APPENDIX

U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

Inspection Report: 50-482/94-03

License: NPF-42

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

Facility Name: Wolf Creek Generating Station

Inspection At: Coffey County, Burlington, Kansas

Inspection Conducted: February 27 through April 9, 1994

Inspectors: G. A. Pick, Senior Resident Inspector
J. F. Ringwald, Resident Inspector
D. R. Calhoun, Resident Inspector, Callaway

Approved: L. A. Yandell April 28, 1994
L. A. Yandell, Chief, Project Branch B Date
Division of Reactor Projects

Inspection Summary

Areas Inspected: Routine, unannounced inspection including plant status, operational safety verification, maintenance observations, surveillance observations, and followup on corrective actions for violations.

Results:

- The inspector identified a noncited violation because a chemistry surveillance procedure did not require independent verification of an emergency diesel generator fuel supply line sampling valve (Section 4.1).

- The inspector identified a vulnerability in the vital area barrier for the refueling water storage tank. Security personnel did not promptly seek resolution to a potentially inadequate vital area barrier. After identification by the inspector that the barrier could be circumvented, the licensee implemented appropriate actions (Section 2.1).

- The inspector identified a noncited violation because maintenance personnel failed to construct three scaffold members over two

safety-related batteries in accordance with the scaffold construction forms (Section 2.4).

- The licensee conducted an effective power uprate, which included increasing primary coolant average temperature (Tave) and, thereby, allowed them to achieve 100 percent thermal power (Section 2.2).

- During plant tours, the inspector identified several minor housekeeping issues that the licensee appropriately addressed (Section 2.3).

- Maintenance personnel properly conducted reactor trip breaker, hydrogen analyzer, and emergency diesel generator maintenance activities (Section 3).

- Instrumentation and control (I&C) technicians used unshielded test probes, which resulted in an inadvertent arc in a solid state protection system cabinet. The arc caused a fuse to fail that complicated the troubleshooting and repair during a 2-hour Technical Specifications action statement (Section 3.2).

- Generally, maintenance personnel implemented effective planning. Maintenance personnel did not retain the specific data that allowed them to effectively measure planning performance. Planned changes to the work control process have the potential to address the licensee personnel's planning concerns (Section 3.5).

Summary of Inspection Findings:

- Two noncited violations were identified (Sections 4.1 and 2.4).

- Violations 482/9327-03, 482/9327-05, 482/9329-02, and 482/9329-03 were closed (Section 5).

Attachment:

- Persons Contacted and Exit Meeting

DETAILS

1 PLANT STATUS (71707)

The plant operated at 97 percent power until March 9, 1994, when the licensee increased power to 100 percent, as part of a power uprate and increase in Tave (refer to Section 2.2). The plant operated at 100 percent power for the remainder of the inspection period.

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 and that the 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 Technical Specifications limiting conditions for operation, verification of corrective actions, and review of facility records.

2.1 Refueling Water Storage Tank Barrier

On March 22, 1994, the inspectors reviewed the licensee's plans to erect scaffolding for reinsulating the refueling water storage tank. Security personnel indicated that the erected scaffolding would defeat the vital area barrier ladder block. As compensatory measures, security personnel intended to replace standard locks with vital area barrier locks on the radiologically controlled area gates. Security management intended to implement the compensatory measure to avoid posting officers while craft personnel reinsulated the refueling water storage tank. After the inspectors completed their review of the licensee's plans and reported the results to NRC security inspectors, the licensee decided to post an officer as compensatory measures.

While inspecting the refueling water storage tank and in the presence of security management personnel, the inspector identified that the vital area barrier could be circumvented. Security personnel established compensatory measures by posting an officer. During initial discussions with security personnel concerning the potential vulnerability, licensee personnel made no attempt to verify adequate barrier protection.

From further discussions with security personnel and a review of historical documents, the inspector determined that the barrier had been inspected in the past by several NRC personnel and found to be appropriate. However, a resident inspector identified a previously unidentified vulnerability.

