APPENDIX

U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

NRC Inspection Report: 50-482/90-09 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 9-13, 1990

Inspectors: _____ 4/30/90
M. E. Murphy, Reactor Inspector, Test Programs Section, Division of Reactor Safety — Date

_____ 4/30/90
A. Singh, Reactor Inspector, Test Programs Section, Division of Reactor Safety — Date

_____ 4/30/90
D. L. Kelley, Reactor Inspector, Test Programs Section, Division of Reactor Safety — Date

Approved: _____ 4/30/90
W. C. Seidle, Chief, Test Programs Section Division of Reactor Safety — Date

Inspection Summary

Inspection Conducted April 9-13, 1990 (Report 50-482/90-09)

Areas Inspected: Announced inspection for system entry retest (SERT) in the areas of modifications, temporary modifications, and maintenance activities.

Results: The licensee had a strong program for determining the need for retest and for identifying the appropriate type of retests. The licensee also had a good program for development and performance of adequate procedures for retests of structures, components, and systems following plant modifications and maintenance activities. One minor observation was made; the licensee did not have any formal training program for the modification work request program. The licensee stated an intention to evaluate the need for such a training program.

DETAILS

1. PERSONS CONTACTED

WCNOC

*J. A. Bailey, Vice President, Nuclear Operations
*R. S. Benedict, Manager, Quality Control (QC)
*B. Bergstrom, Supervisor, Maintenance and Modification Services Group
*G. D. Boyer, Plant Manager
*H. K. Chernoff, Supervisor, Licensing
*A. B. Clason, Manager, Engineering Supervisor
*R. D. Flannigan, Manager, Nuclear Services
*C. W. Fowler, Manager, Instrumentation and Control
*J. F. Hall, QC Supervisor
*R. W. Holloway, Manager, Modification
*D. Hopper, Licensing Specialist
*W. M. Lindsay, Manager, Quality Assurance (QA)
*R. K. Lewis, Supervisor, Results Engineering
*M. H. Megehee, Supervisor, Compliance Engineering
*D. G. Moseby, Supervisor, Operations
*C. E. Parry, Director, QA
*J. M. Pippin, Manager, Nuclear Plant Engineering
*F. T. Rhodes, Vice President, Engineering and Technical Services
*H. L. Stubby, Supervisor, Technical Training
*S. Wideman, Senior Licensing Specialist
*J. A. Zell, Manager, Training
J. Gilmore, Supervisor, Operator Training
D. Naylor, Operations Support Supervisor
L. Nowles, Maintenance Engineering Specialist
B. Blecha, Maintenance Engineering Specialist

NRC

*C. E. Johnson, Reactor Inspector, Region IV

The inspectors also interviewed other licensee employees during the inspection.

*Denotes those attending the exit meeting conducted on April 13, 1990.

2. INSPECTION OBJECTIVES AND METHOD

The overall objective of this inspection was to determine the licensee's performance in the area of system entry retest identification, documentation, and performance.

To accomplish this objective, the inspection team determined that retest requirements were evaluated during modification and maintenance planning and that the retest procedures met regulatory requirements, commitments, and industry guides or standards. It was also determined that retest requirements

were considered for all system boundary violations. The inspection team also verified that the retests proved operability and assured that the design basis was satisfied for structures, systems, and components that were modified or subjected to maintenance during this refueling outage.

The inspectors reviewed the licensee's administrative procedures for design changes, temporary modifications, and maintenance. The procedures, which defined responsibilities and the retest requirements for the plant modifications, are listed in Attachment C.

Work items scheduled for the refueling outage in progress during this inspection were assessed. The inspectors selected 14 design changes and 14 maintenance-related work authorization packages for detailed review. The performance of one modification retest was observed.

3. INSPECTION FINDINGS SUMMARY

The licensee was found to have a strong program for identifying, planning, developing, and performing retest procedures. Retest requirements were addressed, in detail, in the areas of modifications and maintenance work. Responsibilities were well defined, and personnel experience was found to be very good at all levels of involvement. However, one observation was identified involving the lack of a formal training program for maintenance work request (MWR) or temporary modification (TM) programs. The present engineering experience level offsets the immediate need for such formal training programs, but with career advancement and attrition this experience level could become diluted.

There were no violations or deviations identified during this inspection.

