080
00060927	00001094	00015080	00039762	00092971
00092477	00092060	00022129		

Calculations

<u>Number</u>	<u>Description or Title</u>	<u>Revision</u>
69461-C-001	Probable Maximum Precipitation Calculation	0
69461-C-002	Peak Discharge Calculation	0
69461-C-003	Water Surface Elevation Calculation	0
E-1F9910	Post-Fire Safe Shutdown Area Analysis	14
EA-3	Heat Exchanger Tube Minimum Wall	0
EG-M-046	Hydraulic Analysis of the Component Cooling Water System for Break Flow Determination and Orifice Sizing	3
FL-08	Control Building Flooding	2
FL-15	Summary of Flood Levels in the Control Building Rooms Due to Pipe Break or Crack	1

Procedures

<u>Number</u>	<u>Description or Title</u>	<u>Revision</u>
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Procedures

<u>Number</u>	<u>Description or Title</u>	<u>Revision</u>
AI 05C-001	VETIP Process	6
AP 05-002	Dispositions and Change Packages	30
AP 05-021	Direct Replacement Equivalency	4
AP 15C-004	Preparation, Review and Approval of Procedures, Instructions and Forms	47
AP 26A-003	10 CFR 50.59 Reviews	13
E-001.3-00018	Instruction Manual of Power Transformers	W11
E-001.3-00036	Instruction Manual for Shell Form Generator Transformer	W10
EMG E-0	Reactor Trip or Safety Injection	37A
GEI-90805A	GE instructions Under Voltage Relays	13
GEI-90805J	GE instructions Under Voltage Relays	
OFN RP-017	Control Room Evacuation	45
RNM C-0555	Voltage Relay Type IAV70B MB04-J1K	3
STN IC-466	Calibration of the ESW Pump Room Temperature Control Loop GDLPT0011	12
STS IC-916A	Channel Calibration Component Cooling Water System Automatic Isolation of Non-Nuclear Safety-Related Components Train A	7
SYS AL-120	Motor Driven or Turbine Driven AFW Pump Operations	50
SYS NN-200A	Transferring NN01 and NN03 Buses between Power Sources	1

Drawings

<u>Number</u>	<u>Description or Title</u>	<u>Revision</u>
10050D30, Sheet 2	Steam Generator Feedpump Protection and Control System Protective Trip Logic	3
10050D30, Sheet 3	Steam Generator Feedpump Protection and Control System Protective Trip Logic	3
10050D30, Sheet 4	Steam Generator Feedpump Protection and Control System Protective Trip Logic	3
10050D30, Sheet 5	Steam Generator Feedpump Protection and Control System Protective Trip Logic	3
10057D99, Sheet 1	Steam Generator Feedpump Cabinet Power Distribution Schematic	3
10057D99, Sheet 2	Steam Generator Feedpump Cabinet Power Distribution Schematic	3
10057D99, Sheet 3	Steam Generator Feedpump Cabinet Power Distribution Schematic	3

Drawings

<u>Number</u>	<u>Description or Title</u>	<u>Revision</u>
10057D99, Sheet 4	Steam Generator Feedpump Cabinet Power Distribution Schematic	0
C-0U5013	Underground Utilities	15
E-0003	Outdoor Electrical Ductruns & GRD'G South Area-Plan	33
E-001.3-00044 W06	Transformer Cooling Control Schematic Drawing	W06
E-11010	DC Main Single Line Diagram	9
E-11MA01	Main Generator Single Line Metering and Relaying Diagram	28
E-12MA02	Generation System Protection Logic Diagram	2
E-13EM02A	Schematic Diagram Boron Injection Tank Discharge Isolation Valve EMHV8801B	3
E-13EM02A	Schematic Diagram Boron Injection Tank Discharge Isolation Valve EMHV8801B	4
E-13EM02C	Schematic Diagram Boron Injection Tank Discharge Isolation Valve EMHV8801A	1
E-13FC00	Auxiliary Turbines Schematic Index Sheet	17
E-13MB10	Schematic Diagram Excitation Voltage Regulation System	06
E-13NN01	Class 1E Instrument AC Schematic	8
M-12EG03	Piping and Instrumentation Diagram Component Cooling Water System	19
M-13EG06	Piping Isometric Component Cooling Water System Auxiliary Building Common Header	13
M-1HX001, Sheet 74	Heat Exchanger Tube Sheet Maps	75
M-1HX001, Sheet 75	Heat Exchanger Tube Sheet Maps	75
M-1HX001, Sheet 76	Heat Exchanger Tube Sheet Maps	75
M-1HX001, Sheet 81A	Heat Exchanger Tube Sheet Map for Fuel Pool Cooling EEC01A	73
M-1HX001, Sheet 81B	Heat Exchanger Tube Sheet Map for Fuel Pool Cooling EEC01B	75
M-612C-00017	Type "R" Coil 25 Tube Face – Carrier Replacement 6 Row – 4 Pass	W07
M-766A-00005	Schematic 7.5 KVA Inverter/Isolimiter 125VDC 120VAC 1PH, 60HZ	W01
M-766A-00005	Schematic 7.5 KVA Inverter/Isolimiter 125VDC 120VAC 1PH, 60HZ	W03
M-766A-00005	Schematic 7.5 KVA Inverter/Isolimiter 125VDC 120VAC 1PH, 60HZ	W04

