

WOLF CREEK

NUCLEAR OPERATING CORPORATION

Otto L. Maynard
President and Chief Executive Officer

JUL 7 1998

WM 98-0069

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

Reference: Letter dated June 12, 1998, from W. D. Johnson,
NRC, to O. L. Maynard, WCNOG

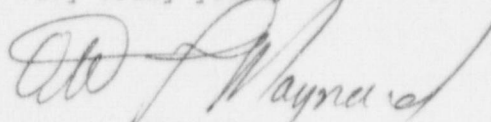
Subject: Docket No. 50-482: Response to Notice of
Violations 50-482/9813-01 and 9813-02 (EA 98-273)

Gentlemen:

This letter transmits Wolf Creek Nuclear Operating Corporation's (WCNOG) response to Notice of Violations 50-482/9813-01 and 9813-02. Violation 9813-01 identified two examples of failure to follow the clearance order procedure. The second violation (EA 98-273/9813-02) is related to WCNOG's identifying that we have been unable to perform certain post-accident sample system analysis within the allotted time and as such made a defacto change to the facility without a safety evaluation.

WCNOG's response to these violations is provided in the attachment. WCNOG has also provided comments on certain issues discussed 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/rlr

Attachment

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

9807140120 980707
PDR ADOCK 05000482
G PDR

Response to Violation 50-482/9813-01

Violation 50-482/9813-01:

"Technical Specification 6.8.1.a requires, in part, that written procedure 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 1.C, recommends, in part, that procedures be established for equipment control.

Procedure AP 21E, "Clearance Orders," Revision 7, Section 6.1.2.1.h, prohibits clearance orders from relying on other plant activities for establishing system configurations.

Contrary to the above,

1. On March 17, 1998, electricians removed breaker NG001AGF1 while Clearance Order 98-0250-EF relied on Procedure MGE EOOP-11 to establish isolation of the breaker from the bus, and
2. On April 15, 1998, electricians removed Breaker NG001ACR2 while Clearance Order 98-0317-EJ relied on Procedure MGE EOOP-11 to establish isolation of the breaker from the bus.

This is a Severity Level IV violation (Supplement 1) (50-482/9813-01)"

Description of Event:

On March 17, 1998, Wolf Creek Nuclear Operating Corporation (WCNOC) craft personnel were replacing 480 volt molded case circuit breaker NG001AGF1. While a craft person was terminating a wire, the "B" phase line side of the breaker became energized. The screwdriver that the craft person was holding went to ground on the breaker operating mechanism, causing an arc/flash. The craft person holding the screwdriver received a first degree burn to the tip of his middle finger of his right hand.

In response to the event, the clearance order used, 98-0250-EF, was reviewed, along with work package 101433, task 20, and procedure MGE EOOP-11, "Molded Case Circuit Breaker and Ground Fault Sensor Testing." Clearance order 98-0250-EF tagged the hand switch and breaker for Essential Service Water System valve, EF HV-0023 and tagged the valve in the closed position. The clearance order boundary was believed to be adequate to change out the breaker. Work package 101433, Task 20, referenced procedure MGE EOOP-11 for the breaker removal and installation. The wording in the procedure gave no indication of the close proximity of the bus bar.

Interviews determined that the Electrical Maintenance personnel involved in this event were aware of the boundaries set by the clearance. They realized that the load side of breaker was isolated and that the bus bars were energized. They also knew their work instructions would be used to pull the bucket to its disconnected position, where it would be secured by placing the screw and pawls mechanism in place to facilitate changing out the breaker. This clearance order/work instruction interface was the standard work practice for 480 volt molded case circuit breaker change outs.

The vendor manual recommends that when work at a molded case circuit breaker requires the cubicle bucket to be moved off the bus, then the breaker and cubicle bucket should be verified in the "lockout position." The "lockout position" was not known by the clearance order personnel, and it was not addressed in the work packages or procedure MGE EOOP-11 used during the March 17, 1998, work activities. The cubicle "lockout position" is when the hole in

the lower right corner of the bucket becomes aligned with the hole in the slide rail. The bucket is required to be secured in this position with an approved mechanical device. Vendor Instruction Manual for ITE Gould 5600 Series MCC E-018-00190 describes using the "lockout position" for maintenance activities, what the "lockout position" is, and how it should be used. Because the existence of the "lockout position" was unknown, the clearance order relied on maintenance work instructions and procedure MGE EOOP-11 to provide safe working conditions.

