



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
REGION IV  
611 RYAN PLAZA DRIVE, SUITE 400  
ARLINGTON, TEXAS 76011-4005

July 25, 2006

EA-06-170

Rick A. Muench, President and  
Chief Executive Officer  
Wolf Creek Nuclear Operating Corporation  
P.O. Box 411  
Burlington, KS 66839

SUBJECT: WOLF CREEK GENERATING STATION - REVISED VIOLATION AND  
EXERCISE OF ENFORCEMENT DISCRETION 05000482/2005008-003 (NRC  
INSPECTION REPORT 05000482/2005008)

Dear Mr. Muench:

Thank you for your letter dated April 14, 2006, in response to our February 1, 2006, letter and inspection report. In your letter you contested one Green noncited violation of License Condition 2.C.(5), "Fire Protection (Section 9.5.1, SER; Section 9.5.1.8, SSER 5)," for failure to ensure that redundant trains of safe shutdown systems in the same fire area were free of fire damage. The Nuclear Regulatory Commission (NRC) inspection report concluded that a Green noncited violation of License Condition 2.C.(5) existed because of the Wolf Creek Generating Station's crediting the use of manual actions to mitigate the effects of fire damage in lieu of providing the physical protection required by 10 CFR Part 50, Appendix R, Section III.G.2.

Wolf Creek Nuclear Operating Corporation's (WCNOC) position is that the Wolf Creek Generating Station complied with the requirements of its approved fire protection program as defined in License Condition 2.C.(5); therefore, a violation did not occur. You believe that Noncited Violation 05000482/2005008-003 is a change in interpretation of WCNOC's licensing basis by the NRC Region IV inspectors. You have requested that the NRC reconsider our conclusion and find that a violation of License Condition 2.C.(5) did not occur. By letter dated May 8, 2006, we informed you that we were evaluating your letter and would inform you of the results of our evaluations.

In summary, the bases for your denial were: (1) WCNOC is not required by law to meet 10 CFR Part 50, Appendix R; (2) The Safety Evaluation Report does not require WCNOC to meet the requirements of 10 CFR Part 50, Appendix R; (3) Safety Evaluation Reports do not contain requirements; and (4) The exception to 10 CFR Part 50, Appendix R, Section III.G.2, was approved by the NRC as part of the original licensing basis for Wolf Creek Generating Station and has not been revised. The NRC conducted a detailed review of your response and the applicable licensing and regulatory documents. The results have been reviewed by NRC regional management and the NRC Office of Enforcement.

On the basis of a further review of this issue, the NRC confirmed that the use of local manual actions for fires other than in the control room was not originally incorporated into your approved fire protection program as defined by License Condition 2.C.(5)(a). Changes to the approved fire protection program in accordance with License Condition 2.C.(5)(b) could include local manual actions only if those changes do not adversely affect the ability to achieve and maintain safe shutdown in the event of a fire. The NRC has identified two examples where your use of manual actions introduces additional vulnerabilities related to human error, because of the nature of the actions and time allotted for completion, thus, adversely affecting the ability to achieve and maintain safe shutdown in the event of a fire.

In order to clarify our position, comply with NRC enforcement guidance concerning fire induced circuit failures, and to address certain aspects of your response, including backfit, we have determined that the noncited violation should be revised and re-characterized as an apparent violation for which the NRC will exercise enforcement discretion. The revised apparent violation is discussed in Enclosure 1. A summary of our evaluations of your letter and the basis for the NRC conclusions are provided in Enclosure 2.

At the time of your fire protection triennial inspection, rulemaking was in progress pertaining to the use of manual actions by plant operators coincident with fire detectors and an installed automatic fire suppression system in the fire area as an alternative method to achieve hot shutdown conditions in the event of fires in certain plant areas. The NRC subsequently withdrew the proposed rulemaking as documented in the *Federal Register* Notice dated March 6, 2006 (71 FR 1169).

