



**UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
611 RYAN PLAZA DRIVE, SUITE 400
ARLINGTON, TEXAS 76011-4005**

October 27, 2003

Rick A. Muench, 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 05000482/2003005**

Dear Mr. Muench:

On October 4, 2003, the NRC completed an inspection at your Wolf Creek Generating Station. The enclosed integrated report documents the inspection findings which were discussed on October 3, 2003, with Ms. D. Jacobs and 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.

Based on the results of this inspection, no findings of significance were identified. However, a licensee-identified violation which was determined to be of very low safety significance is listed in Section 4OA7 of this report. If you contest this noncited violation, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001, with copies to the Regional Administrator, U.S. Nuclear Regulatory Commission, Region IV, 611 Ryan Plaza Drive, Suite 400, Arlington, Texas 76011; the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC Resident Inspector at the Wolf Creek Generating Station facility.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response will be made available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Should you have any questions concerning this inspection, we will be pleased to discuss them with you.

Sincerely,

/RA/

David N. Graves, Chief
Project Branch B
Division of Reactor Projects

Docket: 50-482
License: NPF-42

Enclosure:
NRC Inspection Report 05000482/2003005
w/Attachment: Supplemental Information

cc w/enclosure:
Site Vice President
Wolf Creek Nuclear Operating Corp.
P.O. Box 411
Burlington, KS 66839

Jay Silberg, Esq.
Shaw, Pittman, Potts & Trowbridge
2300 N Street, NW
Washington, DC 20037

Supervisor Licensing
Wolf Creek Nuclear Operating Corp.
P.O. Box 411
Burlington, KS 66839

Chief Engineer
Utilities Division
Kansas Corporation Commission
1500 SW Arrowhead Rd.
Topeka, KS 66604-4027

Office of the Governor
State of Kansas
Topeka, KS 66612

Attorney General
120 S.W. 10th Avenue, 2nd Floor
Topeka, KS 66612-1597

County Clerk
Coffey County Courthouse
110 South 6th Street
Burlington, KS 66839-1798

Chief, Radiation and Asbestos
Control Section
Kansas Department of Health
and Environment
Bureau of Air and Radiation
1000 SW Jackson, Suite 310
Topeka, KS 66612-1366

Frank Moussa, Technological
Hazards Administrator
Department of the Adjutant General
2800 SW Topeka Blvd.
Topeka, KS 66611-1287

Chief Technological Services Branch
National Preparedness Division
Department of Homeland Security
Emergency Preparedness & Response Directorate
FEMA Region VII
2323 Grand Boulevard, Suite 900
Kansas City, MO 64108-2670

Electronic distribution by RIV:
 Regional Administrator (**BSM1**)
 DRP Director (**ATH**)
 DRS Director (**DDC**)
 Senior Resident Inspector (**FLB2**)
 Resident Inspector (**vacant**)
 SRI, Callaway (**MSP**)
 Branch Chief, DRP/B (**DNG**)
 Senior Project Engineer, DRP/B (**RAK1**)
 Staff Chief, DRP/TSS (**PHH**)
 RITS Coordinator (**NBH**)
 J. Clark (**JAC**), OEDO RIV Coordinator
 WC Site Secretary (**SLA2**)
 Dale Thatcher (**DFT**)
 W. A. Maier, RSLO (**WAM**)

ADAMS: Yes No Initials: __dng__
 Publicly Available Non-Publicly Available Sensitive Non-Sensitive

R:_WC\2003\WC2003-05RP-FLB.wpd

RIV:SRI:DRP/B	RI:DRP/B	C:DRS/OB	RI:DRP/D	SPE:DRP/B
FLBrush	JCruz	ATGody	KDWeaver	RAKopriva
T - DNGraves	E - DNGraves	/RA/	E - DNGraves	E - DNGraves
10/22/03	10/22/03	10/24/03	10/ /03	10/ /03
PE:DRP/B	RI:DRP/B	C:DRS/PSB	C:DRS/EMB	C:DRP/B
JLDixon	JHanna	TWPruett	CSMarschall	DNGraves
E - DNGraves	T - DNGraves	/RA/	/RA/	/RA/
10/22/03	10/21/03	10/22/03	10/22/03	10/27/03