The inspector verified that the licensee made a required safeguards event log entry that described the incident and initiated Incident Report 3-22-1215 to assure proper resolution. In addition, the licensee initiated Performance Improvement Request (PIR) 94-0647 to assure long-term corrective actions would be implemented. The security manager expressed his expectation to all security managers, supervisors, and officers regarding the need to have a questioning attitude and each individuals' responsibility to self-identify and correct actual and potential deficiencies.

The licensee has implemented a modification to the ladder which the inspector concluded would provide an effective barrier.

2.2 Power Uprate/Increase in Tave (40500-01)

On March 7, 1994, the licensee began the power uprate activities specified in Procedure TP EN-159, "Power Uprate and Tavg Increase," Revision 0. This activity implemented Technical Specification Amendment 72, recalibrated equipment that enabled the licensee to operate with Tave at T-reference, and raised Tave to 586.5°F, which enabled the plant to achieve 100 percent thermal power. The inspector determined that Procedure TP EN-159 provided clear, detailed, strong guidance to operations and maintenance personnel. The inspector found Procedure TP EN-159 to be similar to Procedure TP TS-154, "Power Rerate and T-Hot Reduction," Revision 0, reviewed in NRC Inspection Report 50-482/93-29, paragraph 2.10.

On March 8, 1994, the inspector observed a portion of the surveillance activities required by Procedure TP EN-159. The inspectors observed I&C personnel perform Procedures STS IC-500E, "Channel Calibration DT/Tavg Instrumentation Loop 2," Revision 8, and STS IC-202A, "Analog Channel Operational Test of Tavg, DT, and Pressurizer Pressure Protection Set II," Revision 3. The inspector found the I&C technicians knowledgeable and conscientious. The I&C technicians maintained good communications on the status of the calibration activities with the control room staff. The I&C technicians discontinued Procedure STS IC-500E when they questioned the validity of a new calibration value for the upper and lower axial flux function generator card. Although the value specified in the procedure appeared correct (7.230 Vdc), additional reviews and discussions revealed that the numerals became distorted when reproducing the procedure. The I&C technicians verified the correct value to be 7.280 Vdc from the original document and continued the calibration activities.

The I&C technicians wrote work requests for test card problems encountered during calibration adjustments. The inspector observed an excellent turnover between I&C technicians during the performance of Procedure STS IC-202A. An offgoing I&C technician observed the oncoming I&C technicians perform a few steps that assured a smooth transition. The inspector reviewed Procedure Change Notices MI 94-0236, MI 94-0240, and MI 94-260 for impact on design-bases information and noted no problems. The inspector concluded that the I&C technicians performed the surveillance procedures well.

Overall, the inspectors concluded that licensee personnel demonstrated good control over the power uprate activities and that operators completed the power increase with appropriate conservatism. Management provided good oversight without exerting schedule pressure.

2.3 Plant Tours

On March 8, 1994, the inspector found a cable tray cover missing from the cable tray that supported the power cables for Residual Heat Removal Pump B and noted that a white dusty substance coated the cables. The inspector questioned whether the cables were contaminated. Health physics technicians determined that contamination existed and immediately extended the existing contaminated area boundary. The licensee initiated PIR 94-0559 and determined that the contamination probably came from Residual Heat Removal Pump B boric acid leakage. The licensee failed to identify any reason for the removed cable tray cover. Electricians replaced the cable tray cover and health physics technicians posted the cable tray as internally contaminated. The inspector concluded that the licensee implemented appropriate corrective actions.

On March 8, 1994, while observing decontamination activities, the inspector noted a corn chip bag lying on a drain in the corridor between the letdown filters and demineralizers. The licensee saved the bag and initiated PIR 94-0560. The licensee's investigation did not identify the source of the bag but did determine from the chip vendor that they used the particular bag style approximately 3 years previously. The inspector observed that the decontamination activities apparently splashed and sprayed water on area radiation monitors and on electrical receptacle boxes. The licensee addressed this concern with the decontamination personnel and verified that the decontamination work did not harm equipment in the vicinity. The inspector concluded that the licensee implemented appropriate corrective actions. On April 3, 1994, the licensee identified a candy wrapper near the location of the corn chip bag and initiated PIR 94-0723. Licensee management communicated strong concern and disapproval of this evidence of eating in the radiologically controlled area.