The NRC has re-evaluated the noncited violation considering the enforcement discretion discussed in the March 6, 2006, *Federal Register* Notice. During the NRC inspection, the NRC found that your manual actions were acceptable as compensatory measures. Therefore, the finding has been re-characterized as an apparent violation related to failure to comply with the license condition requirements to implement the approved Fire Protection Program. This finding involved analysis of the effects of fire damage on circuits. These circuit vulnerabilities could, under certain postulated fire scenarios, adversely affect the ability to achieve and maintain safe shutdown of the facility. As discussed in the *Federal Register* Notice, licensees that have implemented compensatory measures and initiated corrective actions within 6 months (i.e., by September 5, 2006) of the publication dated of the *Federal Register* Notice will receive enforcement discretion for noncompliances associated with operator manual actions. The continuation of enforcement discretion guidance for 6 months is intended to provide a reasonable amount of time for licensees that have implemented operator manual actions as compensatory measures to initiate corrective actions. The enforcement discretion will continue provided the appropriate compensatory measures are maintained and the planned corrective actions are completed within 3 years of the withdrawal of the proposed rulemaking (i.e., March 5, 2009). With regard to this enforcement discretion, the NRC is in the process of developing enforcement guidance which will be issued in the near future.

Based on the above, the NRC is exercising enforcement discretion regarding this apparent violation because the issue was identified and appropriate compensatory measures were implemented prior to September 5, 2006. In order for the enforcement discretion to continue, you must also initiate your corrective actions by September 5, 2006, and complete those

corrective actions by March 5, 2009. The compensatory measures and your completed actions will be verified during future inspections.

In your letter you also requested that the NRC perform a backfit evaluation for the change in interpretation in accordance with 10 CFR 50.109, "Backfitting," if the noncited violation stood. As discussed in Enclosures 1 and 2, the NRC has evaluated your position and concluded that the disputed noncited violation should be recharacterized as an apparent violation of License Condition 2.C.(5). The NRC considers any analyses, modifications, or licensing actions to address this issue are required to bring your facility into compliance with its license and do not involve a backfit.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter and your response (if any) will be made available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of the NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Should you have any further questions, please contact Ms. Linda Joy Smith at 817-860-8137.

Sincerely,

**/RA/**

Dwight D. Chamberlain, Director  
Division of Reactor Safety

Docket: 50-482  
License: NPF-42

- Enclosures:
1. Apparent Violation
  2. Disputed Violation Evaluation and Conclusions
  3. Sections of Fire Protection Program Licensing Basis Documents
  4. Discussion of NUREG-0800, Section 7.3

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SUNSI Review Completed:  Y  ADAMS:  Yes  No Initials: LJS  
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R:\\_REACTORS\\_WC\2006\WC Denied NCV Response letter R4.wpd

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JMateychick/lmb	WBJones	LJSmith	KFuller	JLuehman	DDChamberlain
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WOLF CREEK GENERATION STATION  
INSPECTION REPORT 05000482/2005008  
APPARENT VIOLATION 05000482/2005008-003

Introduction. The team identified an Apparent Violation of License Condition 2.C.(5), Fire Protection (Section 9.5.1, Safety Evaluation Report (SER); Section 9.5.1.8, SSER 5), concerning failure to assure safe shutdown systems are protected in accordance with the provisions of the approved fire protection program. The licensee credited manual actions to mitigate the effects of fire damage in lieu of providing the physical separation, physical protection, or an appropriate diverse means of accomplishing the safe shutdown function, which adversely affected the ability to achieve and maintain safe shutdown in the event of a fire.

Description. Wolf Creek License Condition 2.C.(5) states:

- (a) The Operating Corporation shall maintain in effect all provisions of the approved fire protection program as described in the SNUPPS [Standardized Nuclear Unit Power Plant System] Final Safety Analysis Report for the facility through Revision 17, the Wolf Creek site addendum through Revision 15, and as approved in the SER through Supplement 5, subject to provisions b & c below.
- (b) The licensee may make changes to the approved fire protection program without prior approval of the Commission only if those changes would not adversely affect the ability to achieve and maintain safe shutdown in the event of a fire.

Standardized Nuclear Unit Power Plant System Final Safety Analysis Report, Appendix 9.5E, provided the design comparison between the plant's fire protection program and 10 CFR Part 50, Appendix R. The comparison to Section III.G, "Fire Protection of Safe Shutdown Capability," states, "Redundant trains of systems required to achieve and maintain hot standby are separated by 3-hour rated fire barriers, or the equivalent provided by III.G.2, or else a diverse means of providing the safe shutdown capability exists that is unaffected by the fire." (Emphasis added)

Wolf Creek Nuclear Operating Corporation has interpreted "diverse means" to mean by any reasonable means including local valve and breaker operations as long as they are within the scope of normal operator duties. The NRC found that the original fire protection program as approved in License Condition 2.C.(5)(a) required no local manual actions outside of the control room for fires other than a control room fire. Review of Wolf Creek Nuclear Operating Corporation documents E-1F9905, "Fire Hazards Analysis", Revision 0' and E-1F9900, "Post-Fire Safe Shutdown Manual Actions," Revision 0, identifies 23 fire areas in addition to the control room where a fire would now require local manual actions in accordance with the licensee's current fire protection program. The licensee considers the use of local manual actions to be acceptable in accordance with License Condition 2.C.(5).