After the March 17, 1998, event, corrective actions were put in place to ensure that the "lockout position" was included in the work instructions. Additionally, the Clearance Order Summary Sheet was required to be used to inform the electricians of the mechanical device used to secure 480 volt breakers in the lockout position. The above actions were met during the April 15, 1998, event; however, at that time the conclusions related to the clearance order process were still under investigation, and the requirement that the isolation boundary be controlled solely by the clearance was not met.

In both examples, the clearance orders did not comply with the requirement of procedure AP 21E-001, "Clearance Orders," step 6.1.2.1.h which states: "Clearance orders shall not be prepared such that they solely rely on other plant activities (such as Local Leak Rate Testing (LLRT's) etc.) for establishing system configurations and/or conditions." Additionally, step 6.1.2.3 of AP 21E-001, states that a summary sheet should be used to "communicate technical information or safety concern."

Reason for the Violation:

The personnel performing the clearance orders were not aware of the vendor information regarding the "lockout position" and due to this lack of knowledge did not have this information in the clearance order.

Contributing Factor:

Personnel relied on past experience with breaker change outs and, due to their lack of knowledge regarding the "lockout position" and the wording in maintenance procedure MGE EOOP-11, did not recognize the need for a Clearance Order Summary Sheet.

Corrective Actions to Prevent Recurrence

A representative cross-section of electrical maintenance procedures were reviewed. The possibility of other weaknesses involving the clearance order/breaker interference was researched and documented in Performance Improvement Request (PIR) 98-1152. This procedure review revealed no additional problems or concerns. Therefore, this issue is considered to be unique to 480 volt molded case circuit breakers.

The electrical maintenance procedures describe breaker maintenance activities being accomplished by either removing the breaker from the cubicle to complete the work or placing the breaker in the "lockout position" to work 480 volt molded case circuit breakers. As of March 20, 1998, when work at a molded case circuit breaker required the bucket to be moved off the bus, then the breaker and cubicle must be verified in the "lockout position." Additionally, a Clearance Order Summary Sheet is to be used to inform the electricians of the mechanical device used to secure 480 volt breakers in the "lockout position" during maintenance activities.

Electrical maintenance has completed training on the proper use and installation of the lockout device and the near miss. This training was conducted under T.I.N. IE1331601001.

Procedure AP 21E-001 was revised to require an applicable local control or "Do Not Operate" tag to be attached to the mechanical device when molded case circuit breaker maintenance is being performed and the bucket is required to be secured with an approved mechanical device.

Procedure AP 21E-001 was revised to require: 1) a qualified preparer prepare the clearance order down to and including the "prepared by" block, 2) a qualified preparer identify energy sources and determine isolation points, and 3) when positive boundaries are not practical, the clearance not be issued without adding special conditions/precautions to the attached Clearance Order Summary Sheet.

On May 22, 1998, a Clearance Order Group meeting was held and the proposed changes to procedure AP 21E-001 were discussed. The meeting addressed the tagging of the mechanical device, and the expected use of the Clearance Order Summary Sheet when complete isolation by the clearance is not practical.

Date When Full Compliance Will Be Achieved:

Full compliance has been achieved.

Violation 50-482/9813-02:

"10CFR50.59(b)(1) requires, in part that the licensee maintain records of changes in the facility, pursuant to this section, to the extent that these changes constitute changes in the facility as described in the safety analysis report. These records must include a written safety evaluation which provided the bases for the determination that the change did not involve an unreviewed safety question.

Updated Safety Analysis Report Chapter 18.2.3, "Post Accident Sampling System (II.B.3)," states, in part, that the licensee shall have the capability to promptly obtain reactor coolant samples of dissolved gases (e.g., H₂), and the combined time allotted for sampling and analysis should be 3 hours or less from the time a decision is made to take a sample.

Contrary to the above, on April 22, 1992, the licensee made a change in the facility as described in the Updated Safety Analysis Report without Commission approval and without performing a written safety evaluation which provided the bases for the determination that the change did not involve an unreviewed safety question. Specifically, following the failure of the reactor coolant dissolved Hydrogen analysis instrument in the postaccident sampling system, the licensee selected an alternate means of monitoring by using the secondary analysis method of performing grab samples which could not be performed within the 3-hour time limit prescribed in the Updated Safety Analysis Report.