On March 10, 1994, the inspector found a lagging saw lying on top of Valve AE FV-510, Steam Generator A feedwater control valve. The licensee initiated PIR 94-0549 to evaluate the condition. The inspector concluded that the misplaced lagging saw posed minimal risk to plant or personnel safety.

On March 15, 1994, the inspector questioned the function of a yellow "E" sticker located on a spare NB02, Engineered Safety Features 4.16 kV Bus No 2, breaker cubicle. The licensee used the stickers to identify components that required manipulation during a control room evacuation in accordance with Procedure OFN RP-017, "Control Room Evacuation," Revision 0. The licensee initiated PIR 94-0616, confirmed that the sticker should not be located on the spare breaker, and removed the sticker. The inspector concluded that the licensee implemented appropriate actions.

2.4 Scaffolding

On March 10, 1994, the inspector identified two scaffolds in the Battery NK14 room and one scaffold in the Battery NK12 room that scaffold carpenters had not constructed in accordance with the requirements on the scaffold request forms. The scaffold request forms specified a minimum 2-inch clearance between scaffold members and any safety-related equipment and required that the batteries be covered. The inspector determined that the clearance between scaffold members at two points on the NK14 battery to be approximately 1.5 inches and that both the NK12 and NK14 battery cells were not covered. Discussions with the scaffold engineer revealed that the battery cells needed to be covered while constructing the scaffolding. The individual erred by not clearly specifying this requirement on the scaffold request form. The scaffold engineer determined that the points with clearance less than that specified on the scaffold request forms had no impact on the operability of the batteries because of the rigid scaffold design and low probability of relative motion.

The inspector found that neither the scaffold engineer nor the site scaffold coordinator took a measuring tool into the field to verify that the scaffolding met minimum clearances. The inspector concluded that the failure of the scaffold to be erected in accordance with the requirements of the scaffold request forms violated Technical Specification 6.8.1.a. This violation is not being cited because the licensee satisfied the criteria in paragraph VII.B.1 of Appendix C to 10 CFR Part 2 of the NRC's "Rule's of Practice." The engineer reevaluated the scaffold and determined the scaffolding was acceptable for use "as is." Consequently, the engineer revised the scaffold request form to reflect the existing as-built scaffolding construction. The licensee initiated PIR 94-0552 to document these issues and evaluate additional corrective actions.

The scaffold request form for the three scaffolds in the Battery NK12 and NK14 rooms required the scaffold tubing to be sleeved with plastic for electrical insulation. The inspector identified numerous places with torn sleeving. The scaffold constructors attached the "knuckle" tubing clamps over this sleeving and pierced the sleeving. Personnel attached one particular "knuckle" clamp in the Battery NK14 room slightly above and approximately 5 inches from an exposed battery terminal. The configuration increased the risk of a dropped tool shorting the battery terminal to ground. The licensee addressed the concerns in PIR 94-0552 and wrapped the "knuckle" clamps with plastic insulation.

The licensee implemented a new scaffolding program (refer to Section 5.1) 5 days after the inspector identified the violation. The licensee had not implemented the corrective actions associated with Violation 482/9237-03 prior to this violation and, therefore, could not have been reasonably expected to prevent this violation from occurring.

2.5 Conclusions

The inspector identified that a vital area barrier was ineffective. The licensee carefully executed a well-planned power uprate evolution. The inspector identified that scaffolding in two battery rooms had not been constructed in accordance with the scaffold request forms. The licensee responded appropriately to each of several minor housekeeping issues. Licensee personnel demonstrated good control over the power uprate activities.

