



UNITED STATES
NUCLEAR REGULATORY COMMISSION

REGION IV

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ARLINGTON, TEXAS 76011-8064

FEB 10 1998

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

SUBJECT: NRC INSPECTION REPORT 50-482/97-22

Dear Mr. Maynard:

Thank you for your letter of January 30, 1998, in response to our letter and Notice of Violation dated December 29, 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.

With regard to your comments contained in Attachment II to your letter, we agree with your assertion that the conditions observed by the inspector did not represent a reduction in the margin of safety. We believe that the conditions noted by the inspector represented opportunities to further enhance safety but did not indicate a reduction in the safety margin for any previously analyzed condition. We also understand that the planned program for appearance enhancement was not a commitment and appreciate the additional information regarding Magne-Blast breaker troubleshooting activities.

Sincerely,

W. D. Johnson, Chief
Project Branch B
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

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FEB 10 1998

hcc to DCD (IE01)

bcc distrib. by RIV:

Regional Administrator

DRP Director

Branch Chief (DRP/B)

Project Engineer (DRP/B)

Branch Chief (DRP/TSS)

Resident Inspector

SRI (Callaway, RIV)

DRS-PSB

MIS System

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FEB 10 1998

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WOLF CREEK

NUCLEAR OPERATING CORPORATION

Otto L. Maynard
President and Chief Executive Officer

January 30, 1998

WM 98-0012

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

References: Letter dated December 29, 1997, from W. D. Johnson,
NRC, to O. L. Maynard, WCNOG

Subject: Locket No. 50-482: Response to Notice of
Violations 50-482/9722-01, and 9722-02.

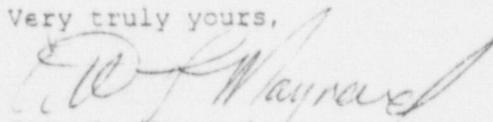
Gentlemen:

This letter transmits Wolf Creek Nuclear Operating Corporation's (WCNOG) response to Notice of Violations 50-482/9722-01 and 9722-02. The required due date for this response is January 30, 1998, per the telephone discussion of January 28, 1998, between Bill Johnson, USNRC, and Michael Angus, WCNOG.

Violation 9722-01 identified that the person procedurally, required to be stationed at the containment personnel hatch, with sole purpose to close the hatch, was assigned additional duties. Additionally, Control Room personnel were not able to contact the person when requested by NRC Inspectors. Violation 9722-02 addresses a failure of personnel during the post-trip review to identify an error in a 10 CFR 50.72 report.

WCNOG's response to these violations is provided in Attachment I. WCNOG has also elected to respond, in Attachment II, to other information contained in the report. If you have any questions regarding this response, please contact me at (316) 364-8831, extension 4000, or Mr. Michael J. Angus at extension 4077.

Very truly yours,


Otto L. Maynard

OLM/jad

Attachments

cc: W. D. Johnson (NRC), w/a
E. W. Merschoff (NRC), w/a
J. F. Ringwald (NRC), w/a
K. M. Thomas (NRC), w/a

98-0731

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ATTACHMENT I

Violation 50-482/9722-01:

"Technical Specification 6.8.1.a requires, in part, that written procedures be established, implemented, and maintained covering the applicable procedures recommended in Appendix A of Regulatory Guide 1.33, Revision 2, February 1978.

Regulatory Guide 1.33, Revision 2, February 1978, Section 2, recommends, in part, that procedures be established for general plant operations.

General Operating Procedure GEN 00-008, "Reduced Inventory Operations," Revision 5, Section 5.16.2, requires that personnel be stationed at affected containment hatches whose sole purpose is to close the hatch prior to the onset of core boiling in the event that decay heat removal is lost, and that a means of communication be established between the control room and the stationed personnel.

Contrary to the above, on November 13, 1997, the inspectors noted that the containment coordinator had been assigned the duty of closing the containment hatch while retaining the balance of the containment coordinator duties, and personnel were not able to contact the containment coordinator when requested by the inspectors."

