

Otto L. Maynard President and Chief Executive Officer

AUG 0 5 1998

WM 98-0080

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

> Reference: Letter dated July 6, 1998, from A. T. Howell III, NRC, to O. L. Maynard, WCNOC

Subject: Docket No. 50-482: Response to Notice of Violations 50-482/9805-02, 9805-03, 9805-05, and 9805-06

Gentlemen:

Attached is Wolf Creek Nuclear Operating Corporation's (WCNOC) response to the Notice of Violation (NOV) that was transmitted by the referenced letter. The NOV cited four Level IV Maintenance Rule violations requiring a written response.

WCNOC understands and appreciates the importance and significance of the Maintenance Rule. We recognize the generic implications of the findings in this inspection report, as well as those identified in the WCNOC's March 1998 self-assessment and the recently completed periodic assessment. The corrective actions taken and planned, as outlined in the Attachment, indicate WCNOC's intention to further identify, address, and correct Maintenance Rule Program issues at Wolf Creek Generating Station (WCGS).

WCNOC is developing an integrated Maintenance Rule Program Improvement Plan to address the issues identified in the above mentioned reports and assessments. This improvement plan, which will be developed by September 5, 1998, will establish appropriate completion dates for each of the corrective actions discussed in this report. Those completion dates will be no later than March 27, 1999. This integrated improvement plan will result in a more effective program that meets all aspects of the Mai. *enance Rule.

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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,

Waynard

Otto L. Maynard

OLM/rlr

Attachment

cc:	W.	D.	Johnson (NRC), w/a
	E.	W.	Merschoff (NRC), w/a
	Β.	Α.	Smalldridge (NRC), w/a
	К.	Μ.	Thomas (NRC), w/a

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Response to Violation 50-482/9805-02

Violation 50-482/9805-02:

"10 CFR 50.65(b)(2) requires, in part, that the scope of the monitoring program specified in paragraph (a)(1) shall include certain nonsafety-related structures, systems, or components that are relied upon to mitigate accidents or transients, or are used in plant emergency operating procedures. 10 CFR 50.65(c) states that the requirements of this section shall be implemented by each licensee no later than July 10, 1996.

Contrary to the above, on July 10, 1996, functions associated with the following nonsafety-related structures, systems, or components were not included in the licensee's 10 CFR 50.65 monitoring program scope:

- The essential function of primary communication during implementation of the emergency operating procedures. This function is normally provided by the public address and internal communications system (Gaitronics) or handheld radios.
- 2. The isolation function that is needed to mitigate a release of radioactive liquid and is provided by turbine building drainage system radiation monitors. The drainage system design included two flow paths to the facility heat sink reservoir. One path drained directly and the other through an oily waste separation system. These paths contained Process Radiation Monitors HFRT-45 and LERT-59 that provided alarm and automatic isolation of the flow paths."

Description of Event:

NRC Violation 50-482/9805-02 identified two functions associated with non safety-related structures, systems, and components (SSCs) that were not included in the Maintenance Rule Program scoping.

Function 1. --- Primary Communication

NRC Information Notice (IN) 97-18 cited two specific examples of systems (emergency lighting and communications) that licensees had excluded from the scope of their Maintenance Rule Programs. In May 1997, Industry Technical Information Program (ITIP) item 3716 and Performance Information Request (PIR) 97-1567 were initiated as a result of the Information Notice. The ITIP and PIR recommended that these deficiencies be evaluated for applicability to Wolf Creek Generating Station (WCGS).

In response to this recommendation, Wolf Creek personnel incorporated the subjects of the information notice into the re-scoping effort that began in June 1997. During that effort it was found that:

- Although emergency lighting was included in the original scope, the original scope was not adequate. This deficiency was corrected by placing the Emergency Lighting System in (a 1) status until the revised function(s) could be properly demonstrated as meeting a status of (a)(1).
- 2. The Plant Communication System was not included in the original scope. Plans whre then made to include this system during the 1997 re-scoping effort; however, the re-scoping effort did not adequately address the communication functions necessary to meet the intent of the Maintenance Rule Program.

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Function 2. --- Isolation of Radioactive Liquid Flow Paths

The Wolf Creek Maintenance Rule Program scope did not include non safety-related SSC functions of the Turbine Building Drainage System radiation monitors nor did it include the Secondary Liquid Waste System radiation monitors. These two functions were not appropriately scoped based on the consideration of the scoping criteria regarding mitigation of accidents and transients.

