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December 11, 1997

The United States Nuclear Regulatory Commission
ATTN: Freedom of Information Act Officer
Region IV Office
511 Ryan Plaza Dr - Suite 400
Arlington TX 76011-8064

Re: Freedom of Information Act Request
Our File No. 2217.0
Facility: Wolf Creek Generating Station
License No: NPF-42
Licensee: Wolf Creek Nuclear Operation Corporation
Docket No: 50-482

Dear Sir/Madam:

The purpose of this letter is to request from your agency's Freedom of Information Act Officer a copy of all documents in its possession, custody, and control of the Nuclear Regulatory Commission (NRC) that fall into any of the following categories:

1. NRC Inspection Report or Notice of Violation regarding compliance or failure of compliance with any wage and hour or over-time rules, regulations, or statutes.

2. All correspondence with or from the Wolf Creek facility, any subsidiary corporations or its agents regarding compliance or failure of compliance with any exempt personnel over-time use, violations of any wage and hour statutes, rules, or regulations, or over-time problems concerning non-exempt personnel.

3. All representations, certifications, or opinions in connection with compliance or noncompliance with over-time personnel use.

4. Any information concerning Fair Labor Standards Act exempt employees being requested to record only forty (40) hours of work per week.

5. Any information concerning on-call or beeper duty time in violation of over-time requirements.

6. NRC Inspection Report 50-482/94-12.

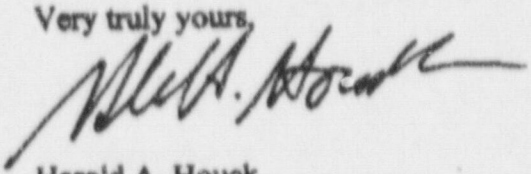
7. NRC Inspection Report 50-482/97-10.

I'm requesting these documents pursuant to the Freedom of Information Act, 5 U.S.C. § 552 et seq. and its regulations issued thereunder. I would like the information as soon as possible. If you have any questions or need any additional information, please do not hesitate to contact me directly.

I understand that this request requires payment of a reasonable search fee and an appropriate charge per page for photocopying. I will expect billing at the time of delivery of the copies.

I appreciate your prompt attention to this matter.

Very truly yours,



Harold A. Houck
FISHER, CAVANAUGH & SMITH, P.A.

HAH:to

UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
611 RYAN PLAZA DRIVE, SUITE 400
ARLINGTON, TEXAS 76011-8064

October 28, 1994

Docket: 50-482
License: NPF-42

Wolf Creek Nuclear Operating Corporation
ATTN: Neil S. Carns, President and
Chief Executive Officer
P.O. Box 411
Burlington, Kansas 66839

SUBJECT: NRC INSPECTION REPORT 50-482/94-10

This refers to the inspection conducted by Mr. J. F. Ringwald of this office on August 14 through September 24, 1994. The inspection included a review of activities authorized for your Wolf Creek Generating Station facility. At the conclusion of the inspection, the findings were discussed with those members of your staff identified in the enclosed report.

Areas examined during the inspection are identified in the report. Within these areas, the inspection consisted of selective examinations of procedures and representative records, interviews with personnel, and observation of activities in progress. The purpose of the inspection was to determine whether activities authorized by the license were conducted safely and in accordance with NRC requirements.

Based on the results of this inspection, one unresolved item was identified as discussed in Section 2.2, 2.3. and 2.4. This unresolved item involves further NRC review of licensee corrective actions and further review of licensee performance related to procedural adherence and control room personnel control and cognizance of activities which have the potential to impact plant conditions.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosures will be placed in the NRC Public Document Room.

The responses directed by this letter and the enclosed Notice are not subject to the clearance procedures of the Office of Management and Budget as required by the Paperwork Reduction Act of 1980, Pub. L. No. 96.511.

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

Sincerely,

/s/

A. Bill Beach, Director
Division of Reactor Projects

Enclosures:
1. Appendix A - Notice of Violation
2. Appendix B - NRC Inspection Report 50-482/94-10

cc w/enclosures:
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Burlington, Kansas 66839

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Burlington, Kansas 66839-1798

Kansas Department of Health
and Environment
Bureau of Air & Radiation
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Division of Environment
Forbes Field Building 283
Topeka, Kansas 66620

APPENDIX

U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

NRC Inspection Report: 50-482/94-10

Operating License: NPF-42

Docket: 50-482

Licensee: Wolf Creek Nuclear Operating Corporation
P. O. Box 411
Burlington, Kansas 66839

Facility Name: Wolf Creek Generating Station

Inspection At: Coffey County, Burlington, Kansas

Inspection Conducted: August 14 through September 24, 1994

Inspector: J. F. Ringwald, Senior Resident Inspector

/s/ 10/28/94

Approved: _____ _____
D. D. Chamberlain, Acting Chief, Date
Project Branch B, Division of
Reactor Projects

Inspection Summary

Areas Inspected: Routine, unannounced inspection, including plant status, operational safety verification, maintenance observations, surveillance observations, onsite engineering, plant support activities, preparation for refueling, and onsite review of a licensee event report (LER).

Results:

- Plant Operations

Operations performance was generally good with two noteworthy exceptions. The first example occurred when operators failed to maintain awareness of the residual heat removal (RHR) system lineup and inadvertently pumped most of the pressurizer inventory to the refueling water storage tank (RWST), partially depressurizing the reactor coolant system (RCS). The second example occurred when operators failed to restore the correct radiation monitor, and concurrent instrumentation and control (I&C) testing caused an inadvertent engineered safety features (ESF) actuation (Section 2.2). The RCS inventory loss event was particularly noteworthy because it occurred approximately 1 day following the reactor shutdown for refueling and could have led to a challenge to RHR.

While these examples represent operator errors, it is important to note that work scheduling also had a role in the RCS inventory loss event as discussed under maintenance results. Further, the second event occurred during a period of very high operations activity requiring operators to be particularly vigilant. In addition, the inspector identified two apparent examples involving the failure of supervising operators to follow administrative procedure requirements regarding procedure use and adherence (Section 2.3 and 2.4). An unresolved item was identified related to the above noted activities pending further NRC review of licensee corrective actions and further review of licensee performance related to procedural adherence and control room personnel control and cognizance of activities which have the potential to impact plant conditions.

Operations continued to maintain generally high standards of control room professionalism and shift turnovers (Section 2.1). The inspector identified one noncited violation when operators failed to follow an alarm response procedure (Section 2.3). Operators responded properly to source range nuclear instrument failures (Section 2.5). Operators failed to maintain appropriate control of the pressurizer relief tank (PRT) drain valve as it was operated by electricians, resulting in overflowing the containment normal sump.

- Maintenance

Maintenance performance was generally good, with several examples of good maintenance practices noted (Sections 3.1, 3.2, 3.3, 3.4, 3.5, and 4). Poor scheduling of a packing leak repair on a motor-operated valve contributed to the RCS inventory loss event (Section 2.3). The removal of a temperature switch for calibration without any documentation of lifted leads or the switch removal suggests that this level of reliance on skill of the craft provides few barriers to problems such as personnel error. Despite technicians' poor radiation worker practice, their recognition of the poor radiation worker practice and recognition of inadequate work instructions represents good questioning by the worker and a refusal to proceed in the face of uncertainty. The inspector's identification of weak worker safety practices underscores the need for greater worker familiarity and compliance with safety rules (Sections 3.5 and 4.2).

- Engineering

Engineering performance and support to operations were generally good. The engineering evaluation of the recycle hold up tank (RHUT) and engineering evaluations of Technical Specifications (TS) operability demonstrated strong engineering support to operations (Section 5).

- Plant Support

Plant support performance was generally good. No evidence of the previously identified declining performance in the security area was noted during this inspection period. Radiation work permits (RWPs) effectively controlled work

in the restricted area (Section 6.1). A chemistry procedural deficiency resulted in an otherwise properly performed gaseous radwaste release, causing a process radiation monitor alarm (Section 6.2). A supervisory error resulted in the necessity for administrative authorization for contract health physics (HP) technicians to work overtime in excess of administrative limits specified by TS. The licensee's response to this issue resulted in improved documentation whenever work in excess of administrative overtime limits is needed.

- Management Overview

Several observations of good performance indicated that management action has improved or maintained good performance in several areas. Control room standards of professionalism remained high. An I&C technician recognized personal and work instruction errors and refused to proceed in the face of uncertainty. Engineering support of operations remained good. Licensee response to issues represented good sensitivity to problem areas and generally good corrective actions.

Observations of poor performance indicated that management actions have not been consistently effective at improving performance. Operator lack of cognizance of activities having the potential to affect plant conditions resulted in a rapid loss of RCS inventory. A second example of operator lack of cognizance resulted in an inadvertent ESF actuation. The scheduling of work having the potential to affect the only operating RHR train at a time when it was not necessary caused additional burden on the operators and contributed to this event. Operators failure to follow their alarm response procedure, poor radiation worker practices, and workers' failure to follow safety rules are examples where management's expectations were not met. Operator loss of control of plant components operated by nonoperations workers, HP supervisory errors leading to the necessity to administratively authorize 23 contract HP technicians working overtime in excess of administrative limits, and a deficient chemistry procedure suggest inadequate management involvement in these activities.

Summary of Inspection Findings:

- Unresolved Item 482/9410-01 was identified (Sections 2.2, 2.3, and 2.4).
- Inspection Followup Item 482/9410-02 was identified (Section 5.3).
- LER 482/94-007 was closed (Section 8).

Attachments:

- Persons Contacted and Exit Meeting
- Acronyms

DETAILS

1 PLANT STATUS (71707)

The plant operated at essentially 100 percent power until August 25, 1994, when power was reduced to 93 percent power for main turbine control valve testing. The licensee held power at 93 percent until September 6, 1994, when operators began the end of cycle coastdown. The inspector reviewed the coastdown plan, which appeared to be appropriate, and noted that operators followed it. Operators began reducing power in preparations for shutdown and the seventh refueling outage on September 13, 1994. Operators shut down the plant on September 16, 1994. At the end of this inspection period, the plant was in Mode 6 with the reactor head removed.

2 OPERATIONAL SAFETY VERIFICATION (71707, 93702)

The inspector performed this inspection to ensure that the licensee operated the facility safely and in conformance with license and regulatory requirements and that the licensee's management control systems effectively discharged the licensee's responsibilities for safe operation.

The methods used to perform this inspection included direct observation of activities and equipment, observation of control room operations, tours of the facility, interviews and discussions with licensee personnel, independent verification of safety system status and TS limiting conditions for operation, verification of corrective actions, and review of facility records.

2.1 Control Room Observations

Routine observations of control room personnel were conducted during normal and backshift working hours. Control room operators exhibited good use of annunciator response procedures, except as discussed in Paragraph 2.3, and good communications techniques between operators. The operators were alert and limited distractions in the at-the-controls area. Shift supervisors and supervising operators properly entered and exited limiting conditions for operation. The inspector found licensed operators knowledgeable of each illuminated annunciator.

The inspector observed numerous control room shift turnovers and noted that they were thorough. The offgoing shift notified the oncoming shift of problems, emergent work, and changes in system lineups that occurred during the previous shift. Control board walkdowns, log reviews, and verbal discussions between the operators were thorough. Abnormal conditions were highlighted and discussed to the satisfaction of both the offgoing and oncoming crew members. When questioned by the inspector, the oncoming operators were aware of operational occurrences from the previous shift.

2.2 Inadvertent ESF Actuation

On September 6, 1994, at 3:30 p.m., operators were instructed to restore Radiation Monitor GG RE-27, fuel building exhaust monitor, to service following a filter change. Operators mistakenly restored Monitor GT RE-22, containment purge exhaust radiation monitor, which had been in bypass for I&C surveillance testing. At 4:05 p.m., operators received ESF actuation of the control room ventilation isolation actuation system and containment purge isolation actuation system. The licensee initiated Performance Improvement Request (PIR) 94-1468. The licensee's subsequent investigation revealed that the actuation occurred as a result of scheduled and approved I&C technician testing of Monitor GT RE-22.

The inspector concluded that operators failed to maintain cognizance of I&C surveillance testing and, as a result, restored the incorrect radiation monitor, thus allowing the testing to generate the inadvertent ESF actuation. This appears to represent an example of control room personnel not maintaining control of activities which have the potential to impact plant conditions as was the case in the drain down event discussed in Section 2.4. This matter will remain unresolved pending further NRC review of licensee corrective actions and further assessment of licensee performance related to this event and the drain down event. This will be Unresolved Item 482/9410-01.

2.3 Alarm Response Procedure Not Followed

On September 8, 1994, the inspector observed that operators had not followed all the required steps of Procedure ALR 00-061B, "Process Rad Hi," Revision 9. Step 6 of the procedure required operators to direct chemistry to sample, perform dose calculations, refer to the offsite dose calculation manual, and go to OFN SP-010, "Accidental Radioactive Release," Step 1. When Radiation Process Monitor GH-RE233, gaseous process monitor, alarmed, operators directed chemistry to sample; chemistry stated that sampling was not necessary and the operators agreed. Since the cause of the alarm was the securing of fans in the radwaste building that caused noble gasses to accumulate near the radiation monitor, the reason chemistry gave for not sampling was valid. This was, however, not consistent with the procedure requirement, and operators did not follow the administrative procedures to permit them to not follow this procedure as written. The licensee responded by counselling the shift supervisor and supervising operator regarding the requirements for following procedures and discussing management expectations for following procedures at the next shift supervisor/supervising operator meeting. Operations will also review Procedure ALR 00-061B to determine if it is applicable to all conditions that might generate the alarm. This matter will remain unresolved pending further NRC review of licensee corrective actions and further review of licensee performance related to procedural adherence. This will be reviewed along with the issues discussed in Sections 2.2 and 2.4. This will be part of Unresolved Item 482/9410-01.

2.4 Inadvertent Transfer of Water From the RCS to the RWST

On September 17, 1994, with the plant in Mode 4 at approximately 290°F cold leg temperature and 345 psig, operators opened Valve EJ HV8716A, RHR A to safety injection system hot leg recirculation Loops 2 and 3 isolation, with Valve BN V8717, RHR pump to RWST, open causing the RHR Train A pump to transfer approximately 9,200 gallons of water from the RCS to the RWST. This drained the pressurizer from an almost solid condition to nearly empty, depressurized the RCS to approximately 250 psig, and caused approximately 600 gallons of water to overflow out of the top of the RWST to the liquid radwaste system. Operators responded immediately by isolating letdown, maximizing charging, stopping the two running reactor coolant pumps (RCPs), and shutting Valve EJ HV8716A.

Operators were filling the pressurizer to establish a solid condition and adjusting RHR Train B boron concentration so it could be declared operable as an additional RCS loop as required by TS 3.4.1.3. To accomplish this, operators were establishing a recirculation lineup for the Train B RHR system with the RHR pump taking a suction on the RWST and discharging through Valve EJ HV8716B and Valve BN V8717 back to the RWST. Prior to the lineup of RHR Train B, electricians had performed Valve Operation Test and Evaluation System (VOTES) testing on Valve EJ HV8716A. The shift supervisor and supervising operator had previously discussed the necessary conditions for safe VOTES testing on Valve EJ HV8716A and determined that as long as Valves EJ HV8716B and BN V8717 remained shut, Valve EJ HV8716A could be opened safely. No caution tags or other preventive measures were taken to ensure that these two valves remained shut during the repeated stroking of Valve EJ HV8716A. During the VOTES testing, a packing leak was noted and mechanics tightened the packing on Valve EJ HV8716A to stop the leak. Electricians then requested a followup VOTES test to ensure that the packing adjustment did not increase valve stem friction excessively. After operators opened Valve BN V8717, as part of the RHR B recirculation lineup, electricians requested operators to open Valve EJ HV8716A again as part of the VOTES testing. The reactor operator asked and received permission from the supervising operator to open Valve EJ HV8716A and created the unintended flow path. Several annunciators alerted operators to the major transient and operators responded by verifying that letdown was isolated, stopped the running RCPs and stopped the transient by shutting Valve EJ HV8716A approximately 1 minute after it began. The licensee noted later that the VOTES testing of Valve EJ HV8716A was not scheduled to be performed during that shift and was investigating the reasons for the performance of unscheduled work.

During the event followup, the inspector noted that, after the packing adjustment, part of the valve retest involved the performance of Procedure STS EJ-202, "RHR System Inservice Valve Test," Revision 3. The inspector's review of this completed procedure revealed that the performer marked Step 5.3 of the procedure "N/A" meaning that the Step was not applicable. Step 5.3 required the plant to be in Mode 5 or 6 during the performance of this test. Procedure AP 15C-002, "Procedure Use and

Adherence," Revision 0, step 6.7.5.2, allows omission of step or section if "Omission of the Step or section does not violate the precautions and limitations stated in the procedure." The precaution and limitation listed in step 2.2.2.5 stated that "RHR valve testing per this surveillance shall be performed in Mode 5 or Mode 6." In addition, Step 6.3.10 of Procedure AP 15C-002, requires procedure performers to modify existing procedures or develop new ones prior to continuing work whenever a procedure is incorrect or is found to be inadequate for the situation.

The licensee responded by issuing PIR 94-1644. As part of the corrective actions, operations developed a briefing on procedural compliance and the use of N/A as described in Procedure AP 15C-002. This briefing was promptly given to all operating crews, and the licensee planned to give this briefing to all operations personnel involved in the use of procedures.

The licensee also initiated PIR 94-1537 and formed an Incident Investigation Team (IIT) to review the event. The Vice President Plant Operations stopped all outage work until the plant was stable and management could ensure that outage activities would not impact stable plant operations. The licensee's investigation revealed that similar events had occurred at Callaway and Wolf Creek in 1983 prior to initial criticality for both units. The only record of the Wolf Creek event was control room log entries. In addition, as a result of another similar event at Braidwood on March 18, 1990, the licensee had added a placard to Control Board RL017 to mimic the location of Valve BN V8717.

After reviewing plant activities, the inspector concluded that the VOTES testing on Valve EJ HV8716A did not need to occur at the time it was performed. The inspector further concluded that, when the decision was made to perform VOTES testing on a component with the potential to affect the only available safety train, the licensee failed to take adequate measures to prevent this testing from impacting that safety train.

This matter will remain unresolved pending further NRC review of licensee corrective actions and further review of licensee performance related to procedural adherence and control room personnel control and cognizance of activities which have the potential to impact plant conditions. The event discussed in Section 2.2 will be included in this review along with the issue discussed in Section 2.3 related to following an alarm response procedure. This will be part of Unresolved Item 482/9410-01.

2.5 Source Range Instrumentation Noise

On September 16, 1994, the licensee declared Source Range Nuclear Instrument Channel 31 inoperable due to high noise. Operators completed the actions required by TS 3.3.1, Action 5a. On September 17, 1994, the licensee declared Source Range Nuclear Instrument Channel 31 inoperable due to high noise. Operators completed the actions required by TS 3.3.1, Action 5b, which included opening the reactor trip breakers.

When the reactor trip breakers opened, the P-4 contact in coincidence with low Tave initiated an automatic feedwater isolation signal which closed the feedwater isolation, feedwater regulating, and feedwater bypass valves. Operators reported this ESF actuation within 4 hours per 10 CFR 50.72, and initiated PIR 94-1548.

After evaluating the immediate ramifications of this event and the event described in paragraph 2.4, the licensee determined that operators had stabilized the plant, carefully proceeded with establishing RHR Train B as an operable RCS loop as required by TS, verified that the shutdown margin was indeed positive due to the high RCS boron concentration, then proceeded with the cool down and outage activities.

The licensee has noted enough problems with source range nuclear instrumentation noise that they scheduled replacement of both detectors very early in the work schedule for the 1994 refueling outage. The licensee replaced both detectors on September 20, 1994. The inspector concluded that the licensee's actions immediately following the event and the long-term corrective actions were appropriate.

2.6 Inadvertent Excessive Heatup Rate of the Pressurizer

On September 17, 1994, as the licensee recovered from the event described in paragraph 2.4, operators exceeded their pressurizer administrative heatup rate limit. Operators energized the pressurizer heaters with the pressurizer nearly full in an attempt to reestablish a bubble so one RCP could be restarted. The operators knew that, without forced circulation of the RCS, there would be uneven heating. Licensee management had established a conservative administrative pressurizer heatup rate limit of 75°F per hour to minimize thermal stresses on the pressurizer and to provide operators with some margin to the 100°F in any hour period TS limit. As soon as operators determined that the pressurizer heatup rate was high, they secured the pressurizer heaters. This action limited the heatup rate to 94.6°F per hour. The licensee initiated PIR 94-1533 to evaluate the event and provided recommendations to prevent recurrence.

2.7 Inadvertent Draindown of the PRT Overflowed the Containment Normal Sump

On September 19, 1994, electricians asked operators for permission to "stroke" Valve BB HV8037A, PRT to containment normal sump isolation. Operators believed this request to mean that electricians would open then immediately close the valve. The electricians opened the valve and left it open until operators received a containment normal sump high level alarm. By the time operators contacted the electricians and directed them to close the valve, the containment normal sump overflowed. The licensee initiated PIR 94-1545. The inspector concluded that operators failed to maintain appropriate control of plant equipment manipulated by nonoperations personnel.

2.8 Conclusions

Two examples of a self-revealing violation occurred when operators failed to maintain cognizance of plant activities. Two examples of a second violation occurred when operators failed to follow plant procedures. Licensee actions in response to failed source range instruments were appropriate. Management's establishment of administrative operating limits more restrictive than TS was conservative and appropriate. A significant operational challenge resulted in the operating strategy being ineffective in controlling pressurizer heatup rate to within this administrative limit. Operators failure to maintain control of the position of the PRT drain valve resulted in an inadvertent overflow of the containment normal sump.

3 MAINTENANCE OBSERVATIONS (62703)

During this inspection period, the inspector observed and reviewed the selected maintenance and activities listed below to verify that personnel complied with regulatory requirements and licensee procedures that included: receiving permission to start; requiring quality control department involvement, proper use of safety tags, proper equipment alignment and use of jumpers, appropriate radiation worker practices, use of calibrated tools and test equipment; documenting the work performed; and ensuring proper postmaintenance testing. The inspector witnessed portions of the maintenance activities discussed below.

3.1 Control Switch Calibration

On September 8, 1994, the inspector observed I&C technicians perform portions of Procedure STN IC-252A, "Calibration of RHR Pump A Mini Flow Valve Control Switch," Revision 2. The technicians worked well together, used calibrated test equipment, and had a current copy of the procedure with them in the field. During the calibration setup, the technicians installed two small reservoirs on both sides of the instrument to provide a volume of water on either side of the bellows. Personnel had marked the reservoirs with a yellow and magenta posting which stated that the reservoir had internal contamination. HP personnel had not set up a contaminated area and did not provide job coverage. One technician used rubber gloves and a plastic squeeze bottle with a small piece of tubing out the top to fill the reservoirs with demineralized water. The technician inserted the tube into the chamber, filled the reservoir, then removed it but did not handle it as potentially contaminated. The inspector questioned this after the lid and tube were removed from the bottle and placed on a multimeter. The technicians acknowledged that they had not utilized good radiation worker practices. The inspector noted that the technicians frisked their hands and the tube and found them to not be contaminated. The inspector concluded that this represented weak radiation worker practices.

Later in the calibration, the procedure required the technicians to remove wires from Terminals 1, 2, 3, and 4 of a barrier terminal block. After removing the first wire, the technician noted that the terminal block was not

numbered. While that particular step could have been completed, in that the step required the removal of four of four wires, the technicians still stopped and contacted their supervision prior to continuing the calibration. The inspector concluded that this represented a good questioning attitude and a refusal on the part of the technicians to proceed in the face of uncertainty.

3.2 RCS Wide Range Pressure Indicator Replacement

On August 31, 1994, the inspector observed I&C technicians perform a portion of the replacement of Indicator BB-PI-406, "RCS Wide Range Press Channel No. 4." The inspector noted that the technicians used effective work practices, had permission to perform this work, and followed the procedure. The inspector noted that the retest section of the work request (WR) had not been filled out. The technicians explained that this would be filled out by the work group supervisor after they completed the indicator replacement. The inspector asked if there was any possibility for the WR to be closed out without a complete retest. The technicians stated that they did not consider this to be a possibility because they routinely discuss retests after the initial portion of the work is complete. The inspector concluded that the work was performed well.

3.3 Spent Fuel Pool Cleanup Pump Isolation Valve Seat Replacement

On September 14, 1994, the inspector observed mechanics perform portions of the valve seat replacement for Valve EC V0038, Fuel Pool Cleanup Pump 2A discharge isolation valve, using WR 02554-94. The mechanics lapped the valve and performed a blue check on the valve disk to confirm good sealing on valve closure. The inspector noted that the mechanics failed to initial the block indicating completion of Step 7.01 of the WR and Steps 7.1.1 and 7.1.2 of the work signoff sheets. The WR supplemental work instructions stated that the work steps could be worked out of order as long as workers did not change the intent of the work. Step 7.01 pertained to an inspection of the body-to-bonnet sealing surfaces. The assistant superintendent of mechanical maintenance stated that this inspection was intentionally delayed until just prior to reassembling the valve so that mechanics could ensure that the sealing surfaces were in good condition upon reassembly. This practice also ensured that workers would notice and repair any incidental damage to the sealing surfaces which may have occurred while the valve was disassembled. Steps 7.1.1 and 7.1.2 pertained to the use of exclusion dams. The supplemental work instructions stated that optional or contingent work steps that were not performed were to be marked NA. The assistant superintendent of mechanical maintenance stated that he left it up to the workers to decide whether exclusion dams were needed or not. The inspector reviewed the completed WR and noted that all steps were signed off appropriately. The inspector concluded that the reasons for not signing these steps in order were reasonable; however, the workers questioned did not know the reasons. The licensee indicated that they would address this issue with the workers involved to establish appropriate corrective actions.

3.4 Mechanical Snubber Replacement

On September 23, 1994, the inspector observed mechanics replace Snubber BB11R004232. When the inspector arrived, one mechanic and one quality control inspector were out on scaffolding discussing the replacement of the snubber. The mechanic was wearing a safety harness which did not appear to be tied off. The quality control inspector was not wearing a harness. The inspector questioned where the harness tie off point was and the mechanic responded by immediately tying off. The inspector questioned whether the quality control inspector was also required to be tied off. The quality control inspector responded by stating "I didn't expect to be there that long." The inspector questioned licensee management regarding the tie-offs and management promptly responded by stating that both individuals should have been tied off, and that the response from the quality control inspector was inappropriate. The licensee counselled both individuals and had the quality control inspector brief all quality control inspectors on lessons learned and safe scaffold work practices. This briefing by the quality control inspector occurred on September 25, 1994, during a turnover meeting.

The inspector also observed the mechanic carefully set up a plastic bag underneath the snubber to catch the fasteners and washers while removing the snubber. The mechanic stated that this was to protect workers who might be underneath the work area. A few minutes later, the mechanic permitted a hammer to fall approximately 15 feet to the floor.

The inspector concluded that the maintenance work was performed appropriately and that the licensee's actions in response to weak personnel safety practices were appropriate.