Description of Violation

On November 13, 1997, Wolf Creek Generating Station (WCGS) was in a reduced inventory operational condition with both containment personnel hatches open. Procedure GEN 00-008, Revision 5, "Reduced Inventory Operations," step 5.16.2.2 states:

"If a containment penetration, personnel hatch, or equipment hatch will be open during reduced inventory conditions, then perform the following: 1) Ensure that all obstructions to the affected penetration or hatches can be removed within 30 minutes; 2) Station personnel at the affected penetration or hatches whose sole purpose is to close it off prior to the onset of core boiling in the event that decay heat removal is lost; and, 3) Establish a means of communication between the Control Room and the stationed personnel."

Prior to entry into Reduced Inventory Conditions the Control Room crew contacted the Containment Coordinator and verified an individual was available to close the containment personnel hatch. The Containment Coordinator accepted responsibility to close the containment personnel hatch. However, the Control Room crew did not adequately verify or communicate that a specific person was required to be stationed at the affected hatch, whose sole purpose was to close the hatch. Additionally, the Control Room crew failed to ensure that a means of communication between the Control Room and the stationed individual was established.

At the time of this event, two Containment Coordinators were on duty. One was in the Containment Building and would have been able to respond and close the hatch within the required time frame. The second was in an administrative support building and also would have been able to respond and close the hatch within the required time frame. Both were aware of their responsibility to close the hatch if required.

When the Control Room crew attempted to contact the Containment Coordinator, they were unable to reach him. It was later determined that the on-duty

Containment Coordinator was in the Containment Building at the tool crib. The Control Room crew was unsuccessful in contacting the Containment Coordinator by phone because the Coordinator's phone batteries were discharged. Attempts to contact the Containment Coordinator by the plant paging system were unsuccessful because of the general noise levels in and around the tool crib. They were successful in contacting the second Containment Coordinator who was in one of the supporting office buildings within the protected area. The second Containment Coordinator knew his responsibilities and the importance of closing the containment personnel hatch within thirty minutes. This individual was able to walk from his location to the containment personnel hatch in approximately ten minutes.

If an actual Containment evacuation had been required, then the Control Room usage of the Containment Evacuation Alarm would have resulted in the Containment Coordinator calling the Control Room by the Gaitronics system or by a land phone. This would have allowed sufficient time for the Containment Coordinator to close the door.

Safety Significance:

During the timeframe of reduced inventory operation, plant conditions and decay heat removal capability remained stable. Time to core boil was calculated at 77 minutes, which provided additional margin to achieve containment closure beyond the required 30 minutes. Additionally, personnel were available and able to respond to close containment within the 30 minute requirement. Therefore, there is no safety concern associated with this issue.

Reason for Violation:

Root Cause:

The Control Room Crew failed to implement step 5.16.2.2 of procedure GEN 00-008, Revision 5, "Reduced Inventory Operations." In addition, the Containment Coordinator incorrectly interpreted that "stationed" and "stationed at" had the same meaning. He accepted the responsibility for assuring the personnel hatch would be closed, if required, even though his additional duties prevented him from being stationed at the hatch, and from devoting sole duty to the closing of the hatch. The Control Room crew also failed to verify an adequate means of communication was available.

Contributing Factors

- The established procedures, GEN 00-008 and AP 21D-004, Revision 0, "Control Of Containment Penetrations During Shutdown Operations," were not adequate. Incongruent wording within the procedures contributed to the Control Room Crew failing to adequately implement Step 5.16.2.2 of GEN 00-008.

Corrective Steps Taken and Results Achieved:

- A dedicated individual was assigned to the Containment Personnel Hatch in accordance with the requirements set forth in Step 5.16.2.2 of GEN 00-008.
- Personnel responsible for implementing GEN 00-008 and AP 21D-004 were counseled.
- Procedures GEN 00-008 and AP 21D-004 were revised to clarify containment closure requirements during reduced inventory operational conditions.

Corrective Steps To Be Taken:

All corrective actions have been completed.

Date When Full Compliance Will Be Achieved:

Full compliance was achieved at 0915 on November 13, 1997, when an individual having the means to contact, and be contacted by, the Control Room was stationed at the containment personnel hatch. This person had specific and exclusive assignment to close the hatch if required.