OFFICIAL RECORD COPY

T=Telephone

E=E-mail

F=Fax

U.S. NUCLEAR REGULATORY COMMISSION

REGION IV

Docket: 50-482

License: NPF-42

Report: 05000482/2003005

Licensee: Wolf Creek Nuclear Operating Corporation
Wolf Creek Generating Station

Location: 1550 Oxen Lane NE
Burlington, Kansas

Dates: July 6 through October 4, 2003

Inspectors: F. L. Brush, Senior Resident Inspector
J. Cruz, Resident Inspector
R. A. Kopriva, Senior Project Engineer
J. D. Hanna, Resident Inspector
K. D. Weaver, Resident Inspector
J. L. Dixon, Project Engineer
G. W. Johnston, Senior Operations Engineer
M. E. Murphy, Senior Operations Engineer

Approved By: D. N. Graves, Chief, Project Branch B

ATTACHMENT: Supplemental Information

Enclosure

SUMMARY OF FINDINGS

IR 05000482/2003005; 07/06 - 10/04/2003; Wolf Creek Generating Station.

The report covered a 13-week period of resident inspection and announced inspections by six Region IV inspectors. No findings were identified. The significance of issues is indicated by their color (Green, White, Yellow, or Red) and was determined by the Significance Determination Process in Inspection Manual Chapter 0609. Findings for which the significance determination process does not apply are indicated by the severity level of the applicable violation. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 3, dated July 2000.

A. NRC-Identified and Self-Revealing Findings

No findings of significance were identified.

B. Licensee-Identified Violations

A violation of very low significance which 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 corrective actions are listed in Sections 4OA7 and 4OA3 of this report.

Enclosure

REPORT DETAILS

Summary of Plant Status

The plant operated at essentially 100 percent power for the report period with the following exceptions. On August 18, 2003, the reactor tripped on steam Generator B low-low level when the associated main feedwater isolation valve failed closed. The licensee restarted the reactor on August 20, 2003, following repair of the valve and returned the plant to full power on August 21, 2003. On August 23, 2003, the licensee reduced plant power to 82 percent following the loss of one of the 345kV offsite transmission lines. The licensee returned the plant to full power on August 24, 2003.

1. **REACTOR SAFETY**

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity

1R04 Equipment Alignment (71111.04)

a. Inspection Scope

Partial walkdowns

The inspectors performed three walkdowns to verify equipment alignment and identify discrepancies that could impact redundant system operability. The inspectors used the Updated Safety Analysis Report, system drawings, and system lineup checklists to perform the walkdowns. The inspectors also reviewed the outstanding work order list, corrective action program documents, operator workarounds, and plant temporary modifications. The inspectors also discussed the walkdowns with various licensee personnel. The inspectors performed the following partial walkdowns:

- Auxiliary feedwater system Train B during an auxiliary feedwater system Train A outage, July 16, 2003
- Essential service water Train A during an essential service water Train B outage, August 21, 2003
- Residual heat removal Train B during a residual heat removal Train A outage, September 10, 2003

Complete walkdown

The inspectors completed a full walkdown of the auxiliary feedwater system on August 29, 2003. The inspectors performed the walkdown to verify equipment alignment and identify discrepancies that could impact redundant system operability. The inspectors used the Updated Safety Analysis Report, system drawings, and system lineup checklists to perform the walkdown. The inspectors also reviewed the outstanding work order list, corrective action program documents, and operator workarounds. The inspectors discussed the walkdown with various licensee personnel.

Enclosure

b. Findings

No findings of significance were identified.

1R05 Fire Protection (71111.05)

Quarterly Fire Area Walkdowns

a. Inspection Scope

The inspectors toured the following six areas to assess the licensee's control of transient combustible materials, the material condition and lineup of fire detection and suppression systems, and the material condition of manual fire equipment and passive fire barriers. The licensee's fire preplans and fire hazards analysis report were used to identify important plant equipment, fire loading, detection and suppression equipment locations, and planned actions to respond to a fire in each of the plant areas selected. Compensatory measures for degraded equipment were evaluated for effectiveness.

- Auxiliary building 1974 foot level, east hallway, October 2, 2003
- Auxiliary building 1974 foot level, west hallway, October 2, 2003
- Auxiliary building 2047 foot level, control room air conditioning and filtration units Room B, July 25, 2003
- Auxiliary Building 2026 foot level, north and south cable spreading room, August 21, 2003
- Auxiliary feedwater system rooms, August 12, 2003
- Circulating water screenhouse, August 13, 2003

b. Findings

No findings of significance were identified.

