APPENDIX B

U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

NRC Inspection Report: 50-482/89-13 Operating License: NPF-42

Docket: 50-482

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

Facility Name: Wolf Creek Generating Station (WCGS)

Inspection At: WCGS, Coffey County, Burlington, Kansas

Inspection Conducted: April 1-30, 1989

Inspectors: B. L. Bartlett, Senior Resident Inspector
Project Section D, Division of Reactor Projects

M. E. Skow, Resident Inspector, Project Section D, Division of Reactor Projects

Approved: _____ 5/11/89
E. J. Holler, Chief, Project Section D Date
Division of Reactor Projects

Inspection Summary

Inspection Conducted April 1-30, 1989 (Report 50-482/89-13)

Areas Inspected: Routine, unannounced inspection including plant status, operational safety verification, monthly surveillance observation, and monthly maintenance observation.

Results: The licensee was observed to promptly initiate corrective action regarding defective and questionable weld indications identified on fire protection piping. Personnel performing maintenance and surveillance testing were observed to perform competently and professionally. One apparent violation was identified regarding welder qualification (inadequate corrective action, paragraph 3.d).

DETAILS

1. Persons Contacted

Principal Licensee Personnel

B. Withers, President and CEO
*R. M. Grant, Vice President, Quality Assurance (QA)
*J. A. Bailey, Vice President, Operations
*F. T. Rhodes, Vice President, Engineering and Technical Services
*G. D. Boyer, Plant Manager
*R. W. Holloway, Manager, Maintenance and Modifications
*O. L. Maynard, Manager of Regulatory Services
*B. McKinney, Manager, Operations
*M. G. Williams, Manager, Plant Support
C. E. Parry, Manager, QA, WCGS
*A. A. Freitag, Manager, Nuclear Plant Engineering (NPE), WCGS
*R. B. Flannigan, Manager, Nuclear Safety Engineering
*W. B. Norton, Manager, Technical Support
*C. W. Fowler, Manager, Instrumentation & Control (I&C)
*R. S. Benedict, Manager, Quality Control
*W. M. Lindsay, Manager, QA
*C. J. Hoch, QA Technologist
J. Pippin, Manager, NPE
R. J. Potter, Manager, Supplier/Materials Quality
*S. Wideman, Licensing Specialist III
J. L. Blackwell, Fire Protection Coordinator
*S. F. Hatch, Supervisor, Quality Systems

The NRC inspectors also contacted other members of the licensee's staff during the inspection period to discuss identified issues.

*Denotes those personnel in attendance at the exit meeting held on May 5, 1989.

2. Plant Status

During the inspection period, the licensee operated at 100 percent power. There were no reactor trips or turbine trips.

3. Operational Safety Verification (71707)

The purpose of this inspection area was to ensure that the facility was being operated safely and in conformance with license and regulatory requirements. It also was to ensure that the licensee's management control system was effectively discharging its responsibilities for continued safe operation. The methods used to perform this inspection area included direct observation of activities and equipment, tours of the

facility, interviews and discussions with licensee personnel, independent verification of safety system status and limiting conditions for operation, corrective actions, and review of facility records.

Areas reviewed or observed during this inspection included, but were not limited to, control room activities, routine surveillances, engineered safety feature operability, radiation protection controls, fire protection, security, plant cleanliness, instrumentation and alarms, deficiency reports, and corrective actions.

Routine surveillance and operating activities witnessed and/or reviewed by the NRC inspectors are listed below:

a. As stated in NRC Inspection Report 50-482/89-04, paragraph 4.c, the licensee had previously determined that a small cladding defect existed. On April 24, 1989, the licensee's chemistry department issued a letter which stated that the reactor coolant system (RCS) sample showed that iodine-131 and xenon activity had increased. This may indicate that an additional small, fuel cladding defect had developed, although determining the difference between one and two cladding defects out of the 50,950 fuel pins in the reactor is at best difficult.

b. On April 1, 1989, a nonlicensed operator observed a pinhole leak in a section of Schedule 10 fire protection piping in the circulating water screen house (CWSH). The pipe section was ultrasonically tested (UT) on April 3, 1989, and was subsequently replaced. The replaced section was visually examined and radiographed. The licensee examined the lateral weld seam on 24 inches of the replaced pipe and determined that all 24 inches of the examined pipe had incomplete weld penetration. The licensee promptly initiated work requests (WRs) to UT additional CWSH fire protection (FP) piping and to install temporary piping to bypass the suspect header.