This is a Severity Level IV violation (Supplement 1) (50-482/9813-02)."

Description of Event:

The Wolf Creek Generating Station (WCGS) Updated Safety Analysis Report (USAR) Section 18.2.3 states that the WCGS design provides an in-line monitoring system (for post accident monitoring). This system (the Post-Accident Sampling System, or PASS) includes provisions for monitoring reactor coolant system (RCS) Hydrogen in accordance with NUREG-0737 Section II.B.3.

NUREG-0737 Section II.B.3 specifies eleven criteria which a post accident sampling system must meet in order to perform its design function. The second of these criteria states:

"The licensee shall establish an onsite radiological and chemical analysis capability to provide, within the 3-hour time frame established above, quantification of the following:

- (a) certain radionuclides in the reactor coolant and containment atmosphere that may be indicators of the degree of core damage (e.g., noble gases; iodines and cesiums, and nonvolatile isotopes);
- (b) Hydrogen levels in the containment atmosphere;
- (c) dissolved gases (e.g., H₂), chloride (time allotted for analysis subject to discussion below), and boron concentration of liquids.
- (d) Alternatively, have in-line monitoring capabilities to perform all or part of the above analyses."

The WCGS design incorporated an in-line Hydrogen analyzer for measuring dissolved Hydrogen in the reactor coolant, as described in USAR Section 18.2.3.2. The in-line monitoring system is normally isolated; however, it could be manually initiated and operated after an accident.

The purpose of using an in-line monitor is to minimize personnel exposure. Provisions were also included for providing both diluted and undiluted grab

samples of the reactor coolant consistent with NUREG-0737. The grab samples are shielded to minimize personnel exposure while obtaining grab samples.

The PASS in-line liquid monitor used for Hydrogen analysis of the reactor coolant is a non-safety related in-line monitor. The Hydrogen analyzer was designed to be used during accident conditions only, not during normal plant operations. However, WCNOG takes no credit for the analyzer in our safety analysis and it is not included in our emergency response procedures. WCGS has the ability to vent the reactor vessel head to Containment during an accident. The Containment atmosphere is monitored with safety-related Hydrogen analyzers. Therefore, the inability to monitor Hydrogen in the Reactor Coolant System (RCS) is of low safety significance. Although the RCS Hydrogen analyzer is not functional, another method exists to take a grab sample and send it offsite for analysis. A computer draws the sample, which is moved from the sampling room to the shipper by a remote control cart. This allows WCNOG to take a sample and ensure worker safety, but does not meet NUREG-0737 requirements for timeliness. This method meets the NUREG-0737 requirements for backup sampling capability for in-line monitoring equipment. However, this backup method has been relied upon for an excessive period of time.

Replacing the Hydrogen analyzer was researched in 1991, and a plant modification initiated at that time. However, the high cost of replacement, combined with the low safety significance of the function, made the modification a low priority project. Recognizing that the Hydrogen analyzer was not functional, a USAR change was initiated in 1997. The USAR change described the use of the SJ-143 sample panel as an alternate to the PASS panel for obtaining Hydrogen samples and for analysis of these samples.

In 1996, WCNOG identified that there was a need to direct our attention toward literal compliance and full understanding of our regulatory commitments. Since that time, WCNOG employees have exhibited an increased sensitivity to the USAR and to literal compliance. On February 3, 1998, a system engineer reviewing USAR section 18.2.3 identified two concerns with this USAR change: 1) expected dose received by the individuals performing post-accident sampling could be in excess of NUREG-0737 limits, and 2) in the event of a loss of offsite power, emergency power is not supplied to a flow valve in the SJ-143 panel.

Reason for Violation:

The reason the NUREG-0737 requirements regarding the Hydrogen analyzer were not met, was a mindset that considered level of importance and safety significance, but failed to factor in regulatory requirements in decision making. This mindset, coupled with a failure to understand literal compliance, led to improper prioritization of repair/upgrade work on the Hydrogen analyzer or to consider the need to change the regulatory commitment.