1R06 Flood Protection Measures (71111.06)

a. Inspection Scope

On August 7-8, 2003, the inspectors verified that the licensee's flooding mitigation plans and equipment were consistent with the licensee's design requirements and the risk assumptions in the Updated Safety Analysis Report. The areas inspected were the emergency core cooling system pump rooms. This inspection completed one of the two required internal flooding inspections. The inspectors reviewed the following:

- Calculation FL-02, "Flooding of Auxiliary Building Rooms 1107-1114," Revision 0
- Calculation AN-96-126, "Wolf Creek Generating Station Plant Specific Analysis, Internal Flooding Notebook," Revision 0
- MPM XX-02, "Watertight Doors Preventive Maintenance Activity," Revision 4
- Manual M-093-00116-04, "Instruction Manual for Installation, Operation, & Maintenance of Miscellaneous Sump Pumps for SNUPPS"
- OFN SG-003, "Natural Events," Revision 9
- Updated Safety Analysis Report, Section 3.4, water level (flood) design

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification (71111.11)

.1 Biennial Inspection

a. Inspection Scope

The inspectors: (1) evaluated examination security measures and procedures for compliance with 10 CFR 55.49; (2) evaluated the licensee's sample plan for the written examinations for compliance with 10 CFR 55.59 and NUREG-1021, as referenced in the facility requalification program procedures; and (3) evaluated maintenance of license conditions for compliance with 10 CFR 55.53 by review of facility records (medical and administrative), procedures, and tracking systems for licensed operator training, qualification, and watchstanding. In addition, the inspectors reviewed remedial training for examination failures for compliance with facility procedures and responsiveness to address areas failed.

Furthermore, the inspectors: (1) interviewed 10 personnel (6 operators, 2 instructors/evaluators, and 2 training supervisors) regarding the policies and practices for administering examinations; (2) observed the administration of two dynamic simulator scenarios to one requalification crew by facility evaluators, including an operations department manager, who participated in the crew and individual evaluations; and (3) observed two facility evaluators administer five job performance measures, including two in the control room simulator in a dynamic mode and three in the plant under simulated conditions. Each job performance measure was observed being performed by an average of four requalification candidates.

The inspectors also reviewed the remediation process for one individual, which involved a written examination failure. The inspectors also reviewed the results of the annual

Enclosure

licensed operator requalification operating examinations for 2003. The biennial written examinations that were administered in August 2002 were also reviewed. The results of the examinations were assessed to determine the licensee's appraisal of operator performance and the feedback of performance analysis to the requalification training program. The inspectors interviewed members of the training department, training department managers, and six members of an operating crew to assess the responsiveness of the licensed operator requalification program. The inspectors also observed the examination security maintenance for the operating tests during the examination week.

Additionally, the inspectors assessed the Wolf Creek plant-referenced simulator for compliance with 10 CFR 55.46 using Baseline Inspection Procedure IP-711111.11 (Section 03.11). The inspectors assessed the adequacy of the facility licensee's simulation facility (simulator) for use in operator licensing examinations and for satisfying experience requirements as prescribed in 10 CFR 55.46, "Simulation Facilities."

The inspectors reviewed a sample of simulator performance test records (i.e., transient tests, surveillance tests, malfunction tests, and scenario-based-tests), simulator work request records (simulator modification packages), and processes for ensuring simulator fidelity commensurate with 10 CFR 55.46. The inspectors also interviewed members of the licensee's simulator configuration control group as part of this review.

b. Findings

No findings of significance were identified.

2. Requalification Activities

a. Inspection Scope

On July 18 and September 30, 2003, the inspector completed two observations of control room operator simulator training to verify that the licensed operator requalification program ensured safe operation of the plant. The inspector observed crew performance during simulator sessions to evaluate the clarity and formality of communications, the correct use of procedures, high risk operator actions, and the oversight and direction provided by the shift supervisor. The inspector used Simulator Guides LR 50 040 04, "Shutdown LOCA," Revision 4, and LR50 040 01, "Plant Shutdown to Mode 5," Revision 8.

The inspector also reviewed the scenario sequences and objectives, observed a licensee critique, and discussed crew performance with licensee monitors for the training. The licensee stated that the area of emphasis during this training cycle was mitigation discipline. The licensee defined this as staying on course to protect the general public by the ensuring the operators do not get distracted.

b. Findings

No findings of significance were identified.