   The UT identified the motor driven fire pump (MDFP) discharge header as having incomplete weld penetration. The MDFP was removed from service and an administrative operations limit of 7 days was entered. A temporary header was installed around the degraded header and, following successful completion of surveillance tests, the MDFP was declared operable. UT of the diesel driven fire pump (DDFP) header gave results similar to the MDFP header. The DDFP was subsequently tied into the temporary header, tested, and declared operable. The licensee has ordered new pipe and will use it to replace the existing CWSH FP piping.

   The licensee determined that the problem was limited to FP piping located in the CWSH. The CWSH FP piping was supplied, installed, and hydrostatically tested by a vendor which did not install any other piping onsite. Also, the CWSH FP piping was ASTM A-135 seamed carbon steel (Schedule 10), which is the only Schedule 10 FP piping onsite.

The licensee's root cause evaluation is continuing.

The licensee was observed to take prompt and extensive corrective action in response to the initial pinhole leak. Appropriate management attention and priority were given to determining the extent of the problem and initiating corrective action.

c. On April 11, 1989, the NRC inspectors observed that the pressure transmitters on the discharge of the safety injection (EM) pumps were reading approximately 1000 psig. The licensee postulated that there was a slight amount of backleakage, through two checkvalves in series, from the RCS. This backleakage was going to the discharge header of the EM pumps pressurizing the header until leakage from the header would balance leakage into it. The pressure had been stable for some time at approximately 350 psig but had taken a step change to approximately 1300 psig in early 1989. The operators were instructed by licensee management to maintain the header below 1300 psig by depressurizing it through the safety injection test line. At first, the header had to be depressurized several times daily, but over several weeks the header achieved a new equilibrium of 950 psig. The temperature of the piping was not above ambient (indicating the backleakage is minute). RCS leak calculations indicated that leakage past RCS pressure isolation valves was within Technical Specification limits. If the leakage were to increase, it would be detected by changes in volume control tank makeup rates and RCS leak calculations.

NRC Information Notice No. 89-41, "Operator Response to Pressurization of Low-Pressure Interfacing Systems," was issued on April 20, 1989. The licensee was observed to promptly disseminate and evaluate the Notice for applicability to the RCS checkvalve backleakage.

The licensee continues to monitor the backleakage for any evidence of further degradation.

d. During this inspection, the NRC inspector noted that, on March 24, 1989, during a documentation review, the licensee identified that an unqualified welder had performed welding on a section of ESW line. During Refueling Outage III (November 1988), a weld repair had been initiated on the ESW warming line to the ESW screenhouse and it was during this repair that a welder performed a type of weld for which he was not qualified. The licensee will reweld the line in order to ensure that a fully qualified weld has been installed.

The ESW warming line is used during cold weather operations to keep the intake forebay clear of ice. During the spring, summer, and fall months, the ESW warming line is not required. If the weld had failed during use, the leak would not have damaged any safety-related equipment and the leaking water would have returned to the ultimate heat sink by way of the ESW screenhouse floor.

Enforcement Action 87-213, dated March 17, 1988, Violation A, Example 6.c, cited the licensee for a previous example of a welder performing a weld for which he was not qualified. The licensee's corrective action to this previous violation included requiring supervisors to verify qualifications prior to assignment of welders to specific tasks. These corrective actions were apparently inadequate to prevent a recurrence. The welder in question had failed a qualification test administered during the fourth quarter of 1988 for the type of welding associated with the ESW warning line repair. Even though the welder had failed the welding test, the supervisor assigned this welder to perform this type of welding in November 1988. This is an apparent violation (482/8913-01).

Overall, the licensee's program for operational safety appears to be effective.

4. Monthly Surveillance Observation (61726)

The purpose of this inspection area was to ascertain whether surveillance of safety-significant systems and components were being conducted in accordance with Technical Specifications (TS). Methods used to perform this inspection included direct observation of licensee activities and review of records.