3.5 Housekeeping and Material Condition Issues

Throughout this report period, the inspector observed numerous examples of minor housekeeping and material condition problems. These included missing fasteners in safety and nonsafety-related equipment, overgreasing of fan bearings, and clear plastic found on the spent fuel pool building operating floor. This issue was previously discussed in NRC Inspection Report 50-482/94-08, paragraph 3.5. While none of the examples directly impaired safety-related equipment, some had the potential to degrade plant equipment. The licensee responded by correcting each identified problem and by revising the guidance to electricians for greasing the fan bearings.

3.6 Conclusions

The maintenance work observed was performed well. Licensee responses to the inspector's observation of weak safety practices were appropriate. The inspector observed weak radiation worker practices that were also recognized by the worker after the potential existed for personal contamination. Workers recognized inadequate work instructions, stopped the work, and obtained clarification, rather than proceeding in the face of uncertainty. The reasons

for performing work steps out of sequence was not well known by some workers during valve repair work.

4 SURVEILLANCE OBSERVATIONS (61726)

The inspector reviewed this area to ascertain whether the licensee conducted surveillance of safety significant systems and components in accordance with TS and approved procedures. The inspector verified that personnel knew the purpose and scope of the test, used calibrated test equipment, used appropriate self-checking, used good repeat back techniques, and communicated clearly.

4.1 Pressurizer Pressure Analog Channel Operational Test

On August 18, 1994, the inspector observed portions of Procedure STS IC-502B, "Channel Calibration of 7300 Process Pressurizer Instrumentation," Revision 11. The technicians were knowledgeable, used good communication techniques, and properly calibrated test equipment. The inspector noted that the procedure had been verified to be the latest revision. The inspector verified that this test satisfied the surveillance requirements of TS 4.3.1.1 (Table 4.3-1; 9, 10), 4.3.2.1 (Table 4.3-2; 1.d, 11.a), 4.3.3.5.1 (Table 4.3-6; 7), and 4.4.4.1 for pressurizer rack mounted instruments only. The inspector concluded that the test was performed properly.

4.2 Main Steam Safety Valve (MSSV) Setpoint Testing

On September 14, 1994, the inspector observed portions of Procedure STS MT-008, "MSSV Settings," Revision 6. This test measured the MSSV lift setpoint using the Furmanite Trevitest method. The test performers used calibrated test equipment. Licensee personnel escorted and provided technical oversight of the Furmanite personnel who actually performed the test. The application of hydraulic force to the Trevitest lift rig was performed in a manner which produced a clear valve lift. This resulted in a clear, peak force trace that the test performers read directly as the peak force. The test performer was, therefore, not required to perform any subjective interpretation of the test force trace. Two independent individuals calculated the lift pressure and their results were compared before the results were logged as the test result. The inspector verified that this test satisfied the surveillance requirements of TS 4.0.5 and 4.7.1.1. The inspector concluded that the test was controlled well and accurately measured the valve setpoints.

The inspector noted that test performers and mechanics did not reconnect the safety chain on a ladder near the MSSVs as they walked between the mezzanine level and main upper operating level of Area 5 in the auxiliary building. The inspector questioned whether licensee policy required this chain to be reconnected after each individual traversed the ladder. The mechanics and their supervision stated that they were not required to reattach the chain if they were working between the two areas, but they were required to reconnect it before they left the area. After verifying this understanding with safety

services, they learned that this understanding was incorrect and that the safety chain was required to be reconnected after each individual traversed the ladder. The inspector concluded that the mechanics did not have a complete and accurate understanding of personnel safety requirements.

4.3 Conclusion

Observed surveillance testing was well controlled and satisfied TS surveillance requirements.

5 ONSITE ENGINEERING (37551)

The inspector reviewed and evaluated engineering performance related to selected plant problems. The inspector evaluated licensee activities related to identifying potential design and operability concerns.

5.1 RHUT Overflow

On August 26, 1994, RHUT B overflowed to the clean radwaste sump as operators pumped water from the spent fuel transfer canal to RHUT B. The level transmitter indicated that the RHUT was only 71 percent full as the tank overflowed. As a result of a hardware problem, the sump overflowed and the high level annunciator failed to annunciate. Water spilled onto the radwaste building floor and into the dirty radwaste sump via floor drains. Operators were alerted to the problem when the dirty radwaste sump high level annunciator alarmed. Operators responded by stopping the transfer of water, cleaning up the water on the radwaste building floor, and initiating a WR to repair the annunciator. Management initiated an IIT to evaluate the level discrepancy.

The inspector reviewed the licensee's final IIT report. The IIT determined that a large amount of air was trapped between the recently installed replacement bladder and the liquid volume in the tank. This air pressed the bladder up against the top of the tank, then compressed the air while water overflowed to the clean radwaste sump. The IIT evaluated operator and other licensee personnel actions, vendor and industry experience, generic transportability, system design, and administrative controls. The IIT drew definitive conclusions and made practical recommendations which would address the issue.

The inspector concluded that the licensee's actions in response to the event were appropriate. The inspector further concluded that the IIT performed a thorough evaluation of the problem, analyzed the problem effectively, and provided good recommendations to prevent recurrence.

5.2 Engineering Evaluations of TS Operability

On two occasions the shift supervisor requested engineering assistance to support operability determinations. On August 30, 1994, the licensee found Asiatic clams in essential service water supply lines to the auxiliary

feedwater system and also found a small leak from the back of the Containment Spray Pump B room cooler. The shift supervisor requested engineering to perform Procedure KGP-1215, "Evaluation of Nonconforming Conditions of Installed Plant Equipment," Revision 2, evaluations of these two conditions. The licensee concluded that both conditions were minor and did not affect the operability of the associated systems. The inspector reviewed these two evaluations and found them to be adequate and consistent with both the licensee procedure and NRC guidance in Generic Letter 91-18, "Information to Licensees Regarding Two NRC Inspection Manual Sections on Resolution of Degraded and Nonconforming Conditions and on Operability."

5.3 Engineering Evaluation of Temporary Conditions on Plant Structures, Systems, and Components

The licensee initiated a new program for reducing the scope of engineering evaluations required for temporary conditions such as scaffolding, shielding, freeze seals, etc. By using a probabilistic risk assessment methodology, using time as an input variable, and administratively limiting the length of time these temporary conditions will be present, the licensee plans to eliminate the need for detailed seismic evaluations of the impact of these conditions on safety-related plant structures, systems, and components. The inspector learned that a similar approach was taken at the LaSalle facility, and that the Office of Nuclear Reactor Regulation is reviewing this approach under Technical Assignment Control 89067, "LaSalle One: Reduced Seismic Criteria at CECo Facilities." The inspector asked the licensee if this approach will be used for operability determinations or TS interpretations. The licensee responded by stating that this approach will be limited to reviewing the need for seismic evaluations and will not be used for operability determinations or TS interpretations. The inspector's review of this new program will be completed after the Nuclear Reactor Regulation review of Technical Assignment Control 89067 is complete. This will be tracked as Inspection Followup Item 482/9410-02.

5.4 Conclusions

Licensee evaluations of the RHUT overflow was thorough and provided good recommendations. Engineering assistance with operability determinations was timely and appropriate. The licensee decision to not use their new engineering methodology for seismic evaluations as the basis for TS interpretations or operability determinations was appropriate.

6 PLANT SUPPORT ACTIVITIES (71750)

6.1 RWPs

The inspector evaluated radiation worker personnel activities related to the following RWPs:

- 94 0007 Routine I&C access for calibrations of components (radiological controlled area excluding containment)

- 94 0091 MMA to disassemble/rework various leaking EC system components located on 2000 foot fuel building. Includes valve seat replacement on EC V0038, reworking of PE C01A/B and all other associated support work.

The inspector concluded that these RWPs were appropriate for the planned work and were followed by the associated radiation workers.

6.2 Excessive Gaseous Radwaste Release Rate

On September 1, 1994, while initiating a gaseous radwaste release, Process Radiation Monitor GH RE-10B alarmed at the alert level. Operators followed Gas Release Permit 940123 which permitted a release rate of up to 7 standard cubic feet per minute (SCFM). Operators used a release rate of 6.2 SCFM when the monitor alarmed. Operators reduced the release rate to 3.0 SCFM and then to 1.5 SCFM before the alarm cleared. The licensee initiated PIR 94-1460. The PIR evaluation stated that chemistry technicians calibrated gas effluent monitors with Xe-133, which has a lower average beta energy than the typical fission product gasses. The majority of the gaseous activity from gas tank releases is due to Kr-85, which has a higher average beta energy and, thus, causes a higher reaction on the process radiation monitor. The licensee determined that no release rate limits were exceeded. The licensee revised Procedure CHM 03-153, "Use of EMS for Gas Decay Tank Releases, Revision 17, to include a method of more accurately predicting the monitor response. The inspector agreed with the licensee's conclusion that the procedure was deficient and concluded that the licensee's corrective actions were appropriate.

6.3 Documentation of HP Overtime Use

On September 20, 1994, the call superintendent authorized 23 contract HP technicians to exceed the overtime limits specified in Administrative Procedure ADM 01-023, "Guidelines for WCGS Staff Working Hours," Revision 8. This administrative procedure implements the requirements of TS 6.2.2.f and requires that the guidance in Generic Letter 82-12 be implemented. The shift supervisor made a log entry to document this approval and attached a memorandum that discussed an error which created the need for the high level of overtime and listed the individual's names, the number of hours in excess of 72 in 7 days, and the date this would occur. Neither the memorandum nor the shift supervisor's log entry documented an evaluation of the potential impact of these individuals working this level of overtime. The inspector questioned the licensee regarding this evaluation. The licensee stated that both the call superintendent and the shift supervisor verified that this evaluation was performed. The licensee determined that Administrative Procedure ADM 01-023 could be improved and revised the procedure to

incorporate a form which will be used for all future approvals of overtime in excess of the limits in the procedure.

6.4 Conclusions

RWPs were used properly. A self-revealing chemistry procedure deficiency resulted in a gaseous radwaste release which caused the process radiation monitor to alarm at the alert level. HP supervisory errors resulted in the need to authorize contract HP technicians working overtime exceeding administrative limits as required by TS, and the licensee initiated a revision to improve the procedure for future approvals of overtime in excess of administrative limits.

7 PREPARATION FOR REFUELING (60705)

The inspector reviewed various aspects the licensee's preparation for refueling. In particular, the inspector reviewed the procedures directly related to major outage activities; the planning, scheduling, and outage risk assessment activities; and the reactor engineering coastdown plan.

The inspector reviewed the following procedures:

- ADM 04-020, Chemistry Surveillance Program
- FHP 01-001, New Fuel Receipt
- FHP 04-001, Spent Fuel Inspection
- FHP 02-001, Refueling Procedure
- FHP 02-011, Fuel Shuffle and Position Verification
- FHP 02-012, Control Rod Shaft Unlatching/Latch
- FHP 02-013, Upper Internals Removal and Installation
- FHP 03-001, Refueling Machine Operating Instructions
- FHP 03-003, Spent Fuel Assembly Handling Tool Ops
- FHP 03-006, Fuel Transfer System Operating Instructions
- FHP 03-007, Spent Fuel Pool Bridge Crane Op Instruction
- GEN 00-006, Hot Standby to Cold Shutdown
- QAP 16.2, Stop Work
- STS CR-002, Shift Logs for Modes 4, 5, and 6
- STS RE-004, Shutdown Margin Determination
- SYS EJ-120, Startup Residual Heat Removal Train

These procedures provided the licensee with adequate detail and appeared to be appropriate to control the plant. The inspector reviewed the licensee's planning, scheduling, and outage risk assessment activities. The inspector concluded that the licensee was prepared for the outage and was appropriately concerned with conditions which could jeopardize plant safety. The inspector reviewed the coastdown plan, found that it provided adequate guidance and was consistent with TS requirements, and noted that operators followed it.

The inspector noted that the licensee authorized removal of many of the equipment hatch missile shield bolts on September 13, 1994, 3 days prior to

shutting down the unit for refueling. The inspector questioned this action in light of the need for the missile shield to be in place as part of containment integrity. The licensee asserted that there was not a single credible missile which they could envision which had the potential to move the door and damage the hatch. After the inspector questioned the removal of the bolts, the licensee stated that they would review the missile shield bolting requirement and determine the minimum number of bolts needed for the shield to meet the safety requirement. The licensee also stated that they would review other work performed prior to shutdown and determine if any work was performed in Mode 1 which would have been more appropriately performed after shutdown. The inspector concluded that the missile shield bolt removal was a minor example of work which could have been more appropriately performed after shutdown. The inspector finally concluded that the licensee was appropriately prepared for refueling when they shut down for the seventh refueling outage.

8 ONSITE REVIEW OF AN LER (92700)

(Closed) LER 482/94-007: Failure to Perform Emergency Diesel Generator Fast Load Test

This LER involved the failure of operations to perform the fast load surveillance of Emergency Diesel Generator A as required by TS 4.8.1.1.2.f. The licensee determined that the root cause of the event was a cognitive personnel error on the part of the operator preparing the surveillance test procedure for use. Contributing causes included the operator's choice of shift turnover time to prepare the procedure for use, and unclear delineation of the requirements of TS 4.8.1.1.2.f in the procedure. The licensee revised the procedure to clearly delineate the TS requirements, initiated PIR 94-1281, and placed the completed PIR evaluation in the operations required reading program. This event was discovered by licensee initiated Self-Assessment SEL#94-031, "WCC Surveillance Testing." The inspector considered it appropriate and proactive for the licensee to have initiated the self-assessment which identified this event. The inspector further concluded that the licensee's corrective actions appeared appropriate to prevent recurrence.

ATTACHMENT 1

1 PERSONS CONTACTED

G. D. Boyer, Manager, Training
T. W. Coates, Supervisor, Instrumentation and Control Support
C. E. DeLong, Supervisor, Quality Control Inspections
C. W. Fowler, Manager, Maintenance and Modifications
R. B. Flannigan, Manager, Regulatory Services
M. A. Gayoso, Chief Business Officer
R. C. Hagan, Vice President Nuclear Assurance
K. M. Harvey, Manager, Document Services
R. Johannes, Chief Administrative Officer
W. M. Lindsay, Manager, Performance Assessment
R. L. Logsdon, Superintendent, Chemistry
O. L. Maynard, Vice President Plant Operations
B. T. McKinney, Manager, Operations
L. L. Parmenter, Operations
J. M. Pippin, Manager, Outage
F. T. Rhodes, Vice President Engineering
A. S. Serhal, Supervisor, Plant Safety Assessment
R. L. Sims, Supervisor, Operations Support
J. D. Stamm, Manager, System Engineering
S. G. Wideman, Supervisor, Licensing

The above licensee personnel attended the exit meeting. In addition to the personnel listed above, the inspectors contacted other personnel during this inspection period.

2 EXIT MEETING

An exit meeting was conducted on September 23, 1994. During this meeting, the inspectors reviewed the scope and findings of the report. The licensee did not identify as proprietary any information provided to, or reviewed by, the inspectors.

ACRONYMS

ESF	engineered safety features
HP	health physics
I&C	instrumentation and control
IIT	Incident Investigation Team
LER	licensee event report
MSSV	main steam safety valve
PIR	performance improvement request
PRT	pressurizer relief tank
RCP	reactor coolant pump
RCS	reactor coolant system
RHR	residual heat removal
RHUT	recycle hold up tank
RWP	radiation work permit
RWST	refueling water storage tank
SCFM	standard cubic feet per minute
TS	Technical Specification
VOTES	Valve Operation Testing Evaluation System
WR	work request

NUCLEAR REGULATORY COMMISSION
REGION IV
611 RYAN PLAZA DRIVE, SUITE 400
ARLINGTON, TEXAS 76011-8064

DEC 1 1994

Docket: 50-482
License: NPF-42

Wolf Creek Nuclear Operating Corporation
ATTN: Neil S. Carns, President and
Chief Executive Officer
P.O. Box 411
Burlington, Kansas 66839

SUBJECT: NRC INSPECTION REPORT 50-482/94-12 (NOTICE OF VIOLATION)

This refers to the inspection conducted by Mr. J. F. Ringwald and Ms. J. L. Dixon-Herrity of this office on September 25 through November 5, 1994. The inspection included a review of activities authorized for your Wolf Creek Generating Station facility. At the conclusion of the inspection, the findings were discussed with those members of your staff identified in the enclosed report.

Areas examined during the inspection are identified in the report. Within these areas, the inspection consisted of selective examinations of procedures and representative records, interviews with personnel, and observation of activities in progress. The purpose of the inspection was to determine whether activities authorized by the license were conducted safely and in accordance with NRC requirements.

Based on the results of this inspection, certain licensed activities appeared to be in violation of NRC requirements, as specified in the enclosed Notice of Violation (Notice). Although some of the specific examples of the violations are relatively minor in nature, all examples are included because they appear to involve inattention to detail and the failure to follow procedures which indicates a potential that management expectations in this area have not been well communicated or understood.

We are particularly concerned with work scheduling early in the refueling outage which led to problems such as the technician's error during maintenance on your only available train of control room ventilation that challenged the operability of the system. This is similar to your decision to proceed with testing of Valve EJ HV8716A as described in paragraph 2.4 of NRC Inspection Report 50-482/94-10 and inadvertently transferring approximately 9200 gallons of primary coolant to the refueling water storage tank. Your scheduling of maintenance that had the potential to jeopardize your only available safety-system train in each case did not appear to be necessary. We recognize that you made changes in your work scheduling prior to taking your Train B components out of service and this appears to have prevented recurrence of these types of problems.

A/2

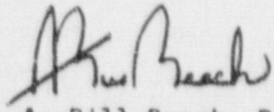
You are required to respond to this letter and should follow the instructions specified in the enclosed Notice when preparing your response. In your response, you should document the specific actions taken and any additional actions you plan to prevent recurrence. After reviewing your response to this Notice, including your proposed corrective actions and the results of future inspections, the NRC will determine whether further NRC enforcement action is necessary to ensure compliance with NRC regulatory requirements.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosures will be placed in the NRC Public Document Room.

The responses directed by this letter and the enclosed Notice are not subject to the clearance procedures of the Office of Management and Budget as required by the Paperwork Reduction Act of 1980, Pub. L. No. 96.511.

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

Sincerely,



A. Bill Beach, Director
Division of Reactor Projects

Enclosures:
1. Appendix A - Notice of Violation
2. Appendix B - NRC Inspection Report 50-482/94-12

cc w/enclosures:
Wolf Creek Nuclear Operating Corp.
ATTN: Vice President Plant Operations
P.O. Box 411
Burlington, Kansas 66839

Shaw, Pittman, Potts & Trowbridge
ATTN: Jay Silberg, Esq.
2300 N Street, NW
Washington, D.C. 20037

U.S. Nuclear Regulatory Commission
ATTN: Regional Administrator, Region III
799 Roosevelt Road
Glen Ellyn, Illinois 60137

Wolf Creek Nuclear Operating Corp.
ATTN: Manager Regulatory Services
P.O. Box 411
Burlington, Kansas 66839

Missouri Public Service Commission
ATTN: Assistant Manager
Energy Department
P.O. Box 360
Jefferson City, Missouri 65102

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

Office of the Governor
State of Kansas
Topeka, Kansas 66612

Attorney General
Judicial Center
301 S.W. 10th
2nd Floor
Topeka, Kansas 66612-1597

County Clerk
Coffey County Courthouse
Burlington, Kansas 66839-1798

Kansas Department of Health
and Environment
Bureau of Air & Radiation
ATTN: Public Health Physicist
Division of Environment
Forbes Field Building 283
Topeka, Kansas 66620

APPENDIX A

NOTICE OF VIOLATION

Wolf Creek Nuclear Operating Corporation
Wolf Creek Generating Station

Docket: 50-482
License: NPF-42

During an NRC inspection conducted on September 25 through November 5, 1994, three violations of NRC requirements were identified. In accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions," 10 CFR Part 2, Appendix C, the violations are listed below:

A. Technical Specification 6.8.1.a states, in part, that written procedures shall be established and implemented covering the applicable procedures recommended in Appendix A of Regulatory Guide 1.33, Revision 2.

(1) Regulatory Guide 1.33, Appendix A, Section 7.a, requires procedures covering the liquid radioactive waste system. Procedure SYS HE-201, "Boron Recycle Holdup Tank Operations," Revision 9, Step 4.4.1, requires that the operator perform Section 4.2 for proper system alignment for recycling and sampling to transfer water from the Recycle Holdup Tank B to the spent fuel pool.

Contrary to the above, on September 30, 1994, an operator failed to perform Section 4.2 of Procedure SYS HE-201, and thereby incorrectly transferred unsampled Recycle Holdup Tank A to the spent fuel pool instead of Tank B as planned.

(2) Regulatory Guide 1.33, Appendix A, Section 1.c, requires administrative procedures covering equipment control. Administrative Procedure ADM 02-102, "Control of Locked Component Status," Revision 28, Step 4.12, requires that all valves required to be locked be rechecked prior to entry into Mode 4.

Contrary to the above, on October 26, 1994, Valve BB V0149 was found inadequately locked such that it could be repositioned without removing the locking device.

(3) Regulatory Guide 1.33, Appendix A, Section 10, requires procedures covering chemical and radiochemical control. Chemistry Procedure CHM 02-050, "Determination of Boron (Titration Method)," Revision 6, Step 9.2.15, requires that two scoops of mannitol and five drops of phenolphthalein be added to the sample container in preparation for the titration.

Contrary to the above, on October 30, 1994, a chemistry technician added three partial scoops of mannitol and an indeterminate amount of phenolphthalein to the sample container.

(4) Regulatory Guide 1.33, Appendix A, Item 1.d, requires administrative procedures to address procedure adherence. Procedure AP 15C-002, "Procedure Use and Adherence," Revision 0,

Section 6.3.4, requires that the intent and direction provided in the procedures be followed during the course of activities. Attachment 2 of Procedure KGP-1210, "Performance Improvement Requests," Revision 10, identifies the failure of a safety-related piece of equipment to perform its intended safety function on demand or as expected as significant. Procedure KGP-1201, "Corrective Action," Revision 1, requires that a Performance Improvement Request (PIR) be initiated to determine the cause and corrective actions to prevent recurrence for significant hardware failures.

Contrary to the above, on October 16, 1994, Essential Service water Self-Cleaning Strainer A, a safety-related component, failed to operate when the driver motor thermal overloads tripped on actuation and a PIR was not initiated.

This is a Severity Level IV violation (Supplement I) (482/9412-01).

B. Technical Specification 6.2.2.f. requires that the amount of overtime worked by unit staff members performing safety-related functions shall be limited in accordance with the NRC Policy Statement on work hours (Generic Letter No. 82-12). Generic Letter No. 82-12 states that individuals should not be permitted to work more than 24 hours in 48 hours or 72 hours in 7 days.

Contrary to the above, on October 13, and October 19, 1994, operators worked in excess of the Technical Specifications guidelines without authorization in that a refueling SRO worked 12 hours in excess of 72 hours in 7 days and a licensed operator performing valve lineups in containment exceeded 24 hours in a 48 hour period.

This is a Severity Level IV violation (Supplement VII) (482/9412-02).

C. Technical Specification 6.11 states that procedures for personnel radiation protection shall be prepared consistent with the requirements of 10 CFR Part 20 and shall be approved, maintained, and adhered to for all operations involving personnel radiation exposures.

(1) Radiation Protection Procedure RPP 02-105, "RWP [Radiation Work Permit]," Revision 6, Step 5.3.1, states that the protective equipment specified on the radiation work permit is to be per Procedure RPP 03-505, "Selection of Protective Clothing," Revision 1. Procedure RPP 03-505 requires protective clothing to be selected based on the known or expected contamination levels in the work area. Radiation Work Permit 942100, Revision 0, requires a full set of protective clothing for access to contaminated areas.

Contrary to the above, on September 28, 1994, a licensee employee removed contaminated packing from a valve in a known contaminated system without wearing a full set of protective clothing.

(2) Procedure RPP 02-105, "RWP," Revision 6, Step 9.3.1, states that the protective equipment specified on the RWP is a minimum requirement, which all personnel accessing the RWP must comply with.

Radiation Work Permit 940005, Revision 0, requires a full set of protective clothing for contaminated access.

Contrary to the above, on October 6, 1994, a licensee employee accessed a contaminated area in centrifugal charging pump room B without a full set of protective clothing in that the coveralls were not zipped up prior to entry.

(3) Procedure AP 25B-100 "Radiation Worker Guidelines," Revision 0, Step 6.6.3, requires radiation workers to perform a hands, feet, and face frisk after exiting a contaminated area.

Contrary to the above, on October 30, 1994, a chemistry technician failed to frisk after exiting a contaminated area.

This is a Severity Level IV violation (Supplement IV) (482/9412-03).

Pursuant to the provisions of 10 CFR 2.201, Wolf Creek Nuclear Operating Corporation is hereby required to submit a written statement or explanation to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, D.C. 20555 with a copy to the Regional Administrator, Region IV, 611 Ryan Plaza Drive, Suite 400, Arlington, Texas 76011, and a copy to the NRC Resident Inspector at the facility that is the subject of this Notice, within 30 days of the date of the letter transmitting this Notice of Violation (Notice). This reply should be clearly marked as a "Reply to a Notice of Violation" and should include for each violation: (1) the reason for the violation, or, if contested, the basis for disputing the violation, (2) the corrective steps that have been taken and the results achieved, (3) the corrective steps that will be taken to avoid further violations, and (4) the date when full compliance will be achieved. If an adequate reply is not received within the time specified in this Notice, an order or a Demand for Information may be issued to show cause why the license should not be modified, suspended, or revoked, or why such other action as may be proper should not be taken. Where good cause is shown, consideration will be given to extending the response time.

Dated at Arlington, Texas
this 1st day of December 1994

APPENDIX B

U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

NRC Inspection Report: 50-482/94-12

Operating License: NPF-42

Docket: 50-482

Licensee: Wolf Creek Nuclear Operating Corporation
P. O. Box 411
Burlington, Kansas 66839

Facility Name: Wolf Creek Generating Station

Inspection At: Coffey County, Burlington, Kansas

Inspection Conducted: September 25 through November 5, 1994

Inspectors: J. F. Ringwald, Senior Resident Inspector
J. L. Dixon-Herrity, Resident Inspector

Other Personnel: M. A. Shuaibi, Intern

Approved: Dwight D Chamberlain — 12-1-94
D. D. Chamberlain, Acting Chief, Date
Project Branch B, Division of
Reactor Projects

Inspection Summary

Areas Inspected: Routine, unannounced inspection including plant status, operational safety verification, maintenance observations, surveillance observations, plant support activities, complex surveillance, refueling activities, restart from refueling, foreign material exclusion controls, and licensee event report (LER) reviews - onsite.

Results:

- Plant Operations

Operations performance declined somewhat during this report period. Operators allowed a surveillance to be performed on Control Room Pressurization System Train B while Control Room Pressurization System Train A was out of service for maintenance. An error on the part of maintenance during this surveillance caused the heaters to be inoperable for a period of time during which the

ability of the system to perform its safety function in a humid environment came into question (Section 4.1). A concern about working on the only available train of safety-related equipment had been expressed with the licensee during the last report period. This was driven by an event where maintenance on the residual heat removal system resulted in draining the pressurizer to the refueling water storage tank.