1R12 Maintenance Rule Implementation (71111.12)

Routine Maintenance Effectiveness Inspection

a. Inspection Scope

The inspectors reviewed the licensee's maintenance rule implementation for the following two systems to assess the effectiveness of maintenance efforts in accordance with 10 CFR 50.65.

- Control room ventilation system, September 26, 2003
- Main steam system, July 26, 2003

The inspectors reviewed work practices, scoping in accordance with 10 CFR 50.65(b), performance, 10 CFR 50.65(a)(1) or (a)(2) classification and reclassification goals, and identification of common cause failures. The inspectors reviewed various documentation and discussed maintenance rule items with licensee personnel.

b. Findings

No findings of significance were identified.

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

a. Inspection Scope

The inspectors reviewed two of the licensee's risk assessments for equipment outages as a result of planned and emergent maintenance in accordance with the requirements of 10 CFR 50.65(a)(4) and licensee Procedure AP 22C-003, "Operational Risk Assessment Program," Revision 8. The inspectors also discussed the planned and emergent work activities with planning and maintenance personnel. The inspectors reviewed the following:

- Operational risk assessments for planned maintenance for the weeks of August 18 and September 22, 2003.
- Actual, planned, and emergent work schedules for the same weeks

b. Findings

No findings of significance were identified.

1R14 Operator Performance During Nonroutine Evolutions and Events (71111.14)

1. Moderator Temperature Coefficient Core Physics Test

a. Inspection Scope

On August 14, 2003, the inspector completed the observation and review of the control room operators performance during the end-of-cycle moderator temperature coefficient core physics test. The test included:

- Borating the reactor coolant system to lower reactor coolant system average temperature with control rods in manual
- Maintaining reactor power constant with the decreasing reactor coolant system average temperature using the main steam dumps
- Diluting the reactor coolant system to raise reactor coolant system average temperature while maintaining reactor power using the main steam dumps

The inspectors also reviewed completed Procedure STS RE-006, "EOL Core MTC Measurement," Revision 13

b. Findings

No findings of significance were identified.

2. Reactor Trip of August 18, 2003

a. Inspection Scope

The inspector observed and reviewed the control room operator's response to the reactor trip on August 18, 2003. The plant tripped on low-low steam Generator B water level when its associated feedwater isolation valve failed closed. Refer to Section 4OA3 for a description of the plant equipment response to the trip. The inspector reviewed the posttrip package and discussed the trip with various plant personnel. The inspector completed the inspection on August 25, 2003.

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations (71111.15)

a. Inspection Scope

The inspectors selected five operability evaluations conducted by the licensee during the report period involving risk-significant systems or components to review. The inspectors evaluated the technical adequacy of the licensee's operability determinations, verified that appropriate compensatory measures were implemented, and verified that the licensee considered all other pre-existing conditions, as applicable. Additionally, the inspectors evaluated the adequacy of the licensee's problem identification and resolution program as it applied to operability evaluations. Specific operability evaluations reviewed are listed below.

The components or systems were:

- Centrifugal charging Pump B (PBFO5B), August 7, 2003. Operability Evaluation OE BG-03-010, high vibrations on centrifugal charging Pump B
- Emergency diesel Generator A, July 29, 2003
- Emergency diesel generator jacket water heat exchanger, September 18, 2003
- Foxboro N-Series display station/housing (AABPIC0002A), August 7, 2003. Operability Evaluation OE RL-03-08, loose fasteners identified
- Safety injection system relief Valves EM8851, -8853A and -8853B, August 13, 2003

The inspectors also reviewed applicable portions of the Updated Safety Analysis Report, Technical Specifications, and system drawings, and discussed the operability evaluations with licensee personnel.

b. Findings

No findings of significance were identified.

1R16 Operator Workarounds (71111.16)

a. Inspection Scope

On August 6, 2003, the inspectors reviewed the cumulative effects of operator workarounds to determine the following:

- Effect of the workarounds on system reliability, availability, and potential for misoperation

- Whether the cumulative effects of the workarounds could affect multiple mitigating systems
- The cumulative effects of the workarounds on operator response to plant transients and accidents

The inspectors reviewed licensee Administrative Procedure AI 22A-001, "Operator WorkArounds," Revision 1, and the licensee's operator workaround/burdens list.