For plants licensed after 1979, the NRC staff does not recognize the use of manual actions used in lieu of the protection means specified in 10 CFR Part 50, Appendix R, Section III.G.2, as meeting the regulatory requirements unless those manual actions do not pose an adverse affect on the ability to achieve and maintain safe shutdown. The components being operated

are identified as required for operation of safe shutdown systems or are subject to potential spurious operation impacting the shutdown. The local manual actions are being performed because of fire damage to electrical cables and are being used to compensate for damage to or maloperation of safe shutdown equipment caused by fire. The substitution of local manual actions for the physical separation of physical protection in the original approved fire protection program introduced additional vulnerabilities because of human error concerns. The NRC staff considers the current Wolf Creek Nuclear Operating Corporation fire protection program to provide a reduced level of protection to assure post-fire safe shutdown from that in the fire protection program approved in License Condition 2.C.(5)(a) and, therefore, does not meet the criteria of License Condition 2.C.(5)(b) for an allowable change not requiring prior NRC approval.

The case of a fire in Fire Area A-8, "Auxiliary building - El. 2000, general area Rooms 1301, 1302, 1306, 1307, 1308, 1311, 1312, 1313, 1314, 1315, 1316, 1317, 1318, 1319, 1320, and 1321," will be used for examples of local manual actions.

Example 1: In the fire protection program approved in License Condition 2.C.(5)(a), Standardized Nuclear Unit Power Plant System Final Safety Analysis Report, Appendix 9.5B, "Fire Hazards Analysis", Section A.8.7.2, "Safe Shutdown Capability," the licensee's evaluation of Fire Area A-8 stated, "the west corridor (Room 1301) contains circuits for the pressurizer PORV [power-operated relief valve] and the block valve on the same line: both are Train A valves (BB-PCV-445A and BB-HV-8000A). However, should the PORV fail open and the block valve fail as-is in the open position, the RCS [reactor coolant system] would blow down to the PRT [pressurized relief tank]. In this case, the control room operator would place the PORV in manual and close the PORV from the control room."

In the current fire protection program, an operator must open two electrical breakers on an electrical panel located two floors below the control room. The licensee's evaluation finds this acceptable based on analysis showing that if the spuriously opened PORV is closed within 5 minutes, the core will remain covered. The NRC considers this change to adversely affect the ability to achieve and maintain safe shutdown in the event of a fire because of the introduction of additional vulnerabilities related to human error not present in the fire protection program approved in License Condition 2.C.(5)(a) because of the nature of the actions and time allotted for completion. Therefore, the current fire protection program does not meet the criteria of License Condition 2.C.(5)(b) for an allowable change not requiring prior NRC approval.

Example 2: In the current fire protection program, a fire in Fire Area A-8 could damage circuits for normally closed Valve EJHV8811A and normally open Valve EJHV8812A. Spurious opening of Valve EJHV8811A would establish a drainage path from the refueling water storage tank (RWST) to the containment sump diverting the supply of water credited for providing sufficient boration for cold shutdown. The licensee estimates the RWST level would drop below the level required for boration to cold shutdown approximately 28 minutes after Valve EJHV8811A opens. Currently, the licensee must recognize the abnormal lowering of the RWST level and perform a local manual action to close Valve EJHV8812A within 28 minutes to respond to this spurious actuation instead of providing physical separation or physical protection of the circuits to one of the two valves. In the fire protection program originally approved in License Condition 2.C.(5)(a), Standardized Nuclear Unit Power Plant System Final Safety Analysis Report, Appendix 9.5B, "Fire Hazards Analysis", Section A.8.7.2, "Safe Shutdown Capability," the licensee's evaluation of Fire Area A-8 did not identify this issue or a

deviation for the use of a local manual action. Therefore, the use of this manual action was not approved in the original fire protection program as defined in License Condition 2.C.(5)(a). The NRC considers this change to adversely affect the ability to achieve and maintain safe shutdown in the event of a fire because of the introduction of additional vulnerabilities related to human error not present in the fire protection program approved in License Condition 2.C.(5)(a) because of the nature of the actions and time allotted for completion. Therefore, the current fire protection program does not meet the criteria of License Condition 2.C.(5)(b) for an allowable change not requiring prior NRC approval.