Violation 50-482/9722-02:

"Criterion V of Appendix B to 10 CFR Part 50 requires, in part, that activities affecting quality shall be prescribed by documented instructions, procedures, and drawings appropriate to the circumstances, and shall be accomplished in accordance with these instructions, procedures, or drawings.

Procedure AP 20-002, "Post-Trip Review," Revision 0, Section 6.6.1, requires the shift supervisor or appointed senior reactor operator to ensure that the event is properly evaluated and analyzed. This review is to include a determination of whether all major safety-related and other important equipment involved in the trip operated as anticipated or expected.

Contrary to the above, on November 29, 1997, the appointed senior reactor operator signed the post trip review package recommending restart, yet failed to identify the error in the initial 10 CFR 50.72 report, which was part of the post trip data package. The initial report identified the cause of the start of both motor-driven auxiliary feedwater pumps as a low steam generator level below 23.5 percent, yet the steam generator levels did not approach or decline below the low level setpoint."

Description of Violation:

An Intermediate Range trip occurred at WCGS on November 29, 1997. Following the trip, the Shift Supervisor (SS) prepared the Emergency Notification System (ENS) worksheet to report the trip to the NRC Operations Center. Based on similarities in past situations, the SS incorrectly reported that the cause of the auxiliary feedwater activation was due to steam generator Lo-Lo level. The actual cause of the actuation was due to a trip of both Main Feed Pumps on high discharge pressure, which automatically starts both motor driven auxiliary feedwater pumps.

This incorrect information, included on the NRC notification form, was also included in the Post-Trip Review package. The night shift Outage Control Center (OCC) Operations Representative assumed responsibility as appointed Senior Reactor Operator (SRO) of the Post-Trip Review package. The OCC Operations Representative reviewed the post trip package to determine the cause of the trip, and to identify any potential restart issues. The ENS form was included as part of the package, but not specifically reviewed for accuracy. The OCC Operations Representative signed the Post-Trip Review at 2033 on November 29, 1997.

After the Post-Trip Review was signed, the NRC Senior Resident Inspector reviewed it and identified the incorrect information on the ENS form. The inspector brought the error to the attention of the OCC Operations Representative.

Safety Significance:

The mis-identification of the cause for the auxiliary feedwater pump start did not impact the evaluation of equipment response following the plant transient. As such there was no impact on plant or public safety, and this issue is not considered safety significant.

Reason for Violation:

Root Cause

The root cause for this incident was that the SS made a decision or judgment based on similarities to past situations without adequately evaluating the

current situation. As a result, the SS failed to record and report accurate information in the notification to the NRC per 10 CFR 50.72.

Contributing Factors

- The SS did not maintain an adequate mental focus on the particular situation or details involved with the performance of the task.
- Inattention to detail on the part of the appointed SRO when reviewing supporting documentation for the Post-Trip Review package resulted in the SS's error not being recognized in the Post-Trip Package review.

Corrective Steps Taken and Results Achieved:

- A follow-up 10 CFR 50.72 report was made to the NRC Operations Center on November 29, 1997, providing the correct information for safeguards equipment that started automatically as a result of the plant trip. The Post Trip Review package was reviewed again for accuracy by the originally appointed SRO, and by an additional SRO. The completed review was then approved by the Plant Safety Review Committee, and permission to restart the reactor was granted.
- The SS received job counseling from the Operations Superintendent for the error in recording and reporting to the NRC.
- The appointed SRO who reviewed the incorrect Post Trip Review report received job counseling from the Plant Manager.

Corrective Steps To Be Taken:

- Initial License Operator Training Program lesson plans related to Post Trip Reviews will be revised to include a discussion of this event.
- This concern will be addressed during the next Shift Supervisors' meeting.

Date When Full Compliance Will Be Achieved:

Full compliance was achieved on November 29, 1997, when the correct information was documented and provided to the NRC in the follow-up notification report.

Attachment II

This attachment provides WCNO's comments and observations relative to the content of NRC Inspection Report 50-482/97-22.