4. MODIFICATION TESTING (72701, 37828)

The purpose of this part of the inspection was to determine the process by which a design change is developed, reviewed, installed, and tested prior to final close out of the modification packages. The inspector reviewed 14 plant modification request (PMR) packages and the associated retest packages. These PMRs are listed in Attachment A. The most extensive modification, PMR-2149, involved replacement of orifice bores, valves, fittings, pipes, and relocating a monitoring panel from the communication corridor to the control building basement. This panel houses the flow indicators, which monitor the service/essential service water flow to the ultimate heat sink (UHS) while remaining outside the radiological control area (RCA). The inspector found that appropriate tests had been specified and performed to assure the operability of the system. Appropriate tests had also been identified and performed for the other PMRs reviewed by the inspector. These PMRs are listed in Attachment A.

In each instance, operability of the component and/or system would have been verified upon completion of the required testing. The boundaries established for the testing were appropriate. Test exceptions were identified and

dispositioned. The tests reviewed contained appropriate system restoration instructions as well as turnover to operations procedures for the modified system. The tests reviewed included mechanical, electrical, and instrumentation and control testing. The inspector noted that provisions had been made to revise instructions, procedures, and drawings prior to operation of the modified systems or components. Timely retraining had also been specified when required.

The inspector also observed the post-modification hydrostatic test for the Reactor Coolant Pump seal throttle valve replacement. The operators who performed the test followed the established procedures. The inspector did not identify any descrepancies during the test. The test results met the acceptance criteria of the test.

There were no violations or deviations identified in this area of inspection.

5. TEMPORARY MODIFICATION TESTING (72701, 37828)

The inspector reviewed the licensee's temporary modification program, which was described and administratively controlled by Procedure ADM 01-228, "Temporary Modifications."

A temporary modification may be initiated by any plant personnel by completing the "requestor" section of a temporary modification order (TMO). The TMO is then subjected to a series of reviews that establish the safety classification, applicability of a 10 CFR 50.59 evaluation, need for independent verification, and an operations impact evaluation. Actual implementation can be commenced only if a maintenance work request (MWR) or a special procedure is initiated. Retest requirements for installation and restoration are evaluated and established under the MWR program or by specific steps in the special procedure.

The TMO log was reviewed and the subjects of the outstanding TMOs were determined to be of a minor nature and for the majority, not safety-related. At the time of the inspection, there were 87 TMOs open. Of these, 13 had been generated to support the refueling outage in progress. The licensee was actively pursuing a program to reduce the number of aged TMOs, and 32 were scheduled to be cleared by the implementation of permanent plant modification requests.

The licensee does not have any formal training program for the MWR or TMO program. Reliance is placed in on-the-job training and required reading programs. The licensee acknowledged that they have realized significant benefits from a formal training program in root cause analysis. The inspector concluded that with the recent extensive revisions to both the MWR and TMO procedures and programs, a similar, formal training program could be used to establish uniformity and eliminate inconsistencies in the modification testing area. The licensee stated an intention to evaluate the need for such a training program.

There were no violations or deviations identified in this area of the inspection.

6. POST-MAINTENANCE TESTING (72701)

This portion of the inspection dealt with the licensee's control and performance of post-maintenance testing.

The inspector concluded that the licensee had an effective program in place and it appeared to be functioning well. However, the inspector noted three minor problem areas: (1) not all work requests had the retests specified prior to releasing the work request to the field, (2) there appeared to be a lack of consistency in filling out the work requests (this appeared to be the result of the recent major revision to the work request procedure), and (3) a lack of direction as to when to enter N/A in work request form blocks instead of leaving them blank.

The inspector reviewed 4 administrative procedures and 14 work requests (see Attachment). An additional review was conducted of Interoffice Correspondence MA 90-0052, "Post Maintenance Testing."

The work request administrative Procedure, ADM 01-057, was revised and issued in March 1990. The revision was major in scope and included a new work request form. The new form and procedure appeared to be the cause of the inconsistencies noted during the work request review. The new form contains blocks for "pre-service [sic]" testing (i.e., post-maintenance testing) and "service" testing (i.e., operability testing). The old form only had one space for retest description and was somewhat confusing. The inspector found the revised procedure to be an improvement over the older procedure, but some clarification should be added. The procedure should specify that "N/A" be placed in blocks to signify that the item was reviewed and does not apply. The blocks, at present, may or may not be marked N/A depending on which individual filled out the form. The blocks for preservice and service testing are usually not filled out prior to releasing the work request to the field. At a minimum, basic preliminary tests should be specified. Additional tests can be added if the work scope is changed during the job performance.

At present there is no specific procedural guidance for evaluating or specifying post-maintenance testing ; however, Interoffice Correspondence MA 90-0052 does contain such guidance, and formal direction is being promulgated.