Analysis. This finding is of greater than minor safety significance because it impacted the mitigating systems cornerstone objective to ensure the availability, reliability, and capability of systems that respond to external events (such as fire) to prevent undesirable consequences. The team reviewed Procedure OFN KC-016, "Fire Response," and stepped through the manual actions directed in the procedure with licensee operations personnel for the sample fire areas selected for inspection. The team found that the manual operator actions were reasonable (as defined in Enclosure 2 of Inspection Procedure 71111.05T), could be performed within the analyzed time limits assuming prompt recognition of the condition by control room operators and could be credited as part of or in whole as a compensatory measure. Since the manual operator actions were considered reasonable as interim compensatory measures, the significance determination process was not entered.

Enforcement. Wolf Creek License Condition 2.C.(5) states:

(a) The Operating Corporation shall maintain in effect all provisions of the approved fire protection program as described in the SNUPPS Final Safety Analysis Report for the facility through Revision 17, the Wolf Creek site addendum through Revision 15, and as approved in the SER through Supplement 5, subject to provisions b & c below.

(b) The licensee may make changes to the approved fire protection program without prior approval of the Commission only if those changes would not adversely affect the ability to achieve and maintain safe shutdown in the event of a fire.

Standardized Nuclear Unit Power Plant System Final Safety Analysis Report, Appendix 9.5E, provided a comparison between 10 CFR Part 50, Appendix R, Section III.G, "Fire Protection of Safe Shutdown Capability," and the Standardized Nuclear Unit Power Plant System design. The Standardized Nuclear Unit Power Plant System response stated:

Final Safety Analysis Report, Appendix 9.5B, provides an area-by-area analysis of the SNUPPS power block that demonstrates that no single fire can prevent safe shutdown.

Redundant trains of systems required to achieve and maintain hot standby are separated by 3-hour rated fire barriers, or the equivalent provided by III.G.2, or else a diverse means of providing the safe shutdown capability exists and is unaffected by the fire.



The original fire protection program as approved in License Condition 2.C.(5)(a) required no local manual actions outside of the control room for fires other than a control room fire. This was confirmed by the NRC in the Wolf Creek Safety Evaluation Report, Supplement 3, which states, in part, "the systems identified for achieving and maintaining safe shutdown in the event of a fire are acceptable and the methodology used to assure adequate protection of safe shutdown systems is in accordance with Section III.G of Appendix R and, therefore, is acceptable."

Contrary to the above, the licensee implemented changes to the approved fire protection program without prior approval of the commission, such as the examples cited above, which adversely affected the ability to achieve and maintain safe shutdown in the event of a fire. Specifically, the licensee has implemented a methodology that utilizes local manual operator actions outside of the control room to mitigate the effects of fire damage in lieu of providing physical separation or physical protection from fire damage. The crediting local manual operator actions is less reliable than the originally approved fire protection program. The change to the approved fire protection program was an "adverse affect" on the ability to achieve safe shutdown in the event of a fire, as described in the Operating License Condition for the plant. The manual actions were not evaluated to ensure that they do not pose an adverse affect. The use of local manual operator actions outside of the control room is not sufficient to establish a diverse means unless the licensee can demonstrate the manual action does not pose an adverse affect in providing the safe shutdown capability unaffected by the fire or provide an adequate level of safety compared to the physical separation or physical protection allowed by the approved fire protection program. The team's review concluded that this violation meets the criteria for enforcement discretion for postulated fire induced circuit failures. This violation is being treated as an apparent violation: AV 05000482/2005008-03, Failure to Ensure Safe Shutdown Systems Are Protected In Accordance With The Provisions of The Approved Fire Protection Program.

WOLF CREEK GENERATING STATION  
INSPECTION REPORT 05000482/2005008  
DISPUTED VIOLATION EVALUATION AND CONCLUSIONS

Noncited Violation 0500482/2005008-03

Summary of Licensee Response and NRC's Evaluation

Wolf Creek Nuclear Operating Corporation Response: Wolf Creek Nuclear Operating Corporation denies Noncited Violation 05000482/2005008-03, Failure to Ensure Redundant Safe Shutdown Systems Located In the Same Fire Area Are Free of Fire Damage. Wolf Creek Nuclear Operating Corporation disagrees with several aspects of the characterization of the issue and, as such, the validity of the noncited violation. Wolf Creek Nuclear Operating Corporation's objections to the inspection report are as follows:

Objection 1:

Wolf Creek Nuclear Operating Corporation is not required by law to meet 10 CFR Part 50, Appendix R.