Corrective Steps Taken and Results Achieved:

The issue of mindset and culture has been addressed by increased emphasis on expectations and literal compliance. The identification of this issue is indication that WCNOG personnel understands our regulatory requirements.

The incorrect USAR change request has been superseded, with references to the Hydrogen analyzer removed. USAR Change Request 98-044 was approved by the Plant Safety Review Committee on March 6, 1998.

WCNOG has embarked upon a USAR fidelity review and initiated Design Basis/Licensing Bases projects which are designed to increase the awareness of personnel to this type of issue. In addition, to improve the quality of Unreviewed Safety Question Determinations (USQDs), the number of personnel performing USQDs was reduced by half.

In letter WO 98-0047, dated May 11, 1998, from C. C. Warren, WCNOG, to the NRC, WCNOG proposed deletion of the commitment to provide in-line monitoring and grab sample capability for dissolved gasses (e.g., Hydrogen) in liquids (specifically, reactor coolant).

To ensure no similar situations exist, System Engineering performed a review of work packages open greater than two years on non-safety related systems to determine if any commitments were not being met. No items were identified.

As indicated above, WCNOG is currently performing a USAR Fidelity Review (SEL 97-044). The purpose of the review is to establish a general conclusion regarding the accuracy and completeness of the USAR.

Date When Full Compliance Will Be Achieved:

The appropriate actions will be taken to either revise the USAR or to pursue plant modifications based on the NRC's response to WCNOG's proposed commitment change. A schedule to achieve full compliance will be generated once NRC input is received on letter WO 98-0047.

Additional Information

Quality Evaluation Audits

The executive summary and Page 3 of Inspection Report 98-013 state:

"Two audit reports contained executive summary conclusions that generally agreed with the assessment described in the audit report, but also contained notable deficiencies. The reports did not clearly and consistently present all audit activities and conclusions. One executive summary conclusion could not be supported by the assessment and one report described two weaknesses without describing adequate corrective actions."

WCNOC's Response:

WCNOC has received positive comments in other Inspection Reports regarding our audit activities, and we are taking actions to ensure that the two reports discussed above are isolated cases. Quality Evaluation (QE) initiated PIR 98-1508 to document this concern and assess the depth of the issue. To evaluate the scope of the issue, previously qualified Lead Auditors, who are no longer part of the QE group, have been asked to assess one or two QE reports for the following:

- 1) Do comments made in the report have supporting objective evidence?
- 2) Are statements in the executive summary supported by the documentation in the body of the report?
- 3) Are areas of concern discussed in report adequately documented as to the need for a PIR or justification is provided explaining why no action is required as a result of the review?
- 4) Are conclusions reached that can not be drawn from the auditors work?
- 5) Does information provide an adequate basis for making management judgments?
- 6) Is the information presented in a clear, consistent, and logical manner

The PIR review of audit reports is scheduled to be completed by August 30, 1998. As an immediate action, QE management discussed the findings in IR 98-13 with auditors and reiterated expectations for attention to detail and the requirement that conclusions be supported and well documented in the body of the report. QE management will determine if further actions are needed based on the results of the review.

As an enhancement to their performance indicators, QE is in the process of establishing an independent committee to review certain reports (audits, surveillances and plant observations). The committee will grade these reports using criteria provided by QE and provide a score in the following areas:

- Criticality
- Use of Performance Based Methodology
- Writing Skills

QE intends to use this review and the performance indicator to provide feedback to the individuals and the QE group in order to improve the quality of the reports.

Maintenance Management Oversight for Repair/Rework on Main Steam Isolation Valve ABHV11

The executive summary and Page 7 of Inspection Report 98-013 states:

"Maintenance department management and supervisory oversight for the removal and replacement of the air oil pump on Main Steam Isolation Valve AB HV0011 was not effective for work on a safety-related component that invoked a short duration Technical Specification action statement."

WCNOC Response:

Completion of a four hour Limiting Condition of Operation (LCO) four minutes before it expires does not meet the expectations of WCNOC plant management, nor is it an example of our typical performance. Our critique of the job revealed some specific aspects which contributed to the work delays.

Supervisory oversight was not at the expected levels or the level normally exhibited by maintenance supervisors. The supervisor was in the field at the start of the clearance order hanging evolution, but then left as he felt this was a straight-forward evolution. Maintenance expectations have been reinforced with the individual involved utilizing the Management Associated Results Company (MARC) process.