The failure on the part of operators to follow procedures allowed the contents of an unsampled recycle hold up tank (RHUT) to be transferred to the spent fuel pool (SFP) (Section 2.2); two operators to exceed Technical Specifications (TS) overtime limits (Section 2.5); and a locked valve to be improperly secured (Section 2.6). Operators' failure to maintain cognizance of their actions and to use self-checking techniques resulted in the inadvertent deenergization of a safety-related direct current (DC) bus (Section 2.3), and the inoperability of both trains of containment atmosphere radiation monitoring (Section 2.4). The failure of operations to properly review a work request, and of maintenance and engineering to adequately communicate expectations with operations resulted in operators declaring Centrifugal Charging Pump (CCP) A operable before the expected postmaintenance testing was performed (Section 3.2).

- Maintenance

Most maintenance observed was well controlled and performed, but there were several exceptions. The failure to self-check allowed a technician to install a probe incorrectly which would have prevented the safety-related heaters on the Control Room Pressurization System Train B from energizing if called to do so (Section 4.1). This failure and an incident involving confusion as to whether as-left data should be reverified indicated that maintenance supervision and craft were not familiar with the maintenance department procedures (Section 4.2). Contractors brought onsite to augment the maintenance staff during the outage did not follow licensee procedures or instructions in some instances (Section 3.3).

- Plant Support

Performance in the area of plant support was adequate. Although good health physics (HP) practices were noted in general, two examples of failure to follow the dress out requirements on radiation work permits (RWPs) indicated a need for improvement (Sections 6.1 and 6.3). The licensee identified a continuing problem with following procedures in the area of material control (Section 10.1). Chemistry personnel also failed to follow procedures while determining the boric acid contents of a primary sample (Section 6.4), by failing to frisk when exiting a contaminated area in the lab (Section 6.5), and in requesting that operations isolate the incorrect valves to change a filter (Section 2.4).

- Engineering

Engineering performance and support to operations were generally good. This was evident in the initial troubleshooting effort for the SFP cooling pump bearing failure (Section 5.1), reactor physics testing (Section 9.1), and preparation for and followup analysis of the noise event (Section 5.4). However, engineering failed to consider the broader implications of the problem with the SFP cooling pump and to invoke the corrective action program in response to a repeat failure of the Train A essential service water (ESW) strainer, a safety-related piece of equipment (Section 7.1).

- Management Overview

Observations of poor performance indicated that management actions have not been consistently effective at improving performance. Operations' continued lack of cognizance of activities having the potential to affect plant conditions was reflected in allowing a surveillance to be performed on one train of the control room pressurization system while the other train was out of service, unintentionally taking both trains of containment radiation monitors out of service, and unintentionally deenergizing a safety-related DC bus. The corrective actions taken by management when this concern was brought to their attention were immediate and appropriate. During the second part of the recent refueling outage, more time was spent on reviewing work and no work was scheduled on the operable train. These actions prevented further similar mishaps during the outage.

A need for management to stress its expectations with regards to procedure adherence was identified due to the identification of a number of procedure violations. Examples of these included the failure to follow RWPs, adherence to overtime limits, and the control of contractors activities. Several performance improvement requests (PIRs) from the previous year dealing with the control of materials in and around the exclusion area arcund the SFP indicated that a problem existed with maintaining controls over foreign material exclusion. The corrective actions in response to the problem failed to prevent similar problems during the outage. Managements responded to instances of failure to follow procedures by stressing the need to follow procedures and by increased emphasis toward handling problems associated with failures to follow procedures.

Supervision and the general professionalism in the control room and during tests observed during the outage were found to be good. Management decisions to place holds on restart until engineering completed their reports on the noise event and the emergency diesel generator (EDG) transformer fire were considered conservative and appropriate.

Summary of Inspection Findings:

- Violation 482/9412-01 was opened (Sections 2.2, 2.6, 6.4, and 7.1).
- Violation 482/9412-02 was opened (Section 2.5).
- Violation 482/9412-03 was opened (Sections 6.1, 6.3, and 6.5).
- LER 482/94-009 was closed (Section 11).

- ✓ LER 482/94-012 was closed (Section 11).

Attachments:

- Persons Contacted and Exit Meeting
- Acronyms

DETAILS

1 PLANT STATUS (71707)

At the beginning of this inspection period, the plant was in Mode 6 at the beginning of the seventh refueling outage. Operators restarted the reactor on October 30, 1994, and placed the unit online on November 3, 1994. At the end of the inspection period, operators were increasing power from 75 percent.

2 OPERATIONAL SAFETY VERIFICATION (71707, 93702)

The inspectors performed this inspection to ensure that the licensee operated the facility safely and in conformance with license and regulatory requirements. The methods used to perform this inspection included direct observation of activities and equipment, observation of control room operations, tours of the facility, interviews and discussions with licensee personnel, independent verification of safety system status and TS limiting conditions for operation, verification of corrective actions, and review of facility records.

2.1 EDG Potential Transformer Fires

On September 30, 1994, a fire erupted on the EDG A power potential transformer while operators were performing a maintenance run. On October 11, 1994, a similar fire erupted on EDG B during a similar maintenance run. The fires were both extinguished promptly by individuals present in the room using a portable carbon dioxide fire extinguisher. The events and the licensee response was reviewed and reported in NRC Inspection Report 50-482/94-13.

2.2 Unsampled RHUT Pumped to the SFP

On September 30, 1994, an operator was directed to pump RHUT B to the SFP but inadvertently pumped unsampled RHUT A to the SFP as a result of not following a procedure. Operators used Procedure SYS HE-201, "Boron Recycle Holdup Tank Operations," Revision 9, to perform many different tasks associated with the boron recycle system. Some of these tasks included transferring water from either RHUT to any desired location including the other RHUT, the SFP, or the SFP transfer canal; recirculation of either RHUT for sampling, filtering the water in either RHUT; and flushing the transfer line. This procedure relied heavily on procedure section sequencing to ensure that valves were properly lined up. Prior to transferring the contents of an RHUT to the SFP, operators were required to have chemistry sample the tank, or to verify that the entire contents of the tank came from a presumed clean source. The transfer of the water in RHUT B to the SFP, was to be performed without sampling the RHUT since operators knew the source of the water. Knowing this, the operator read Step 4.4.1, which stated "Ensure that the tank to be used is 'Off-Service', recirced per Section 4.2 and sampled if necessary," and determined that this step was not required since sampling was not necessary. Section 4.2, however, also established the lineup for the transfer and ensured that only the contents of the correct RHUT would be transferred. When the operator later

started the transfer pump, the prior valve lineup transferred the incorrect RHUT to the SFP. This failure to follow the procedure is the first example of a violation of TS 6.8.1.a (Violation A, 482/9412-01). The licensee stated that Procedure SYS HE-201 would be revised to improve the clarity of what the sections actually accomplish. The licensee also counselled the individual involved.

When the unintended transfer began, the operator monitored the applicable indications, quickly recognized the error and stopped the transfer. The inspector concluded that this was a good operating practice to immediately monitor the expected indication for a control action, and to stop the action when the expected indications were not received.

2.3 Failure to Review Prints Resulted in the Inadvertent Loss of NK02

On October 5, 1994, operators opened the battery disconnect to Bus NK02 inadvertently deenergizing the bus. The TS required two DC busses at the time and the NK01 and NK03 buses remained operable. Operators took the NK22 charger out of service for preventive maintenance and supplied the NK02 bus from the NK04 bus via test connections. These test connections were between the battery disconnects and the DC buses. Since the NK22 battery charger was out of service and the NK04 bus was aligned to supply power to the NK02 bus, maintenance recommended that they be permitted to complete preventive maintenance on the NK12 battery. After discussing this recommendation with the electricians and with personnel from the tagging group, operators agreed and opened the battery disconnect to isolate the battery from the bus. According to the shift supervisor, operators did not consult the applicable drawings prior to opening the disconnect nor did they use any other means to verify the effect of opening the disconnect. The inspector concluded that while these actions did not render any TS required equipment inoperable, this inadvertent deenergization of a DC bus without consulting the applicable prints represented a poor practice on the part of licensee personnel.

2.4 Operations and Chemistry Miscoordination Resulted in Loss of Containment Atmosphere Radiation Monitors GT RE-31 and GT RE-32

On October 13, 1994, a miscoordination between operators and a chemistry technician resulted in operators placing Radiation Monitor GT RE-31 in bypass, and shutting the isolation valves for Radiation Monitor GT RE-32. This rendered both containment atmosphere radiation monitors inoperable. Additionally, it opened a path between the auxiliary building atmosphere and containment via Radiation Monitor GT RE-31 while the chemistry technician changed the filter. The inspectors determined that this was not a concern because containment integrity was not required at the time. After placing Radiation Monitor GT RE-31 in bypass, the operators requested that the chemistry technician change the filters immediately. The chemistry technician misread the procedure and requested that the operators shut the valves that isolated Radiation Monitor GT RE-32. Failing to confirm the proper valves, operators shut the valves requested by the chemistry technician, rendering both trains of containment atmosphere radiation monitoring inoperable. One of

these monitors is required by TS 3.3.3.1 to be operable during all modes. The action statement allows both to be inoperable as long as the containment purge valves are maintained closed. The operators were in the process of closing the purge valves to meet the action statement, when flow was restored to Radiation Monitor GT RE-32. The inspector concluded that this represented inattention to detail on the part of the chemistry technician and operators, and failure of the operators to verify the valves requested prior to shutting them. The licensee initiated PIR 94-1777 for review of this matter.

2.5 Overtime Limitation Exceeded

On October 13, and October 19, 1994, the licensee identified two examples where licensed operators exceeded the overtime limitations of TS 6.2.2.f, without authorization. In the first case, management authorized a refueling senior reactor operator to exceed 72 hours in 7 days by no more than 6 hours. As a result of miscommunication, the individual worked 12 hours in excess of 72 hours in 7 days. In the second case, a licensed operator performing valve lineups in containment exceeded 24 hours in a 48 hour period without authorization. The inspector concluded that these are two examples of a violation of TS 6.2.2.f (Violation B, 482/9412-02).

The licensee initiated PIR 94-1770 and 94-1842 immediately after discovering that the workers exceeded the overtime limitations. After the inspector discussed this violation with the licensee, the licensee recognized that the PIR screenings failed to identify these events as potentially reportable. Subsequent to the discussions with the inspector, the licensee initiated Reportability Evaluation Request 94-048 to evaluate these occurrences for reportability.

2.6 Inadequately Locked Valve

On October 26, 1994, the inspector identified that Valve BB V0149, Reactor Coolant Pump B seal water injection line isolation, was not adequately locked. Operators used excessive chain such that the valve could be repositioned without removing the locking device. The inspector concluded that this resulted in the valve not actually being locked. Procedure ADM 02-102, "Control of Locked Component Status," Revision 28, Step 4.12, requires that all valves required to be locked be rechecked prior to entry into Mode 4. This is the second example of a violation of TS 6.8.1.a (Violation A, 482/9412-01). The licensee initiated PIR 94-1911 for review of this matter.

2.7 Conclusions

A self-revealing example of a violation of TS 6.8.1 occurred when an operator failed to follow the procedure resulting in the pumping of an unsampled RHUT to the SFP. The inspector identified a second example of a violation of TS 6.8.1 when operators used excessive chain, and therefore, failed to properly lock Valve BB V0149. Operators extinguished EDG potential transformer fires promptly. The failure of licensee personnel to review the prints prior to opening the NK12 battery disconnect resulted in operators

inadvertently deenergizing the NK02 bus. A miscoordination between operations and chemistry resulted in the inoperability of both trains of containment atmosphere radiation monitoring. The licensee identified two examples where operators worked overtime in excess of the TS 6.2.2.f overtime guidelines without authorization.

3 MAINTENANCE OBSERVATIONS (62703)

During this inspection period, the inspectors observed and reviewed selected maintenance activities to verify that personnel complied with regulatory requirements including: receiving permission to start work; requiring quality control department involvement, proper use of safety tags, proper equipment alignment and use of jumpers, appropriate radiation worker practices, and use of calibrated tools and test equipment; documenting the work performed; and requiring proper postmaintenance testing. Inspectors also evaluated the impact of the observed work on system operability and plant safety. Specifically, the inspectors witnessed portions of the following work requests (WRs):

- WR 03346-94 — Removal and deletion of the electrical portion of Target Rock Valve BB HV8157B in accordance with Plant Modification Report (PMR) 04934.
- WR 03930-94 — Replacement of Breaker NG01BBR3 for Pressurizer Relief Isolation Valve BB HV8000A.
- WR 04850-94 — Postmaintenance testing of Breaker NG03C HF3 for Valve EG HV15, component cooling water (CCW) return from nuclear auxiliary component.
- WR 04902-94 — Postmaintenance testing of Breaker NG 03CJF3 for Valve EG HV53, CCW supply to nuclear auxiliary component.
- WR 05245-94 — Addition of weld metal to the socket welds of Valve BG HV8357, CCP to seal injection, to obtain a weld profile in accordance with PMR 4394.
- WR 80055-94 — Replacement of Reactor Coolant Loop 1 Differential Pressure Flow Transmitter BB FT0414, per NRC Bulletin 90-01.
- WR 05769-94 — Main Steam Isolation Valve AB HV0017 troubleshooting. Suspected leaky rod end head/gland O-ring (pressure sealing O-ring).
- WR 60242-93 — Replacement of the turbine-driven auxiliary feedwater (AFW) pump's internal rotating assembly for inspection.

- WR 03774-94 Modification of the vendor portion of the injection cooling line on EDG B.

- WR 03338-94-01 Installation of Cables 11BGG52AA and 11BGG52AB in CCP Room A.

Selected observations from the activities witnessed are discussed below.

3.1 Maintenance Miscoordination With Engineering and Operations

On October 12, 1994, mechanical maintenance notified the shift supervisor that CCP A had not been properly retested following scheduled outage maintenance. The initial maintenance on the pump did not appear to have the potential to affect the pump flow characteristics. Subsequently, mechanics decided to remove and reinstall the original outboard thrust and journal bearing package in order to permit removal of the seal package. Due to inadequate communications and an inadequate review of the work request, operations failed to identify the need to perform Surveillance Procedure STS BG-100A, "Centrifugal Charging System A Train Inservice Pump Test," to meet TS 4.0.5 requirements for ASME Section XI testing prior to declaring the pump operable. Following maintenance, operators performed a postmaintenance pump run; however, the conditions were not established nor data collected to determine if the pump would have met the ASME Section XI test criteria. After notification, the shift supervisor stopped core alterations and immediately directed the performance of Surveillance Procedure STS BG-100A, which was completed satisfactorily. Operations initiated PIR 94-1766 to track corrective actions and Reportability Evaluation Report 94-043 to determine reportability. Subsequent testing demonstrated that the pump was capable of performing its safety function. A subsequent engineering evaluation determined that the test was not actually required by TS 4.0.5 since the original thrust and journal bearings were reinstalled. The inspector reviewed the work request, reviewed the pump drawings, and questioned the system engineer. The inspector determined that the removal and reinstallation of the original bearing housing could not change the axial or radial position of the pump shaft, and, therefore, could not affect the flow characteristics of the pump. While the licensee was able to demonstrate the adequacy of the retest performed, the inspector noted that the work request documented the expectation that STS BG-100A would be run and vibration readings taken to determine whether a hot alignment would be required or not. The licensee also needed to complete the evaluation of Reportability Evaluation Report 94-043 in order to determine the adequacy of the retest actually performed. The inspector concluded that this miscoordination between operations and maintenance represented inattention to detail and inadequate communication between maintenance, engineering, and operations.

3.2 Control of Contract Workers

During the refueling outage, the licensee identified several examples of contract worker errors as discussed below.

- On September 24, 1994, a contract worker began disassembling a head vent solenoid valve during head disassembly rather than determinating the leads at a junction box. This was discovered by the licensee as the worker began to remove the solenoid valve cover. The licensee took appropriate actions to reassemble the head vent solenoid valve to maintain valve environmental qualifications.

- On September 24, 1994, workers started a fire when a contract supervisor directed contract workers to apply propane torch heat directly to a condensate demineralizer vessel liner contrary to the work instructions. The instructions required that heat be applied to scrapers which were then to be used to soften and remove the liner. Licensee employees were monitoring this work approximately once per hour.

- On September 27, 1994, the licensee observed a refueling technician seated in a reclined position inside a hot particle control zone while waiting for the completion of fuel ultrasonic testing.

In each of these cases, the licensee took appropriate actions to correct the inappropriate work practice and reinforce expectations with contractor management. The inspector concluded that while the occurrence of these examples reflects inadequate control of work by contractors, licensee management took strong actions with contract management to reinforce work expectations once identified.

3.3 Conclusions

The inspector identified an example of a violation of TS 6.8.1 when mechanics failed to sign off required work instructions prior to proceeding to subsequent work steps. The licensee identified a maintenance miscoordination with engineering and operations, which resulted in declaring CCP A operable without performing the required surveillance. The remaining maintenance work observed was performed well. Early in the refueling outage, the licensee identified several examples where contract work was not well controlled.

4 SURVEILLANCE OBSERVATIONS (61726)

The inspectors sampled selected surveillance tests required by TS to verify that the licensee performed the tests in accordance with TS, used technically adequate procedures, used appropriate test equipment, and properly dispositioned any test results, which failed to meet the acceptance criteria.

STS BG-100B	Centrifugal Charging System B Train Inservice Pump Test, Revision 14.

STS AL-211	Turbine-Driven AFW System Flow Path Verification and Inservice Check Valve Test, Revision 6.
STS IC-204A	Analog Channel Operation Test of TAVG, dT and Pressurizer Pressure, Revision 4.
STS IC-500G	Channel Calibration DT/TAVG Instrumentation Loop 4, Revision 10.
STN IC-264	Calibration of Containment Differential Pressure Instrumentation, Revision 4.
TMP EN-1B	ESW Train B Post-Loss of Coolant Accident Flow Balance

Selected observations from the review of these activities are discussed below.

4.1 Instrumentation and Control (I&C) Surveillance on the Only Available Control Room Ventilation System

On September 26, 1994, electricians and I&C technicians performed Surveillance Procedure STS GK-001B, "Control Room Emergency Vent System Train B Operability Test," Revision 14. During the test, the licensee discovered that the control room pressurization unit heaters were deenergized from 8:45 and 9:35 p.m. The shift supervisor initiated PIR 94-1609 and Reportability Evaluation Report 94-040. The licensee determined that operability of the pressurization system did not require the heaters during the period when the heaters failed to energize. The inspector reviewed the licensee's evaluation and agreed with the licensee's operability determination.

The inspector noted that this surveillance was performed when the Control Room Pressurization System Train B was the only train available, and the technician error challenged the operability of the system. Concurrent fuel handling required operability of this system. This is similar to the drain down event described in NRC Inspection Report 50-482/94-10, paragraph 2.4, where maintenance on a valve associated with the only available train of residual heat removal created the conditions that permitted the event to occur. The inspector discussed the similarity of these two events with the Vice President Plant Operations, and expressed concern regarding the scheduling of maintenance with the potential to affect the only available safety train. The Vice President Plant Operations stated that they had also recognized this concern and had taken additional steps to conduct reviews of planned work for the remainder of the refueling outage. These reviews provided assurance that the licensee would not permit work to proceed where the potential existed to affect the only available safety train. The inspector observed that the licensee erected flagging around safety-related switchgear and other equipment to discourage workers from entering and working on required operable safety-train equipment. In addition to the flagging, the licensee posted signs which read "stop, think STAR, primary safety-train equipment, check with control room before performing any work activity on this equipment." During the remainder of the outage, no additional events occurred where maintenance

on the only available train of safety equipment challenged system operability. The inspector concluded that this represented an improvement and noted that the licensee did not require this scheduling practice in their formal scheduling program. At the exit the licensee stated that they were considering changes to their scheduling program.

4.2 I&C Surveillance Data Collection Expectations Not Clearly Understood

On October 20, 1994, the inspector observed I&C technicians perform testing of T_{avg}, delta T, and pressurizer pressure circuitry in accordance with STS IC-204A, "Analog Channel Operational Test of T_{avg}, delta T, and Pressurizer Pressure Protection Set IV," Revision 4. The inspector also observed as technicians calibrated the over temperature delta T (OTdT) reference setpoint per STS IC-500G, "Channel Calibration DT/Tavg Instrumentation Loop 4," Revision 10. The inspector arrived at the work site during shift turnover and verified that all the test equipment used for the job had current calibration due dates. Additionally, the inspector verified that the equipment was setup in accordance with the procedures. When the oncoming technicians arrived, the inspector noted that the oncoming crew had received an adequate turnover. Prior to starting work, the technicians took time to verify proper equipment setup and interconnections for the next section of the procedure. At different points in the procedure, the technicians recalled past experiences related to those steps that they were preparing to start. From these discussions, the inspector noted that the technicians were knowledgeable of the test. The inspector also noted good communication, good use of procedures and good cross checking practices.

While performing STS IC-204A, the technicians found one data point, the OTdT reference (setpoint) of Data Table 4, out of the acceptable tolerance range. The technicians transitioned into STS IC-500G and corrected the out-of-tolerance condition as directed by the procedures. When the technicians returned to the original procedure, they discussed the effect of the calibration on previously collected data and whether or not they should recheck the previously checked points to ensure that AS-LEFT values were within the acceptance criteria. The inspector noted that the technicians appeared uncertain, and that after discussion, they decided to recheck the AS-LEFT values. All newly acquired values were within the tolerance ranges. The inspector noted that the technicians obtained values that had changed as much as 43 percent of the acceptable tolerance range. The inspector expressed concern with the technicians' apparent uncertainty regarding whether they should recheck the AS-LEFT values after the calibration. The inspector discussed this concern with several different members of the I&C department. The first-line supervisor initially indicated that the technicians had done too much by rechecking the AS-LEFT values. The I&C department supervisor and superintendent stated that they expected the technicians to recheck all of the AS-LEFT values. Administrative Procedure ADM 08-807, "I&C Group Surveillance Testing," Revision 10, Step 5.3.5 stated, "The AS LEFT columns of applicable data tables will be completed such that the AS LEFT condition is clearly documented. It is acceptable to note AS FOUND across the AS LEFT column if no calibration adjustments are made." The inspector expressed concern at the

technicians' apparent uncertainty and the initial response of the first-line supervisor since this was not consistent with senior management's expectations and the procedural requirements. While the technicians fulfilled procedural requirements, this did not appear to be the result of a clear understanding of the requirements but solely as a result of discussions held in the field. The I&C superintendent stated that this concern would be addressed with all involved individuals to ensure that procedural requirements would be met in the future.

4.3 Conclusions

An I&C technician installed a test probe on the output of a signal condition unit rather than the input on the Control Room Pressurization System Train B, thus preventing the heaters from energizing. The inspector expressed concern over this, in that, the licensee scheduled this surveillance when Train B was the only available train of this safety system. I&C technicians and first-line supervision expressed confusion regarding the requirements for rechecking AS-LEFT values following a calibration to correct an out-of-tolerance reading. The remaining observed surveillance testing was well controlled and satisfied TS surveillance requirements.

5 ONSITE ENGINEERING (37551)

The inspectors reviewed and evaluated engineering performance related to selected plant operability and design issues as discussed below.

5.1 SFP Pump B Bearing Failures

On October 30, 1994, SFP Cooling Pump B inboard bearing failed, rendering the only train of SFP cooling inoperable. Twenty-two minutes later, the licensee was able to restore SFP Train A cooling. Mechanical maintenance replaced the bearing and restored the pump to operation. Prior to completing a root cause of failure determination, the bearing failed again on October 5, 1994. Mechanical maintenance repaired the pump again, and worked with engineering to complete a root cause failure determination. By carefully measuring the oil level needed to adequately lubricate the bearing, the licensee determined that the vendor provided inaccurate instructions for setting the Trico oiler. The vendor instructions stated that the oiler height should be 9/16 inches, while engineering determined that the proper oiler level should be 13/16 inches based on adequate oil level in the bearing. The inspector questioned whether any other pumps supplied by the same vendor could be similarly affected. Engineering stated that this had not been considered. The licensee acknowledged the inspector's concern and initiated a review for any other pumps supplied by the same vendor. The inspector concluded that while the initial troubleshooting effort appropriately found the vendor error, engineering failed to consider the broader implications of this discovery.

5.2 Reactor Startup Procedural Weaknesses

On October 30, 1994, the inspector observed the reactor startup using the Reactor Engineering Procedure RXE 01-002, "Reload Low Power Physics Testing," Revision 7. As stated in paragraph 9, the inspector concluded that the reactor startup was well controlled and represented a cautious approach to criticality. The inspector noted that the procedure required an initial determination of pressurizer and reactor coolant boron concentration, but failed to establish any limits on the maximum difference permitted. The inspector also noted that Step 4.22 stated that: "Values given for the various parameters (for example, Flow Rates) are intended to be approximate and for guidance only and shall not be construed as absolutes." The procedure also did not require a test log nor establish any other requirement for the test performer to document deviations from the procedure based on Step 4.22. The inspector expressed concern that this very general statement permitted the test performer to deviate from any value in the procedure without having to document the deviation nor the reason for the deviation. During the reactor startup, Steps 6.3.20 and 6.3.23 required the performer to dilute at a rate of 30 gpm. During the reactor startup on October 30, 1994, the inspector observed the reactor engineer recommend that the dilution rate be reduced to 15 gpm to permit pressurizer and reactor coolant system boron concentrations to equalize. When questioned, the reactor engineer stated management considered this acceptable because of the flexibility permitted by Step 4.22. The reactor engineer did not document this decision nor the basis for it. The licensee stated that while this may be strictly true, management has considerable confidence in the minimum qualification requirements of reactor engineers. The inspector concluded that the flexibility permitted by the procedure and the failure of the procedure to require documentation of permitted deviations constituted a weakness in the guidance provided by the procedure. The licensee stated that a test log would represent an improvement but emphasized that they did not consider the potential procedure weakness to have any impact on nuclear safety.

5.3 System Engineering Involvement

On October 12, 1994, the inspector observed as the licensee performed STS BG-100B, "Centrifugal Charging System B Train Inservice Pump Test," Revision 14. This surveillance was being performed to establish new reference values for future testing of the system. The inspector noted good communication in the field, good communication between the field and the control room, and good use of procedures. Additionally, the inspector noted that system engineering was actively involved throughout the surveillance. The system engineer for the system observed the start of the pump and checked the pump thoroughly as it was running. A different system engineer was conducting the surveillance. The surveillance was completed satisfactorily. The inspector concluded that system engineering involvement during this surveillance was very good.

5.4 Noise Event

During the refueling outage the licensee installed numerous sensors and monitoring equipment in order to capture data on a potential noise event caused by reactor coolant system movement associated with the heatup. During Refueling Outage V, the noise event generated a seismic acceleration of 0.34 g. During Refueling Outage VI, the noise event generated a seismic acceleration of 0.18 g. During this refueling outage, a noise event occurred on October 28, 1994, with an acceleration slightly above 0.05 g. Within hours of the event, the licensee determined that the data collected showed that the energy release caused by this event was bounded by calculations used to bound the previous noise events. The inspector concluded that the licensee preparation for a possible noise event during this outage, and the prompt analysis to bound the event represented good anticipation and good preparation. Following the noise event, the licensee issued a press release and the Vice President Plant Operations placed a hold on restart until engineering completed their report documenting the analysis of the event. The inspector concluded that this hold on plant restart was appropriate.