The work request samples examined contained completed and in progress work requests. In addition, some of the work requests were on the old form, and some were on the revised form. The new form is superior in specificity and clarity to the older form. The transition from the old form to the new one has caused some minor problems. The desirability of formal training in this area was previously discussed in paragraph 5 of this report.

The inspector concluded that the completed work requests and the in progress work requests which contained retest requirements satisfactorily addressed the post-maintenance test and operability of the systems and/or components upon which maintenance had been performed.

The inspector concluded that post-maintenance testing was satisfactory and that the proposed formal direction for post-maintenance testing will add to its effectiveness.

No violations or deviations were identified.

7. EXIT INTERVIEW

An exit meeting was held on April 13, 1990, with the personnel identified in paragraph 1 of this report. At the exit interview, the 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 inspectors.

ATTACHMENT A

Plant Modification Request (PMR) No.	Title	Date
PMR-948 Revision 6	Replacement of Reactor Coolant Pump Seal Throttle Valves	12/14/88
PMR-1482 Revision 3	Solid State Protection System Modification to Prevent Inadvertent Containment Spray	8/23/89
PMR-1544 Revision 4	Technical Specification Commitment Controlling Access to Areas Greater than 1R/HR	5/2/89
PMR-1754 Revision 1	Steam Generator 'D' Instrumentation Removal	11/1/89
PMR-1830 Revision 1	Diesel Generator Jacket Water Expansion Tank Level Drawing Changes	4/5/88
PMR-2149 Revision 4	Minimum Flow to Standby Service Water (EA) Components	3/15/90
PMR-2268 Revision 3	Containment Cooling Fan Vibration Switches	8/30/88
PMR-2287 Revision 2	Pressurizer Operated Relief Valve Block Valve Control	5/19/89
PMR-2492 Revision 1	Automatic Rod Control	11/3/89
PMR-2493 Revision 1	Reactor Cavity Permanent Seal Ring	1/18/90
PMR-2842 Revision 1	Air Lock Shop Shaft Seal Modification	3/14/90
PMR-2937 Revision 1	Mid-Loop Independent Level Indication	3/12/90
PMR-2987 Revision 0	NAMCO Limit Switches Replacement	7/21/89

WORK REQUESTS REVIEWED

WR-60039-90	Snubber Functional Test
WR-00821-90	RHR Train A & B Cooldown Valves
WR-04778-89	Remove/Reinstall DG Exhaust RTD
WR-02994-89	Vessel Vent Position Indication

WR-01414-90	EDG Cylinder Exhaust Thermocouples
WR-00787-90	Install/Remove Temporary Shielding
WR-00919-90	Lo Pressure Feed Heater Level Controller
WR-01528-90	Containment Cooler Leak Test
WR-01693-90	Containment Cooler Tube Bundle Repair
WR-91744-89	Limitorque Actuator
WR-60477-89	PM-Battery Charger
WR-05682-86	Limitorque Operator
WR-60179-89	12-inch Gate Valve Motor Operator
WR-60147-89	12-inch Gate Valve Motor Operator

ATTACHMENT B

QA Audits and Surveillances No.	Subject	Date
TE:50140-K196	Work Control	2/29/88
TE:50140-K234	Test Control	12/29/88
TE:50140-K246	Work Control	4/17/89
TE:50140-K268	Test Control	12/19/89
TE:53359 S-1700	Maintenance and Modifications of the Main Feedwater Control and Bypass Valves	12/13/88
TE:53359 S-1710	Chlorine Monitor Replacement	1/4/89
TE:53359 S-1714	Gamma Metric Cable and Detector Replacement	1/18/89
TE:53359 S-1739	Maintenance Program for Motor Operated Valves	6/7/89
TE:53359 S-1774	Reactor Trip Breaker Maintenance Program	1/3/90
TE:53359 S-1786	Pressurizer Safety Valve Rebuild	3/12/90

ATTACHMENT C

Procedure No.	Title	Date
ADM 01-042 Revision 16	Plant Modification Request Implementation	11/27/89
ADM-01-057 Revision 17	Work Request	4/4/90
KGP-1131 Revision 7	Plant Modification Process	4/4/90
ADM 01-228 Revision 0	Temporary Modifications	11/6/89
ADM 01-050 Revision 3	WCGS Operational Phase Verification Program	11/29/88
ADM 02-104 Revision 6	Instrument Out of Service Control	2/22/88
ADM 02-110 Revision 13	Control of Information Tagging	12/20/89
ADM 08-808 Revision 5	I&C Group Maintenance and Troubleshooting Activities	6/14/88
ADM 08-206	Corrective Maintenance	
ADM 08-203	Maintenance and Modification Organization	
ADM 08-201	Control of Maintenance and Modification	