Drawings

<u>Number</u>	<u>Description or Title</u>	<u>Revision</u>
M-860-00033, Sheet 1	Alterrex Excitation System with S.C.R. Regulator	W13
M-860-00065, Sheet 1	Alterrex Excitation System with S.C.R. Regulator	W07
ME-018E-00001	19096 Heat Exchanger Assembly	W04
T362W3000WX	Type O Plus C, IEEE Condenser Bushing, Sh.1	1
WIP-C-0008-014-A-1	Civil – Structural Standard Details, Sht. No. 5	3
WIP-E-001.3-00001-W09-A-1	Transformers, Class FOA, Shell Form Outdoor Single Phase KVA415000, H.V. 345000, L.V. 23750, 60Hz	0
WIP-E-001.3-00042-W04-A-01	Transformers, Class FOA, Shell Form Outdoor Single Phase KVA415000, H.V. 345000, L.V. 23750, 60Hz	1
WIP-E-001.3-001110-W02—A-01	Transformer O Busing For Use on 335kV System-Outline for Busing 5373D45G053	1
WIP-E-001.3-W01-A-1	Transformer Outside Assembly Plan View	1
WIP-E-053-00009-005-A-1	Connection Diagram for SWBDs NN01-NN04	1
WIP-E-13EM02C-000-A-1	Schematic Diagram Boron Injection Tank Discharge & Inlet Isolation Valve EMHV8801A	0

Miscellaneous

<u>Number</u>	<u>Description or Title</u>	<u>Revision/Date</u>
10466-M-071(Q)	Design Specification for Fuel Pool Cooling Heat Exchangers for the Standardized Nuclear Unit Power Plant System (SNUPPS)	8
13-003-KE	Allow the Removal of the Fuel Transfer System Hold Down Assembly Temporary Modification Order	1
2015-004	Install New CCW/RW Flow Restriction Device USAR Change Request	April 29, 2015
25002	PFFSD Issues due to Multiple Spurious Operations Apparent Cause Analysis	0
70420	Indicated “A” SFP Train HX Leak Into “A” Train CCW Apparent Cause Analysis	
AD-SYS-NN-200A	Transferring NN01 and NN02 between Power Sources	0
AD-SYS-NN-200A	Transferring NN01 and NN02 between Power Sources	1
E-001.3-00114	ABB HV Bushing Test Information	W01
E-1F9915	Design Basis Document for Procedure OFN RP-017	6
EA-03-00-CN001	Heat Exchanger Tube Minimum Wall Calculation Change Notice	September 25, 2014

Miscellaneous

<u>Number</u>	<u>Description or Title</u>	<u>Revision/Date</u>
EER 90-EA-04	Maximum Tube Plugging Criteria and Maximum Wall Loss Criteria for Heat Exchanger Tubes Engineering Disposition	0
GEI-90805A	GE Instruction Undervoltage Relays Types NGV11A, NGV11B, NGV11B, NGV12A, NGV12B, NGV13A & NGV13B	J
GEI-90805J	GE Instruction Undervoltage Relays Types NGV11A, NGV11B, NGV11B, NGV12A, NGV12B, NGV13A & NGV13B	J
GEK-6885B	GE Instructions for Static Overexcitation Relay, Type STV11A	B
INC FC-0001A	Steam Generator Feedwater Pump A Turbine Control Valve Calibration	1
INC FC-0001A	Steam Generator Feedwater Pump A Turbine Control Valve calibration	1
M-071-0016-05	Heat Exchanger Data Sheet Fuel Pool Cooling Heat Exchangers Appendix C	3

Work Orders

07-29127-010	07-292127-011	11-338523-044	11-338523-191	11-338523-098
13-373150-007	13-373150-003	13-373150-010	13-373150-004	11-343437-004
13-374030-000	14-384172-000	13-372429-020	10-333893-018	11-342220-001
10-333893-014				

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

SUBJECT: WOLF CREEK GENERATING STATION – NRC EVALUATIONS OF CHANGES,
TESTS, AND EXPERIMENTS AND PERMANENT PLANT MODIFICATIONS
BASELINE INSPECTION REPORT 05000482/2015007

Dear Mr. Heflin:

On July 23, 2015, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at the Wolf Creek Generating Station and discussed the results of this inspection with you and other members of your staff. Inspectors documented the results of this inspection in the enclosed inspection report.

The NRC inspectors did not identify any findings or violations during this inspection.

In accordance with Title 10 of the *Code of Federal Regulations* 2.390, "Public Inspections, Exemptions, Requests for Withholding," 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's Public Document Room or from the Publicly Available Records (PARS) component of the NRC's Agencywide Documents 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/

Thomas R. Farnholtz, Chief
Engineering Branch 1
Division of Reactor Safety

Docket No: 05000482
License No: NPF-42

Enclosure: Inspection Report 05000482/2015007
w/Attachment: Supplemental Information

DISTRIBUTION:
See next page

ADAMS ACCESSION NUMBER: ML15246A568

READING ROOM ACCESSION NUMBER: MET0270000

<input checked="" type="checkbox"/> SUNSI Review By: JDB	ADAMS: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Sensitive <input checked="" type="checkbox"/> Non-Sensitive	<input type="checkbox"/> Non-Publicly Available <input checked="" type="checkbox"/> Publicly Available	Keyword NRC-002	
OFFICE	RI/EB1	RI/EB2	PE/DRP/B	ERC/ORR	C:
NAME	JBraisted	NOnkonkwo	Nick Taylor	GLarkin	TFarnholtz
SIGNATURE	/RA/	/RA/	DProulx for	Email /RA/	/RA/
DATE	9/1/15	9/3/15	9/3/15	8/26/15	9/3/15

OFFICIAL RECORD COPY

Letter to Adam C. Heflin from Thomas R. Farnholtz, dated September 3, 2015

SUBJECT: WOLF CREEK GENERATING STATION – NRC EVALUATIONS OF CHANGES,
TESTS, AND EXPERIMENTS AND PERMANENT PLANT MODIFICATIONS
BASELINE INSPECTION REPORT 05000482/2015007

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