The supervisor did not have a clear understanding of the LCO time limits for this job and, therefore, did not convey this information to the craft personnel. Criticality of time-sensitive jobs is normally part of the pre-job briefing activities. It is also expected that supervisors monitor schedule adherence during the work evolution. This particular job is simple in nature and normally does not require the full four hours to complete. Additionally, the craft personnel involved were knowledgeable and capable in the performance of maintenance activities in general, and a master mechanic was assigned to the task to ensure success of the activity.

Although inadequate oversight may have contributed to job performance, the excessive cycling of the newly installed pump was an unforeseen event which also contributed to the increased job duration. The pump had been tested approximately 3 weeks prior to the performance of the replacement in order to minimize the potential for operational problems. Had the pump performed as required, the LCO time would not have been nearly as close as it was.

The engineering evaluation of the air leak in the newly installed air oil pump was performed and the surveillance test for operability successfully completed. Engineering and Operations understood that the air oil pump would be removed immediately, because of concerns regarding the pump's service life with the air leak. Due to their knowledge of the planned corrective work, engineering did not quantify or bound the operability of the air oil pump in the operability evaluation. Based on the abnormal situation and increased level of involvement with the job, it is expected that some delay in completion time would occur.

Concerning the issue of the root cause analysis discussed on page 7 of the inspection report, the acting Mechanical Maintenance Superintendent (normally the assistant Superintendent) was not aware of the desire to do a root cause determination on the pump. However, the responsible supervisor and the normal Mechanical Maintenance Superintendent were aware of the desire to perform the analysis. A quarantine of the pump was not specifically requested as the superintendent did not expect anyone to be working on the pump or affect the 'as-found' condition of the pump.

In summary, WCNOC acknowledges that management involvement in this evolution did not meet our expectation. However, even with additional involvement, the issues encountered during this evolution would still have resulted in the LCO time frame being challenged.

Bill of Materials

The executive summary mentions a work package planning vulnerability and, page 7 of Inspection Report 98-013 states, in part: "...the inspectors noted that the bill of materials list contained parts applicable to more than one style of molded case breaker. As a result, the maintenance program relied on the electricians skill of the craft to ensure that the proper materials were selected...While this was an acceptable method of providing for safety-related parts, the inspector noted that this increased the vulnerability for human error."

WCNOC Response

WCNOC agrees that this was an acceptable method of providing for safety-related parts. In this particular case, WCNOC chose to change the bill of material. In general, we find our current practice acceptable and do not plan on changing our normal process. The bill of material is used by trained personnel that are qualified to perform their tasks. WCNOC does not consider this task beyond their level of ability.

Packing Leak on Valve GKV0767

Page 5 of Inspection Report 98-013 states:

"The inspectors noted that the status of packing leakage on valve GKV0767 had increased from 6 drops per minutes when identified on February 16, 1998, in Action Request 27487, to a steady stream on May 19, 1998. The notch cut in the plexiglass spray guard over the packing area was acting as a weir to the flow from the packing leakage, causing water to back up in the valve packing area. The inspectors determined that the valve is scheduled for repair during the week of August 17-23, 1998."

WCNOC Response

WCNOC does not consider the above statement to be either a negative or a positive comment, but a statement of fact. In accordance with WCNOCs programs and procedures for scheduling work, the packing leak was identified and scheduled for the next available work window based on the significance to the plant. The Control Building HVAC (GK) system is scheduled for work on a 26 week rolling schedule. Since the initial leak was identified, it has been scheduled for repair during the GK system outage in August 1998.

The increased leakage was evaluated for impact on the GK system. Valve GKV0767 is the flow control valve for the water flowing through the condenser. The valve is located on the downstream side of the condenser, and the valve packing is located on the downstream side of the valve's shutoff disc. With this configuration, the ability to control the flow through the condenser is not impacted. Since the valve is on the downstream side of the condenser, the flow going through the valve and packing leak passes through the condenser. The packing is located on the back side of the shutoff disc and the ability to shut off flow through the condenser is not impacted. Thus the valve's ability to pass full design flow and/or shut off the flow is not affected. The condenser's heat removal capability is not affected as a result of the packing leak. Therefore, it was concluded that the leak had no impact to system operability, and that no change in schedule was necessary.