5.5 Conclusions

Initial troubleshooting effort for the SFP cooling pump bearing failure was good. However, engineering failed to consider broader implications of their findings in that they did not address other pumps that may have had similar problems until questioned by the inspectors. The inspector concluded that Procedure RXE 01-002 had several weaknesses. The procedure allowed the performer to deviate from any value in the procedure without having to document or justify these deviations. Additionally, this procedure required that initial boron concentrations in the pressurizer and the reactor coolant system be measured but did not specify a maximum allowable difference between the two. During STS BG-100B, the inspectors noted that engineering involvement during this surveillance was very good. Licensee preparation for a possible noise event during this outage and prompt analysis to bound the event, represented good anticipation and good preparation. The licensee's decision to place a hold on restart until engineering completed their report on the noise event was conservative and appropriate.

6 PLANT SUPPORT ACTIVITIES (71750)

6.1 Manual Valve Repacking with Improper Protective Clothing

The inspector observed activities associated with repacking Valve BG 8483A, the Coolant Charging Pump A Discharge Valve FC V121 inlet isolation valve, under WR 90000-92 on September 28, 1994. The only HP protective clothing the mechanic wore was a pair of rubber gloves. The mechanic used good mechanical work practices during removal of the installed packing, and carefully contained all of the removed material in a plastic bag. The mechanic immediately passed the bag to the HP technician providing continuous coverage. The HP technician frisked all the removed packing and found contamination on the last ring of packing. The inspector noted that with the removal of the

last ring of packing, the mechanic exposed the contaminated charging system fluid to atmosphere, and therefore, breached the system.

The inspector reviewed the WR, found that the work was properly authorized, and noted adequate instructions regarding work technique and the specification of the replacement packing. The WR specified that RWP 94-2100 would be used for this work.

The inspector reviewed the RWP and determined that it required full protective clothing when working in contaminated areas. The general area around the repacked valve was not established as a contaminated area, but when the last ring of packing was removed from the valve, it was determined to be contaminated, and the charging system, which was open to the atmosphere with the valve packing removed, was contaminated. Procedure RPP 03-505, "Selection of Protective Clothing," Revision 1, required protective clothing to be selected based on actual or expected conditions. Since the work was to breech a known contaminated system, the minimum set of protective clothing for this job was required to be full protective clothing per Radiation Protection Procedure (RPP) 03-505. This observation was discussed with the lead HP technician who had instructed the craftsman to follow the observed practice during the valve repacking. The requirements of the RWP were discussed with the HP technician who agreed that the verbal instructions to the craftsman did not comply with the written requirements of the RWP and RPP 03-505, but believed the instructions were adequate to control any potential contamination given the scope of work. The RWP was revised on September 30, 1994, to be less restrictive in its requirements and allow the HP technician more flexibility in establishing the necessary contamination controls for each circumstance.

Although no contamination control problems were encountered during the observed activity, the inspector concluded that the failure of the activity to be performed in accordance with the requirements of the RWP and RPP 03-505 was the first example of a violation of TS 6.11 (Violation C, 482/9412-03). The licensee responded by initiating PIR 94-1672.

6.2 Good Radiological Controlled Area (RCA) Material Release Practices

The inspector observed that the HP technician monitored hand-carried items to be removed from the RCA in a very conscientious and thorough manner. The technician used an appropriate combination of frisking and smearing to ensure that all released material was free of contamination. The inspector concluded that the technician performed this activity well.

6.3 Contaminated Area Entry With Improperly Worn Protective Clothing

On October 6, the inspectors observed the licensee performed work activities on CCP B. The inspectors noted an operator entering the contaminated area with unzipped coveralls. The operator also failed to tape the rubber gloves and booties to the coveralls. After entering the contaminated area, the operator zipped the coveralls and proceeded to manipulate a valve. The

inspectors questioned the operator as to the RWP activity requirements. The operator explained that the RWP required only a minimum set of protective clothing, which consists of cloth booties, rubber shoe covers, and gloves. After noting that the operator signed RWP 940005, Revision 0, the inspectors asked the lead HP technician about this contaminated area entry. The lead HP technician explained that the RWP allowed a minimum set for a walk-thru and that HP considered this contaminated area entry a walk-thru.
Procedure RPP 02-105, "RWP," Revision 6, Section 9.3.1, stated that: "Protective equipment specified on the RWP is a minimum requirement which all personnel accessing the RWP must comply with, unless otherwise directed so in the special instructions." Procedure RPP 03-505, "Selection of Protective Clothing," Revision 1, Attachment 11.1, note 4, defined a walk-thru as: "walk-thru - contact with contaminated equipment/components is NOT likely and work is NOT performed." Additionally, this attachment required a full set of protective clothing for any activity other than a walk-thru or a reach across in an area of 1,000 to 50,000 Beta/Gamma dpm/100 sq cm of smearable contamination. After further discussions, the HP supervisor of radwaste initiated PIRs 94-1935 and 94-1936. HP further explained, that while the procedures do not require the use of tape, general employee training instructs all employees to tape gloves and booties to the coveralls, and HP expects everyone wearing a full set of protective clothing to use tape.

The inspector concluded that the operator's entry into the contaminated area with improperly donned coveralls to be a violation of the RWP and, therefore, a second example of a violation of TS 6.11 (Violation C, 482/9412-03).

6.4 Chemistry Technician Failed to Follow the Chemistry Procedure

On October 30, 1994, the inspector observed a chemistry technician perform a boric acid concentration titration analysis of a primary sample in accordance with Procedure CHM 02-050, "Determination of Boron (Titration Method)," Revision . Step 9.2.15 of the procedure required the technician to add two scoops of mannitol and five drops of phenolphthalein indicator solution. The inspector observed the technician add three partial scoops of mannitol and an indeterminate amount of phenolphthalein. This failure to follow the procedure is a third example of a violation of TS 6.8.1.a (Violation A, 482/9412-01). The licensee initiated PIR 94-1943 to evaluate and determine corrective actions, and counseled the technician.

6.5 Chemistry Technician Failed to Frisk

On October 30, 1994, the inspector noted that a chemistry technician exited a contaminated area in the primary sample laboratory without frisking, then proceeded to handle objects in presumed clean areas of the laboratory. Procedure AP 25B-100, "Radiation Worker Guidelines," Revision 0, Step 6.6.3, requires radiation workers to perform a hands, feet, and face frisk after exiting a contaminated area. The inspector concluded that this is a third example of a violation of TS 6.11 (Violation C, 482/9412-03). The licensee responded by initiating PIR 94-1938 and counseling the technician.

6.6 Conclusions

The inspectors identified three examples of a violation of TS 6.11. The first two examples dealt with poor dress out practices while working in a contaminated area. The last example identified a poor frisking practice in the chemistry lab. Additionally, the inspector identified an example of a violation of TS 6.8.1.a when a chemistry technician failed to follow the quantitative requirements of a procedure in determining the boric acid concentration of a primary sample. Last, the inspectors noted good practices while observing HP handling of hand carried items exiting the RCA.

7 COMPLEX SURVEILLANCE (61701)

The inspectors observed the following complex surveillance test required by TS to verify that the licensee performed the tests in accordance with TS, utilized sufficient oversight to coordinate the complex activity, used technically adequate procedures, used appropriate test equipment, and properly dispositioned any test results, which failed to meet the acceptance criteria.

7.1 Integrated Diesel Generator and Safeguards Actuation Test - Train A

On October 15-16, 1994, the inspectors observed portions of the preparation for and performance of Surveillance Procedure STS KJ-001A, "Integrated D/G and Safeguards Actuation Test - Train A," Revision 12. The briefing provided prior to the performance of the test was satisfactory. The personnel performing the procedure in the control room were qualified reactor operators who performed the test in accordance with the procedure. Good communication existed within the control room and between the control room and the field. The test supervisor ensured all test performers understood each test sequence prior to proceeding. The inspector noted that the test performers used equipment within the marked calibration period. System engineering and quality control representatives observed the test.

The inspector reviewed the procedure and the test results and verified that the test met the TS requirements identified in the procedure. Both the procedure and the results were found to be complete and satisfactory.

The loss of offsite power in conjunction with a safety injection signal portion of the test was performed satisfactorily with one deficiency of note. ESW self-cleaning strainer driver motor thermal overloads tripped on actuation. The licensee identified the issue as a test deficiency and wrote a WR to troubleshoot and repair the problem. The shift supervisor entered TS Action Statement 3.7.4 until the licensee verified that manually turning the strainer one revolution in the forward and reverse directions eliminated the problem. Once the strainer was verified to function properly again, the licensee closed the WR and the shift supervisor exited TS Limiting Conditions For Operation 3.7.4.

The inspector noted that the same overloads had inexplicably tripped in June 1994. The licensee completed extensive troubleshooting, but could not

identify the root cause for the tripping of the driver motor thermal overloads. They suspected that the root cause was binding inside the strainer as a result of debris lodging under one of the distributor arm seal plates. Engineering observed that turning the strainer manually one revolution in both the forward and reverse directions appeared to eliminate the problem. The corrective action taken was to revise System Operating Procedures SYS OP-001, "Weekly Equipment Rotation and Readings," Revision 3, and SYS EF-201, "ESW Screen Wash and Self Cleaning Strainer Operation," Revision 7, to ensure that the strainer was manually actuated and run for 2-minutes weekly to eliminate any buildup of debris. The engineering disposition titled, "ESW Strainer A Overload," for WR 03181-94, recommended the weekly rotation and further recommended that the strainer be inspected internally at the next available opportunity. No action was taken to enter this recommendation into any tracking system.

The inspector expressed concern regarding the licensee's failure to take further action to identify the root cause and the failure to take actions to implement the system engineer's inspection recommendation to inspect the internals. The licensee asserted, that based on the NRC review of the initial failure documented in NRC Inspection Report 50-482/94-06, paragraph 2.2, the strainer was not required for ESW system operability. The inspector noted that Update Safety Analysis Report, paragraph 9.2.1.2.2.1, described the strainer as a component in this safety-related system, and further noted that the discussion in NRC Inspection Report 50-482/94-06, paragraph 2.2, emphasized the context of the actual environmental conditions at the time of the prior strainer failure. The unexplained tripping of the strainer when it was called upon to function raised questions regarding its operability. While the inspector acknowledged that this strainer would not be required at all times for the ESW system to perform its safety function, the self-cleaning function of the strainer may be required for the system to perform its safety function during certain environmental conditions. At the conclusion of the inspection period, the licensee acknowledged that no documented plans existed for further corrective action for this strainer failure.

Attachment 2 of Procedure KGP-1210, "Performance Improvement Requests," Revision 10, identified the failure of a safety-related piece of equipment to perform its intended safety function on demand or as expected as significant. Procedure KGP-1201, "Corrective Action," Revision 1, required that a Performance Improvement Request (PIR) be initiated to determine the cause and corrective actions to prevent recurrence for significant hardware failures. The inspector concluded that the failure to initiate a PIR was a fourth example of a violation of TS 6.8.1.a (Violation A, 482/9412-01).

7.2 Conclusions

The inspector identified a violation when the licensee failed to initiate a PIR following a repeat failure of an ESW strainer. The complex surveillance observed was performed in an adequate manner with good communication and supervisory oversight.

8 REFUELING ACTIVITIES (60710)

8.1 Observed Refueling Activities

The inspectors observed activities associated with refueling activities. Specifically, the inspectors observed the removal and reinstallation of several fuel assemblies from the core and their subsequent movement through the transfer canal. Contractor personnel performed the core alterations under the direct supervision of a licensed senior reactor operator. The supervisor maintained an appropriate level of involvement in ongoing activities. The inspector noted continuous communications with the control room as required by TS 3.9.5, and also noted the audible indication of source range nuclear instrumentation as required by TS 3.9.2. The contractors performing the refueling equipment manipulations and fuel movements were attentive to indications on the fuel handling machine regarding status and position indicating lights as well as load readings from the refueling mast load cell. HP technicians appropriately posted the reactor cavity as a contaminated area. Workers used tied off safety harnesses when not on the bridge. Workers also tied off or taped safety glasses, dosimetry, and other small items required to perform the refueling to prevent these items from dropping into the reactor cavity.

On September 27, 1994, while observing fuel offloading, the inspector observed what appeared to be a piece of foreign material on the edge of the core barrel, and pointed it out to the senior reactor operator in charge of fuel handling. The senior reactor operator looked at the object with a pair of binoculars, contacted reactor engineering and continued offloading fuel. Shortly thereafter, the workers moved the fuel assembly closest to the object. After the offloading was complete, the licensee performed their scheduled foreign object search and retrieval procedure. During the foreign object search and retrieval, the licensee took a closer look at the object and identified it as a piece of Q-tape (clear with fibers). They then retrieved and examined the tape and concluded that due to its physical characteristics, it could not have been in the vessel during the previous cycle and probably washed into the vessel during reactor vessel and refueling cavity flooding. However, the licensee also stated that no tape of this type was known to have been used in the area. The inspector concluded that the failure of the licensee to identify and remove the foreign object prior to moving the adjacent fuel assembly increased the likelihood of moving it further into the vessel and was, therefore, a poor practice. The licensee initiated PIR 94-1682 for review of this matter.

8.2 Conclusions

The observed refueling activities were well conducted and supervised. The contractors appeared experienced and knowledgeable operating the refueling equipment. Appropriate radiological and safety precautions were implemented by the personnel involved and TS requirements were met. The licensee's failure to identify and remove foreign material from the reactor was a poor practice.

9 RESTART FROM REFUELING (71711)

9.1 Reactor Physics Testing

The inspector walked down portions of the Charging Train B, Safety Injection Train B, and AFW systems. The inspector found system valves in the proper position with locking devices where needed. The inspector noted that housekeeping had degraded in the CCP B and Safety Injection Pump B rooms, but not to the extent to impact system operability. This observation included such items as a valve locking chain on the floor under a valve, numerous tools left on and near the pump skids, a valve packing washer left on a support, a welding hood and brackets left on a room cooler, and bags of material left in the room.

The inspector observed the reactor startup on October 30, 1994. The shift supervisor and supervising operator used good command and control techniques, and the reactor operators used good communication techniques, especially during rod movement. The inspector noted reactor startup procedural weaknesses as described in paragraph 5.2. Despite these weaknesses, the inspector concluded that operators controlled the restart well, conducting a cautious approach to criticality. During the startup, the shift supervisor periodically questioned the operators to ensure that they were continuously anticipating criticality, and considering appropriate contingency actions.

On October 31, 1994, inspectors observed as reactor engineering and operations personnel performed rod worth calculations. The task was completed in accordance with Procedure RXE 01-002. The reactor engineer and contractor supervising the activities and taking the data were knowledgeable on the procedure. The inspectors noted good communication between the supervisor and the operator controlling the rods and that the operator was briefed before proceeding on to each new step. All involved were noted to use good self-checking techniques.

9.2 Conclusions

The inspector concluded that operators controlled the restart well, conducting a cautious approach to criticality. The personnel who accomplished the necessary tasks used appropriate procedures and good communication and self checking techniques.

10 FOREIGN MATERIAL EXCLUSION CONTROLS (2515/125)

The objective of this inspection was to ensure that the licensee had implemented effective procedures to prevent foreign material from inadvertently entering safety systems during maintenance activities, outages, and routine operations.

10.1 Foreign Material Exclusion

The inspector reviewed the following procedures that dealt with foreign material exclusion: Administrative Procedures ADM 01-110, "Housekeeping Control," Revision 13; ADM 01-034, "Internal/External System Cleanliness," Revision 14; and FHP 02-004, "Refueling Cavity Exclusion Area," Revision 3. Although these procedures outlined an adequate program to prevent the introduction of foreign materials into safety systems, two weaknesses were identified. The first was the failure of the reviewed procedures to provide guidance on action to be taken when foreign material is identified in a safety system. This allowed the foreign material (Q-tape) identified in the reactor in Section 7 of this report to remain in place after being pointed out. The exclusion area boundary also failed to perform its function, in that, it allowed the piece of tape to enter the fuel pool and settle on the core barrel. The results of a review by the licensee documented in PIR 94-1682 indicated that the event was isolated and that no corrective action was required.

The second possible weakness was the lack of guidance in the procedures on meeting the requirement to track personnel accountability within exclusion zones and the possible reliance on existing personnel tracking devices (local card readers or radiation work permits, for example). Although the inspector did not identify any events where this had caused a problem, PIR 94-1852 questioned the adequacy of the procedures instruction on maintaining accountability within an exclusion area. PIR 94-1851 identified a separate problem with the exclusion area around Diesel Generator B during bearing maintenance. The exclusion area was set up so that workers could not access the west side of the engine to work if they entered at the manned entrance.

In addition to the PIRs referenced above, the inspector reviewed all PIRs that dealt with foreign material exclusion from the last year. There were a number of instances where individuals failed to follow procedures. During inspections of the fuel building and reviews of material control logs on December 9, 1993 (PIR 93-1624), July 13, 1994 (PIR 94-1200), July 19, 1994 (PIR 94-1225), and October 14, 1994 (PIR 94-1781), the quality assurance group identified numerous clear plastic articles stored in lockers and items that were logged into the exclusion area around the SFP were not logged out. To prevent repeat occurrences, prior to Refuel Outage VII, discussions were held with work group supervisors to stress the need to follow housekeeping procedures and to require that they review their work site at the end of the job to ensure housekeeping requirements were met. These earlier corrective actions were not fully effective in that the problems were identified again in PIR 94-1781 toward the end of the outage.

The inspectors toured containment on October 26, 1994, to determine whether foreign material exclusion was a concern. The plant was in Mode 4 and the licensee was in the process of removing the remainder of the equipment and debris from Refuel Outage VII. The inspector noted that housekeeping was good. Inspection of the containment recirculation sump verified that it was

free of debris and that the screen material was in good condition. No foreign material exclusion concerns were identified.

10.2 Conclusions

The program for foreign material exclusion was found to be adequate with some procedural weaknesses noted. These dealt with the control of exclusion areas, direction requiring expedient identification and removal of foreign material found, and lack of direction in maintaining personnel accountability. Recent PIRs also highlighted a continuing problem in following the procedures in the area of material control.

11 LER REVIEWS - ONSITE (92700)

The inspectors reviewed the following LERs for accuracy; effective root cause determination, reasonable safety analysis, and appropriate corrective action. The inspectors verified the completion of corrective actions described in the LER on a sampling basis to provide assurance of the completion of corrective actions.

11.1 (Closed) LER 482/94-009: Positive Reactivity Addition Without an Operable Boron Injection Flow Path

On September 18, 1994, the licensee made a positive reactivity addition by adding hydrogen peroxide to the reactor coolant system for the purpose of initiating a crud burst. Later, the licensee discovered that this occurred without an operable boron injection flow path as required by TS 3.1.2.3. After the 24 hour EDG A surveillance run, the licensee discovered that the overspeed trip limit switch was loose and could have tripped the EDG during a seismic event. This condition was not discovered until after the hydrogen peroxide addition. The licensee tagged out CCP B as required by TS 3.1.2.3 for cold overpressure protection, and the loose overspeed limit switch rendered EDG A inoperable as an emergency power source for CCP A. As a result, no operable boron injection flow path was available as required by TS 3.1.2.3. The licensee's root cause investigation determined that the loose overspeed trip limit switch was a result of normal vibration from the diesel operation during the 24-hour operability test. This vibration caused the screws to disengage and, therefore, allowed the limit switch to move freely. The licensee's corrective actions were to replace the loose limit switch and coat the retaining screws on the new limit switch with locking compound to prevent disengagement during normal diesel operation. Additionally, the licensee inspected the overspeed trip limit switch for EDG B, found that it appeared normal, and coated its retaining screws with locking compound. The inspector concluded that the licensee's corrective actions appeared appropriate to prevent recurrence.

11.2 (Closed) LER 482/94-012: Failure To Correctly Calibrate Refueling Machine Load Monitor

On September 25, 1994, the licensee began core offload with the refueling machine load monitor incorrectly calibrated such that the automatic overload cutoff was set 100 pounds in the nonconservative direction. At the time of discovery, 11 heavy fuel assemblies had been moved without an automatic load cutout set 250 pounds above the weight of the assembly as required by TS 3.9.6. The licensee determined that the cause of the event was an unclear surveillance procedure and personnel misunderstanding the requirements for field calibration of the load monitor. The licensee stopped core alterations, inspected all 11 assemblies and found no damage, recalibrated the load monitor, and enhanced the applicable procedure. The inspector concluded that the corrective actions appeared appropriate to prevent recurrence.

ATTACHMENT 1

1 PERSONS CONTACTED

N. S. Carns, President and Chief Executive Officer
T. A. Conley, Superintendent, Radiation Protection
M. K. Covey, Shift Engineer
T. M. Damashek, Supervisor, Regulatory Compliance
R. D. Flannigan, Manager, Regulatory Services
D. E. Gerrelts, Superintendent, Instrumentation and Control
R. N. Johannes, Chief Administrative Officer
R. E. Kopecky, Shift Supervisor
W. M. Lindsay, Manager, Performance Assessment
O. L. Maynard, Vice President Plant Operations
P. M. Martin, Superintendent, Operations
B. T. McKinney, Manager, Operations
T. S. Morrill, Manager, Quality Control
W. B. Norton, Manager, Nuclear Engineering
F. T. Rhodes, Vice President Engineering
C. E. Rich, Jr., Superintendent Electrical Maintenance
R. L. Sims, Supervisor, Operations Support
J. D. Weeks, Assistant to Vice President Plant Operations
S. G. Wideman, Supervisor, Licensing
M. G. Williams, Manager, Plant Support

The above licensee personnel attended the exit meeting. In addition to the personnel listed above, the inspectors contacted other personnel during this inspection period.

2 EXIT MEETING

An exit meeting was conducted on November 7, 1994. During this meeting, the inspectors reviewed the scope and findings of the report. The licensee did not identify as proprietary any information provided to, or reviewed by, the inspectors.

ATTACHMENT 2

ACRONYMS

AFW	auxiliary feedwater
CCP	centrifugal charging pump
CCW	component cooling water
DC	direct current
EDG	emergency diesel generator
ESW	essential service water
gpm	gallons per minute
HP	health physics
I&C	instrumentation and control
LER	licensee event report
OTdT	over temperature delta T
PIR	performance improvement request
PMR	plant modification request
RCA	radiologically controlled area
RHUT	recycle hold up tank
RPP	radiation protection procedures
RWP	radiation work permit
SFP	spent fuel pool
TS	Technical Specifications
WR	work request

WOLF CREEK
NUCLEAR OPERATING CORPORATION

December 30, 1994

Otto L. Maynard
Vice President Plant Operations

WO 94-0221

6

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Mail Station P1-137
Washington, D. C. 20555

Reference: Letter dated November 16, 1994, from A. B. Beach, NRC, to N. S. Carns, WCNOC
Subject: Docket No. 50-482: Reply to Notices of Violation 482/9412-01, -02 and -03

Gentlemen:

Attached is Wolf Creek Nuclear Operating Corporation's (WCNOC's) Reply to Notices of Violation 482/9412-01, -02, and -03 which were documented in the Reference (NRC Inspection Report 50-482/9412).

Violation 482/9412-01 concerned four examples of WCNOC personnel failure to follow procedures. Violation 482/9412-02 concerned two examples of WCNOC's failure to ensure personnel adhered to the policy on the use of overtime. Violation 482/9412-03 concerned three examples of WCNOC's failure to correctly implement the Radiation Protection Program.

WCNOC's response to these Notices of Violation is in the Attachment to this letter. The corrective actions for these violations are comprehensive and will ensure WCNOC's compliance with the applicable regulations and procedure requirements.

If you should have any questions regarding this response, please contact me at (316) 354-8831, extension 4450, or Mr. R. D. Flannigan at extension 4500.

Very truly yours,

Otto L. Maynard

OLM/jad

Attachment

cc: L. J. Callan (NRC), w/a
D. D. Chamberlain (NRC), w/a
J. F. Ringwald (NRC), w/a
J. C. Stone (NRC), w/a

'95-0025

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P.O. Box 411 / Burlington, KS 66839 / Phone (316) 364-8831

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Reply to Notices of Violation 9412-01, -02, [illegible] -03

Violation 482/9412-01: Failure to follow procedure.

"A. Technical Specification 6.8.1.a states, in part, that written procedures shall be established and implemented covering the applicable procedures recommended in Appendix A of Regulatory Guide 1.33, Revision 2.

(1) Regulatory Guide 1.33, Appendix A, Section 7.a, requires procedures covering the liquid radioactive waste system. Procedure SYS HE-201, "Boron Recycle Holdup Tank Operations," Revision 9, Step 4.4.1, requires that the operator perform Section 4.2 for proper system alignment for recycling and sampling to transfer water from the Recycle Holdup Tank B to the spent fuel pool.

Contrary to the above, on September 30, 1994, an operator failed to perform Section 4.2 of Procedure SYS HE-201, and thereby incorrectly transferred unsampled Recycle Holdup Tank A to the spent fuel pool instead of Tank B as planned.

(2) Regulatory Guide 1.33, Appendix A, Section 1.c, requires administrative procedures covering equipment control. Administrative Procedure ADM 02-102, "Control of Locked Component Status," Revision 28, Step 4.12, requires that all valves required to be locked be rechecked prior to entry into Mode 4.

Contrary to the above, on October 26, 1994, Valve BB V0149 was found inadequately locked such that it could be repositioned without removing the locking device.

(3) Regulatory Guide 1.33, Appendix A, Section 10, requires procedures covering chemical and radiochemical control. Chemistry Procedure CHM 02-050, "Determination of Boron (Titration Method)," Revision 6, Step 9.2.15, requires that two scoops of mannitol and five drops of phenolphthalein be added to the sample container in preparation for the titration.

Contrary to the above, on October 30, 1994, a chemistry technician added three partial scoops of mannitol and an indeterminate amount of phenolphthalein to the sample container.

(4) Regulatory Guide 1.33, Appendix A, Item 1.d, requires administrative procedures to address procedure adherence. Procedure AP 15C-002, "Procedure Use and Adherence," Revision 0, Section 6.3.4, requires that the intent and direction provided in the procedure be followed during the course of activities. Attachment 2 of Procedure KGP 1210, "Performance Improvement Requests," Revision 10, identifies the failure of a

safety-related piece of equipment to perform its intended safety function on demand or as expected is significant. Procedure KGP-1201, "Corrective Action," Revision 1, requires that a Performance Improvement Request (PIR) be initiated to determine the cause and corrective actions to prevent recurrence for significant hardware failures.

Contrary to the above, on October 16, 1994, Essential Service Water Self-Cleaning Strainer A, a safety-related component, failed to operate when the drive motor thermal overloads tripped on actuation and a PIR was not initiated."

Admission of Violation:

The Wolf Creek Nuclear Operating Corporation (WCNOC) agrees with the above noted violations.