The inspectors discussed with licensee operations personnel long-term equipment problems that were not included in the workaround list. The inspectors reviewed four deficiencies that were not on the list and did not meet the licensee's definition of a workaround or operator burden. The inspectors reviewed the cumulative effects of the operator workarounds, burdens, and long-term equipment problems to determine whether they could affect mitigating system response during normal and emergency plant operations.

b. Findings

No findings of significance were identified.

1R19 Postmaintenance Testing (71111.19)

a. Inspection Scope

The inspectors reviewed or observed five postmaintenance tests on the following equipment to verify that procedures and test activities are adequate to verify system operability:

- Auxiliary feedwater Pump A, July 21, 2003
- Centrifugal charging Pump B, October 2, 2003
- Emergency diesel Generator A, September 13, 2003
- Emergency diesel Generator B, August 26, 2003
- Safety injection Pump A and associated equipment, August 5, 2003

In each case, the associated work orders and test procedures were reviewed to determine the scope of the maintenance activity and determine if the test adequately tested components affected by the maintenance. The Updated Safety Analysis Report, design basis documents, and selected calculations were also reviewed to determine the adequacy of the acceptance criteria listed in the test procedures.

b. Findings

No findings of significance were identified.

1R20 Refueling and Outage Activities (71111.20)

a. Inspection Scope

On October 3, 2003, the inspectors reviewed the fall 2003 refueling outage plan to verify that the licensee maintained defense-in-depth when structures, systems, or components are taken out of service. The inspectors also reviewed the effect of heavy loads, scaffolding erection, and the increased potential for fire or floods.

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing (71111.22)

a. Inspection Scope

The inspectors reviewed or observed all or part of four surveillance activities in accordance with inspection Attachment 71111.22 to verify that risk significant structures, systems, and components were capable of performing their intended safety functions and assessing their operational readiness:

- STS AL-102, "MDAFW Pump B Inservice Pump Test," Revision 29, August 29, 2003
- STS EG-100A, "Component Cooling Water Pumps A/C Inservice Pump Test," Revision 19, September 3, 2003
- STS EG-100B, "Component Cooling Water Pumps B/D Inservice Pump Test," Revision 16, September 25, 2003
- STS KJ-005A, "Manual/Auto Start, Synchronization & Loading of Emergency D/G NE01," Revision 43, July 9, 2003

b. Findings

No findings of significance were identified.

1R23 Temporary Plant Modifications (71111.23)

a. Inspection Scope

On September 23, 2003, the inspector completed the review of one aspect of licensee temporary modifications. The modification reviewed consisted of on-the-spot temporary procedure changes, associated applicability determinations, and 10 CFR 50.59 screenings. The procedure changes reviewed affected emergency and off-normal procedures. The changes reviewed included the following:

- On-The-Spot Change 03-053 for Procedure EMG C-11, "Loss of Emergency Coolant Recirculation," Revision 14
- On-The-Spot Change 03-044 for Procedure EMG E-0, "Reactor Trip or Safety Injection," Revision 16
- On-The-Spot Change 03-046 for Procedure EMG E-3, "Steam Generator Tube Rupture," Revision 16
- On-The-Spot Change 03-042 for Procedure EMG ES-02, "Reactor Trip Response," Revision 13
- On-The-Spot Change 03-043 for Procedure EMG ES-03, "SI Termination," Revision 14
- On-The-Spot Change 02-0131 for Procedure OFN EJ-015, "Loss of RHR Cooling," Revision 9
- On-The-Spot Change 03-040 for Procedure OFN BG-009, "Emergency Boration," Revision 9

b. Findings

No findings of significance were identified.

Cornerstone: Emergency Preparedness

1EP6 Drill Evaluation (71114.06)

a. Inspection Scope

On July 31, 2003, the inspectors observed and reviewed emergency drill activities in the simulator control room, the Technical Support Center, and the Emergency Offsite Facility. The drill involved a loss of a 125-volt battery bus, a reactor coolant system leak, and a loss of containment integrity. The inspectors attended the simulator critique and reviewed the drill critique sheets and other associated documents and information, and discussed the drill activities with various licensee personnel.

b. Findings

No findings of significance were identified.