NRC Position:

The NRC concurs with this statement. Wolf Creek Generating Station was licensed in 1985. As a post-1979 plant, Wolf Creek Generating Station is not required by 10 CFR 50.48 to comply with 10 CFR Part 50, Appendix R. In accordance with 10 CFR 50.48(a)(1), Wolf Creek Generating Station must have a fire protection program that satisfies General Design Criteria 3 of Appendix A to 10 CFR Part 50. Wolf Creek Generating Station is required to follow its license condition, which established the approved fire protection program.

Wolf Creek License Condition 2.C.(5) states:

(a) The Operating Corporation shall maintain in effect all provisions of the approved fire protection program as described in the SNUPPS [Standardized Nuclear Unit Power Plant System] Final Safety Analysis Report for the facility through Revision 17, the Wolf Creek site addendum through Revision 15, and as approved in the SER [Safety Analysis Report] through Supplement 5, subject to provisions b & c below.

(b) The license may make changes to the approved fire protection program without prior approval of the Commission only if those changes would not adversely affect the ability to achieve and maintain safe shutdown in the event of a fire.

Safety Evaluation Report, Section 9.5.1.7, "Appendix R Statement," states, in part, "On April 27, 1981, the Commission required that Operating Licenses issued after January 1, 1979, contain a condition requiring compliance with commitments made by an applicant and agreed to by the staff after differences between the applicant's program and the guidelines set forth in Appendix A to Branch Technical Position 9.5-1 and Appendix R to

10 CFR Part 50 have been identified and evaluated." The fire protection program submitted to the NRC in the Standardized Nuclear Unit Power Plant System Final Safety Analysis Report and the Wolf Creek Generating Station site addendum contains numerous references to 10 CFR Part 50, Appendix R, used the requirements of 10 CFR Part 50, Appendix R, as the basis for demonstrating an acceptable fire protection program, and identified exceptions from the requirements of Appendix A to Branch Technical Position 9.5-1 and Appendix R to 10 CFR Part 50.

Objection 2:

The Safety Evaluation Report (NUREG-0881, "Safety Evaluation Report related to the operation of Wolf Creek Generating Station, Unit No. 1") does not require Wolf Creek Nuclear Operating Corporation to meet the requirements of 10 CFR Part 50, Appendix R.

NRC Position:

The NRC concurs with this statement. Safety Evaluation Report, Section 9.5.1.7, "Appendix R Statement," states, in part, "The applicant has provided in the FSAR [Final Safety Analysis Report] an evaluation of how he meets Appendix R and identified any exceptions." The NRC considered the approved fire protection program as defined in License Condition 2.C.(5)(a) to meet the technical requirements of Appendix R to 10 CFR Part 50, or provided equivalent protection. Wolf Creek Generating Station is not required to meet all requirements of 10 CFR Part 50, Appendix R. However, Wolf Creek Generating Station personnel must continue to meet the technical requirements of Appendix R to 10 CFR Part 50 where those requirements were used to establish an acceptable level of fire protection in the approved fire protection program as defined in License Condition 2.C.(5)(a) or Wolf Creek Generating Station personnel must demonstrate that any changes do not adversely affect the ability to achieve and maintain safe shutdown in the event of a fire as required by License Condition 2.C.(5)(b).

Objection 3:

Safety Evaluation Reports do not contain requirements.

NRC Position:

The NRC concurs with this statement. The Safety Evaluation Report did not establish any new requirements. The Safety Evaluation Report approved the fire protection program submitted to the NRC by Wolf Creek Generating Station in the Standardized Nuclear Unit Power Plant System Final Safety Analysis Report and Wolf Creek Generating Station site addendum. Conditions specified in the Safety Evaluation Report and supplements cited in License Condition 2.C.(5)(a) are part of the approved fire protection program.

#### Objection 4:

The exception to 10 CFR Part 50, Appendix R, Section III.G.2, was approved by the NRC as part of the original licensing basis for Wolf Creek Generating Station and has not been revised.