3 MAINTENANCE OBSERVATIONS (62703)

During this inspection period, the inspectors observed and reviewed the selected maintenance activities listed below to verify compliance with regulatory requirements and licensee procedures, required quality control department involvement, proper use of caution tags, appropriate radiation work practices, calibrated test instruments, and proper postmaintenance testing. Specifically, the inspectors witnessed portions of the following maintenance activities:

- Reactor Trip Breaker
- Solid State Protection System Troubleshooting
- Hydrogen Analyzer A
- Emergency Diesel Generator A

3.1 Reactor Trip Breaker

On March 18, 1994, the inspector observed a portion of the periodic maintenance on a reactor trip breaker. The inspector noted that knowledgeable electricians properly performed the work in accordance with Procedure MPE M766Q-03, "Reactor Trip Switchgear Breaker," Revision 9. The inspector determined that the electricians properly meggered the reactor trip breaker in accordance with Procedure MGE EOOP-05, "Insulation Resistance Testing," Revision 8. A quality control inspector inspected the work performed, and the electricians used the proper tools.

3.2 Solid State Protection System Troubleshooting

On March 23, 1994, during the performance of Surveillance Procedure STS IC-203, "Analog Channel Operational Test 7300 Process Instrumentation Protection Set III (Blue)," Revision 15, the High-2 Containment Pressure Channel PB-935C failed. The inspector observed the subsequent troubleshooting and repair. I&C technicians tripped the channel in accordance with Technical Specifications and, while troubleshooting, identified a failed K-337 input relay. The licensee determined that the relay failure placed them into a 6-hour Technical Specification limiting condition for operation action statement. During the troubleshooting, the I&C technician's instrument uninsulated probes shorted to the frame, causing the fuse on the circuit card to blow. The I&C technicians replaced the fuse and

retested the channel satisfactorily. The licensee initiated PIR 94-0651 to evaluate the arcing caused by the test probes.

The work request specified that Reactor Trip Bypass Breaker A be closed to prevent an inadvertent reactor trip during the repair. The licensee entered Technical Specification 3.3.1, Functional Limit 19, Action 9. After completing the repairs, the system was restored to a normal lineup and the Technical Specification action statement was exited.

As the I&C technician unsoldered and lifted the leads from the relay lugs, the I&C technician did not immediately insulate the bare wire and, subsequently, the I&C technician released two of the wires allowing uncontrolled movement. The inspector did discuss this poor work practice with the technician's manager.

An I&C maintenance engineer, an I&C supervisor, and the I&C manager provided oversight and assistance during the troubleshooting and repair. The I&C technician documented the troubleshooting steps on the work request, followed the work instructions, and performed the soldering in accordance with Procedure INC S-0501, "Soldering Standards and Practices," Revision 5. A quality control inspector inspected every solder joint. The I&C technician used a cordless soldering iron to prevent unwanted electrical transients. The inspector noted good coordination between the technicians and operators. The replacement relay corrected the problem with the High-2 containment pressure channel. The I&C technicians performed surveillance tests that demonstrated operability of the channel.

3.3 Hydrogen Analyzer A

On March 24, 1994, the inspector observed a portion of the replacement of the Hydrogen Analyzer A calibration gas pressure switch, GS PS001A. The inspector determined that the replacement switch had appropriate quality documentation and that knowledgeable and competent I&C technicians followed good work instructions. The I&C technicians properly completed the replacement and performed appropriate surveillances to demonstrate operability of the analyzer.

3.4 Emergency Diesel Generator A

On April 4, 1994, the inspector observed a portion of the troubleshooting for a minor oil leak on Emergency Diesel Generator A. The inspector noted that the mechanics had a properly planned work request and had received the shift supervisor's permission to begin troubleshooting. The mechanics properly utilized the new troubleshooting instructions from Procedure ADM 01-057, "Work Request," Revision 29. At one point, one mechanic asked for alcohol to enhance cleaning. The inspector questioned the compatibility of the alcohol with the materials it would likely contact. The senior mechanic supervising the work directed that the mechanics not use alcohol and initiated PIR 94-0701. At the close of this report period, the troubleshooting activities to identify the oil leak continued.