4. **OTHER ACTIVITIES**

4OA1 Performance Indicator Verification (71151)

a. Inspection Scope

Reactor Safety Cornerstone

The inspectors performed a review of two performance indicator data. The inspectors reviewed the licensee's data submittal using NEI 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 2. The inspectors reviewed various licensee indicator input information to determine the accuracy and completeness of the performance indicator:

- Reactor coolant system leakage - July 2002 through June 2003, and September 2, 2003
- Unplanned scrams per 7000 critical hours - July 2002 through June 2003, and July 24, 2003

The inspectors discussed system status with various licensee personnel. The inspectors also reviewed licensee information, including control room logs, and the applicable Technical Specifications.

b. Findings

No findings of significance were identified.

4OA2 Identification and Resolution of Problems (71152)

Reactor Safety Cornerstone

a. Inspection Scope

On October 2, 2003, the inspector completed the review of the licensee's corrective actions in response to an NRC identified finding in NRC Inspection Report 05000482/2003004, Section 1R17. The inspector used the guidance in Inspection Procedure 71152, Section 03.02, for the review. The finding in NRC Inspection Report 2003004 was the result of the licensee's failure to identify and correct a procedure deficiency. This failure was documented as an NRC identified finding in NRC Inspection Report 05000482/2002008, Section 1R05.4.

b. Findings

No findings of significance were identified.

4OA3 Event Followup (71153)

1. Plant Response to a Reactor Trip

a. Inspection Scope

On August 25, 2003, the inspector completed the review of the plant response to a reactor trip. On August 18, 2003, the plant tripped on steam Generator B low-low level after the associated main feed isolation valved closed. All safety systems responded as required. However, there were two noteworthy equipment issues. Following the trip, the steam Generator A atmospheric relief valve was slow to close in automatic. The operators took manual control and closed the valve. Also, the main steam dumps did not operate automatically when the operators shifted them to the steam pressure mode. The operators were able to operate the steam dumps in the manual mode. These issues did not significantly affect the operator response to the trip.

The licensee repaired the feedwater isolation valve, atmospheric relief valve, and steam dump controller. The postmaintenance tests on these components was successful. The licensee restarted the plant on August 19, 2003.

Findings

No findings of significance were identified.

2. (Closed) Licensee Event Report (LER) 50-482/1999-009-00,01: Inadequate Fire Separation Could Result in Loss of Charging Water Capability

On August 11, 1999, the licensee identified that volume control tank outlet isolation Valves BG-LCV-112B and -C and level Transmitters BG-LT-112 and -185 did not meet minimum separation criteria required for safe shutdown following a fire. In the event of a fire, a potential existed for gas intrusion into the suction of the centrifugal charging pumps. Immediate corrective actions included the implementation of fire watches in the affected areas. The long-term corrective actions included modifying off-normal Procedure OFN KC-016, "Fire Response," to ensure an adequate suction source is maintained to the centrifugal charging pumps at all times.

Additionally, the licensee relocated level Transmitter BG-LT-112 in order to meet the separation criteria. This finding is more than minor because it had a credible impact on safety, in that, if there was a gas intrusion into the suction of the centrifugal charging pumps, high head safety injection could have been disabled.

The finding affects the mitigating systems cornerstone and was considered to have very low safety significance (Green) using an Appendix F Phase II significant determination process because of the low ignition frequencies in the areas, the low combustible loading in the areas, the automatic fire detection capabilities, and the ability of operator actions to extinguish the postulated fire and restore an adequate suction source to the centrifugal charging pumps. This licensee-identified finding involved a violation of License Condition 2.C(5)(a) of Facility Operating License NPF-42. The enforcement aspects of the violation are discussed in Section 4OA7. This LER is closed.

4OA6 Meetings

.1 Exit Meeting Summaries

The inspector presented the resident inspection results to Ms. D. Jacobs and other members of licensee management after the conclusion of the inspection on October 3, 2003.

The inspector presented the licensed operator requalification inspection results to Mr. B. T. McKinney, Site Vice President, and other members of licensee management after the conclusion of the inspection on August 8, 2003.

The inspectors asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

4OA7 Licensee-Identified Violations

The following violation of very low safety significance (Green) was identified by the licensee, is a violation of NRC requirements, and met the criteria of Section VI of the NRC Enforcement Policy, NUREG-1600, for being dispositioned as a noncited violation.