Reason for Violation:

Root cause:

Example # 1:

The root cause for this example is cognitive personnel error, in that, the operator failed follow procedure step 4.2.

Example # 2:

The root cause for this example is cognitive personnel error, in that, the individual who secured and locked Valve BB V0149, failed to apply good self checking practices. The individual should have verified the chain was correctly run and that the slack was removed, prior to securing the valve and leaving the area.

Example # 3:

The root cause for this example is cognitive personnel error, in that, the individual did not perform the titration as required by the procedure.

Example # 4:

The root cause for this example is cognitive personnel error, in that, the individual did not initiate a Performance Improvement Request (PIR) for the ESW Strainer failure as required by the WCNOC Corrective Action Program.

The root cause for the generic aspects of the above noted examples is inconsistent enforcement of Management's expectations to all plant personnel.

Contributing Factors:

A contributing factor to generic aspects of this violation is the failure on the part of WCNOC to develop clearly defined consequences for procedure non-compliance problems.

Corrective Steps Taken and Results Achieved:

PIR 94-1675 was initiated to address the specific aspects of the first example. Procedure SYS HE-201 was revised. This revision clarified the requirements for placing the "B" tank in recirculation.

PIR 94-1911 was initiated to address the specific aspects of the second example. The chain on Valve BB V0149 was repositioned and correctly secured. The individual who locked Valve BB V0149 was counseled by the Shift Supervisor.

PIR 94-1943 was initiated to address the specific aspects of the third example. The individual who failed to follow procedure CHM 02-050 was counseled on the need for verbatim procedural compliance. PIR 94-1943 was placed in Chemistry Required Reading to make all Chemistry personnel aware management's expectations on procedural compliance. Chemistry personnel were notified at the weekly chemistry meeting (on November 23, 1994) to identify other procedural enhancements, that were needed, and that any procedural problem that prevented a task from being completed must be corrected prior to performing the task.

PIR 94-2116 was initiated to address the specific aspects of the fourth example.

QA 94-2133 was initiated to address the generic aspects of this violation. As a result the following corrective actions were implemented.

Corrective Steps That Will Be Taken to Avoid Further Violations:

WCNOC Management will communicate its expectation-consequence standard to all plant personnel. This action will be completed by January 30, 1995.

WCNOC will set aside a day dedicated to the subject of the "Use Of Procedures." During this day, there will be meetings with all groups where the Vice President Plant Operations reemphasize what management's expectations for the use of procedures and review the disciplinary actions for failure to follow procedure.

Managers and supervisors will meet with their people to review the procedures they frequently use to ensure everyone is aware of what the requirements are in the procedures. Additionally, management's expectations will be discussed to ensure plant personnel have a clear understanding of management's expectations. During these meetings the disciplinary policy will be reviewed to ensure all personnel have a clear understanding of the consequences of not following procedures.

The Vice President Operations has established a "Topic Of The Week" program. This program will focus management attention on procedures which personnel have experienced problems following properly. This program will be used as long as it is deemed appropriate by plant management. The implementation of this program is considered by WCNOC as an enhancement to the operation of the station and not as a regulatory commitment.

Date When Full Compliance Will Be Achieved:

Full compliance with Technical Specification 6.8.1.a has been achieved. Corrective actions to prevent recurrence of the problem will be completed by January 30, 1995.

Violation 482/9412-02: Concerned two examples of WCNOC's failure to assure personnel adhered to its policy on the use of overtime.

"B. Technical Specification 6.2.2.f. requires that the amount of overtime worked by unit staff members performing safety-related functions shall be limited in accordance with the NRC Policy Statement on work hours (Generic Letter No. 82-12). Generic Letter No. 82-12 states that individuals should not be permitted to work more than 24 hours in 48 hours or 72 hours in 7 days.

Contrary to the above, on October 13, and October 19, 1994, operators worked in excess of the Technical Specifications guidelines without authorization in that a refueling SRO worked 12 hours in excess of 72 hours in 7 days and a licensed operator performing valve lineups in the containment exceeded 24 hours in 48 hour period."

Admission of Violation:

WCNOC agrees with the above noted violations.

Reason for Violation:

Root cause:

Example # 1:

The root cause for this example is cognitive personnel error, in that, the Operations Supervisor within the Wolf Creek Outage Control Center failed to communicate to his relief and to the individual the limits of the working hours extension, and the individual involved did not verify the hours authorized prior to commencing work.

Example # 2:

The root cause for this example is cognitive personnel error, in that, the Operations Supervisor and the individual involved thought that by being sent home and directed to return later that evening the working day was reset, consequently no authorization to exceed working hours was required or requested.

Contributing Factors:

Review of previous violations of working hour limits indicates that the greatest potential for exceeding working hour limits occur during refueling outages. When workers are scheduled for consecutive 12 hour shifts any holdover can cascade to cause the 24 hour in a 48 hour period to be exceeded.

Corrective Steps Taken and Results Achieved:

Several actions have been taken which helped prevent WCNOC personnel from exceeding the working hour limits. These included periodic reinforcement of

the working hour policy by management, placing the working hours limits in the General Employee Training, and listing the working hour limits in the Refueling VII Outage Handbook. These actions were not totally effective and the following was also done:

PIR 94-1770 was initiated to address the specific aspects of the first example. The individual involved was aware of the working hour limitation and, in fact, initiated a request to get approval to exceed the administrative limit. However, due to an inaccurate estimate of the number of hours to complete the assigned task and a miscommunication between the individual and his supervisor and the on-coming supervisor during the shift change, the individual worked more hours than approved. Upon discovery the approval was received. This PIR was placed in Operation's required reading to ensure all personnel, including supervisors, are aware of the circumstances of the event.

PIR 94-1842 was initiated to address the specific aspects of the second example. The Operations Outage Manager failed to recognize the effect on exceeding working hour guideline on an individual working a partial shift, returning home for a rest period and then returning later to work an entire shift, in the same 24 hour period. The individual involved also failed to recognize the impact of working a partial shift followed by a full shift. Since another working hour incident had recently occurred and was being routed in required reading, an electronic mail message was sent to all Operation's personnel emphasizing the importance of complying with working hour guidelines. The individual who failed to comply with the policy on working hours was counseled by his Shift Supervisor on the importance of following administrative procedures.

These are the only instances of the individuals involved exceeding working hour requirements. All individuals were aware of the policy requirements on working hours.

PIR 94-2135 was initiated to address the generic aspects of this violation. As a result, the following corrective actions were implemented.

Procedure ADM 01-023, "Guidelines For WCGS Staff Working Hours" was revised and re-issued as AP 13-001, Revision 0, "Guidelines For WCGS Staff Working Hours." The revision included adding a section on responsibilities. Specifically, Step 5.3 requires that all personnel are responsible for being cognizant of their hours worked, complying with the work hour limitations of the procedure and informing their supervisor that an overtime assignment may violate the requirements of this procedure. Managers and supervisors were notified concerning the changes to this procedure. Additionally, information concerning this procedure and individual responsibilities were published in a weekly publication available to all personnel.

Integrated Plant Scheduling has included in the outage preparation program a need to reinforce the working hour policy. In addition to listing the working hour limits in the outage handbook, prior to each outage, the policy statement on working hours and management's expectations will be issued to all outage personnel.

Management will continue to reinforce the working hour policy by periodically issuing policy statements reviewing the working hour limitations and management's expectations that all personnel will be personally responsible for ensuring they do not exceed the limits.

Procedure compliance was addressed in PIR 94-2133. This PIR was issued to address the generic aspects of Notice Of Violation 482/9412-01.

The "Guideline For WCGS Staff Working Hours" procedure will be the "Topic Of The Week" during the week of March 20, 1995.

Date When Full Compliance Will Be Achieved:

Full compliance with Technical Specification 6.2.2.f has been achieved.

Violation 482/9412-03: Concerned three examples of WCNOC's failure to correctly implement its Radiation Protection Program.

"C. Technical Specification 6.11 states that procedures for personnel radiation protection shall be prepared consistent with the requirements of 10 CFR 20 and shall be approved, maintained, and adhered to for all operations involving personnel radiation exposures.

(1) Radiation Protection Procedure RPP 02-105, "RWP [Radiation Work Permit]," Revision 6, Step 9.3.1, states that the protective equipment specified on the radiation work permit is to be per Procedure RPP 03-505, "Selection of Protective Clothing," Revision 1. Procedure RPP 03-505 requires protective clothing to be selected based on the known or expected contamination levels in the work area. Radiation Work Permit 941200, Revision 0, requires a full set of protective clothing for access to contaminated areas.

Contrary to the above, on September 28, 1994, a licensee employee removed contaminated packing from a valve in a known contaminated system without wearing a full set of protective clothing.

(2) Procedure RPP 02-105, "RWP," Revision 6, Step 9.3.1, states that the protective equipment specified on the RWP is a minimum requirement, which all personnel accessing the RWP must comply with.

Radiation Work Permit 940005, Revision 0, requires a full set of protective clothing for contaminated access.

Contrary to the above, on October 6, 1994, a licensee employee accessed a contaminated area in centrifugal charging pump room B without a full set of protective clothing in that the coveralls were not zipped up prior to entry.

(3) Procedure AP 25B-100 "Radiation Worker Guidelines," Revision 0, Step 6.6.3, requires radiation workers to perform a hands, feet, and face frisk after exiting a contaminated area.

Contrary to the above, on October 30, 1994, a chemistry technician failed to frisk after exiting a contaminated area." [This involved an individual reaching across a radiological control area boundary to manipulate a valve.]

Admission of Violation:

WCNOC agrees with the above noted violations.

Reason for Violation:

Root cause:

Example # 1:

The root cause for this example is cognitive personnel error, in that, the Health Physics Technician failed to follow the Radiation Work Permit (RWP) revision requirements set forth in procedure RPP 02-105, Revision 6, "RWP." WCNOC's Health Physics Program allows the Health Physics Technician to reduce protective requirements, when the environmental conditions permit, as long as the RWP is revised to reflect the reduction.

Example # 2:

Although the environmental conditions did not warrant, nor did the RWP require plant personnel to don coveralls the operator voluntary elected to use coveralls. The root cause for this example is cognitive personnel error, in that, the individual contrary to the WCNOC Health Physics Program, failed to correctly wear the coveralls.

Example # 3:

The root cause of this example is an inadequate procedure, in that, procedure AP 25B-100 did not address frisking requirements for a reach across situation as described in the above noted example.

Corrective Steps Taken and Results Achieved:

PIR 94-1672 was initiated to address the specific aspects of the first example.

PIR 94-1936 was initiated to address the specific aspects of the second example. PIR 94-1936 was placed in the Operations Required Reading Program. This action was taken to familiarize personnel with the event and the requirement to don protective clothing correctly.

PIR 94-1938 was initiated to address the specific aspects of the third example.

PIR 94-2134 was initiated to identify the above noted concerns, to insure a root cause evaluation for the above noted concerns was performed, and to assure corrective actions to prevent recurrence were implemented.

PIR 94-2134 was placed in the Health Physics Required Reading Program. This action was taken to familiarize personnel with the events, their root causes, and the corrective actions implemented to prevent recurrence.

Corrective Steps That Will Be Taken to Avoid Further Violations:

Procedure AP 25B-100, "Radiation Worker Guidelines" will be revised. This revision will clarify the frisking requirements for reach across situations. This revision will be completed by January 30, 1995.

The Vice President Operations has established a "Topic Of The Week" program. This program will focus management attention on procedures which personnel have experienced problems following properly. This program will be used as long as it is deemed appropriate by plant management. The implementation of this program is viewed by WCNOC as an enhancement to the operation of the station and not as a regulatory commitment.

During the week of January 9, 1995, various procedures associated with Radiation Worker Practices will be the "Topic Of The Week." These events and similar events will be discussed.

Date When Full Compliance Will Be Achieved:

Full compliance with Technical Specification 6.11 has been achieved. Corrective actions to prevent recurrence of the problem will be completed by January 30, 1995.

NUCLEAR REGULATORY COMMISSION
REGION IV
611 RYAN PLAZA DRIVE, SUITE 400
ARLINGTON, TEXAS 76011-8064

JAN 24 1995

Wolf Creek Nuclear Operating Corporation
ATTN: Neil S. Carns, President and
Chief Executive Officer
P.O. Box 411
Burlington, Kansas 66839

SUBJECT: NRC INSPECTION REPORT 50-482/94-12

Thank you for your letter of December 30, 1994, in response to our letter and Notice of Violation of December 1, 1994.

Based on our review of your response, we have no further questions at this time on your proposed corrective actions. We will review the implementation of these actions during a future inspection to ensure they have been effective in precluding future noncompliance.

Sincerely,

Dwayer

for A. Bill Beach, Director
Division of Reactor Projects

Docket: 50-482
License: NPF-42

Wolf Creek Nuclear Operating Corp.
ATTN: Vice President Plant Operations
P.O. Box 411
Burlington, Kansas 66839

Shaw, Pittman, Potts & Trowbridge
ATTN: Jay Silberg, Esq.
2300 N Street, NW
Washington, D.C. 20037

U.S. Nuclear Regulatory Commission
ATTN: Regional Administrator, Region III
801 Warrenville Road
Lisle, Illinois 60532-4351

Wolf Creek Nuclear Operating Corp.
ATTN: Manager Regulatory Services
P.O. Box 411
Burlington, Kansas 66839

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Missouri Public Service Commission
ATTN: Assistant Manager
Energy Department
P.O. Box 360
Jefferson City, Missouri 65102

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

Office of the Governor
State of Kansas
Topeka, Kansas 66612

Attorney General
Judicial Center
301 S.W. 10th
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Topeka, Kansas 66612-1597

County Clerk
Coffey County Courthouse
Burlington, Kansas 66839-1798

Kansas Department of Health
and Environment
Bureau of Air & Radiation
ATTN: Public Health Physicist
Division of Environment
Forbes Field Building 283
Topeka, Kansas 66620

NUCLEAR REGULATORY COMMISSION
REGION IV
611 RYAN PLAZA DRIVE, SUITE 400
ARLINGTON, TEXAS 76011-8064

Wolf Creek Nuclear Operating Corporation
ATTN: Neil S. Carns, President and
Chief Executive Officer
P.O. Box 411
Burlington, Kansas 66839

SUBJECT: NRC INSPECTION REPORT 50-482/95-05 AND NOTICE OF VIOLATION

This refers to the inspection conducted by Mr. J. F. Ringwald and Ms. J. L. Dixon-Herrity of this office on March 12 through April 22, 1995. The inspection included a review of activities authorized for your Wolf Creek Generating Station facility. At the conclusion of the inspection, the findings were discussed with those members of your staff identified in the enclosed report.

Areas examined during the inspection are identified in the report. Within these areas, the inspection consisted of selective examinations of procedures and representative records, interviews with personnel, and observation of activities in progress. The purpose of the inspection was to determine whether activities authorized by the license were conducted safely and in accordance with NRC requirements.

Based on the results of this inspection, certain licensed activities appeared to be in violation of NRC requirements, as specified in the enclosed Notice of Violation (Notice). Violation A resulted from two failures of your personnel to follow your surveillance test procedures. We are concerned by the first event because a licensed operator did not exercise sufficient care to distinguish between Panels RP332 and RP333 during surveillance testing. We are concerned by the second event because technicians failed to exercise sufficient care to perform only the steps specified during a partial surveillance test performance.

Violation B resulted from improper maintenance causing a locked high radiation area door to be unlocked for a period of approximately 4 hours. While Violation B was identified by your staff, it is being cited because the conditions for enforcement discretion as given in 10 CFR Part 50, Appendix B, Section VII.B.(2) were not satisfied with regard to comprehensive corrective actions in that you did not plan to perform a detailed root cause determination until after the inspector questioned your evaluation of the event. No response to this violation is required because of your self-identification and the corrective actions implemented.

You are required to respond to this letter and should follow the instructions specified in the enclosed Notice when preparing your response. In your response, you should document the specific actions taken and any additional actions you plan to prevent recurrence. Your response may reference or include previous docketed correspondence, if the correspondence adequately addresses the required response. After reviewing your response to this

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Notice, including your proposed corrective actions and the results of future inspections, the NRC will determine whether further NRC enforcement action is necessary to ensure compliance with NRC regulatory requirements.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter, its enclosure(s), and your response will be placed in the NRC Public Document Room (PDR). To the extent possible, your response should not include any personal privacy, proprietary, or safeguards information so that it can be placed in the PDR without redaction. However, if you find it necessary to include such information, you should clearly indicate the specific information that you desire not to be placed in the PDR and provide the legal basis to support your request for withholding the information from the public.

The responses directed by this letter and the enclosed Notice are not subject to the clearance procedures of the Office of Management and Budget as required by the Paperwork Reduction Act of 1980, Pub. L. No. 96.511.

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

Sincerely,

P.H.Bayer

for A. Bill Beach, Director
Division of Reactor Projects

Docket: 50-482
License: NPF-42

Enclosures:
1. Notice of Violation
2. NRC Inspection Report
   50-482/95-05

cc w/enclosures:
Wolf Creek Nuclear Operating Corp.
ATTN: Vice President Plant Operations
P.O. Box 411
Burlington, Kansas 66839

Shaw, Pittman, Potts & Trowbridge
ATTN: Jay Silberg, Esq.
2300 N Street, NW
Washington, D.C. 20037

U.S. Nuclear Regulatory Commission
ATTN: Regional Administrator, Region III
801 Warrenville Road
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Wolf Creek Nuclear Operating Corp.
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Missouri Public Service Commission
ATTN: Assistant Manager
Energy Department
P.O. Box 360
Jefferson City, Missouri 65102

Kansas Corporation Commission
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301 S.W. 10th
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County Clerk
Coffey County Courthouse
Burlington, Kansas 66839-1798

Kansas Department of Health
and Environment
Bureau of Air & Radiation
ATTN: Public Health Physicist
Division of Environment
Forbes Field Building 283
Topeka, Kansas 66620

ENCLOSURE 1

NOTICE OF VIOLATION

Wolf Creek Nuclear Operating Corporation
Wolf Creek Generating Station

Docket: 50-482
License: NPF-42

During an NRC inspection conducted March 12 through April 22, 1995, two violations of NRC requirements were identified. In accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions," 10 CFR Part 2, Appendix C (Enforcement Policy), the violations are listed below:

A. Technical Specification 6.8.1.a states, in part, that written procedures shall be established and implemented covering the applicable procedures recommended in Appendix A of Regulatory Guide 1.33, Revision 2.

Regulatory Guide 1.33, Appendix A, Section 8, requires procedures for performing surveillance tests.

(1) Surveillance Procedure STS-IC-618B, "Slave Relay Test K618B Train B Safety Injection," Revision 11, Step 8.1.3, requires that Fuse Block FU42 be removed from Auxiliary Relay Panel RP333 prior to proceeding with the surveillance test.

Contrary to the above, on April 17, 1995, operators failed to perform Step 8.1.3 of Surveillance Procedure STS IC-618B, resulting in the test tripping of the only operating condenser air removal pump.

(2) Administrative Procedure AP 15C-002, "Procedure Use and Adherence," Revision 2, Step 6.6.7, permits procedure cover sheets to be annotated to direct the performance of specified sections of a surveillance procedure.

Contrary to the above, on April 18, 1995, instrument and controls technicians replacing Card BBTY0421L completed Step 5.3.20 of Surveillance Procedure STS IC-500E, "Channel Calibration DT/TAVG Instrumentation Loop 2," Revision 12, a step not specified to be performed on the cover sheet.

This is a Severity Level IV violation. (Supplement I) (482/9505-01)

B. Technical Specification 6.12.2 requires that areas accessible to personnel with radiation levels greater than 1000 mR/h at 45 cm (18 inches) from the radiation source be provided with locked doors to prevent unauthorized entry.

Contrary to the above, on January 10, 1995, Radwaste Building Door 74021 was found unlocked when it was posted as a locked high radiation area

boundary and could have permitted unauthorized entry into an area with radiation levels greater than 1000 mR/h at 45 cm.

This is a Severity Level IV violation. (Supplement I) (482/9505-03)

Pursuant to the provisions of 10 CFR 2.201, Wolf Creek Nuclear Operating Corporation is hereby required to submit a written statement or explanation to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, D.C. 20555 with a copy to the Regional Administrator, Region IV, 611 Ryan Plaza Drive, Suite 400, Arlington, Texas 76011, and a copy to the NRC Resident Inspector at the facility that is the subject of this Notice, within 30 days of the date of the letter transmitting this Notice of Violation (Notice). This reply should be clearly marked as a "Reply to a Notice of Violation" and should include for each violation: (1) the reason for the violation, or, if contested, the basis for disputing the violation, (2) the corrective steps that have been taken and the results achieved, (3) the corrective steps that will be taken to avoid further violations, and (4) the date when full compliance will be achieved. Your response may reference or include previous docketed correspondence, if the correspondence adequately addresses the required response. If an adequate reply is not received within the time specified in this Notice, an order or a Demand for Information may be issued as to why the license should not be modified, suspended, or revoked, or why such other action as may be proper should not be taken. Where good cause is shown, consideration will be given to extending the response time.

Dated at Arlington, Texas,
this 22nd day of May 1995

ENCLOSURE 2

U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

NRC Inspection Report: 50-482/95-05

Operating License: NPF-42

Docket: 50-482

Licensee: Wolf Creek Nuclear Operating Corporation
P. O. Box 411
Burlington, Kansas 66839

Facility Name: Wolf Creek Generating Station (Wolf Creek)

Inspection At: Coffey County, Burlington, Kansas

Inspection Conducted: March 12 through April 22, 1995

Inspectors: J. F. Ringwald, Senior Resident Inspector
J. L. Dixon-Herrity, Resident Inspector
T. R. Meadows, Operator Examiner

Approved: L A Yandell for — May 12 '95
D. F. Kirsch, Acting Chief — Date
Reactor Project Branch B

Inspection Summary

Areas Inspected: Routine, unannounced inspection including plant status, operational safety verification, maintenance observations, surveillance observations, plant support, followup - operations, and followup - plant support.

Results:

- Plant Operations

Operations performance continued to be generally very good with noted exceptions. A self-revealing violation occurred when an operator failed to follow a surveillance procedure step that resulted in the tripping of the only operating condenser air removal pump. The prompt identification of the tripped pump represented good attention to detail and good surveillance test preparation (Section 2.1). After the inspector questioned the Technical Specification (TS) clarification on feedwater isolation valves, licensee management ultimately agreed that the previous interpretation was not appropriate and revised the TS clarification. General operating practices were found to be very good, with noted examples of potential improvement in

shift briefings and two-way communication (Section 2.4). Inattention to detail and a failure of operators to implement previously identified corrective actions was exhibited when operations personnel drained the self-cleaning strainer in preparation for maintenance and created a potentially hazardous working environment for electrical maintenance (Section 3.1).

- Maintenance

Maintenance performance was generally good. The licensee identified a violation caused by inadequate maintenance on a door locking mechanism when a locked high radiation area door was found open. The licensee initiated a detailed root cause evaluation only after the inspector discussed the issue with the Maintenance Manager (Section 8.2). Maintenance technicians exhibited inattention to detail by using a piece of degraded equipment to clean a safety-related motor control center (Section 3.1). Poor planning on the part of maintenance was evident when oil was drawn out of a bearing by the negative pressure inside of a tent set up to support sand blasting (Section 3.2). Electricians were confused by weak procedure steps which did not contain instructions for electricians to perform all the measurements recommended by the vendor technical manual. Electricians appropriately contacted their supervisor when they encountered the confusing procedure steps (Section 3.3). Instrumentation and control (I&C) technicians failed to follow procedures during a summing/amp card change out, causing a delay in the completion of the task, then failed to notify their supervisor of the error or initiate a Performance Improvement Request (PIR) (Section 3.4).

- Engineering

Engineering performance declined somewhat during this report period. Engineering evaluations of past industry concerns over temporary startup strainers were appropriate to address the concern at Wolf Creek, but failed to ensure that the as-built drawings reflected the plant's actual configuration (Section 5.1.1). The inspectors identified an unresolved issue when an opening was noted in the wall separating the trains in the 1988-foot pipe chase of the auxiliary building at Wolf Creek, but not at Callaway (Section 5.1.2). An early criticality more than 500 percent millirho (pcm) below the estimated critical position was caused by a personnel error on the part of an engineer in the fuel design group and by inappropriate assumptions and weaknesses in the core modelling computer code. While communication problems between the core design and reactor engineering groups have continued to occur since a violation was cited in NRC Inspection Report 50-482/93-14, completed and planned corrective actions demonstrate that management regards these errors seriously (Section 5.2). The inspector identified that the system engineer for Class 1E 4160 vac switchgear was unfamiliar with the issue described in NRC Information Notice 94-02, "Inoperability of General Electric Magne-Blast Breaker Because of Misalignment of Close-Latch Spring" (Section 5.3).

- Plant Support

Plant Support performance was generally good. The inspector identified a weak security escort practice that was promptly corrected (Section 6.1).

- Management Overview

I&C technicians did not initiate a PIR following the identification of a procedural violation during a surveillance test; licensee personnel did not perform a detailed root cause evaluation until questioned by the inspector following a failure to maintain a locked high radiation door closed; continuing communication problems between the core design and reactor engineering groups; and, the creation of potentially hazardous working conditions represent examples of where the corrective action program did not function as effectively during each stage of the corrective action process as it could have.

Summary of Inspection Findings:

- Violation 482/9505-01 was opened (Sections 2.1 and 3.4).
- Violation 482/9505-03 was opened (Section 8.2).
- Unresolved Item 482/9505-02 was opened (Section 5.1.2).
- Violations 482/9412-01, -02, and -03 were closed (Sections 7.1, 7.2, and 8.1, respectively).
- Unresolved Item 482/9419-03 was closed (Section 8.2).

Attachments:

- Persons Contacted and Exit Meeting
- Acronyms

DETAILS

1 PLANT STATUS (71707)

At the beginning of this inspection period, the plant was in Mode 3. On March 12, 1995, operators restarted the reactor but achieved criticality with rods more than 500 pcm below the estimated critical position and above the rod insertion limit as discussed in paragraph 5.2 of this report. Operators returned to Mode 3 and, after an initial review, restarted the reactor on March 13, 1995. Operators stabilized the plant at 100 percent power on March 16, 1995, and operated at essentially 100% power for the remainder of the inspection period. The President and Chief Executive Officer implemented a reorganization which eliminated the Technical Services Department and reassigned the Vice President Technical Services to the position of Vice President Engineering following the announcement of the imminent retirement of the former Vice President Engineering.

2 OPERATIONAL SAFETY VERIFICATION (71707)

The inspectors performed this inspection to ensure that the licensee operated the facility safely and in conformance with license and regulatory requirements. The methods used to perform this inspection included direct observation of activities and equipment, observation of control room operations, tours of the facility, interviews and discussions with licensee personnel, independent verification of safety system status and TS limiting conditions for operation, verification of corrective actions, and review of facility records.