3.5 Planning (40500-03)

The inspector reviewed the licensee's program implementation for planning work activities. Procedure ADM 01-057 described the process for preparing work requests. Procedure ADM 08-260, "Maintenance and Modification Guidance for Work Package Preparation," Revision 0, described the overall process for preparing work packages that included references to other applicable procedures.

The inspector evaluated the work planning process in the mechanical, electrical, and I&C maintenance departments. The three maintenance departments used three different approaches to maintenance planning. The inspector did not identify concerns relating to the differences but noted that the differences represented consistency challenges to the licensee. Discussions with planning personnel in each department revealed that they could plan Priority 1 work in 1-4 hours depending upon the extent of the quality control review required. This amount of time to prepare a work package could support all but the very shortest Technical Specifications action statement times.

The inspector asked the maintenance personnel for the percentage of work requests issued to workers as ready to work that required additional planning or caused problems because of inadequate planning. The maintenance personnel did not track planning problems, so this information was not available. Maintenance management stated that the only methods to track planning effectiveness resulted from PIR trending and work schedule trending.

The inspector asked the plant trending personnel to search the PIR database for maintenance planning issues. The search revealed more than 150 PIRs related to maintenance planning issues during the past year. Of these PIRs the inspector identified 21 clearly related to planning problems. Twelve PIRs resulted from mechanical maintenance planning deficiencies, seven PIRs resulted from electrical maintenance planning deficiencies, and two PIRs resulted from I&C planning deficiencies. While these PIRs demonstrated that there had been errors in planning, licensee personnel identified the majority of the problems before unsafe conditions existed. An example of these was planning that could have caused the licensee to unexpectedly enter Technical Specifications limiting conditions for operation and installing the incorrect components, but personnel discovered the error before declaring the system operable. The inspector did not identify any examples where planning errors created actual nuclear safety or personnel safety hazards.

The inspector asked the integrated plant scheduling group to search the work schedule trending database for work planning concerns. The integrated plant scheduling group maintained the work schedule trending database for work requests that were not worked as scheduled. A search of this database for planning deficiencies revealed a few examples of poor work planning, but this database only contained data since July 1993 and had a different threshold than PIRs.

The inspector questioned work planning personnel on the planned electronic work control system and found little concern and considerable enthusiasm. The current work control process frequently relies on handwritten paperwork requests. Interviews with work planning individuals revealed that the present process was vulnerable to work coordination problems and had the potential for misplaced documentation. All individuals interviewed eagerly anticipated the electronic routing features of the new process and expressed confidence that their concerns would be alleviated. Some individuals also noted that the current hard copy system made historical data retrieval difficult. This difficulty hampered the licensee's ability to learn from past successes and failures. The new process would permit on-line retrieval of historical work request information that should enhance future planning.

3.6 Conclusions

Generally, maintenance personnel properly performed work activities. I&C technicians performed well-planned troubleshooting and repair of the solid state protection system during a 6-hour action statement, but the activity became complicated by weak work practices. The inspector found maintenance planning to be effective. Maintenance did not have the capability to easily retain the data necessary to measure maintenance planning performance. The maintenance planning review did not identify any nuclear or personnel safety hazards attributed to the work planning process. The planned changes to the work control process have the potential to address the concerns expressed by maintenance planners.

4 SURVEILLANCE OBSERVATIONS (61726)

The inspectors reviewed this area to ascertain whether the licensee conducts surveillance of safety-related systems and components in accordance with Technical Specifications and approved procedures.

4.1 Emergency Diesel Generator

On March 2, 1994, the inspector observed licensee personnel perform Procedure STS KJ-005B, "Manual/Auto Start, Synchronization, and Loading of Emergency Diesel Generator NE02," Revision 19. The inspector determined that this surveillance satisfied Technical Specification Surveillance Requirement 4.8.1.1.2.a. In addition, the inspector observed a chemistry technician draw a fuel oil sample in accordance with Procedure STS CH-008B, "Emergency Diesel Fuel Storage Tank 4.8.1.1.2.e," Revision 10. The inspector noted that this surveillance satisfied Technical Specification Surveillance Requirement 4.8.1.1.2.e.