Mid-loop Safety Margin Concerns

In the Executive Summary and Section 01.3b the Inspectors identified four conditions concerning preparation for mid-loop operations. In Section 01.3c the Inspectors concluded that preparations for mid-loop operation had weaknesses in several areas that collectively reduced the safety margin. WCNO takes exception with the conclusion that these four observed conditions reduced the safety margin.

Pressurizer Safety Valve Flange Vent Path

The first observation presented in Section 01.3b was the questioning of the adequacy of the minimum hot leg vent path. The Inspectors specifically questioned whether an adequate vent path existed with the foreign material exclusion device installed.

Section 5.15 of procedure GEN 00-008, Revision 5, "Reduced Inventory Operations," requires a vent path of 17.46 square inches. One Pressurizer Safety Valve must be removed to assure an adequate vent path. When the safety valve was removed, a foreign material exclusion (FME) device was installed. This device was a piece of hard plastic approximately 1/8" thick, arched and taped on the flange in a manner that provided an adequate vent path throughout mid-loop operations. When the installation was questioned by the Inspectors, WCNO personnel took action to immediately alleviate their concern, then evaluated the original installation for adequacy. As stated in Inspection Report 97-22, subsequent evaluation of the FME installation determined that the arched plastic, as originally installed, met the minimum hot leg vent path criteria of 17.46 inches. Therefore the FME device did not unduly restrict the required vent path, and did not constitute a reduction in safety margin.

Monitoring of Core Exit Thermocouples

The Inspectors observed and questioned the installation of the in-core thermocouples used to monitor in-core temperatures. Section 5.17 of procedure GEN 00-008, Revision 5, "Reduced Inventory Operations," requires at least two core exit thermocouples be operable prior to draining to mid-loop. Instrumentation and Control (I&C) technicians enabled one group of thermocouples, but did not inform the operators which thermocouples had been connected. The operators had indication of which thermocouples were operable via the Nuclear Plant Information System (NPIS). This system provides indication of which inputs are providing reliable data, and the Operations staff is trained on the use of the computer. The I&C technicians also demonstrated to the Inspectors the ability to monitor the thermocouple output locally using a precision bridge.

The Inspectors questioned the operators' relying on apparently valid data to identify an operable thermocouple channel on the core cooling monitoring panel. WCNO appreciates the Inspectors pointing out this area for improvement, and, as an enhancement, the Plant Manager directed I&C personnel to provide a list of operable thermocouples to operators as a part of the formal preparations for mid-loop operation. However, WCNO maintains that at no time was the Control Room staff without the

ability to monitor at least two core exit thermocouples, as required by procedure. Therefore, there was no reduction in safety margin involved with the Inspectors' concern.

Residual Heat Removal Pump Power Sources

The third condition related to power sources during mid-loop operations. The Inspectors were concerned that both residual heat removal (RHR) pumps were powered from a single offsite power circuit, such that a single component failure in the one offsite power circuit would have caused the loss of both residual heat removal pumps. At all times during mid-loop operation, Wolf Creek was in compliance with the license required power sources stated in procedure GEN 00-008, Revision 5, "Reduced Inventory Operations." GEN 00-008 requires one of the following conditions to be met to consider both trains of RHR OPERABLE:

Condition I	Condition II
Two physically independent circuits between the offsite transmission network and the onsite Class 1E Distribution System, AND	One circuit between the offsite transmission network and the onsite Class 1E Distribution System*, AND
One OPERABLE emergency diesel generator, AND	Two OPERABLE emergency diesel generators, AND
One OPERABLE Class 1E 125 VDC System associated with the operable emergency diesel generator, AND	NK01 and NK04 OPERABLE
One energized Class 1E 125 VDC System other than the one taken credit for above	

* (This was the existing condition that was questioned by the Inspectors.)

The conditions described in GEN 00-008 are more restrictive than the MODE 5 and 6 requirements of Technical Specification 3.8.1.2 related to AC electrical sources. The conditions in GEN 00-008 in some cases would be more restrictive than MODE 5 and 6 Technical Specification 3.8.2.2, related to DC electrical sources. GEN 00-008 does not allow for a condition less restrictive than the MODE 5 and 6 DC source Technical Specification.