2.1 Operator Surveillance Error

On April 17, 1995, the only operating condenser air removal pump tripped when operators performed Surveillance Procedure STS IC-618B, "Slave Relay Test K618B Train B Safety Injection," Revision 11. The pump tripped because operators failed to remove Fuse Block FU42 from Auxiliary Relay Panel RP333 as required by Step 8.1.3 of the procedure. Operators did not perform this step because they incorrectly assumed that this fuse block had already been removed. Earlier on the same shift, they removed Fuse Block FU42 from Auxiliary Relay Panel RP332 during the performance of Surveillance Procedure STS IC-618A. They had not completed the restoration from the test and, therefore, had not replaced this fuse block. This led to the inaccurate assumption that the fuse block had already been removed. The failure to perform Step 8.1.3 of Surveillance Procedure STS IC-618B is the first example of a violation of TS 6.8.1.a (482/9505-01).

The control board operator promptly noted that the only operating condenser air removal pump tripped off and immediately started the standby pump. The operations manager informed the inspector that the operators anticipated this potential and stood near the pump controls during the test should the test

performance trip the operating air removal pump. The inspector concluded that this represented good attention to detail and good preparation for surveillance test performance.

The licensee counselled the operator and initiated PIR 95-0899. During the preliminary evaluation of this event, operators determined that procedural enhancements would reduce the likelihood of this error recurring. After discussions with the inspector, the operations manager concluded that the procedure was adequate as written. The inspector reviewed the procedure, concluded that the procedure was appropriate to the circumstances, and had adequate detail to prompt the test performer to remove the correct fuse block.

2.2 Commitment Tracking

On April 5, 1995, the licensee informed the inspector that a commitment date had not been met. The response letter committed the licensee to a review of Incident Investigation Team Report 94-04 and to reissue the revised report during March 1995. The licensee completed the review prior to the commitment date but did not issue the revised report until April 14, 1995. The inspector did not consider this length of a delay to represent a safety significant concern.

The inspector reviewed the licensee's commitment tracking program and found that the regulatory compliance department maintained a computer database of all commitments. From this database, the licensee issued monthly reports to all departments, and 45-day look ahead reports were distributed within regulatory compliance. The inspector found that the commitment missed in April 1995 was the only commitment missed out of 234 since January 1, 1993. At the end of the report period, the licensee was tracking 12 open commitments. The licensee initiated PIR 95-0768 to document the missed commitment and to establish appropriate corrective actions. The inspector determined that the licensee's program adequately tracked commitments.

2.3 Inoperable Feedwater Isolation Valve

On April 17, 1995, while performing a surveillance test on feedwater isolation valves, the operators noted that, after testing Valve AE FV-0039, Main Feedwater Isolation Valve A, it did not indicate full open. As permitted by the procedure, operators partially closed and reopened the valve in order to fully open it. This fully opened the valve and also caused the pressure in both accumulators to drop below 4700 psig, the pressure below which operators cannot be assured that the accumulator will close the valve in less than 7 seconds as required by TS 3.3.2. Sixteen minutes later, the system restored the pressure of both accumulators to greater than 4700 psig. The inspector noted that during this time the shift supervisor only entered TS Action Statement 4.0.5. The shift supervisor explained that TS Clarification 13-85 stated that "With both the red and yellow train actuator on a valve INOPERABLE, corrective action to restore the valve shall be initiated immediately per TS [Technical Specification] 4.0.5. Refer to L.C.O. [Limiting Condition for Operation] 3.6.3." TS 3.6.3 listed the valve with a footnote

referring to TS 3.3.2. The shift supervisor stated that since TS 3.3.2 applied to engineered safety features logic signals and not to the valves, TS 3.3.2 did not apply in this case. The inspector requested that the Office of Nuclear Reactor Regulation (NRR) interpret this TS. The NRR Project Manager stated that TS 3.3.2 did apply in this case, and the operators should have entered TS 3.3.2, Table 3.3-3, Functional Unit 5.a, Action 27. The reason for this interpretation was that the footnote for Valve AE FV-0039 specifically stated that TS 3.3.2 applied to feedwater isolation valves. Since TS 3.3.2 includes RESPONSE TIMES as shown in Table 3.3-5, and feedwater isolation is listed in Table 3.3-5 as Items 2.a.2, 3.a.2, 4.a.2, and 8.b, all requiring a RESPONSE TIME of $\leq$ 7 seconds, an inoperable feedwater isolation valve would require entry into TS 3.3.2, Action 27. The inspector discussed this position with licensee management who stated that they disagreed with this position and believed that TS 4.0.5 was the only applicable TS action statement for this condition. Subsequent discussions with NRR clarified that this interpretation did not extend to all components with response times listed in Table 3.3-5 of TS 3.3.2, but only applied to the Feedwater Isolation Valves because of the footnote in TS 3.6.3. Licensee management subsequently agreed with this interpretation. Licensee management then promptly issued TS Clarification 4-95, which superseded TS Clarification 13-85 and incorporated the requirement to enter TS 3.3.2, Table 3.3-3, Functional Unit 5.a, when the valves have mechanical problems as well as logic/relay problems. The inspector concluded that management's decision to incorporate this interpretation into TS Clarification 4-95 was appropriate.

On May 24, 1994, the licensee submitted a TS amendment request to add an additional TS limiting condition for operation of the feedwater isolation valves. This amendment would add a 4-hour shutdown requirement for a single inoperable feedwater isolation valve and would require entry into TS 3.0.3 if more than one feedwater isolation valve were inoperable. This amendment is expected to be issued during the next few months. The licensee stated that they plan to modify TS Clarification 4-95 when this TS amendment is approved.

The inspector also noted that TS Clarification 13-85 stated that "With 2 or more red train actuators OR two or more yellow train actuators INOPERABLE, the respective train of engineered safety features actuation system actuation shall be declared INOPERABLE per Tech. Spec. 3.3.2 Table 3.3-3 Item 5.a." The inspector questioned this and noted that, with more than two inoperable accumulators in each train, the licensee would exceed the permitted number of inoperable channels. The licensee acknowledged this and has incorporated a clarification in TS Clarification 4-95 which required an entry into TS 3.0.3 when they have two or more red and two or more yellow inoperable actuators. The inspector concluded that this clarified management's guidance.

2.4 Operations Review

The inspectors evaluated several aspects of operation, including shift turnover, control room practices, and general operating procedures.

2.4.1 Shift Turnovers and Management Presence

The inspector assessed the individual operator turnover and board walkdowns as professional and detailed, with an aggressive questioning attitude of plant readiness. While most turnovers were very good to excellent, one reactor operator turnover stood out as being outstanding. The shift supervisors and supervising operators exhibited a safety-first attitude towards controlling the flow of plant scheduled maintenance and surveillance testing. The Vice President Plant Operations implemented a quiet hour between 6:30 and 7:30 for both morning and evening shift turnovers, and only permitted nonturnover activities in the control room that were immediately critical to safe plant operation. The shift briefing immediately following turnover was adequate but, at times, brief. The operations staff was permitted, but not necessarily encouraged to share observations and comments. The noise level in the control room coupled with the lack of vocal projection on the part of some operators made it very difficult for all attendees to hear everyone's comments. The Operations Manager or Superintendent Operations consistently attended most shift briefings, but did not consistently participate. As a result, a number of opportunities to reenforce management expectations at shift turnover were missed. The inspector concluded that the shift turnovers were generally very good.

2.4.2 Command and Control, Communications, and Control Board Operations

The inspector noted that the supervising operator and shift supervisor aggressively addressed plant problems, particularly those affecting nuclear safety. Command and control were noted to be very good. There were times, especially early in the shift, where the supervising operator appeared to be potentially distracted by paperwork. Shift communication was assessed as adequate but, at times, inconsistent between individuals. While operators consistently used two-way communications, the inspector noted a number of examples where the two-way communication was not crisp and had the potential to contribute to miscommunication. The inspector noted that operators were aware and supervision reinforced the need for additional attention to communication when substitute operators filled vacancies during a particular shift. The inspector noted numerous examples of good self-checking techniques during control board operation. The inspector concluded that command and control, communication, and control board operations were generally very good.

2.4.3 General Operating Procedures

The inspector assessed the adequacy of the following plant operating procedures by independent walk through and interviews with licensed operators:

- GEN 00-002, Cold S/D to Hot Standby
- GEN 00-003, Hot Standby to Minimum Load
- GEN 00-004, Power Operations
- GEN 00-005, Plant S/D From 100% Power
- GEN 00-006, Hot Standby to Cold S/D

The inspector determined that these procedures were adequate in that they could be performed efficiently by trained licensed operators. No system or operating inconsistencies were identified. The inspector concluded that control room operating practices were found to be generally very good with a few noted opportunities for improvement.

3 MAINTENANCE OBSERVATIONS (62703)

During this inspection period, the inspectors observed and reviewed the selected maintenance activities listed below to verify that personnel complied with regulatory requirements and licensee procedures including: receiving permission to start; requiring quality control department involvement, proper use of safety tags, proper equipment alignment and use of jumpers, appropriate radiation worker practices, and use of calibrated tools and test equipment; documenting the work performed; and requiring proper postmaintenance testing. Specifically, the inspectors witnessed portions of the following work requests (WRs):

- WR 00329-95 Enhancement Painting of the Diesel Generator, the Surrounding Structures, and Room
- WR 00460-95 Internal Inspection of Self Cleaning Strainer
- WR 01406-95 Time Response Testing of NB Cubicle 115 Magne-Blast Breaker
- WR 01838-95 Summing Amplifier Card BBTY0421L Change Out
- WR 02344-91 Magne-Blast Breaker Prop Spring Replacement
- WR 05772-90 Paint Packing Gland Area
- WR 50850-94 Essential Service Water (ESW) Pump House Motor Control Center (MCC) NG05E Circuit Breaker Inspection
- WR 50859-94 480 volt alternating current (ac) NG005EAF1 MCC and Feeder Breaker Inspection and Test
- WR 50861-94 ESW MCC Transformer Meggar Test
- MPE E009Q-02 Preventive Maintenance of NB Cubicle 116 Magne-Blast Breaker
- RNM-C-1301 MCC 186/T Lockout Relay Test

Selected observations from the activities witnessed are discussed below.

3.1 ESW MCC and Feeder Breaker Inspection

On March 22, 1995, the inspector observed portions of the inspection and cleaning of the 480 volt ac NG005EAF1 MCC and feeder breaker. Electricians performed the work in accordance with the instructions contained in WR 50859-94 and Maintenance Procedure MGE E00P-07, "Motor Control Centers, and Control Panels, Cleaning, Inspecting, and Testing," Revision 7, with one exception. The inspector noted that electricians used an air compressor to blow dust out of the breaker buckets and asked one of the electricians if this was a common practice. The technician explained that Procedure MGE E00P-07 allowed low pressure air to be used to remove dust and debris from the MCC. Both the inspector and the technician noted that the gauge read 45 psig and was broken. The electrician stopped the individual performing the task from using the compressor and removed it from the job site. Electricians used brushes to remove the dust during the remainder of the task.

The inspector discussed the use of air for this purpose with the supervisor responsible for the job. The supervisor stated that the use of air was acceptable, but not desirable, in high dirt accumulation areas and that it should have been 25 to 40 psig. The licensee initiated PIR 95-0574 to document the use of a degraded piece of equipment. The inspector verified that the procedure did allow the use of low pressure air, but noted that it did not provide a definition for low pressure. The inspector discussed the concern with the maintenance engineer responsible for the procedure. The engineer stated that supervision reminded electricians of the definition of low pressure air (30 psig) during a staff meeting after the PIR was written and that this knowledge was within the skill of the craft. The engineer also explained that the nozzle used with the air compressors had relief holes drilled in them to limit the pressure of air delivered, so the gauge did not reflect the pressure at the nozzle. The inspector concluded that the use of a degraded piece of equipment to clean safety-related equipment represented inattention to detail.

The inspector noted that the floor in front of the MCC was wet with scattered small puddles. The inspector discussed this practice with the supervisor responsible for the job. The supervisor stated that it was a poor practice. The supervisor also indicated that the electricians did not expect the wet environment, but took all conceivable precautions to protect personnel working on the MCC. Electricians verified that the bus had been deenergized and grounded, personnel followed work procedures, and most of the tools being used were insulated. The supervisor also stated that water on the floor had been previously identified as a concern in PIR 94-0124. The inspector discussed the concern further with safety personnel and determined that working on electrical equipment in that environment was a poor practice, but was safe in this case due to the precautions taken.

The inspector reviewed the corrective actions resulting from PIR 94-0124. The operations staff added the PIR to required reading and determined that drain hoses would be used to drain the water from the self-cleaning strainer in the future. However, operators did not follow this corrective action. Instead of

using drain hoses, an elevated scaffold plank was used as a channel to guide the water away from the area. Water splashed off the plank and onto the floor. The licensee initiated PIR 95-0909 to document this second occurrence and identify corrective actions. Although tne floor had less water by the MCC this time than during the previous situation, the inspector determined that the failure to implement the corrective action identified as a result of PIR 94-0124 represented a failure of the corrective action program. As a result, this created an unnecessary potential hazardous working condition for personnel scheduled to work in the area.

3.2 Preparation for ESW Pump Packing Gland Painting

On March 22, 1995, the inspector observed maintenance technicians prepare the packing gland on ESW Pump A for painting. Maintenance technicians installed a tent from the above lower motor bearing down to the floor to contain the sand during the painting preparation on the surface of the gland. When a negative pressure was drawn on the tent to contain the sand, oil was drawn out of the bearing. The maintenance technicians quickly identified the problem, stopped work, and notified the control room and their supervision. The technicians moved the tent below the bearing and the work continued. Engineering determined that drawing the oil out did not damage the bearing. The licensee initiated a WR to change the oil in the bearing. The inspector concluded that the corrective actions taken were appropriate and that proper planning could have prevented the problem.

3.3 Magne-Blast Breaker Procedure Weakness

On March 22, 1995, the inspector noted that the electricians were confused during the performance of Step 7.10.14 of Procedure MPE E009Q-02 on the Magne-Blast Breaker from Train A, NB Breaker Cubicle 116. This step required the electricians to measure the clearance between both the driving and latching pawls and the ratchet wheel. While the signature page required the electricians to measure the clearance for both pawls, Step 7.10.14 only provided instructions for measuring the clearance for the latching pawl. The inspector noted confusion on the part of the electricians regarding the technique for performing these measurements and then initially measured only the driving pawl clearance. The electricians contacted their first-line supervisor who came to the field and provided adequate guidance for measuring the clearance for both pawls. The inspector concluded that it was appropriate for the electricians to contact their supervision when it was apparent that they did not understand how to take the pawl measurements. The inspector further concluded that the procedure was weak in that it did not provide procedure steps to perform all the measurements recommended by the technical manual. The procedure was subsequently enhanced to provide additional guidance to the technicians regarding pawl measurements.

3.4 Summing Amplifier Card Replacement

On April 18, 1995, the inspector observed I&C technicians replace Summing Amplifier Card BBTY0421L in Instrument Protection Set 2. WR 01838-95 instructed the I&C technicians to perform a number of steps in Surveillance Procedure 2.S IC-500E, "Channel Calibration DT/TAVG Instrumentation Loop 2," Revision 12, to identify "as found" and "as left" data. The technician marked the steps to be performed but, after starting the work, continued from Step 5.3.19 to 5.3.20, instead of proceeding to Step 5.4 as required by the surveillance test routing sheet. The technician's performance of a surveillance test procedure step not directed by the surveillance test routing sheet is a second example of a violation of TS 6.8.1.a (482/9505-01).

As a result, the technician installed an unneeded test lead. At the conclusion of the procedure, the technicians found that the procedure steps did not direct the removal of the lead inadvertently installed during Step 5.3.20. The technicians stopped work and had the surveillance test routing sheet revised to add steps to remove the lead. The inspector noted that the practice of performing only scattered steps as directed by the surveillance test routing sheet had the potential to confuse the technicians and directed the technicians to perform selected steps in a manner contrary to their training. While this error did not impact safety-related equipment, it did result in confusion and a delay in exiting the limiting condition for operation.

This occurrence was of further concern because the individuals failed to discuss the error with their supervision, and failed to initiate a PIR until after the inspector questioned licensee management. The licensee initiated PIR 95-0919 to evaluate and track corrective actions.

4 SURVEILLANCE OBSERVATIONS (61726)

The inspectors sampled selected surveillance tests required by TS to verify that personnel performed the tests in accordance with TS, used technically adequate procedures and appropriate test equipment, and properly dispositioned any test results which failed to meet the acceptance criteria. Specifically, the inspectors witnessed the following surveillance tests:

- STS PE-014A Personnel Airlock Test
- STS PE-006 Charcoal Adsorber In-place Leak Test Safety-Related Units
- STS KJ-005B Manual/Auto Start, Synchronization, and Loading of Emergency Diesel Generator NE02
- STS AL-102 AFWP-B Operability Test
- STS IC-470A Gaseous Radwaste H_2 and O_2 Monitors HA-161, Train A Channel Calibration

Selected observations from the test activities witnessed are discussed below.

4.1 Emergency Diesel Generator Test Procedure Weakness

On April 5, 1995, the inspector observed operators perform Surveillance Procedure STS KJ-005B, "Manual/Auto Start, Synchronization, and Loading of Emergency Diesel Generator NE02," Revision 21. The inspector verified that this test satisfied the surveillance requirements of TS 4.0.5, 4.8.1.1.2.a.1-6, and 4.8.1.1.2.f. Step 5.2.1.6 did not clearly identify which meter operators were to use to monitor for the megawatt reading of the diesel generator power load. After interviewing a trained licensed operator, the inspector found that the procedure does reference a drawing and computer point identification number, indirectly identifying the proper meter to read. The inspector determined that, although obscure, the step could be used by a trained operator. The inspector concluded that, while the procedure was adequate, it had the potential to be confusing, and this step was weak.

5 ONSITE ENGINEERING (37551)

The inspectors reviewed and evaluated engineering performance related to reactor engineering support of operations.

5.1 As-Built Differences in the Plant

5.1.1 Temporary Startup Strainers

While performing system walkdowns, the inspector noted that the spacers at the suction of the component cooling water pumps were different from the spacers used on other safety-related pumps. The inspector reviewed the piping and instrumentation diagrams for the different systems and found that the drawings depicted temporary startup strainers where spacers were supposedly located in the field. The inspector discussed the concern with an engineer from the support engineering group. The engineer identified Operational Assessment Reviews 86-0014 and 85-0345, which verified through review of past work requests that all of the temporary strainers had been removed and replaced with spacers. PIR 95-0592 was written to identify the failure to update the design documentation to reflect the current configuration of the plant. The inspector concluded that the licensee had responded to industry events and NRC concerns appropriately, but did not follow through with the corrective actions to ensure that their documentation reflected the actual plant configuration.

5.1.2 Auxiliary Building 1988-Foot Pipe Chase Optional Opening

The inspectors noted that there was an access hole in the wall between the two trains on the 1988 foot level pipe chase of the auxiliary building at Wolf Creek, but not at Callaway. The inspectors discussed this difference with design engineering personnel, who were not aware of the difference, but later identified Field Change Request 1-0855-C, which requested that the change be made to the original design. The inspector reviewed the field change request and found that it had requested a temporary opening be left to allow the

completion of work activities north of the opening. The recommended action was that a 2-foot 8-inch by 6-foot 8-inch opening be left, then closed with reinforced masonry after the work in the area was complete in the early part of 1983. The inspector reviewed Drawing Change Notices C-OC1231(Q)-11-1, C-OC1915(Q)-19-1, and C-OC1241(Q)-14-1 and found that the opening was identified as an "optional opening" in the drawings. Updated Safety Analysis Report Figure 1.2-10, "Equipment Location Auxiliary Building Partial Plan El. 1988'-0" & 2012'-0"," did not identify an opening. No further documentation of the change was found. The engineer wrote PIR 95-0418 to research the question and evaluate whether the opening presented a safety concern and whether a change would be needed to the Updated Safety Analysis Report. The inspector did not identify an immediate safety concern. This issue will remain unresolved pending the completion of PIR 95-0418 (482/9505-02).

5.2 Early Criticality

On March 12, 1995, operators established critical reactor operation on Bank C at 53 steps when the estimated critical position (ECP) calculation predicted criticality on Bank C at 187 steps. While this was above the rod insertion limits, it was 1075 pcm below the ECP. Operators maintained this position while reactor engineering evaluated the condition. Since nuclear engineering personnel were not able to explain why the core was so much more reactive than the ECP estimate, operators returned to Mode 3 and conducted a second approach to criticality on March 13, 1995. The second approach to criticality ECP predicted criticality at 79 steps on Bank C, and criticality was achieved at 95 steps on Bank C. Nuclear engineering personnel initiated PIR 95-0411 to evaluate the cause of the early criticality. The basis for the decision to restart included nominal core performance since refueling and an understanding of weaknesses in the Babcock & Wilcock NOODLE core modeling computer code as a result of very little data on this core in a hot zero power condition. The inspector concluded that the licensee's immediate response to the early criticality was good.

During the evaluation of PIR 95-0411, nuclear engineering personnel recognized that there have been several communication problems between the core design group and reactor engineering during the past 2 years. As a result, nuclear engineering initiated PIR 95-0680. This PIR focused on the Nuclear Parameters and Operations Package as a communication tool between core design and reactor engineering. Two of these errors were examples of a violation issued with NRC Inspection Report 50-482/93-14. In addition, PIR 94-2284 addressed the failure of the core design group to include U-234 data in the isotopic inventory tables for Region 10 fuel in the Nuclear Parameters and Operations Package. While this did not create an operational concern, it did prevent reactor engineering from completing special nuclear material inventory reports without additional data. These continuing communication errors between these two groups during the period when the licensee has assumed the responsibility for reactor core design is of concern because the potential exists for these communication problems to result in inappropriate reactor operational decisions which could jeopardize thermal limits. The licensee completed Self

Assessment 95-009, "Reload Design," on April 3, 1995, and issued nine PIRs associated with one weakness and eight recommendations for improvement. The Manager, Nuclear Engineering, stated that these errors are being taken very seriously and that PIR 95-0512, Self Assessment 95-009, and the circumstances surrounding the early criticality were being used to develop aggressive corrective actions to resolve the communication problems between the core design and reactor engineering group.

During the evaluation of PIR 95-0411, nuclear engineering found that core design found a personnel error in the calculation associated with Calculation AN 94-019. The error was that the core designer assumed that the predicted axial offset at the planned critical condition assumed a rodded core at that rod position, whereas reactor engineering traditionally used this value as an unrodded value and, therefore, added the effect of the rods at the planned critical condition. Nuclear engineering initiated PIR 95-0680 to address the cause of this error. Nuclear engineering also determined that the core modeling computer code contained basic weaknesses which did not exist in the current Westinghouse ANC code. Nuclear engineering has benchmarked the Westinghouse ANC code for Wolf Creek and has initiated the appropriate licensing documents to use this code starting in Cycle 9. One principle weakness of the NOODLE code was the need to bias the code generated values with actual data taken from hot zero and hot full-power conditions. Since the licensee only had limited hot zero power data, the bias used to adjust the NOODLE code for the March 12, 1995, critical condition was not appropriate. This coupled with the error addressed by PIR 95-0680 accounted for the discrepancy between the ECP and the actual critical condition on March 12, 1995. Comparable calculations using the ANC code without any bias value produced a very close ECP of the March 12, 1995, criticality without the application of any bias.

The inspector concluded that, while communication problems between core design and reactor engineering continue to occur, corrective actions planned and in process demonstrate a commitment on the part of the Manager, Nuclear Engineering to correct these problems.

5.3 System Engineer Unfamiliar with Industry Information

On March 22, 1995, during Train A NB system Magne-Blast breaker maintenance, the inspector noted that the NB system engineer was unfamiliar with NRC Information Notice 94-02. The inspector questioned the system engineering electrical supervisor and determined that the supervisor expects system engineers to be familiar with recent industry experience documents applicable to their systems. The supervisor stated that the system engineer had been in training when this Information Notice was issued and had not learned of the issue after the completion of the training. The supervisor and system engineer took immediate action to ensure that the system engineer became familiar with recent industry experience relating to the NB system. The inspector concluded that the supervisor's expectations were appropriate, and the corrective actions were appropriate.

6 PLANT SUPPORT (71750)

The inspectors sampled selected activities in the different areas of plant support and verified that they were implemented in conformance with licensee procedures and regulatory requirements.

6.1 Potentially Ineffective Security Escort

On March 30, 1995, the inspector observed a security escort located in a portable windowed structure approximately 40 feet from the north entrance of the administration building. The licensee tasked this escort with observing all personnel exiting the northeast door of the administration building and stopping anyone who required escorted access to the protected area. The licensee posted another escort at the south door of the administration building and chained all remaining doors, thus verifying that the two escorts could observe all exits from the building. After noting a large truck pass between the escort and the northeast door, and later observing a prolonged conversation between the escort and another individual, the inspector questioned whether the escort could adequately perform his/her escort function at that location and whether the escort was distracted. The licensee responded by relocating the portable windowed structure to a location directly opposite the northeast door of the administration building, approximately 15 feet from the door, and by giving all escorts an additional briefing on their escort duties. The inspector concluded that placing the visitor at the initial location had the potential to render the escort ineffective. On April 21, 1995, the inspector asked if the licensee had initiated a PIR. No PIR had been written but, after the inspector's discussed this issue with the Assistant to the Manager Plant Support, the Superintendent Security initiated PIR 95-0952 on April 25, 1995. The inspector concluded that the licensee's initial corrective actions were appropriate.

7 FOLLOWUP-OPERATIONS (92901)

7.1 (Closed) Violation 482/9412-01: Failure to Follow Procedures

This item involved four examples of licensee personnel failing to follow procedures. Corrective actions involved initiating PIRs for each violation, enhancing procedural guidance, counselling the individuals involved, placing one applicable PIR in required reading, and initiating PIR 94-2133 to address the generic aspects of this violation. Corrective actions to address the generic aspects of this violation included communicating management's expectation-consequence standard to all plant personnel, initiating a standdown day dedicated to the subject of the "Use of Procedures," requiring managers and supervisors to meet with their people frequently to ensure management's expectations are well understood and discipline policies relating to procedure use are understood, and the establishment of a "Topic of the Week" program where various license programs will be discussed among managers and then with licensee personnel. The inspector concluded that these actions appear appropriate to address the concerns associated with this violation.

7.2 (Closed) Violation 482/9412-02: Overtime Limits Exceeded

This item involved two examples where licensee personnel exceeded the TS overtime limits without the authorization required by TS or the licensee's program. The licensee initiated PIRs for each of the examples, placed the first PIR in the operations department required reading program, and sent electronic mail to all operations personnel regarding the second example. The licensee applied discipline where appropriate. Management initiated PIR 94-2135 to address the generic aspects of this violation. As a result, the licensee revised administrative procedures, incorporated working hour limitations into the integrated plant scheduling program, and addressed the procedural compliance aspects of these events into the corrective actions associated with NRC Inspection Report 50-482/9412-01. The inspector concluded that these actions appear appropriate to address the concerns associated with this violation.