#### NRC Position:

The NRC does not consider the use of manual actions in lieu of physical protection to have been approved in the original fire protection program as defined in License Condition 2.C.(5)(a) for fires other than a fire in the control room.

Standardized Nuclear Unit Power Plant System Final Safety Analysis Report, Appendix 9.5E, provided the design comparison between the plant's fire protection program and 10 CFR Part 50, Appendix R. The comparison to Section III.G, "Fire Protection of Safe Shutdown Capability," states, "Redundant trains of systems required to achieve and maintain hot standby are separated by 3-hour rated fire barriers, or the equivalent provided by III.G.2, or else a diverse means of providing the safe shutdown capability exists that is unaffected by the fire." (emphasis added)

In Attachment 1 to Letter WM 06-0013, Wolf Creek Nuclear Operating Corporation stated, "Wolf Creek Nuclear Operating Corporation (WCNOC) understands "diverse means" to be any reasonable means, in compliance with other license requirements, necessary to ensure the plant can be brought to safe shutdown conditions following a fire. For example, valve or breaker manipulations are considered reasonable since they are performed as part of normal operator duties." Review of the Standardized Nuclear Unit Power Plant System Final Safety Analysis Report and Wolf Creek Generating Station site addendum did not identify any examples of this approach being used in the originally licensed fire protection program for systems necessary to achieve and maintain hot shutdown conditions for fires other than a control room fire.

The term "diverse means" was not explicitly defined in any of the documents listed in License Condition 2.C.(5)(a), which constituted the approved fire protection program. The use of "diverse means" as an exception to the licensee's commitments to 10 CFR Part 50, Appendix R, Section III.G.2, was not discussed in the Safety Evaluation Report. Therefore, it is necessary to review the context in which the term "diverse means" was presented in the approved fire protection program.

Standardized Nuclear Unit Power Plant System Final Safety Analysis Report, Appendix 9.5B, "Fire Hazards Analysis," evaluated all safety-related areas of the plant. The analysis of each fire area included a section titled "Safe Shutdown Capability," which identified modifications required for compliance with the licensee's commitments to the technical requirements of Section III.G of Appendix R to 10 CFR Part 50, operator actions required to be performed within the control room to achieve hot shutdown, alternative (secondary) flow paths available to achieve safe shutdown functions to establish hot shutdown, and local manual actions required for establishing cold shutdown. Standardized Nuclear Unit Power Plant System Final Safety Analysis Report, Appendix 9.5B, did not identify any exceptions for the use of local manual actions outside of the control room to establish or maintain hot shutdown. In the approved fire

protection program, local manual actions outside of the control room to establish or maintain hot shutdown were only required for the case of a fire in the control room. The approved manual actions met the requirements of Branch Technical Position CMEB 9.5-1 and 10 CFR Part 50, Appendix R, Section III.L, for alternative shutdown capability.

In the original approved fire protection program, some fire areas were analyzed where components, which would normally be used for a function required for hot shutdown would not be available because of fire damage. Safe hot shutdown could still be achieved in these cases by the use of other components not affected by the fire to establish alternative flow paths to accomplish the required function. In each of these cases, this approach identified a diverse means of providing the safe shutdown capability exists that is unaffected by the fire as proposed by Wolf Creek Nuclear Operating Corporation in the originally licensed fire protection program. For examples of this approach in the approved fire protection program, see Enclosure 3.

The NRC does not consider the use of local manual operator actions outside of the control room to be sufficient to establish a diverse means of providing the safe shutdown capability unaffected by the fire or to provide an equivalent level of protection to the physical separation or physical protection allowed by Wolf Creek Generating Station's approved fire protection program. For further information on the NRC's position with respect to the use of manual actions, see NRC Regulatory Issue Summary 2005-30, "Clarification of Post-Fire Safe-Shutdown Circuit Regulatory Requirements."

Also in Attachment 1 to Letter WM 06-0013, Wolf Creek Nuclear Operating Corporation discussed the precedence of using manual actions as diverse means established in NUREG-800, Section 7.3. After review of this discussion and the referenced document, the NRC finds no such precedence to exist. See Enclosure 4 for the basis of this conclusion.