Reason for the Violation:

The root cause identified during the investigation of this violation is that information contained in Regulatory Guide (RG) 1.160 and IN 97-18 was not adequately evaluated for impact to Wolf Creek's scoping methodology for non safety-related systems. Wolf Creek personnel failed to recognize that the intent of RG 1.160 was to have licensees address within the Maintenance Rule Program those functions necessary to mitigate Updated Safety Analysis Report (USAR) events beyond those events discussed in USAR Chapter 15 and the Emergency Operation Procedures.

Corrective Actions Taken and Results Achieved:

- The necessary aspects of the various plant communications systems have been included within the scope of the Maintenance Rule Program, and placed under paragraph (a)(1) pending evaluation of performance history. This action was completed July 29, 1998.
- Process radiation monitors HFRT-45 and LERT-59 were reviewed by the Wolf Creek Maintenance Rule Expert Panel and formally included into the scope of the Maintenance Rule Program on July 31, 1998.

Corrective Actions to Prevent Recurrence

- A review of non safety-related SSC functions, including radiation monitors, will be made to identify additional functions to be scoped into the Maintenance Rule Program. This effort will include providing justification for those monitors that are determined not to be included in the Maintenance Rule Program, sufficiently documenting that justification, and retaining the documentation. The portion of this review associated with radiation monitors will be completed by September 5, 1998.
- A review of Communication System historical performance to validate the established performance criteria will be completed by September 5, 1998. Subsequent to this evaluation, the system will either be classified as (a)(2), or necessary goals and corrective actions will be developed to address identified performance issues.
- Scoping guidance relative to the inclusion of non safety-related SSCs will be revised to reflect current regulatory and industry guidance. Appropriate training will be provided to system, component, and program engineers, as well as the Maintenance Rule Program Expert Panel.

As noted in the cover letter, WCNOC is developing an integrated Maintenance Rule Program Improvement Plan to address the above issues identified in this response. This improvement plan, which will be developed by September 5, 1998, will establish appropriate completion dates for these corrective actions. As noted, corrective actions discussed in this report will be completed no later than March 27, 1999. Attachment to WM 98-0080 Page 3 of 11

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Date When Full Compliance Will Be Achieved:

Full compliance with respect to the specific examples identified in this violation was achieved on July 31, 1998, when the radiation monitors were included in the Maintenance Rule Program scope for Wolf Creek.

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Response to Violation 50-482/9805-03

Violation 50-482/9805-03:

"10 CFR 50.65(a)(3) states, in part, that licensees shall conduct evaluations of performance and condition monitoring activities and associated goals and preventive maintenance activities at least every refueling cycle, not to exceed 24 months between evaluations. Industry operating experience is to be taken into account, where practical. Adjustments shall be made where necessary to ensure that the objective of preventing failures of structures, systems, and components through maintenance is appropriately balanced against the objective of minimizing unavailability of structures, systems, and components due to monitoring or preventive maintenance.

Contrary to the above, as of April 20, 1998, the licensee had not performed the required periodic evaluation following the previous fuel cycle for which the outage ended on December 1, 1997. The licensee provided only a general review of maintenance and did not evaluate the performance of the applicable structures, systems, and components against their respective goals; failed to demonstrate effective preventive maintenance for structures, systems, and components that were being monitored under Category (a)(2); failed to identify how industry-wide operating experience was reviewed to identify potential problems that were applicable to the plant; did not evaluate corrective actions taken as a result of ongoing maintenance activities or goal setting to ensure actions were taken when appropriate or that adjustments were made, where necessary; and did not evaluate maintenance activities to determine whether the objective of preventing failures had been appropriately balanced against the objective of assuring acceptable structure, system, and component availability."

Reason for the Violation:

The root cause for this violation was failure of Wolf Creek personnel to fully understand the staff regulatory position on the requirements of 10 CFR 50.65(a)(3). Wolf Creek personnel incorrectly believed that an acceptable completion date for the (a)(3) evaluation would be July 10, 1998, and that there was still time to complete the evaluation before this date. The erroneous July 10, 1998, date and schedule deferral decisions for the (a)(3) evaluation were based on incorrect interpretation of the requirement. Additionally, as noted in the inspection report, the March, 1998, Maintenance Rule Program Self Assessment, SEL 98-012, commented that the (a)(3) assessment had not been started, but must be completed by July 10, 1998. As a result, the evaluation was scheduled to be performed in June, 1998. The (a)(3) evaluation was conducted in June, 1998, as scheduled, and the report was completed on July 9, 1998.