8 FOLLOWUP - PLANT SUPPORT (92904)

8.1 (Closed) Violation 482/9412-03: Radiation Protection Program Not Followed

This item involved three examples where licensee personnel failed to comply with radiation protection program procedures. The licensee initiated PIRs to address the three events and placed the one pertaining to operators in operations required reading. The licensee initiated PIR 94-2134 to identify the concerns in all three examples, placed the PIR in health physics required reading, enhanced administrative procedures, and addressed the procedural compliance aspects of these events into the corrective actions associated with NRC Inspection Report Violation 482/9412-01. The inspector concluded that these actions appear appropriate to address the concerns associated with this violation.

8.2 (Closed) Unresolved Item 482/9419-03: Locked High Radiation Area Door Found Open

This item involved the failure of the licensee to maintain the door to Room 74021 locked. The item was not resolved because the licensee had not completed a root cause determination of the lock failure. The licensee initiated PIR 95-0097, but did not classify it as significant. The licensee did not initiate a root cause of failure determination until after the inspector questioned the failure. The licensee subsequently concluded that inadequate maintenance on the door approximately 4 hours prior to discovery caused the locking failure. Maintenance also determined that the security department locksmith performed the maintenance, yet the maintenance department had been assigned responsibility for maintenance of door locking mechanisms. When personnel identified the initial problem with the locking mechanism, the security locksmith and a mechanical maintenance supervisor discussed the problem and the supervisor asked the locksmith to repair the lock since all mechanical maintenance personnel assigned to the supervisor were engaged in other work assignments. Maintenance personnel involved in the root cause of

failure also determined that the locksmith did not use a WR and, therefore, the work control process did not review the work. The licensee installed a steel hasp on Door 74021 on March 15, 1995, to permit the use of an external locking device. The licensee determined that, while radiation levels in the room were greater than 1000 mR/h at 45 cm, no personnel were unintentionally exposed as a result of this event. Additional corrective actions included: reviewing doors with a similar design and reviewing the failure to use a WR with applicable personnel. The inspector concluded that these actions appear to address the concerns raised by this event. The failure of the licensee to maintain Door 74021 is a violation of TS 6.12.2 (482/9505-03). The licensee-identified violation is being cited because the conditions for enforcement discretion as given in 10 CFR Part 50, Appendix B, Section VII.B.(2) were not satisfied with regard to comprehensive corrective actions in that the licensee did not plan to perform a root cause failure evaluation until questioned by the inspector. Since the licensee completed a root cause determination and the identified corrective actions, no response to this violation is required.

ATTACHMENT 1

1 PERSONS CONTACTED

E. L. Asbury, Supervisor, Configuration Management
T. A. Conley, Superintendent, Radiation Protection
T. M. Damashek, Supervisor, Regulatory Compliance
W. G. Eales, Jr., Manager, Design Engineering
R. D. Flannigan, Manager, Regulatory Services
C. W. Fowler, Manager, Maintenance and Modifications
R. W. Holloway, Superintendent, Modifications
B. T. McKinney, Manager, Operations
W. M. Lindsay, Manager, Performance Assessment
R. L. Logsdon, Assistant to Manager, Plant Support
O. L. Maynard, Vice President Plant Operations
R. W. Miller, Superintendent Mechanical Maintenance
T. S. Morrill, Assistant to Vice President Engineering
G. J. Neises, Supervisor Core Design, Safety Analysis
J. M. Pippin, Manager, Integrated Plant Scheduling
C. A. Redding, Compliance Specialist, Regulatory Services
R. Robinson, Assistant Supervisor, I&C
R. L. Sims, Supervisor, Operations Support
B. B. Smith, Superintendent, Planning
J. D. Stamm, Manager, System Engineering
J. D. Weeks, Assistant to Vice President Plant Operations
D. M. Williams, Assistant Superintendent, Electrical Maintenance
M. G. Williams, Manager, Plant Support

The above licensee personnel attended the exit meeting. In addition to the personnel listed above, the inspectors contacted other personnel during this inspection period.

2 NRC PERSONNEL

A. B. Beach, Director, Division of Reactor Projects
L. J. Callan, Administrator-Region IV
J. L. Dixon-Herrity, Resident Inspector
J. F. Ringwald, Senior Resident Inspector

3 EXIT MEETING

An exit meeting was conducted on April 21, 1995. During this meeting, the inspectors reviewed the scope and findings of the report. The inspector acknowledged the licensee's initial disagreement with the TS interpretation issue which was ultimately resolved as described in paragraph 2.3. The licensee did not identify as proprietary any information provided to, or reviewed by, the inspectors.

ACRONYMS

ac	alternating current
cm	centimeter
ECP	estimated critical position
ESW	essential service water
I&C	instrumentation and control
MCC	motor control center
mR/h	millirem per hour
NRR	Office of Nuclear Reactor Regulation
pcm	percent millirho
PIR	performance improvement request
psig	pounds per square inch gage
TS	Technical Specifications
WR	work request

UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
611 RYAN PLAZA DRIVE, SUITE 400
ARLINGTON, TEXAS 76011-8064

July 10, 1997

Otto L. Maynard, President and
Chief Executive Officer
Wolf Creek Nuclear Operating Corporation
P.O. Box 411
Burlington, Kansas 66839

SUBJECT: NRC INSPECTION REPORT 50-482/97-10 AND NOTICE OF VIOLATION

Dear Mr. Maynard:

An NRC inspection was conducted May 18 through June 28, 1997, at your Wolf Creek Generating Station reactor facility. The enclosed report presents the scope and results of that inspection.

During this inspection, four citable violations of NRC requirements were identified in the areas of Operations and Plant Support. Violation A addresses a failure of Wolf Creek to adequately monitor and ensure compliance with the medical requirements associated with operators performing licensed duties. This is a concern because the NRC identified the issue and the failure to ensure that operators have corrective lenses for respiratory equipment could endanger both the individuals and their capability to protect plant equipment during an emergency. Violation B, which addresses problems with your control of overtime, is of concern because of the repetitiveness of this problem, especially since it had been previously cited in NRC Inspection Report 50-482/94-12.

Violation C addresses problems with your compliance with Technical Specification 4.5.2.c.2, which requires a visual inspection of containment be performed at the completion of each containment entry when containment integrity is established. Violation D addresses problems with the compliance of your staff with the requirements to wear thermoluminescent dosimetry whenever they enter a radiological controlled area of the plant.

During the exit meeting on June 27, 1997, the Chief Operating Officer expressed the position that if programs and procedures were adequate, but personnel failed to comply with them, the ensuing events did not constitute a problem with corrective actions. Instead, the problem was one of human performance. The NRC acknowledges that human performance can be separable from programmatic and procedural deficiencies. However, repetitive instances of human performance failures cannot be ignored and must be addressed by licensee corrective action programs.

The violations are cited in the enclosed Notice of Violation (Notice) and the circumstances surrounding these violations are described in detail in the enclosed report. Please note that you are required to respond to this letter and should follow the instructions specified in the

A/6

to determine whether further enforcement action is necessary to ensure compliance with regulatory requirements.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter, its enclosures, and your response will be placed in the NRC Public Document Room (PDR). To the extent possible, your response should not include any personal privacy, proprietary, or safeguards information so that it can be placed in the PDR without redaction.

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

Sincerely,

Thomas P. Gwynn, Director
Division of Reactor Projects

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

Enclosures:
1. Notice of Violation
2. NRC Inspection Report
   50-482/97-10

cc w/enclosures:
Chief Operating Officer
Wolf Creek Nuclear Operating Corp.
P.O. Box 411
Burlington, Kansas 66839

Jay Silberg, Esq.
Shaw, Pittman, Potts & Trowbridge
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Chief Engineer
Utilities Division

Kansas Corporation Commission
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Office of the Governor
State of Kansas
Topeka, Kansas 66612

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Vick L. Cooper, Chief
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Division of Emergency Preparedness
2800 SW Topeka Blvd
Topeka, Kansas 66611-1287

ENCLOSURE 1

NOTICE OF VIOLATION

Wolf Creek Nuclear Operating Corporation
Wolf Creek Generating Station

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

During an NRC inspection conducted on May 18 through June 28, 1997, four violations of NRC requirements were identified. In accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions," NUREG-1600, the violations are listed below:

A. 10 CFR Part 50, Appendix B, Criterion V, states, in part, ". . . activities affecting quality shall be prescribed by documented instructions, procedures, or drawings of a type appropriate to the circumstances . . . . 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, on May 8, 1997, the NRC inspectors discovered that there were no instructions or procedures to ensure that all licensed operators, who were required to wear corrective lenses as a condition of their individual licenses, had corrective lenses of the appropriate type available should these individuals be required to wear self-contained breathing apparatus while performing licensed duties.

This is a Severity Level IV violation (Supplement I) (50-482/9710-01).

B. 10 CFR Part 50, Appendix B, Criterion XVI, specifies that measures shall be established to assure that conditions adverse to quality, such as failures, malfunctions, deficiencies, or deviations 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 recurrence.

Contrary to the above, as of May 24, 1997, a significant condition adverse to quality - repetitive examples of workers engaging in safety-related work in excess of the Technical Specification 6.2.2.f limits without the review and approval of management - was identified, but actions were not taken to determine and correct the cause of the repeat of these violations. Specifically, the licensee responded to Violation B of NRC Inspection Report 50-482/94-12, but the corrective actions were inadequate to preclude recurrence, and this condition was not recognized until questioned by the NRC inspectors.

This is a Severity Level IV violation (Supplement I) (50-482/9710-02).

C. Technical Specification 4.5.2.c.2 requires in part that a visual inspection be performed: (1) For all accessible areas of the containment prior to establishing CONTAINMENT INTEGRITY and (2) Of the areas affected within containment at the completion of each containment entry when CONTAINMENT INTEGRITY is established.

Contrary to the above:

1) On October 18, 1997, the licensee identified that Technical Specification Clarification 010-85 directed plant personnel to perform the required containment inspection once each day after re-establishing containment integrity rather than after establishing containment integrity each time following containment entries. The licensee implemented the clarification numerous times since the clarification was developed in 1985.

2) On May 20, 1997, containment integrity was established after three separate containment entries without the performance of the required containment inspection.

This is a Severity Level IV violation (Supplement I) (50-482/9710-03).

D. Technical Specification 6.11 requires, in part, that procedures for personnel radiation protection be adhered to for all operations involving personnel radiation exposure.

Administrative Procedure AP 25A-001, "Radiation Protection Manual," Revision 2, Step 6.8.1, requires that personnel requiring access into the radiological controlled area be issued personnel radiation dosimetry devices which must be worn at all times within the radiological controlled area.

Contrary to the above:

1) On March 20, 1997, an engineer and a quality control inspector entered a high radiation area within the radiological controlled area without wearing the thermoluminescent dosimetry they had been issued.

2) On June 12, 1997, two mechanics entered the radiological controlled area without wearing the thermoluminescent dosimetry they had been issued.

This is a Severity Level IV violation (Supplement IV) (50-482/9710-06).

Pursuant to the provisions of 10 CFR 2.201, Wolf Creek Nuclear Operating Corporation is hereby required to submit a written statement or explanation to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, D.C. 20555, with a copy to the Regional Administrator, Region IV, 611 Ryan Plaza Drive, Suite 400, Arlington, Texas 76011, and a copy to the NRC Resident Inspector at the facility that is the subject

of this Notice, within 30 days of the date of the letter transmitting this Notice of Violation (Notice). This reply should be clearly marked as a "Reply to a Notice of Violation" and should include for each violation: (1) the reason for the violation, or, if contested, the basis for disputing the violation, (2) the corrective steps that have been taken and the results achieved, (3) the corrective steps that will be taken to avoid further violations, and (4) the date when full compliance will be achieved. Your response may reference or include previous docketed correspondence, if the correspondence adequately addresses the required response. If an adequate reply is not received within the time specified in this Notice, an order or a Demand for Information may be issued as to why the license should not be modified, suspended, or revoked, or why such other action as may be proper should not be taken. Where good cause is shown, consideration will be given to extending the response time.

Because your response will be placed in the NRC Public Document Room (PDR), to the extent possible, it should not include any personal privacy, proprietary, or safeguards information so that it can be placed in the PDR without redaction. However, if you find it necessary to include such information, you should clearly indicate the specific information that you desire not to be placed in the PDR, and provide the legal basis to support your request for withholding the information from the public.

Dated at Arlington, Texas
this 10th day of July 1997

ENCLOSURE 2

U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

Docket No.:	50-482
License No.:	NPF-42
Report No.:	50-482/97-10
Licensee:	Wolf Creek Nuclear Operating Corporation
Facility:	Wolf Creek Generating Station
Location:	1550 Oxen Lane, NE Burlington, Kansas
Dates:	May 18 through June 28, 1997
Inspectors:	J. F. Ringwald, Senior Resident Inspector J. L. Dixon-Herrity, Resident Inspector
Approved By:	W. D. Johnson, Chief, Reactor Projects Branch B

ATTACHMENT: Supplemental Information

EXECUTIVE SUMMARY

Wolf Creek Generating Station
NRC Inspection Report 50-482/97-10

Operations

- The licensee identified that they had re-established containment integrity following containment entries during a forced outage without performing the required containment cleanliness surveillance inspection as required by Technical Specifications. The licensee had reported numerous examples of this Technical Specification violation in Licensee Event Report (LER) 96-14 due to an inappropriate Technical Specification Clarification that was cancelled. Corrective actions for LER 96-14 failed to prevent the additional examples of this violation (Section O8.1 and O8.2).

- The inspector identified a violation of 10 CFR Part 50, Appendix B, Criterion XVI, after discovering that the licensee's corrective actions for a previous violation of the Technical Specification limitation on overtime usage and previous similar licensee findings, failed to prevent recurrence of additional occurrences (Section O6.2).

- The inspector identified a violation of 10 CFR Part 50, Appendix B, Criterion V, after discovering that the licensee had no administrative controls to ensure that operators had corrective lenses required by the conditions of their individual licenses for performing licensed duties while wearing respiratory protection. The licensee subsequently identified examples where operators did not have the required corrective lenses for use with respiratory protection equipment (Section O6.1).

- Licensee response to an extraction steam valve body-to-bonnet leak was appropriate. Operators controlled the plant during the manual reactor trip and properly followed the applicable procedures. Immediate corrective actions were appropriate (Section O1.1).

- Operators responded properly to a main feedwater pump speed controller failure. Effective corrective actions following a similar failure 10 years ago resulted in corrective actions that assisted operators during this event in recovering with only a very minor impact on plant parameters (Section O1.2).

Maintenance

- The inspector identified enhancements to the licensee's surveillance procedures to calibrate the seismic monitor after noting differences between the procedure and the vendor technical manual recommended calibration technique (Section M3.2).

Engineering

- The licensee identified that surveillance procedures for adjusting power range nuclear instruments failed to comply with Technical Specification surveillance requirements. This was determined to be a noncited violation (Section E4.1).

Plant Support

- The licensee identified two repetitive examples of a failure to follow Technical Specifications involving entries of radiation workers into the radiological controlled area without the required thermoluminescent dosimetry. One of the two entries involved entry into a high radiation area without the required dosimetry. This was determined to be a violation (Section R1.2).

- The inspector observed an effective emergency plan technical support center drill and critique (Section P5.1).

Report Details

Summary of Plant Status

The licensee operated at essentially 100 percent power from the beginning of the inspection period until May 20, 1997, when operators manually tripped the reactor in response to a large steam leak (described in Section O1.1). Operators restarted the plant and returned to essentially 100 percent power on May 26, 1997, where they operated through the end of the inspection period.

I. Operations

O1 Conduct of Operations

O1.1 Manual Reactor Trip in Response to Unisolable Extraction Steam Leak

a. Inspection Scope

The inspector observed control room operators reduce power then manually trip the reactor in response to a turbine extraction steam valve body-to-bonnet leak. The inspector observed the operators' actions following the trip, reviewed the subsequent forced outage, and reviewed the licensee's posttrip evaluation and corrective actions.

b. Observations and Findings

On May 20, 1997 at 2:02 p.m., operators in the control room noted a 3 megawatt electric loss of load and received notification of a steam leak under the 2065-foot level of the turbine building. The shift supervisor dispatched operators to verify the report and evaluate the severity of the leak. The operator determined that the leak was on the 2033-foot level, but due to the steam in the area could not confirm the location of the source. Control room operators commenced a controlled load reduction and ordered an evacuation of the turbine building. The shift supervisor and operations manager decided to manually trip the reactor due to the size of the leak and the receipt of alarms due to grounds on the nonsafety electrical bus. Operators tripped the plant at 2:57 p.m. All safety-related equipment responded as designed. Subsequent inspections revealed that the leak was from the body-to-bonnet joint on Valve AF FV0058C, the third stage extraction steam isolation valve to High Pressure Feedwater Heater 7B.

The licensee disassembled the valve and found that the bonnet flange bolting was potentially undertorqued. No damage was noted on the valve flange. The gasket was replaced with a new corrugated iron gasket wrapped with graphite tape. The licensee found that the valve had last been disassembled in April 1993. At that time, mechanics replaced the body-to-bonnet corrugated iron gasket with a gasket made from Garlock 9800 compressed sheet material. Engineers calculated that the

mechanics applied a cold compressive load on the gasket of approximately 5500 psi. The manufacturer recommended a compressive load between 5500 and 15,000 psi. The licensee determined that the optimal compression was potentially not achieved, and the minimum load recommended by the vendor may not have been adequate for long-term reliability.

The inspector reviewed the licensee's immediate corrective actions. Engineering personnel identified additional high pressure and high temperature equipment that the subject gasket material had been used in and evaluated the application. As a result, engineering found the same gasket material in the body-to-bonnet joint of one other extraction steam valve. Maintenance personnel replaced the body-to-bonnet gasket of this valve during the forced outage with a corrugated iron gasket wrapped with graphite tape. Engineers identified eight other valves potentially susceptible to this problem. These valves were determined to not pose a significant threat of leakage prior to the next refueling outage because either the torque applied was adequate, or they were used in lower temperature fluid systems. While engineering concluded that these valves were currently acceptable, they recommended that the gaskets be replaced during the refueling outage in September 1997.

c. Conclusions

The operators responded to the identification of a nonisolable extraction steam system valve leak in an appropriate manner by manually tripping the reactor. The licensee response to the event and the immediate corrective actions taken were appropriate.

O1.2 Main Feedwater Pump Speed Controller Failure

a. Inspection Scope

Operators in the control room responded to the failure of the flow controller for Main Feedwater Pump B. The inspector observed a portion of the operators' response to the event.

b. Observations and Findings

On May 30, 1997, all four steam flow-feed flow mismatch annunciators alarmed. Control room operators immediately noted that the controller for Main Feedwater Pump B, Controller FC SK-509B, had failed to zero output and shifted to the manual mode, and that the feed regulating valves responded by opening fully. The operator immediately took manual control of Main Feedwater Pump B using the General Electric speed controller and controlled steam generator levels. The inspector observed operators refer to the appropriate alarm response procedures. Due to quick response of the operators, the effect on the plant was limited to a very small

change in steam generator level. Operators controlled the main feedwater pumps in manual until the driver card was replaced the next day.

According to the plant manager, approximately 10 years ago, a similar event resulted in a significant transient before operators were able to recover steam generator level. After stabilizing the plant during the previous event, operators recognized that if the General Electric speed controller manual signal was adjusted to the nominal steady state output, and a similar failure occurred again, they could quickly shift control to the General Electric speed controllers and maintain feed pump speed control with very little effect on steam generator level. Operators subsequently incorporated this practice into simulator training. The May 30, 1997, event and operator response demonstrated that the corrective actions for the previous event significantly minimized the consequences of the controller failure.

c. Conclusions

Appropriate operator response prevented a controller failure from causing a significant plant transient. The appropriate operator response was a direct result of effective and lasting corrective actions stemming from a similar event which occurred approximately 10 years ago.

O4 Operator Knowledge and Performance

O4.1 Clearance Order Status

a. Inspection Scope (71707)

The inspector reviewed clearance orders to ensure that they were properly prepared and implemented.

b. Observations and Findings

The inspectors noted no concerns with the clearance orders reviewed. However, the inspectors identified a possible vulnerability in the licensee's program. The operations representative to the work control center maintained the original clearance orders in the work control center during the day shift from Monday through Friday, and returned them to the control room at other times. Operators maintained copies of the clearance orders in a second set of books in the control room. However, the current status of the clearance orders including changes occurring during the time the books were kept in the work control center were not easily accessible to control room operators. While each clearance order change was approved by the shift supervisor, the licensee's program did not require copies of these changes to be maintained in the control room. Consequently, operators had the potential to refer to copies of clearance orders that may not have reflected all of the changes, and therefore would not provide ready access to accurate current plant alignment for response to events, if needed.

c. Conclusions

The inspector concluded that clearance orders were being handled in accordance with procedures. However, the inspector identified a potential vulnerability in the failure to always maintain copies of clearance order changes in the control room to provide operators with ready access to accurate current system alignment of systems for response to events.

O6 Operations Organization and Administration

O6.1 Corrective Lenses for Respiratory Protection Equipment

a. Inspection Scope (71707)

The inspector reviewed the licensee's compliance with corrective lens requirements for licensed operators while using respirator protection during the conduct of licensed activities.

b. Observations and Findings

On May 8, 1997, the inspector asked the shift supervisor if they had any mechanism to track respirator glasses for operators who had individual license conditions requiring them to wear corrective lenses while performing licensed duties. The shift supervisor stated that they maintained copies of the individual licenses in the shift supervisor's desk, and relied on each operator to ensure that they complied with the requirements of their license. The shift supervisor also stated that there was no tracking program to ensure that operators requiring corrective lenses actually had them for use while utilizing respiratory protection equipment. Several days later, the inspector expressed this concern to the operations supervisor and asked if there were any operators who had corrective lens restrictions, but did not have corrective lens inserts for respiratory protection equipment. The operations superintendent acknowledged that no program existed, and therefore said that they could not determine whether all required corrective lenses were available or not. Several days later, the operations supervisor informed the inspector that they did not have required corrective lenses for all operators, and that the needed lenses were being ordered. On May 16, 1997, the emergency preparedness manager initiated Performance Improvement Request (PIR) 97-1450 to document the identification of this question from another licensee.

On May 20, 1997, while the steam leak described in Section O1.1 was active, the inspector observed a licensed operator don respiratory protection equipment without corrective lenses for a nonlicensed activity. Later that day, the inspector asked the individual why corrective lenses had not been used. The operator responded by stating that the corrective lenses required by the individual license provided a minor eyesight correction, and from past experience, the correction provided by corrective lenses made for respiratory protection equipment did not improve the individual's

eyesight while wearing respiratory protection equipment. As a result, the operator individually decided not to wear the corrective lenses while wearing respiratory protection equipment. The inspector noted that the license stated that corrective lenses were required any time the individual engaged in licensed activities.

The inspector determined that the licensee did not have an administrative program to ensure that operators requiring corrective lenses actually had and used the required lenses for all licensed duties, and that this was an activity affecting quality. The failure to provide these administrative controls is a violation of 10 CFR Part 50, Appendix B, Criterion V (VIO 50-482/9710-01).

c. Conclusions

The inspector identified that the licensee failed to provide an administrative program to ensure that operators had and used the corrective lenses required by their individual licenses for all licensed activities.

O6.2 Overtime Requirements

a. Inspection Scope (71707)

The inspector reviewed the licensee's use of overtime and compliance with the Technical Specification requirement.

b. Observations and Findings

During April 1997, the inspector asked the licensee for the data pertinent to reviewing the licensee's compliance with Technical Specification overtime requirements. While compiling the data, the licensee noted that there had been a history of examples where they had not complied with the Technical Specifications requirements. NRC Inspection Report 50-482/94-12, which was issued on December 1, 1994, addressed examples which occurred during the Refueling Outage VII. Corrective actions for this violation included several actions that heightened the awareness of personnel to these requirements. Since then, one example occurred in 1995 and four examples occurred in 1996. Nine examples have occurred in 1997. The licensee initiated PIRs for each of these occurrences and the corrective actions involved procedure revisions, actions to reinforce expectations with workers, and the statement that the discipline policy would be invoked if future examples occurred. PIRs 95-1533 and 96-0286 recognized that previous corrective actions were ineffective and attempted to address the repetitive nature of these occurrences, but failed to prevent the subsequent occurrences.

While these examples of unauthorized overtime use without management approval occurred, the licensee also authorized overtime usage in excess of the overtime limits provided in the Technical Specifications a total of 118 times in 1995, 545 times in 1996, and 101 times during the first 6 months of 1997. While some of

these authorizations were related to plant outages, many of them were not. Technical Specification 6.2.2.f requires the licensee to comply with the guidelines of Generic Letter 82-12 which states that "Enough plant operating personnel should be employed to maintain adequate shift coverage without routine heavy use of overtime. The objective is to have operating personnel work a normal 8-hour day, 40-hour week while the plant is operating. However, in the event that unforseen problems require substantial amounts of overtime to be used, or during extended periods of shutdown for refueling, major maintenance, or major plant modifications on a temporary basis, the following guidelines shall be followed: . . . Recognizing that very unusual circumstances may arise requiring deviation from the above guidelines, such deviation shall be authorized by the plant manager or his deputy, or higher levels of management. The paramount consideration in such authorization shall be that significant reductions in the effectiveness of operating personnel would be highly unlikely." Given the high number of deviations from the Generic Letter 82-12 guidelines, the inspector questioned whether each occurrence represented the ". . . very unusual circumstances . . ." provided for in the Generic Letter. The Chief Operating Officer acknowledged that the number of authorizations for overtime above the Generic Letter 82-12 guidelines had been excessive and that the numbers would be reduced considerably in the future.

The inspector reviewed the data provided by the licensee and noted that overtime data for verifying that exempt personnel complied with Generic Letter 82-12 guidelines was not available. The inspector asked the Chief Administrative Officer how they monitored exempt personnel overtime use to ensure that routine heavy use of overtime did not occur. The Chief Administrative Officer acknowledged such trending information was not available. The only data which was available were the authorization forms for overtime use in excess of the Generic Letter 82-12 guidelines for exempt employees.

The inspector asked if the licensee routinely reviewed the use of overtime to evaluate compliance with the Technical Specification requirement. The Chief Administrative Officer acknowledged that they did not. After recognizing the history of problems in this area, the licensee initiated PIR 97-1303.

Since the licensee failed to monitor and review the use of overtime on a periodic basis, this issue was only identified as a result of NRC inspection in this area. The licensee's failure to initiate actions to prevent recurrence of unauthorized use of overtime exceeding the Technical Specification requirements, particularly after a previous cited violation and previous significant PIRs, represents a corrective action failure in this area. Since the work activities associated with several of the examples of workers exceeding the Technical Specification overtime requirements involved safety-related work, this is a significant condition adverse to quality. The failure of the licensee to take adequate corrective actions to preclude recurrence of these events is a violation of 10 CFR Part 50, Criterion XVI (VIO 50-482/9710-02).

c. Conclusions

An NRC identified corrective action violation resulted from repeated occurrences of overtime use in excess of the Technical Specification requirements and the failure of the licensee to review and monitor the use of overtime, despite a previously cited violation and significant PIRs in this area.