WOLF CREEK GENERATING STATION  
INSPECTION REPORT 05000482/2005008  
SECTIONS OF FIRE PROTECTION PROGRAM LICENSING BASIS DOCUMENTS

Examples of diverse means of providing the safe shutdown capability unaffected by the fire in Standardized Nuclear Unit Power Plant System Final Safety Analysis Report through Revision 17, Appendix 9.5B (Fire Hazards Analysis)

1. Section A.7.7.2 (Safe Shutdown Capability) for Fire Area A-7:

"The redundant safe shutdown equipment and circuits in this area are associated with the secondary boration flow path. A diverse, redundant means of boration from the RWST [refueling water storage tank] and charging pumps through the normal charging path or through the RCP [reactor coolant pump] seals is located outside of this area and would be available for safe shutdown."

2. Section A.13.7.2 (Safe Shutdown Capability) for Fire Area A-13:

"The suction source to AFWP [auxiliary feedwater pump] A will be from the CST [condensate storage tank] unless the circuits for two of three CST level transmitters burn and cause a spurious switchover to the ESW [emergency service water] source. The CST and ESW suction valves to AFWP A are not affected by a fire in this area and will operate properly."

3. Section A.17.7.2 (Safe Shutdown Capability) for Fire Area A-17:

"Circuits for valves BG-HV-8175A and B are located in this area. If both of these valves were to fail in the closed position, letdown through the excess letdown path to the PRT [pressurized relief tank] would be unavailable. However, if letdown were required to allow for addition of borated water from the RWST to maintain extended hot standby or to borate to cold shutdown concentrations, the alternative path of letdown to the PRT through the pressurizer, PORV [power-operated relief valve] BB-PCV-455A is available."

4. Section A.18.7.2 (Safe Shutdown Capability) for Fire Area A-18:

"Circuits for valves BG-HV-8157A and B are located in this area. If both of these valves were to fail in the closed position, letdown through the excess letdown path to the PRT would be unavailable. However, if letdown were required to allow for addition of borated water from the RWST to maintain extended hot standby or to borate to cold shutdown concentrations, the alternative path of letdown to the PRT through the pressurizer, PORV BB-PCV-456A is available."

WOLF CREEK GENERATING STATION  
INSPECTION REPORT 05000482/2005008  
DISCUSSION OF NUREG-0800, SECTION 7.3

In Attachment 1 to Letter WM 06-0013, Wolf Creek Nuclear Operating Corporation expanded on the basis allowing use of manual actions stating:

"Although "diverse means" is not specifically defined in this case, another NRC document provides insight. Section 7.3 of NUREG-800, "Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants," states, in part, ". . . The diverse means may actuate the same protective function or different protective functions, and may be automatically or *manually* activated, consistent with the response time requirements of the function." (Emphasis added.) Therefore, in NUREG-0800, the use of manual actions as a diverse means is expressly accepted. Based on the precedence established by this document, Wolf Creek Nuclear Operating Corporation believes it is logical to assert that the licensing basis allowed the use of manual actions as diverse means."

NRC review of NUREG-0800, Section 7.3, concluded that reference to this document is inappropriate for the issue being discussed because of the following:

- (A) Section 7.3 of NUREG-0800, "Engineered Safety Features Systems," area of review is the portion of the protection system used to initiate the operation of the engineered safety feature (ESF) systems. The scope does include both automatic and manual initiation of these systems and both automatic and manual features, which control the operation of ESF systems. In the context of Section 7.3 of NUREG-0800, manual initiation and manual control refer to control room operators taking manual actions within the control room using installed controls normally available to the control room operators for performing those functions. In the case of NUREG-0800, Section 7.3, manual actions in the control room are used as a backup for automatic functions expected to perform the same functions. This case differs from requiring local manual actions outside of the control room due to anticipated fire induced damage.
- (B) The sentence concerning "diverse means" cited by Wolf Creek Nuclear Operating Corporation is from a paragraph titled "Defense-in-depth and diversity" in Section 7.3 of NUREG-0800, Revision 4, dated 1997. The Wolf Creek Generating Station fire protection program was approved in 1985. Section 7.3 of NUREG-0800, Revision 2, dated 1981, which was in effect at the time of the original Wolf Creek Generating Station licensing does not include this discussion.
- (C) Neither Revision 2 or 4 of NUREG-0800, Section 7.3, contain any reference to fire, fire protection, post-fire safe shutdown, 10 CFR 50.48, GDC 3 of Appendix A to 10 CFR Part 50, Appendix A to Branch Technical Position 9.5-1 or 10 CFR Part 50, Appendix R.

Based on the above, the NRC finds that Section 7.3 of NUREG-0800 does not establish a precedence for the use of local manual actions to establish hot shutdown conditions in the case of a fire.