WOLF CREEK
NUCLEAR OPERATING CORPORATION

Britt T. McKinney
Site Vice President

DEC 18 2003

WO 03-0062

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555

Reference: 1) Letter WO 03-0009 dated April 30, 2003, from B. T. McKinney, WCNOC, to USNRC

2) Letter dated September 25, 2003, from J. Donohew, USNRC, to R. Muench, WCNOC

Subject: Docket No. 50-482: Response to Request for Additional Information for the Revision to Technical Specifications 3.8.1, "AC Sources – Operating," and 3.8.4, "DC Sources – Operating"

Gentlemen:

Reference 1 transmitted an application for amendment to Facility Operating License No. NPF-42 for the Wolf Creek Generating Station. The license amendment request proposed changes to Technical Specifications (TS) 3.8.1, "AC Sources – Operating," and TS 3.8.4, "DC Sources – Operating", to allow surveillance testing of the emergency diesel generators (DGs) during MODES in which it is currently prohibited and to incorporate changes based on Industry/Technical Specification Task Force (TSTF) Standard Technical Specification change TSTF-283, Revision 3.

Wolf Creek Nuclear Operating Corporation's (WCNOC) application for amendment, along with similar applications from AmerenUE, Arizona Public Service Company, and Pacific Gas and Electric Company, is currently under review by the NRC staff. From the NRC staff's review of these applications, the staff has identified the need for additional information to support its continued review of the applications. Per Reference 2, which was addressed to all four of the noted licensees, the NRC staff transmitted a request for additional information regarding the proposed TS changes. Some of the questions/requests transmitted by the NRC were identified as applicable to all four of the licensees, and some were identified as applicable only to certain licensees. The Attachment provides responses to the NRC staff's questions/requests identified as applicable to WCNOC (which includes those identified as applicable to all four of the noted licensees. The responses to the request for additional information provided in the Attachment do not impact the conclusions of the No Significant Hazards Consideration provided in Reference 1.

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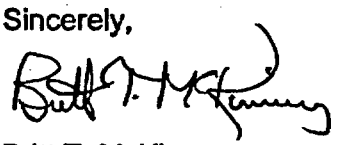
The responses to the Request for Additional Information were discussed with the NRC on November 19, 2003. The proposed revision to the Notes in Surveillance Requirement (SR) 3.8.4.7 and SR 3.8.4.8 provide the flexibility for a partial performance to reestablish OPERABILITY following corrective maintenance. The inclusion of the changes to the Notes in SR 3.8.4.7 and SR 3.8.4.8 is consistent with NRC approval of TSTF-283. Additional discussions were held with the lead NRC Project Manager regarding the NRC concerns that the proposed TSTF changes to SR 3.8.4.7 and SR 3.8.4.8 allowing portions of these Surveillances to be performed at power could result in a partial discharge of the batteries. WCNOC is providing a response to all the requests for additional information and is in agreement with the lead NRC Project Manager to process separately the proposed changes to SR 3.8.4.7 and SR 3.8.4.8 based on the potential additional time to resolve the concerns both generically and for WCNOC.

There are no commitments associated with this submittal. Please contact me at (620) 364-4112 or Mr. Kevin Moles at (620) 364-4126 for any questions you may have regarding this application.

Sincerely,



Britt T. McKinney

BTM/rlg
Attachment

cc: V. L. Cooper (KDHE), w/a
J. N. Donohew (NRC), w/a
D. N. Graves (NRC), w/a
B. S. Mallett (NRC), w/a
Senior Resident Inspector (NRC), w/a

STATE OF KANSAS)
) SS
COUNTY OF COFFEY)

Britt T. McKinney, of lawful age, being first duly sworn upon oath says that he is Site Vice President of Wolf Creek Nuclear Operating Corporation; that he has read the foregoing document and knows the contents thereof; that he has executed the same for and on behalf of said Corporation with full power and authority to do so; and that the facts therein stated are true and correct to the best of his knowledge, information and belief.

By _____
Britt T. McKinney
Site Vice President

SUBSCRIBED and sworn to before me this Dec. day of 18, 2003.

NOTARY PUBLIC STATE OF KANSAS | RHONDA L. GLEUE My Appt. Exp. 5-11-2006

Rhonda L. Gleue
Notary Public

Expiration Date May 11, 2006

Wolf Creek Nuclear Operating Corporation (WCNOC) Response to Request for Additional Information Regarding Revision to Technical Specifications 3.8.1, "AC Sources – Operating," and 3.8.4, "DC Sources – Operating"

The following responses are for those questions or requests for additional information (RAIs) identified as applicable to WCNOC in the NRC's RAI letter dated September 25, 2003. Included are WCNOC's responses to those questions identified as applicable to all four noted licensees in the NRC's RAI letter.

Question 1.a. Surveillance Requirement (SR) 3.8.4.7 and SR 3.8.4.8 contain a Note that has been modified to add "However, portions of the Surveillance may be performed to reestablish OPERABILITY provided an assessment determines the safety of the plant is maintained or enhanced." Provide the intent of this note in detail (what exactly will be done at power, the duration of these surveillances and its impact on the limiting condition of operation, details regarding assessment, etc.)