The inspector noticed that Procedure STS CH-008B did not require an independent verification for closing Valve JE V058, Fuel Oil Transfer Pump B discharge test connection isolation, and restoring the fuel oil sample line pipe cap. Subsequently, the inspector questioned whether operators independently verified the restoration of Valve JE V058 and/or the pipe cap. The shift supervisor promptly stated that Procedure CKL JE-120, "Emergency

Fuel Oil System Lineup," Revision 9, required independent verification for both the pipe cap and Valve JE V058 positions. The shift supervisor stated that independent verification should have been performed and initiated PIR 94-0499. Procedure AP 35-002, "Procedure Use and Adherence," Revision 0, Step 6.9.2, required independent verification when "It is important to ensure compliance because of the consequences of an error or omission in performance." PIP 94-0499 stated that, "If this valve (JE-V058) were left open and uncapped, it would present a serious fire hazard in the D/G room." This failure to independently verify the position of Valve JE V058 and the associated pipe cap violated Technical Specification 6.8.1.a. This violation is not being cited because the licensee satisfied the criteria in paragraph VII.B.1 of Appendix C to 10 CFR Part 2 of the NRC's "Rules of Practice." Subsequently, the licensee independently verified the valve closed and the pipe cap installed. In addition, the licensee changed the affected chemistry procedure to require independent verification. The licensee also plans to review the remaining chemistry procedures for similar safety issues that would require independent verification.

The shift supervisor further stated that a quality assurance auditor raised the issue of independent verification in chemistry procedures during Quality Assurance Audit TE: 50140-K402, "Equipment Control," and in PIR 93-1149. Plant support closed PIR 93-1149 on November 15, 1993, and concluded that no problem existed because the valves would have little or no impact on safety if misaligned. The inspector concluded that the licensee's evaluation of PIR 93-1149 did not specifically address Procedure STS CH-008B and, therefore, missed a potential opportunity to address this issue. The PIR addressed chemistry procedures generically and did not attempt to do a detailed review that would have been required to identify this violation of site procedures.

The inspector observed the chemistry technician analyze the sample for particulates. The chemistry technician used good laboratory techniques while following the analysis procedure. The sample results showed particulates within specifications.

During the preparations for the emergency diesel generator surveillance, the inspector noted that the nonlicensed operator started the rocker arm prelube pump approximately 10 minutes prior to starting the emergency diesel generator. However, Procedure STS KJ-005B directed the nonlicensed operator to start the pump approximately 5 minutes prior to the start of the emergency diesel generator. In addition, a note informed the nonlicensed operator that the prelube pump controller would stop the pump after 5 minutes. The inspector verified that the pump had stopped by the time the engine started and asked the nonlicensed operator if this was appropriate. The individual referred to the procedure for guidance and questioned the responsible system engineer. The emergency diesel generator system engineer stated that this created no problem since the vendor recommended initiating a 5-minute prelube up to 30 minutes prior to a nonemergency start of the diesel engine. The system engineer questioned other nonlicensed operators, found similar misunderstandings, and initiated procedure changes to incorporate the vendor recommendation.

The inspector noted that the operator used a headset to communicate with the control room after the emergency diesel generator started but had considerable difficulty hearing the control room operators. The inspector questioned the communication problems, determined that operations considers this a problem, and noted that operations was evaluating better methods of communicating with the nonlicensed operators in the emergency diesel generator rooms.

4.2 Auxiliary Feedwater Pump Suction Pressure Low Transfer to Essential Service Water Test

On April 1, 1994, the inspector observed qualified I&C technicians perform Procedure STS IC-260, "Analog Channel Operational Test Auxiliary Feedwater Pump Suction Pressure Low Transfer to ESW," Revision 10. The inspector noted that this satisfied Technical Specification Surveillance Requirement 4.3.2.1, Table 4.3-2, Functional Unit 6h.