Corrective Actions Taken and Results Achieved:

 The Paragraph (a)(3) evaluation was conducted in June, 1998, and the report was accepted by the Maintenance Rule Program Expert Panel on July 9, 1998.

Corrective Actions to Prevent Recurrence

 Expectations for timeliness of actions necessary for effective compliance with Maintenance Rule Program requirements will be incorporated into procedural guidance. In addition to guidance requiring the timely completion of the periodic evaluation required by Paragraph (a)(3), these guidelines will include timeliness requirements for ongoing Maintenance Rule Program activities. Attachment to WM 98-0080 Page 5 of 11

As noted in the cover letter, WCNOC is developing an integrated Maintenance Rule Program Improvement Plan to address the above issues identified in this response. This improvement plan, which will be developed by September 5, 1998, will establish appropriate completion dates for these corrective actions. As noted, corrective actions discussed in this report will be completed no later than March 27, 1999.

Date When Full Compliance Will Be Achieved:

Full compliance with 10 CFR 50.65(a)(3) was achieved on July 9, 1998, when the assessment was completed and accepted by the Maintenance Rule Program Expert Panel.

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Response to Violation 50-482/9805-05

Violation 50-482/9805-05:

"10 CFR 50.65(a)(1) requires, in part, that the holders of an operating license shall monitor the performance or condition of structures, systems, and components as defined in 10 CFR 50.65(b), against licensee-established goals in a manner sufficient to provide reasonable assurance that structures, systems, and components are capable of fulfilling their intended functions. When the performance or condition of a structure, system, or component does not meet established goals, appropriate corrective action shall be taken.

10 CFR 50.65(a)(2) states, in part, that monitoring, as specified in 10 CFR 50.65(a)(1), is not required where it has been demonstrated that the performance or condition of a structure, system, and component is being effectively controlled through the performance of appropriate preventive maintenance and that the structure, system, or component remains capable of performing its intended function. 10 CFR 50.65(c) states that the requirements of this section shall be implemented by each licensee no later than July 10, 1996.

Contrary to 10 CFR 50.65(a)(2), as of July 10, 1996, the time that the licensee elected to not monitor the performance or condition of certain structures, systems, or components against licensee-established goals pursuant to the requirements of Section (a)(1), the licensee had not demonstrated that the performance or condition of certain structures, systems, or components within the scope of 10 CFR 50.65 had been effectively controlled through the performance of appropriate preventive maintenance, as evidenced by the following examples:

- 1. In July 1995, Essential Service Water Valve EFHV034 failed a surveillance stroke test when it did not completely close in response to a closure demand. In a similar manner, Valve EFHV031 failed to completely close in October 1995. These valves were essential service water containment isolation valves for two different containment fan cooling units. Moreover, the root cause analysis identified a total of two additional failures of Valve EFHV034 that had occurred within a 15-month period. Although at the time of testing, the valves were not demonstrated capable of performing their Maintenance Rule function, the failures were not identified as functional failures and, consequently, not evaluated for the occurrence of maintenance preventable functional failures. The root cause analysis identified the cause of the failures as improperly adjusted torque switches, and the implemented corrective action was to revise the maintenance procedure used to adjust the switches. Therefore, the licensee failed to demonstrate the performance of the containment isolation function when a repetitive maintenance preventable functional failure was not identified. For a repetitive maintenance preventable functional failure, the licensee's program required a mandatory change to Category (a)(1) monitoring.
- 2. The licensee failed to demonstrate that the performance of the main steam system was being effectively controlled through the performance of appropriate preventive maintenance on the safety-related, risk significant atmospheric relief valves. Specifically, the licensee failed to demonstrate it had established adequate measures to evaluate the effectiveness of preventive maintenance on the main steam system atmospheric relief valves prior to placing them in Category (a)(2). Functional failures of Atmospheric Relief Valves ABPV0002 and ABPV0003 occurred on May 5, 1995, and April 20, 1996, respectively, without being recognized. Allowing atmospheric relief valves to reach such a state before taking corrective actions did not demonstrate that preventive

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maintenance was effective to control their performance or condition to maintain the main steam system functions."