1. Volume Control Tank Outlet Minimum Separation Criteria

License Condition 2.C(5)(a) of Facility Operating License NPF-42 requires, in part, that the licensee shall maintain all provisions of the approved fire protection program as described in the SNUPPS Final Safety Analysis Report for the facility through Revision 17 and the Wolf Creek site addendum through Revision 15. In 1987, Revision 00, of the Wolf Creek Updated Safety Analysis Report was issued and combined the SNUPPS Final Safety Analysis Report, Revision 17, and the Wolf Creek site addendum, Revision 15, into the Updated Safety Analysis Report. Table 9.5E, Section III.G, of the Updated Safety Analysis Report details the licensee's methods of ensuring that one of the redundant trains of postfire safe shutdown equipment is free of fire damage.

Contrary to this, on August 11, 1999, the licensee identified that volume control tank outlet isolation Valves BG-LCV-112B and -C and Level Transmitters BG-LT-112 and -185 did not meet minimum separation criteria required for safe shutdown following a fire. The conditions have been entered into the licensee's corrective action program as Performance Improvement Request 99-1100. Due to the low ignition frequencies of the areas, the low combustible loading in the areas, the automatic fire detection capabilities, and the ability of operator actions to extinguish the postulated fire and restore an adequate suction source to the centrifugal charging pumps, this violation is of very low safety significance and is being treated as a noncited violation.

ATTACHMENT: SUPPLEMENTAL INFORMATION

Enclosure

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee

R. A. Muench, President and Chief Executive Officer
K. A. Harris, Director, Performance Improvement and Learning
B. T. McKinney, Site Vice President
D. Jacobs, Plant Manager
K. L. Scherich, Director, Engineering

ITEMS OPENED, CLOSED, AND DISCUSSED

Closed

50-482/1999-009-00,01 LER Inadequate Fire Separation Could Result in Loss of
Charging Water Capability (Section 4OA3)

LIST OF DOCUMENTS REVIEWED

Biennial Licensed Operator Inspection

Procedures

- AP 30B-001, "Licensed Operator Requalification Training Program," Revision 6, December 12, 2002
- AP 30B-006, "Shift Engineer/Shift Technical Advisor Requalification Training Program," Revision 2, May 8, 2002
- AF 30B-005, "Conduct of Simulator Activities for Licensed Operator Training," Revision 7, March 10, 2003
- AP 30E-005, "Systematic Approach to Training," Revision 6, March 12, 2003
- AP 30E-003, "Training and Qualification Records," Revision 5, June 21, 2002
- AP 30E-004, "Training Materials Development," Revision 8, July 24, 2003
- AI 30C-001, "Continued Assurance of Simulator Fidelity," Revision 5, October 10, 2002

Records

- TR 02-0010, June 3, 2002 (remedial training)
- TR 02-0029, September 30, 2002 (remedial training)
- TR 02-0016, July 29, 2003 (remedial training)
- Medical records for 19 licensed operators
- Simulator modification packages

Examination Material

- JPM T-115-B-P, Fill the CST from the fire protection system via the diesel-driven fire pump, Revision 8, June 30, 2003
- JPM T-116-B-P, Demonstrate the ability to transfer a vital 120 volt ac instrument power supply, Revision 6, July 9, 2003
- JPM A-128-B-P, Locally close all valves which receive a CISB, Revision 6, June 30, 2003
- Requal simulator examination Scenario 70-32
- Requal simulator examination Scenario 70-34
- Written examinations administered August 2002, Revisions 1-6

Self-Assessment Corrective Action

- Performance Improvement Request 2003-1199, April 29, 2003

Drill Evaluation

- 03-SA-02, "2003 Semi-Annual Drill"

Equipment Alignment

- CKL AL-120, "Auxiliary Feedwater Normal Lineup," Revision 32
- CKL EJ-120, "RHR Normal System Lineup," Revision 30
- CKL EF-120, "Essential Service Water Valve, Breaker and Switch Lineup," Revision 38
- Piping and Instrument Drawing M-12EJ01, "Residual Heat Removal System," Revision 30
- Piping & Instrumentation Diagram M-12AL01, "Auxiliary Feedwater System," Revision 9

Fire Protection

- AP 10-100, "Fire Protection Program," Revision 6
- AP 10-106, "Fire Preplans," Revision 2
- FPP S-1, "Circulating Water Screenhouse," Revision 3