Procedure STS IC-260, Step 4.1.2, required the I&C technicians to use a Fluke 8600A digital multimeter; but the I&C technicians used a Keithly digital multimeter. While Procedure ADM 08-807, "I&C Group Surveillance Testing," Revision 10, Step 5.3.4.1, allowed technicians to use equivalent test equipment during the performance of surveillance testing, the inspector noted that the I&C technician did not identify the use of the Keithly digital multimeter. Consequently, the completed surveillance documentation suggested that the I&C technicians used a Fluke digital multimeter. The I&C supervisor agreed that the I&C technician should have noted the use of an equivalent multimeter and stated that this expectation would be communicated to all I&C technicians.

The inspector concluded that the I&C technicians performed the surveillance properly. The inspector further concluded that the I&C supervisor took appropriate actions.

4.3 Conclusions

Surveillance testing appropriately demonstrated the operability of safety-related equipment. The inspector identified a noncited violation because a test procedure failed to require that chemistry personnel independently verify the position of an emergency diesel generator fuel supply line sample valve. Inadequate equipment hampered communications between a nonlicensed operator and the control room. I&C technicians inaccurately documented the test equipment used during an analog channel operational test.

5 FOLLOWUP ON CORRECTIVE ACTION FOR VIOLATIONS (92702)

5.1 (Closed) Violation 482/9327-03: Improper Scaffold Construction

This violation involved the construction of scaffolding that did not meet the program requirements. The licensee attributed the violation to an inadequate procedure and weak communication between the responsible engineer and the scaffold carpenters. Immediate corrective action involved removing the

subject scaffolding, walking down all existing scaffolding in safety-related areas, and walking down the auxiliary building to verify that no undocumented scaffolding existed. Subsequently, licensee personnel performed a second walkdown in all safety-related areas. Corrective actions included counselling for scaffold carpenters. The licensee changed the affected procedure to require that an engineer inspect all newly erected scaffolding in safety-related areas prior to releasing the scaffolding for use. The inspection activities continued until the licensee upgraded the scaffolding program.

The licensee upgraded the scaffolding program to provide clear guidance for the design and construction of scaffolding and to define when engineering must be involved. Training for the scaffold carpenters included adding the procedure to required reading and conducting detailed shop briefings. Engineering and quality assurance have planned a followup review after the new program has been in place for 5 months. The inspector concluded that the new scaffolding procedure represented significant improvement over the earlier program.

The inspector concluded that the licensee implemented strong corrective actions to prevent recurrence. The inspector further concluded that the new scaffold program represented an improvement over the previous program.

5.2 (Closed) Violation 482/9327-05: Failure to Complete Corrective Actions to Prevent Recurrence Documented on Licensee Event Report 93-003

This violation was issued because the licensee failed to correct all procedures with the potential to violate containment integrity while draining the system. The inspector identified that the licensee had not corrected weaknesses in Procedure SYS EG-401, "Component Cooling Water System Drain Procedure," Revision 0.

The inspector verified that the licensee revised the procedure to add a caution statement that identified the potential to violate containment integrity before the affected step. In addition, Procedure SYS EG-401 stated that dedicated operators would be stationed at Valve EG V090, component cooling water to reactor coolant pump (RCP) Penetration P-74 outside containment downstream test connection isolation; Valve EG V371, RCP thermal barrier component cooling water return header outside containment upstream test connection; and Valve EG V372, RCP coolers component cooling water return header outside containment upstream test connection, while they needed to maintain containment integrity. The licensee also included this event, as documented in PIR 93-1490, in required reading Item 93-253. The inspector verified that operations staff members listed in Special Order 1, "Crew Assignments," Revision 16, had performed the required reading assignment. No discrepancies were identified.

5.3 (Closed) Violation 482/9329-02: Guidance Inappropriate to the Circumstances

This violation was issued for two examples of improper restoration of clearance orders. In the first example, a maintenance supervisor released the clearance order even though all work had not been completed. The licensee attributed the root cause of this instance to be the failure of the maintenance supervisor to verify that personnel completed all work listed on the clearance order. In the second example, a maintenance supervisor released a clearance order after maintenance personnel completed the emergent work without verifying that the scheduled work, which included installing a tank manway, had been completed. Both of these examples resulted from personnel not directly involved in the work activity releasing the clearance order as maintenance supervisors.