Reason for the Violation:

The root cause of this violation was inadequate assessment and incorporation of industry perience into the Maintenance Rule Program. This general lack of knowled of the regulatory requirements for Maintenance Rule Program implementation led to inadequacies and insufficient guidance in Wolf Creek Maintenance Rule Program procedures, which in turn, resulted in component failures not being identified as functional failures.

Contributing Factor:

There was a programmatic disconnect between the Maintenance Rule Program and the Corrective Action Program, in that corrective action procedure AP 28A-001, "Performance Improvement Request" did not provide sufficient guidance regarding initiation and disposition of a PIR for failures of SSCs that are scoped into the Maintenance Rule Program.

Corrective Actions Taken and Results Achieved:

The Containment Isolation System had already (February 18, 1998) been placed in (a) (1) status as the result of previous Maintenance Rule Program corrective actions. PIR 98-2206 was initiated to address the specific functional failures noted in Example 1 of this violation for Essential Service Water (ESW) valves EFHV034 and EFHV031 as repetitive Maintenance Preventable Functional Failures (MPFFs). The Main Steam System was placed in (a) (1) status on April 23, 1998, to evaluate current system performance and the applicability of the established performance criteria. PIR 98-2157 was initiated to address the functional failures identified in Example 2 of this violation.

Corrective Actions to Prevent Recurrence:

- Administrative Instruction AI 23M-004, "Maintenance Rule Performance Monitoring," and Administrative Procedure AP 23M-001, "WCGS Maintenance Rule Program," will be revised to incorporate improvements in the guidance for functional failure and repetitive MPFF determinations.
- Engineers responsible for Maintenance Rule Program SSCs will receive training on the improved guidance for determining functional failures and repetitive MPFFs. This will provide personnel with an adequate level of knowledge of the process to ensure accurate and consistent functional failure determinations are made.
- A review of past SSC failures will be performed to identify functional failures and and associated MPFFs that were not previously identified. The review will _______ de the most recent performance monitoring cycle associated with those functions within the scope of the Maintenance Rule. This action will provide assurance that current performance data accurately indicates the effectiveness of the maintenance being applied to those SSCs.
- Administrative Procedure AP 28A-001, "Performance Improvement Request," will be revised to provide guidance on PIR initiation for potential functional failures. This revision will also ensure the necessary level of evaluations and root cause determination is performed for potential and confirmed functional failures, commensurate with the level of safety significance of the affected SSC.

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As noted in the cover letter, WCNOC is developing an integrated Maintenance Rule Program Improvement Plan to address the above issues identified in this response. This improvement plan, which will be developed by September 5, 1998, will establish appropriate completion dates for these corrective actions. As noted, corrective actions discussed in this report will be completed no later than March 27, 1999.

Date When Full Compliance Will Be Achieved:

Full compliance was achieved on August 3, 1998, when the specific examples identified in this violation were identified as functional failures.

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Response to Violation 50-482/9805-06

Violation 50-482/9805-06:

"10 CFR 50.65(a)(1) requires, in part, that holders of an operating license shall monitor the performance or condition of structures, systems, or components, as defined in 10 CFR 50.65(b), against licensee-established goals in a manner sufficient to provide assurance that such structures, systems, or components are capable of fulfilling their intended functions. When the performance or condition of a structure, system, or component does not meet established goals, appropriate corrective action shall be taken.

10 CFR 50.65(a)(2) states, in part, that monitoring as specified in 10 CFR 50.65(a)(1) is not required where it has been demonstrated that the performance or condition of a structure, system, or component is being effectively controlled through the performance of appropriate preventive maintenance, such that the structure, system, or component remains capable of performing its intended function. 10 CFR 50.65(c) states that the requirements of this section shall be implemented by each licensee no later than July 10, 1996.