While WCNOG noted the Inspectors' observation, and stated that the practicality of providing two operable offsite power circuits would be evaluated, at no time did WCNOG acknowledge that the condition under discussion was a reduction in safety margin. Procedure GEN 00-008 meets or exceeds all Technical Specification requirements, and WCNOG was in full compliance with GEN 00-008 during the mid-loop evolution. Therefore this condition does not constitute a reduction in safety margin.

Containment Personnel Hatch Closure

The fourth condition identified in Section 01.3b was related to the stationing of a person at the personnel hatch as required by procedure GEN 00-000, Revision 5, "Reduced Inventory Operations." Section 5.16 of the procedure required Operations to station an individual at the Containment personnel access hatch whose sole purpose was to close the hatch prior to the onset of core boiling, if decay heat removal were lost.

The Containment Coordinator was assigned and understood this responsibility; however, the Containment Coordinator was also assigned additional duties such that he was not always stationed at the personnel hatch. Step 5.16 of GEN 00-008, also requires that an individual be stationed such that the personnel hatch can be closed within thirty minutes. This step is based on a commitment made in response to Generic Letter 88-17, as documented in letter ET 88-0193, and later revised by letter ET 92-0001.

Operations did not comply with the requirements of step 5.16 of GEN 00-008, and WCNOC acknowledges the validity of violation 9722-01. However, WCNOC does not agree with the Inspectors' conclusion that this action constitutes a reduction in safety margin. At the time of this event, two Containment Coordinators were on duty. One was in the Containment Building and would have been able to respond and close the hatch within the required time frame. The second was in an administrative support building and also would have been able to respond and close the door within the required time frame; therefore, no safety concerns existed.

As mentioned above, if an actual Containment evacuation had been required, then the Control Room usage of the Containment Evacuation Alarm would have resulted in the Containment Coordinator calling the Control Room by the Gaitronics system or by a land phone. This would have allowed sufficient time for the Containment Coordinator to close the door. Also, plant conditions were such that the personnel hatch would have been closed prior to the onset of core boiling (time to boil was 77 minutes). Because the procedural thirty minute time limit for closing the door would have been correctly implemented, no reduction in safety margin occurred.

In summary, WCNOC does not agree with the Inspectors' conclusion that the licensee preparations for mid-loop operation had weaknesses that collectively reduced the margin to safety for the following reasons:

1. An adequate vent path existed at the pressurizer safety valve flange throughout mid-loop operations.
2. At no time was the Control Room staff without the ability to monitor core exit thermocouples.
3. WCNOC maintains power sources in accordance with GEN 00-008 which is consistent with, or more conservative than, the Technical Specification requirements.
4. WCNOC maintained the ability to close the personnel hatch within the thirty minutes as required by procedure GEN 00-008.

Painting Of Essential Service Water Pump Room

Section M2.1b documented that engineering personnel indicated the plant painting and preservation performed in the auxiliary feedwater, emergency diesel, and emergency core cooling pump rooms was also planned for the essential service water pump room, and was scheduled to occur during 1998. While there is a planned program of appearance enhancement, WCNOC does not acknowledge a specific commitment to paint this area in 1998.

Trouble-Shooting During Magne-Blast Breaker Failure Investigation

The Executive Summary, Section E2.1b, and Section E2.1c identify a significant weakness with trouble-shooting activities that occurred during initial investigation of multiple failures of the "B" Residual Heat Removal Pump Breaker. WCNOC acknowledges that weakness with trouble shooting guidance and preservation of as-found data was illuminated during the Incident Investigation Team review of the Magne-Blast breaker starting problems. Upon identification of the concern, Performance Improvement Request (PIR) 97-3421 was initiated to track and document corrective actions.

WCNOC is currently evaluating industry best practices for trouble shooting and will make appropriate trouble-shooting program improvements based on these evaluations.

A checklist for trouble-shooting Magne-Blast breakers has been developed and validated by actual field use. This checklist will be used for future Magne-Blast trouble-shooting activities.