The licensee implemented appropriate corrective actions that consisted of discussing the event with mechanical maintenance personnel; issuing a memorandum that management expectations for individuals who accept/release clearance orders; and revising Special Order 5, "Safety Tagging," to delete the ability of craft personnel to sign as maintenance supervisor onto clearance orders. The mechanics and electricians reviewed all open clearance orders to identify personnel who had signed onto the clearance order as a maintenance supervisor. The licensee assigned a responsible individual's name to each clearance order as acceptor to assure proper restoration in the future. In addition, licensee management distributed PIRs 93-1407 and 93-1565, related to the events within the mechanical maintenance department.

The inspector interviewed a number of mechanical and electrical department personnel to verify that maintenance management briefed them on this occurrence and to ascertain their understanding of the clearance order process. All craft received information on the events and were knowledgeable of the current clearance order process. Also, the licensee upgraded the clearance order program issued Procedure AP 04A-001, "Clearance Order," Revision 0.

5.4 (Closed) Violation 482/9329-03: Failure to Adequately Address a Deficiency

This violation was cited for the failure to implement corrective actions in the area of clearance order process for all craft personnel. By limiting the corrective actions to electrical maintenance personnel for a clearance order error, mechanical maintenance personnel caused a subsequent similar clearance order error. The licensee attributed the root cause to failure of the electrical maintenance manager to consider the generic applicability of the corrective actions. The manager did not evaluate the adequacy of the existing clearance order process administrative controls. Immediate corrective actions included discussing PIR 93-0982 with all organizations involved in the clearance order process.

The licensee initiated PIR 93-0019 that documented the inadequate corrective actions of PIR 93-0982. All managers received a memorandum with PIR 93-0982 attached in order to heighten their awareness of the need to consider global corrective actions and the need to assess whether procedure weaknesses caused personnel errors. The inspector interviewed several managers to verify that they had received the memorandum and to determine what corrective actions they implemented. The inspector reviewed both PIRs and the associated documentation to evaluate the corrective actions. The inspector determined that the licensee assigned the responsibility of evaluating PIRs for generic impact to nuclear safety engineering personnel in Procedure KGP-1210, "Performance Improvement Request," Revision 9. The inspectors reviewed guidance issued by nuclear safety engineering for evaluating PIRs and for taking actions when corrective actions had generic applicability. The inspector found that the licensee implemented appropriate corrective actions.

ATTACHMENT 1

1 PERSONS CONTACTED

M. A. Blow, Health Physicists
P. W. Clarkson, Supervisor, Mechanical Maintenance
T. W. Coates, Supervisor, Instrumentation and Control Support
R. Q. Dunlap, Regulatory Compliance
D. L. Erbe, Supervisor, Security Operations
C. W. Fowler, Manager, Maintenance and Modifications
R. B. Flannigan, Manager, Nuclear Safety Engineering
W. J. Goshorn, Wolf Creek Coordinator, KEPCO
R. C. Hagan, Vice-President Nuclear Assurance
S. J. Johnson, Engineer, Systems Engineering
R. E. Kopecky, Shift Supervisor, Operations
W. M. Lindsay, Manager, Quality Assurance
R. L. Logsdon, Manager, Chemistry
P. M. Martin, Assistant Manager, Operations
O. L. Maynard, Vice-President Operations
B. T. McKinney, Manager, Operations
R. W. Miller, Supervisor, Integrated Plant Scheduling
J. M. Pippin, Manager, Integrated Plant Scheduling
C. E. Rich, Jr., Manager, Electrical Maintenance
K. L. Scherick, Supervisor, Systems Engineering
R. L. Sims, Supervisor, Operations Support
B. B. Smith, Manager, Modifications
C. M. Sprout, Manager, System Engineering
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 April 8, 1994. During this meeting, the inspectors summarized the scope and findings of the report. The licensee acknowledged the inspection findings identified in this report. The licensee did not identify as proprietary any information provided to, or reviewed by, the inspectors.