Contrary to 10 CFR 50.65(a)(2), as of July 10, 1996, the time that the licensee elected to not monitor the performance or condition of certain structures, systems, or components against licensee-established goals pursuant to the requirements of Section (a)(1), the licensee had not demonstrated that the performance or condition of certain structures, systems, or components within the scope of 10 CFR 50.65 had been effectively controlled through the performance of appropriate preventive maintenance. Specifically, the licensee failed to establish adequate reliability measures to evaluate the appropriateness of the performance of preventive maintenance for the following systems:

- The plant level performance measures established for monitoring the standby function of the excore neutron monitoring system were not adequate to determine the effectiveness of preventive maintenance to assure function performance. Specifically, performance measures lacked the capability of identifying failures of the system to provide a reactor trip signal when demanded.
- 2. The performance measures established for the reliability of the mergency diesel generators were inadequate, since not all failures were identified in tracking the effectiveness of maintenance. Specifically, the licensee failed to account for failures of the emergency diesel generators to start upon non-valid demands. In addition, some emergency diesel generator surveillances were not appropriately accounted for in evaluations against the established performance measure for unavailability.
- 3. The plant level performance measures for monitoring the standby function of radiation monitoring system (automatic isolation signals) were not adequate to determine the effectiveness of preventive maintenance to assure function performance. Specifically, a reliability measure was necessary to demonstrate that preventive maintenance was effective to ensure that system functions would perform as required."

Reason for the Violation:

The three cited examples of this violation indicate improper actions relative to the establishment of performance criteria for SSCs within the scope of the Maintenance Rule Program. The root cause of these events was the failure of Wolf Creek personnel to adopt the necessary evaluation logic to determine the Attachment to WM 98-0080 Page 10 of 11

appropriate performance monitoring criteria and methodology to ensure all aspects of system functions were captured.

Examples one and three are complicated by an incorrect understanding of what should be considered a standby system.

Example two, relative to the monitoring of the Emergency Diesel Generators (EDGs), indicates additional flaws in the logic involved in establishing performance criteria. The decision to utilize the INPO definition of unavailability for monitoring EDGs is rooted in the station's early implementation of the Maintenance Rule Program for the EDGs in response to Generic Letter 94-01. Wolf Creek failed to adjust this monitoring methodology subsequent to revisions to NUMARC 93-01 and RG 1.160 due to inadequate understanding of the implications of these revisions, and failure to adequately assess the impact of industry experience available relative to this issue.

Corrective Actions Taken and Results Achieved:

 SSCs identified in the inspection report as having inadequate performance monitoring requirements (performance criteria), as well as SSCs recently added to the scope of the rule where performance data was not available, are now classified under paragraph (a)(1) of the rule pending the development and validation of performance criteria and performance history.

Corrective Actions to Prevent Recurrence:

- Wolf Creek personnel will review all scoped SSC functions, and those proposed functions yet to be approved, to ensure adequate performance monitoring requirements are in place. This review will include a comparison of the function's operating classification against the definition of "standby" in RG 1.160, Revision 2. Those SSCs identified as not having adequate performance criteria will be classified as (a)(1) until proper performance measures can be established and (a)(2) performance demonstrated.
- The performance criteria for EDGs will be revised to reflect failure rates consistent with the assumptions in the Wolf Creek probabilistic safety assessment, clearly stating that potential functional failures, regardless of classification relative to NUMARC 87-00 guidance, are considered. Additionally, unavailability monitoring methodology for the EDGs will be revised to ensure instances of unavailability, consistent with the definitions provided in NUMARC 93-01 and Regulatory Guide 1.160, are captured. As stated above, the EDGs have been administratively reclassified as (a)(1) pending the review of historical data against these revised criteria.
- The practice of discounting surveillance and testing times from other SSCs where availability is monitored is currently under investigation to determine if other SSCs are affected.
- Wolf Creek Maintenance Rule Program procedures will be revised to clearly state rules for unavailability monitoring consistent with the definitions of Regulatory Guide 1.160.

As noted in the cover letter, WCNOC is developing an integrated Maintenance Rule Program Improvement Plan to address the above issues identified in this response. This improvement plan, which will be developed by September 5, 1998, will establish appropriate completion dates for these corrective Attachment to WM 98-C080 Page 11 of 11

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actions. As noted, corrective actions discussed in this report will be completed no later than March 27, 1999.

Date When Full Compliance Will Be Achieved:

Full Compliance was achieved on August 4, 1998, when the SSCs specifically identified in this violation were administratively re-classified (a)(1).