Items in this inspection area included, but were not limited to, verification that:

- Testing was accomplished by qualified personnel in accordance with an approved test procedure.
- The surveillance procedure was in conformance with TS requirements.
- The operating system and test instrumentation calibration was within its current calibration cycle.
- Required administrative approvals and clearances were obtained prior to initiating the test.
- Limiting conditions for operation were met and that the system was properly returned to service.
- The test data were accurate and complete and that the test results met TS requirements.

Surveillances witnessed and/or reviewed by the NRC inspectors are listed below:

- STS IC-912, Revision 5, "Containment Hydrogen Analyzer GS-065A Calibration Test," performed April 25, 1989.

- STS IC-204, Revision 6, "Analog Channel Operational Test 7300 Process Instrumentation Protection Set IV (yellow)," performed April 26, 1989.

- STN AE-001, Revision 2, "Main Feedwater Isolation Valve Accumulator Discharge Test," performed April 24, 1989.

- STN AB-002, Revision 1, "Main Steam Isolation Valve Accumulator Discharge Test," performed April 24, 1989.

- STS MT-019, Revision 5, "125V DC Class 1E Quarterly Battery Inspection," performed April 25, 1989.

- STS AL-103, Revision 9, "Turbine Drive Auxiliary Feedwater Pump Inservice Pump Test," performed April 27, 1989.

Selected NRC inspector observations are discussed below:

a. During the performance of STS IC-204, the I&C technicians determined that portions of the protection set were out of the tolerance band allowed by the procedure, but within TS limits. The I&C technicians were observed to inform the shift supervisor, suspend the surveillance, and to initiate performance of a recalibration procedure.

b. During performance of STN AE-001, the NRC inspector observed that a tolerance band was not provided for the acceptance criteria. Procedure STN AB-002 was similar and did provide for a tolerance band in the acceptance criteria. When questioned, the operator stated that he too had noticed that a tolerance band was not provided and that he intended to submit a request to have one included in the procedure. The STN surveillance procedures are not directly required by TS; however, they do determine the operability of the tested equipment.

The licensee's program in this area appears to be adequate and well implemented.

No violations or deviations were identified.

5. Monthly Maintenance Observation (62703)

The purpose of this inspection area was to ascertain that maintenance activities of safety-related systems and components were conducted in accordance with approved procedures and TS. Methods used in this inspection area included direct observation, personnel interview, and record review.

Items verified in this inspection area included:

- Activities did not violate limiting conditions for operation and redundant components were operable.

- Required administrative approvals and clearances were obtained before initiating work.
- Radiological controls were properly implemented.
- Fire prevention controls were implemented.
- Required alignments and surveillances to verify postmaintenance operability were performed.
- Replacement parts and materials used were properly certified.
- Craftsmen were qualified to accomplish the designated task and additional technical expertise was made available when needed.
- Quality control hold points and/or checklists were used and quality control personnel observed designated work activities.
- Procedures used were adequate, approved, and up to date.

Portions of the selected maintenance activities were observed on the WRs listed below and related documents were reviewed by the NRC inspectors:

No.	Activity
WR 01583-89	Safety injection test line pressure indicator was over-ranged, needs to be calibrated
WR 01837-89	Perform flaw detection UT of all accessible seam welds in the fire pump discharge piping
WR 50744-89	Oil Change in CCW pumps
WR 50731-89	Semiannual maintenance on air compressor, DCKA01A

Selected NRC inspector observations are discussed below:

- WR 01583-89 was written on March 29, 1989. This WR is related to the EM system backleakage discussed in paragraph 3. The 0-3000 psig pressure indicator was inoperable due to the indicating needle being hooked under the zero stop. The I&C technicians freed the needle and checked to ensure that the indicator was still in calibration. In Block 38 of the WR, "Cause of Failure," the I&C technicians stated, "The needle showed signs of impact causing suspicion that the gauge had been given a sudden impact . . . ." When the NRC inspector pointed out to the I&C supervisor that the sudden impact could have occurred when the reactor operators depressurized the EM discharge piping through the test line, he stated that he would notify operations and evaluate the situation.

The activity inspected was effective with respect to meeting the safety objectives of the program.

No violations or deviations were identified.

6. Exit Meeting (30703)

The NRC inspectors met with licensee personnel (denoted in paragraph 1) on May 5, 1989. The NRC inspectors summarized the scope and findings of the inspection. The licensee did not identify, as proprietary, any of the information provided to, or reviewed by, the NRC inspectors.