Identification and Resolution of Problems

- Applicability determination for OFN RP-017, Revision 18

- Calculation AN-02-031, "OFN RP-017 Control Room Evacuation Consequence Evaluation," Revision 0
- Document revision Request 03-0353, for OFN RP-017, Revision 19
- Performance Improvement Request 2003-0338
- Procedure AI 26A-003, "Regulatory Evaluations (Other than 10 CFR 50.59)," Revision 3
- Procedure AP 28A-001, "Performance Improvement Request," Revision 23

Maintenance Rule Documents

- Final scope evaluations for AB, main steam system
- Final scope evaluations for GK-02, control room ventilation system
- Functional failure evaluations for AB, main steam system
- Functional failure evaluations for GK-02, control room ventilation system
- Maintenance rule expert panel meeting minutes for AB, main steam system
- Maintenance rule expert panel meeting minutes for GK-02, control room ventilation system
- Maintenance rule performance evaluation for AB, main steam system
- Maintenance rule performance evaluation for GK-02, control room ventilation system
- Performance Improvement Requests 2002-2187; 2003-0641, -0854, -0981, -1134, -1275, -1294, -1848, -1881, -1885, -2190, -2254, and -2306
- System health report for GK, control building heating, ventilation, and air conditioning
- Work Requests 2033625, 2034521, 3035780, 3036188, 3037282, 3037593, 3037926, 3038266, 3038323, and 3038423

Operability Evaluations

- Engineering Disposition SWO 03-255359-000, "Evaluation of Tube Sheet Eroded area of EKJ06A - Jacket Water cooler"
- Engineering Disposition SWO 03-255039-000, "Evaluation of Tube Sheet Eroded area of EKJ06B - Jacket Water Cooler"
- Infrared thermography Report 0101-2003, XMA01B - main Transformer B
- Radiological Survey WCNOC-0201-0091 Form RPF02-210-1(Q)REV4

- Radiological Survey WCNOC-0309-0000 Form RPF02-210-1(Q)REV4
- Work Order PM Files 29210 and 29211
- Configuration Change Package 10013, "Minimum Tube Wall Thickness for EKJ03A/B, EKJ04A/B, EKJ06A/B"
- Calculation KJ-M-010, "Tube Plugging Criteria for Emergency Diesel Generator Heat Exchangers: Intercooler, Lube Oil Cooler and Jacket Water Cooler"
- LER 50-482/2002-001-00
- Work Orders 03-251294-000, 03-251294-001, 03-251294-004, 03-251294-005, 03-251294-009, 03-255039-000, 03-255039-003, 03-255357-000, 03-255359-000, and 03-255359-001
- Performance Improvement Requests 2002-2103, 2003-0078, -2001, and -2029
- Diesel Generator Vendor Manual M-018-00309, "Instruction Manual for Emergency Diesel Generator System"
- Operability Evaluation EM-03-09, Revision 0
- Operability Evaluation KJ-03-07, Revision 0
- Operability Evaluation KJ-03-07, Revision 1
- Work Orders 01-226886-002 and 03-253361-000

Personnel Performance During Nonroutine Plant Evolutions

- Posttrip review data package for the August 18, 2003, trip

Performance Indicator Verification

- Licensee performance indicator worksheets
- Performance indicator summary reports
- Selected NRC inspection reports
- Selected control room operator logs

Postmaintenance Testing

- STN BG-202, "Chemical & Volume Control System Valve Test," Revision 0
- STN EM-205, "Safety Injection System Valve Test," Revision 0
- STS AL-101, "MDAFW Pump A Inservice Pump Test," Revision 30

- STS AL-201, "Auxiliary Feedwater System Valve Test," Revision 0
- STS BG-100B, "Centrifugal Charging SYS "B" Train Inservice Pump Test," Revision 28
- STS KJ-015B, "Manual/Auto Fast Start, Sync & Loading of EDG NE02," Revision 16
- SYS KJ-123, "Post Maintenance Run of Emergency Diesel Generator A," Revision 21
- SYS KJ-124, "Post Maintenance Run of Emergency Diesel Generator B," Revision 18
- Work Orders 03-243386-001, 03-245876-000, 03-251765-001, 03-252616-002, 03-252627-001, 03-253069-001, 03-253949-001, 03-253950-001, and 03-253967-000