O8 Miscellaneous Operations Issues

O8.1 (Closed) LER 96-014: Failure to comply with Technical Specification 4.5.2.c for visual inspection of containment. On October 18, 1996, the licensee identified that Technical Specification Clarification 010-85 was inappropriate to the circumstances. The clarification allowed plant personnel to violate Technical Specification Surveillance 4.5.2.c.2 by providing the interpretation that the containment inspection only had to be done daily rather than when containment integrity was restored. The clarification was used by the licensee multiple times since it was initiated in 1985. The root cause was determined to be a misalignment between the Wolf Creek organization culture and the regulatory environment. The corrective actions taken in response to this LER were not effective, as illustrated in Section O1.1.

The inspector concluded that the licensee failed to identify and take corrective actions to prevent recurrence of the violations. The failure to meet Technical Specification 4.5.2.c.2 due to the existence of an inappropriate Technical Specification Clarification is an example of a violation of Technical Specification 4.5.2.c.2 (VIO 50-482/9710-03).

O8.2 (Closed) LER 50-482/97-009: Failure to Comply with Technical Specification 4.5.2.c.2. This item involved a repeat occurrence of the issue discussed in Section O8.1 of this report. The licensee discovered that they failed to perform a containment cleanliness surveillance inspection after reestablishing containment integrity following three containment entries on May 20, 1997. The licensee initiated PIR 97-1477 to address the event, and PIR 97-1479 to address the failure of previously identified corrective action as discussed in Section O8.1 of this report. This failure to perform the containment cleanliness surveillance inspections prior to establishing containment integrity is an example of a violation of Technical Specification 4.5.2.c.2 (VIO 50-482/9710-03).

O8.3 (Closed) Violation 50-482/9618-02: Safety Injection Pump A Operable - Mode 5. The corrective actions taken in response to this event were not adequate because the licensee failed to address the root cause. The root cause identified in PIR 96-0062 was that the test director did not completely identify or assess his actions. The problem arose from trying to hang a clearance order on both trains of safety injection pumps at the same time to support diesel testing. The corrective action was to add a caution to the integrated diesel and safeguards actuation test to ensure that the other train clearance order is being changed and that it complies

with Technical Specification 4.5.4.1. The inspector questioned whether this addressed the root cause of the event. In response to this concern, the licensee counselled the test director and the shift supervisor involved. The PIR was added to the refueling concerns training for operations personnel.

In addition to these corrective actions, the licensee recognized a trend in the failure to completely address the root cause and identify effective actions in response to LERs 96-004 and -005. PIR 96-2592 was issued to address this trend. The corrective actions in response to this included forming a formal corrective action review board chaired by the Chief Operating Officer. This board will review the root cause determination and corrective action plan for all significant PIRs. Organization changes were implemented to provide operations personnel to support the corrective action process. Additional training was provided for managers and personnel implementing the corrective action program. The inspectors concluded that the licensee's corrective actions were appropriate.

O8.4 (Open) Unresolved Item 50-482/9709-02: Containment Cleanliness. This item involved the inspector's identification of fire hose covers on containment fire hose stations inside containment during power operation. Engineering personnel evaluated this issue and documented their conclusions on Reportability Evaluation Request 97-032. The inspector noted that the licensee considered the evaluation complete, and it had been approved by the plant safety review committee. The inspector reviewed the evaluation and discussed the conclusions with the engineer who performed the evaluation. During the discussions the engineer stated that the fire hose was stuffed into the cover because it was a tight fit. The inspector noted that the evaluation did not evaluate the effect of the expected postaccident containment temperature on the ability of the hose cover hook and loop fasteners to remain fastened. The engineer acknowledged that this was not evaluated and stated that this was not considered necessary. The evaluation described an experiment that the engineer performed to determine how much force would be needed to remove the cover from the fire hose station. When the inspector asked the engineer if the experiment was ever performed with the hook and loop fasteners unfastened, the engineer stated that this was never considered. The inspector observed six fire hose stations in the plant, and noted that the covers were loosely hung over the fire hose stations, and that the cover did not provide a tight friction fit. Based on these questions, the inspector determined that the licensee's conclusion that none of the fire hose covers could come off and be transported to the recirculation sumps, could not be verified. Since these various questions remained at the end of the inspection, this item will remain open pending resolution of these issues.

II. Maintenance

M1 Conduct of Maintenance

M1.1 General Comments on Maintenance Activities

a. Inspection Scope (62707)

The inspectors observed all or portions of the following work activities.

105716	Task 3	Calibration check of the Emergency Diesel Generator A rocker lube oil reservoir level annunciator
109427	Task 1	Installation of a drain trap on instrument
119829	Task 2	Postmaintenance test for Component Cooling Water Pump C
INC L-1000	N/A	Calibration of Instrument Air Compressor A temperature indicator
RNM C-1301	Task 4	Calibration Check of Emergency Diesel Generator A volts per hertz relay
STN SP-033	N/A	Quarterly Channel Check for ST RE-33, containment purge radiation monitor

b. Observations and Findings

The inspectors found no concerns with the maintenance observed.

c. Conclusions

The inspectors concluded that the maintenance activities were being performed as required.

M1.2 General Comments on Surveillance Activities

The inspectors observed all or portions of the following surveillance activities.

a. Inspection Scope (61726)

STS IC-201A, Revision 8	Analog channel operational test of TAVG, Delta T and Pressurizer Protection Set 1 - partial to Test P-11 permissive
STS IC-209A, Revision 5	4kV degraded voltage TADOT NB01 bus - Separation Group 1
STS IC896, Revision 8	Channel calibration triax spectrum recorder (PASSIVE), seismic monitor
STS KJ-015A, Revision 4	Manual/Auto start synchronization D/G NE01

b. Observations and Findings

Except as noted in Sections M3.1 and M3.2, the inspectors had no concerns with the surveillances observed.

c. Conclusions

Except as noted in Section M3.1 and M3.2, the inspectors concluded that the surveillance activities were being performed as required.

M3 Maintenance Procedures and Documentation

M3.1 Failure to Test P-11 Permissive Input Relay

a. Inspection Scope (37551)

Engineers at Callaway determined that the an input relay in the pressurizer pressure P-11 circuits for Protection Channels I, II, and III were not tested. The inspectors reviewed the licensee's actions taken in response to this concern.

b. Observation and Findings

On June 4, 1997, engineers at Callaway contacted engineers at Wolf Creek and informed them of a concern they had identified during a review in response to Generic Letter 96-01, "Testing of Safety-related Logic Circuits." The surveillance tests for the solid state protection system failed to overlap in that the input relay and contact for the safety-injection block for low-pressurizer pressure and low-steamline pressure were not tested. This portion of the system was designed differently from the rest of the system in that the three lights on the annunciator panel remained on as long as the contact was open. When the system was placed in test, the contact remained open, so the three lights for the circuit remained lit. The system was normally in a fail-safe condition during operation in that manual

safety injection initiation was blocked until the contact was closed. Lowering pressurizer pressure below 1970 psig caused the contact to close and this removed the block on manual initiation of safety injection.

The licensee worked with the vendor and Callaway Plant personnel to devise a safe method to test the untested portion of the circuit with the plant operating. The licensee's general operating procedures required operators to verify that the lights went out at 1970 psig and provided actions to be taken if they did not. The procedures used to test the system, STS IC-201A, -202A, and -203A, "Analog Channel Operational Test of TAVG, Delta T, and Pressurizer Protection Set 1 - Partial to Test P-11 Permissive," Revision 8, were modified to allow testing of the circuit. The inspectors observed technicians test the input relay using the revised methodology. The three channels functioned according to design. At the end of the inspection period, licensee personnel were still working with the vendor and Callaway personnel to establish a long-term solution. The long-term corrective actions will be reviewed during a future inspection and will be tracked as an inspection followup item (482/9710-04).

c. Conclusions

The licensee appropriately addressed concerns resulting from the identification of an untested portion of the solid state protection system.

M3.2 Seismic Monitor Surveillance Test

a. Inspection Scope (61726)

The inspector observed portions of the surveillance test of the seismic monitor.

b. Observations and Findings

On June 16, 1997, the inspector observed instrument and control technicians perform Procedure STS IC-896, "Channel Calibration Triax Spectrum Recorder (PASSIVE)," Revision 8. During the surveillance the inspector compared the procedure with the vendor technical manual and found several differences. The suggested data table in the vendor technical manual recommended that the technicians record the actual displacement measurements during sensitivity determination. The procedure only required the technicians to record the results of the calculation to convert the measurement from displacement to sensitivity. The procedure suggested that the technicians use a tool to move the plates while obtaining the displacement marks to avoid side loads that would affect the outcome of the measurements. The procedure did not specify how to obtain the displacements and the technicians performed this by hand.

After discussing the observations with the technicians and the first line supervisor, the inspector determined that the differences noted did not affect the outcome of

the observed surveillance test. However, to enhance the test, the first line supervisor decided to revise the procedure by August 30, 1997, to address these differences.

c. Conclusions

The surveillance of the seismic monitor was being performed appropriately. Inspector identified differences between the procedure and the recommended testing method in the vendor technical manual resulted in the initiation of enhancements to the surveillance procedure.

III. Engineering

E4 Engineering Staff Knowledge and Performance

E4.1 Failure to Meet Technical Specification 4.3.1.1

a. Inspection Scope (37551)

The licensee determined that they were not meeting Technical Specification 4.3.1.1 regarding power range channel adjustments following calorimetric calculations. The inspectors reviewed the concern and the corrective actions taken.

b. Observations and Findings

On June 4, 1997, an engineer in nuclear engineering questioned whether a change made in July 1996, to Procedures STS SE-001, "Power Range Adjustment to Calorimetric," Revision 21, and STS SE-002, "Manual Calculation of Reactor Thermal Power," Revision 16, violated Technical Specification 4.3.1.1, Table 4.3-1, Power Range, Neutron Flux High Setpoint Note 2. Note 2 states that above 15 percent of rated thermal power, excore channel gains are to be adjusted to be consistent with calorimetric power if the absolute difference is greater than 2 percent. The engineer had initiated the change in response to Westinghouse Technical Bulletin ESBU-TB-92-14-Rq, "Decalibration Effects of Calorimetric Power Measurements on NIS High Power Reactor Trip at Power Levels Less Than 70 Percent RTP." This bulletin recommended that if the nuclear instrumentation indicated power is greater than the calorimetric indicated power and the calorimetric power level is less than 70 percent, the nuclear instrumentation channels should not be corrected by introduction of a gain shift to reflect the calorimetric power.

Based on this guidance, the licensee revised Procedures STS SE-001 and -002 on July 31, 1996, to prevent a reduction of the nuclear instrumentation gain to match calorimetric power if the power level is less than 70 percent. This change directed operators to not comply with the requirements of Technical Specification 4.3.1.1. On May 25, 1997, the licensee operated below 70 percent power in a condition

where Technical Specification 4.3.1.1 required adjustment of the nuclear instruments, yet the revised procedure directed operators not to make the required adjustment.

After identifying the concern, the licensee revised Procedures STS SE-001 and -002, initiated PIR 97-1635, and indicated that they planned to issue an LER. The inspector reviewed the procedures and noted that an on-the-spot-change had been approved on June 9, 1997. Additional corrective actions included disciplining the engineer involved in the initiating error. The licensee indicated that resolution of PIR 97-1635 will also consider additional actions to reinforce the importance of the review process, particularly with the individuals involved in reviewing these procedure changes. Since operators failed to make the required nuclear instrument adjustments, this is a violation of Technical Specification 4.3.1.1. This nonrepetitive, licensee-identified and corrected violation is being treated as a noncited violation, consistent with Section VII.B.1 of the NRC Enforcement Policy (NCV 50-482/9710-05).

c. Conclusions

Engineers exhibited good questioning attitude in identifying a failure to meet a Technical Specification requirement to maintain the nuclear instrumentation calibrated within two percent of the calorimetric. During the review of the change to the surveillance procedures, engineering and operations personnel failed to ensure that the procedure provided guidance consistent with the requirements of Technical Specifications.

E8.1 (Closed) Unresolved Item 50-482/9704-06: Use of vendor technical manuals for selecting substitute parts. This item involved the use of vendor technical manuals to select substitute parts without an equivalency evaluation based on their inclusion in a bulletin included in the manual. The licensee contacted a former architect-engineer site manager and a quality assurance manager from the air conditioning unit vendor. Both individuals agreed with the licensee's interpretation regarding the use of the vendor technical manual for selecting substitute parts. The quality assurance manager said that the felt element would not be appropriate despite its appearance on the vendor bulletin page containing the designations of the approved filter cores simply because it was not grouped in the same column with the core initially supplied by the vendor. The quality assurance manager also said that if any of the filter core designations grouped with the one initially supplied with the unit were not appropriate for use at Wolf Creek, the entry would have been lined out in that table.

The inspector concluded that the licensee interpreted the manual in a manner consistent with the expectations of the vendor. The inspector also concluded that the logic for selecting replacement parts was not consistent and could lead to future confusion and possible misinterpretation and inappropriate substitution of replacement parts. At the exit meeting, the licensee acknowledged this possibility

and stated that it was being considered as part of a planned [illegible] technical manual update project.

IV. Plant Support

R1 Radiological Protection and Chemistry Controls

R1.1 Safety Injection Pump B

a. Inspection Scope (71707, 71750)

Using Inspection Procedure 71707 and 71750, the inspectors evaluated the Train A and B switchgear rooms and safety injection Train B components to verify operability.

b. Observations and Findings

Equipment operability, material condition, and housekeeping were adequate. The inspector noted that a leak in the outboard seal housing of Safety Injection Pump B caused a large boric acid accumulation on the skid of the pump. The accumulation occurred in a posted contaminated area on the pump skid. The inspector noted that this accumulation had worsened over the last several months and oil leaks had added to the accumulation. The licensee initiated an action request to repair the leak. On June 6, 1997, the inspector discussed the issue with the radiation protection manager. The inspector noted the skid had been cleaned on June 12, 1997. The inspector discussed the frequency of cleaning up this type of spill with radiation protection management. The skid had been cleaned 2 1/2 weeks before. The pump outboard bearing area also had a small but active leak. The licensee was monitoring the leak and the area daily to ensure that the leakage remained on the skid and inside the posted contaminated area, and to track the status of the leak.

c. Conclusions

The inspector concluded that safety-injection equipment was being maintained in an operable condition and that the radiation protection department appropriately monitored a minor system leak.

R1.2 Restricted Area Entry Without Thermoluminescent Dosimetry

a. Inspection Scope (71750)

The inspector reviewed the circumstances surrounding the licensee's discovery that on two occasions, properly trained radiation workers entered the restricted area without the thermoluminescent dosimetry required by administrative procedures.

b. Observations and Findings

On March 20, 1997, an engineer and a quality control inspector entered a high radiation area without wearing the thermoluminescent dosimetry required by Procedure AP 25A-001, "Radiation Protection Manual," Revision 2. The workers were wearing electronic dosimetry, and received 1 millirem and 2 millirem indicated dose, respectively. The licensee's computer controlled automated access system was not functioning at the time, and as workers manually logged onto the radiation work permit, they obtained electronic dosimetry but failed to obtain and wear their issued thermoluminescent dosimetry. While in the high radiation area, a worker noted that these two workers did not have thermoluminescent dosimetry. The workers exited the high radiation area while being escorted by a health physics technician. The licensee initiated PIR 97-0844 following the first occurrence on March 20, 1997, classified it significant, downgraded it to nonsignificant (thus deciding to not perform a detailed root-cause determination with detailed corrective actions), and closed it on April 23, 1997. Corrective actions included disciplining the workers involved, suspending radiological controlled area access to the two workers until they received retraining from the radiation protection superintendent, and discussing the event in the station newsletter admonishing all radiation workers to comply with radiation worker requirements. A PIR search identified one additional example of a worker inside the radiological controlled area without a thermoluminescent dosimeter, occurring in 1995.

On June 12, 1997, two mechanics entered the restricted area without dosimetry and without logging in on a radiation work permit as required by Procedure AP 25A-001. The licensee initiated PIR 97-1764 that day and classified it as significant, and as of the end of the inspection, had not closed it. The workers participated in a meeting in a room between the radiologically controlled area access desk and an acceptable but infrequently used door that led into the radiologically controlled area. The workers were not signed onto any radiation work permit. At the conclusion of the meeting, the workers recognized that they needed to obtain some measurements in support of the work they had discussed during the meeting. The workers used the infrequently used door to exit the meeting room and enter the radiological controlled area. After obtaining the measurements, the workers recognized their error and reported their error to health physics personnel. The workers were disciplined on June 27, 1997.

While these events were licensee identified, they are repetitive, suggesting that additional corrective action is needed to preclude future recurrence. The failure of radiation workers to wear the required thermoluminescent dosimetry during radiological controlled area entries is a violation of Technical Specification 6.11 (VIO 50-482/9710-08).

c. Conclusions

Radiation workers failed to ensure that they met all requirements prior to entering the radiological controlled area. These repetitive events demonstrate that corrective actions have not been successful in precluding recurrence.

R8 Miscellaneous Radiological Protection & Chemistry Controls

R8.1 Criticality Monitoring

a. Inspection Scope (92904)

The inspector reviewed the status of the licensee's compliance with the requirements of 10 CFR 70.24.

b. Observations and Findings

On June 24, 1997, the licensee received notification that their request for exemption from 10 CFR 70.24 criticality monitoring requirements was approved by the US NRC Office of Nuclear Reactor Regulation. The exemption stated that ". . . the staff concludes that the licensee's request for an exemption from the requirements of 10 CFR 70.24 is acceptable and should be granted. Accordingly . . . the Commission hereby grants Wolf Creek Nuclear Operating Corporation and exemption as described in Section II above from 10 CFR 70.24 . . . ."

c. Conclusions

The inspector concluded that the licensee was exempted from the criticality monitoring requirements of 10 CFR 70.24 provided that they maintained in effect the assumptions and conditions described in the letter granting the exemption.

P5 Staff Training and Qualification in Emergency Preparedness

P5.1 Emergency Plan Drill

a. Inspection Scope (71750)

The inspector observed emergency plan personnel actions in the technical support center during an activation drill.

b. Observations and Findings

On June 19, 1997, the licensee conducted a drill which required emergency plan personnel to respond to and activate the technical support center. Emergency plan personnel activated the technical support center within the required activation time, and the staff began initial response activities without the need for specific direction

from management personnel. Once the technical support center was activated, personnel conducted their initial briefing and established immediate priorities. The drill controllers then terminated the drill and asked the drill participants to conduct a critique. The critique was very detailed, and personnel raised concerns without apparent reservation.

c. Conclusions

The licensee conducted an effective technical support center activation drill, and critiqued their performance in an effective manner.

V. Management Meetings

X1 Exit Meeting Summary

The inspectors presented the inspection results to members of licensee management at the conclusion of the inspection on June 27, 1997. The licensee acknowledged the findings presented. In response to several issues, e.g., the issues discussed in Sections O6.2, O8.1, and R1.2, the licensee commented that if personnel failed to comply with adequate programs, then the ensuing events did not constitute a problem with corrective action, but with human performance. The inspectors acknowledged this concern. While human performance appeared to be a significant aspect of these occurrences, corrective actions must address human performance as well as programmatic adequacy.

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

ATTACHMENT

SUPPLEMENTAL INFORMATION

PARTIAL LIST OF PERSONS CONTACTED

Licensee

G. D. Boyer, Chief Administrative Officer
O. L. Maynard, President and Chief Executive Officer
B. T. McKinney, Plant Manager
R. A. Muench, Vice President Engineering
W. B. Norton, Manager, Performance Improvement and Assessment
C. C. Warren, Chief Operating Officer

INSPECTION PROCEDURES USED

IP 37551	Onsite Engineering
IP 61726	Surveillance Observations
IP 62707	Plant Operations
IP 71750	Plant Support Activities
IP 71707	Plant Ope ations
IP 92904	Followup-Plant Support

ITEMS OPENED, CLOSED, AN DISCUSSED

Opened

9710-01	VIO	Corrective lenses for respiratory protection equipment (Section O6.1).
9710-02	VIO	Overtime Requirements (Section O6.2).
9710-03	VIO	Containment tours during forced outage (Sections 08.1 and 08.2).
9710-04	IFI	Evaluate final resolution of the P-11 input relay testing (Section M3.1).
9710-06	VIO	Restricted area entry without thermoluminescent dosimetry (Section R1.2).

Closed

50-482/9704-06	URI	Use of vendor technical manuals for selecting substitute parts (Section E8.1).
50-482/96-014	LER	Failure to comply with Technical Specification 4.5.2.c for visual inspection of containment (Section O8.1).
50-482/9618-02	VIO	Safety Injection Pump A operable - Mode 5 (Section O8.3).
50-482/97-009	LER	Failure to comply with Technical Specification 4.5.2.c.2 (Section O8.2)

Discussed

50-482/9709-02	URI	Fire Hose Covers (Section O8.4)

Opened and Closed

9710-05	NCV	Failure to meet Technical Specification 4.3.1.1 (Section E4.1)

WOLF CREEK
NUCLEAR OPERATING CORPORATION

Gary D. Boyer
Chief Administrative
Officer

August 8, 1997
CO 97-0056

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Mail Station P1-137
Washington, D. C. 20555

Reference: Letter dated July 6, 1997, from T. P. Gwynn, NRC, to O. L. Maynard, WCNOC

Subject: Docket No. 50-482: Response to Notice of Violations 50-482/9710-01, -02, -03, and -06

Gentlemen:

This letter transmits Wolf Creek Nuclear Operating Corporation's (WCNOC) response to Notice of Violations 50-482/9710-01, -02, -03, and -06. Violation 9710-01 cites a failure to have instructions or procedures to ensure that licensed operators had appropriate corrective lenses available for use with self-contained breathing apparatus. Violation 9710-02 addresses examples of workers performing safety-related work in excess of the Technical Specification 6.2.2.f work hour limits. Violation 9710-03 identifies violations of Technical Specification Surveillance requirement 4.5.2.c.2. Violation 9710-06 identified two incidents of personnel entering the Radiation Control Area (RCA) with incorrect dosimetry.

WCNOC's response to these violations is provided in the attachment. If you have any questions regarding this response, please contact me at (316) 364-8831, extension 4450, or Mr. Richard D. Flannigan at extension 4500.

Very truly yours,

Gary D. Boyer

GDB/jad

Attachment

cc: W. D. Johnson (NRC), w/a
E. W. Merschoff (NRC), w/a
J. F. Ringwald (NRC), w/a
J. C. Stone (NRC), w/a

97-1641

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Vick L. Cooper, Chief
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Mr. Frank Moussa
Division of Emergency Preparedness
2800 SW Topeka Blvd
Topeka, Kansas 66611-1287

Corrective Steps That Will Be Taken And The Date When Full Compliance Will Be Achieved:

- A procedure to track and monitor adherence of Licensed Operator restrictions is being developed and will be issued by August 29, 1997.

- A reminder of the requirement that some licensed operators are required to have appropriate eye wear to wear SCBAs in the control room is being added to the training material involving the donning of SCBAs. This will be incorporated by August 29,1997.

Corrective Steps That Will Be Taken And The Date When Full Compliance Will Be Achieved:

- Department Heads will communicate to supervisors their expectations on adherence to work hour limitations. This will be completed by August 30, 1997.

- The Department Heads will communicate to employees their expectations on self tracking and reporting work hour limits. This action will be completed by August 30, 1997.

- The Plant Manager will meet with the Call Superintendents to communicate expectations for them to challenge each supervisor's justification for exceeding the work hour limitations. This meeting will be conducted by August 15, 1997.

- The Plant Manager will establish a performance indicator on approved work hour deviations by August 30, 1997. This indicator will be a tool for management monitoring of authorization frequency and justification.

- The Plant Manager will develop a method to monitor exempt employee hours worked. The expectation and method will be communicated to all supervisors and managers by September 15, 1997.

- Procedure AP 13-001, Revision 2, "Guidelines for WCGS Staff Working Hours", will be enhanced to provide better guidance. This revision will be completed by August 22, 1997.

- Quality Evaluations will monitor implementation of AP 13-001 during Refueling Outage Nine. The results of this monitoring will be made available to management by November 30, 1997.

The root cause of this event was determined to be inadequate program monitoring or management. The corrective actions following the concerns with the use of Technical Specification Clarifications addressed the need for literal compliance; however, Wolf Creek employees have failed to meet Operations' performance expectations when addressing literal compliance.

Corrective Steps Taken and Results Achieved:

- Licensee Event Report (LER) 97-009-01 was issued

- Status Charts provided incorrect information about performing containment inspections. These documents were initially revised to ensure compliance with Surveillance Requirement 4.5.2.c.2. However, upon the receipt of Technical Specification Amendment 105, the changes made to these documents were no longer required. Technical Specification Amendment 105 was received on June 23, 1997, and the R2 Status Charts were revised to address Amendment 105. This ensures compliance with Surveillance Requirement 4.5.2.c.2, and no further actions are required.

- The inability of the individuals involved to comply with Technical Specifications, along with the other noted occurrences of similar concerns, identifies the need for further site-wide discussions concerning the appropriate and expected use of literal compliance. This was addressed at site-wide meetings held during July, 1997.

Corrective Steps That Will Be Taken And The Date When Full Compliance Will Be Achieved:

- All Technical Specification Clarifications deleted after September, 1996, will be reviewed to ensure applicable information is captured in Operations' procedures. This review will be coordinated by Operations Support with the assistance of Licensed Operators. This review will be completed by August 12, 1997, and the appropriate procedure revisions will be completed by September 16, 1997.

- To ensure the proper completion of future containment inspections, guidance will be added to STS EJ-001 concerning the required performance and the scope of the inspection which should take place. This will be completed by August 31, 1997.

- To address the root cause of this concern, discussions of Management's Expectations and literal compliance will take place with each Shift Supervisor, Supervising Operator and appropriate members of Operations Training. These discussions will be conducted by the Manager Operations, and will be completed by August 31, 1997.

- AP 25A-100, "Containment Entry", will be revised to provide an acceptable definition of containment entry. Based on the receipt of Amendment 105, the procedure will also be revised to notify the Shift Supervisor, as required, to ensure completion of STS EJ-001 in accordance with Technical Specification Amendment 105. AP 25A-100 will be revised by August 31, 1997.

- WCGS Health Physics will submit a proposed design change to be evaluated using the design change process. This design change will be submitted by January 1, 1998.

UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
611 RYAN PLAZA DRIVE, SUITE 400
ARLINGTON, TEXAS 76011-8064

AUG 15 1997

Otto L. Maynard, President and
Chief Executive Officer
Wolf Creek Nuclear Operating Corporation
P.O. Box 411
Burlington, Kansas 66839

SUBJECT: NRC INSPECTION REPORT 50-482/97-10

Dear Mr. Maynard:

Thank you for your letter of August 8, 1997, in response to our letter and Notice of Violation dated July 10, 1997. We have reviewed your reply and find it responsive to the concerns raised in our Notice of Violation. We will review the implementation of your corrective actions during a future inspection to determine that full compliance has been achieved and will be maintained.

Sincerely,

for Thomas P. Gwynn, Director
Division of Reactor Projects

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

cc:
Chief Operating Officer
Wolf Creek Nuclear Operating Corp.
P.O. Box 411
Burlington, Kansas 66839

Jay Silberg, Esq.
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