Response:

In practice, this allowance provided by the revised Note will not likely be utilized since the battery service or performance discharge test require many hours to perform and the battery is inoperable during this testing. Partial performance of the battery service or performance discharge test is also unlikely given the instrusive nature of the test and the fact that partial performance would likely not be useful except under unusual circumstances. Additionally, partial performance of the SRs may present a challenge to the two-hour Completion Time specified for restoration of an inoperable battery per Required Action A.1 of LCO 3.8.4.

The proposed revision to the Note was included in these SRs to provide the flexibility for a partial performance to reestablish OPERABILITY following corrective maintenance. The inclusion of the changes to the Notes in SR 3.8.4.7 and SR 3.8.4.8 is consistent with NRC approval of TSTF-283, Revision 3.

The responses to the Request for Additional Information were discussed with the NRC on November 19, 2003. Additional discussions were held with the lead NRC Project Manager regarding the NRC concerns that the proposed TSTF changes to SR 3.8.4.7 and SR 3.8.4.8 allowing portions of these Surviellances to be performed at power could result in a partial discharge of the batteries. WCNOC is in agreement with the lead NRC Project Manager to process separately the proposed changes to SR 3.8.4.7 and SR 3.8.4.8.

Question 1.b. Does the work control programs, risk management programs, and/or procedures cover a comprehensive walk-down just prior to entering the period of reduced equipment availability during EDG testing? Provide details about the walk-down or justify why such walk-down is not required.

Response:

The work and risk management programs at Wolf Creek Generating Station (WCGS) would not require a walk-down to be performed prior to on-line emergency diesel generators (DGs) testing. Procedure AP 29B-003, "Surveillance Testing," requires the appropriate authorization (shift manager, control room supervisor, or authorized designee) prior to performing the

surveillance activity. The authorization for performance of the testing includes determining if plant conditions are appropriate, discussing the surveillance test with the test performer to determine affect on plant status, and assuring that performance of the testing will not place the plant in an unsafe condition. Procedure AP 22C-003, "Operational Risk Assessment," requires a risk assessment prior to issuance of the weekly work schedule. The risk assessment considers all maintenance and testing activities reflected in the schedule as well as reviewing the equipment out-of-service log, temporary modifications, and the Operator Work Arounds to determine their affect upon the ability to safely operate the plant. Risk management actions are considered for configurations that result in a minimal increase from the plant's baseline risk. The risk management actions could include compensatory measures for pre-planned or emergent activities deemed to be risk significant.

Question 1.c. Indicate where the loss-of-offsite power signal comes from when the EDG is powering, or is paralleled to, the safety bus.

Response:

The loss-of-power relays sense voltage from the 4.16-kV safety buses, NB01 and NB02. This is the case whether a DG is or is not powering its associated bus and whether the DG is paralleled or not paralleled to the off-site power source.

Question 1.d. Discuss administrative controls to preclude performing these surveillances during other maintenance and test conditions that could have adverse effects on the offsite power system or plans for restricting additional maintenance or testing of required safety systems that depend on the remaining EDG as a source. Additionally, discuss if the remaining EDG were to become inoperable while the other EDG is being tested, would the test be aborted.

Response:

Plant procedures require the scheduling of maintenance and testing activities to minimize risk significant plant configurations. As part of the scheduling of system/component maintenance, testing, and outages, procedure AP 22C-003 provides the guidance for the assessment and management of operational risk as required by 10 CFR 50.65(a)(4). The Operational Risk Assessment is reviewed and accepted by a management/supervisory member of the Operations Department with a Senior Reactor Operator License. Added maintenance and testing activities are assessed for their impact on the current Operational Risk Assessment.

There may be limited cases in which the DG being tested is still considered OPERABLE. In these cases, if the opposite train DG were to become inoperable, the applicable TS Conditions/Required Actions for one DG inoperable (i.e. Condition B of TS 3.8.1) would be entered and the appropriate actions taken. For the OPERABLE DG, the testing could be terminated since the testing does not affect the OPERABILITY and the DG would still be capable of performing its specified safety functions.

The existing plant conditions would have to be evaluated to determine the appropriate action to take for the case of one DG inoperable due to testing and the opposite train DG becomes inoperable. Technical Specification 3.8.1, Condition E would be entered for two DGs inoperable, with Required Action E.1 requiring restoring one DG to OPERABLE status in 2 hours. The testing remaining on one DG and the cause of the failure on the opposite train DG would result in determining the shortest time to restore one DG to OPERABLE status.

Question 1.e. Discuss whether procedures are in place to alert operators when to perform either portions or full SRs/testing. Will the operators receive training on the procedures related to the proposed technical specification changes prior to implementation?

Response:

The decision on whether to perform one (or more) of these SRs, either in full or partially, would be determined based on the specific corrective maintenance or corrective modification being performed. The cause of the failure that results in the need to perform corrective maintenance has to be known in order to determine what testing would be required in order to reestablish OPERABILITY. This process is established in plant procedures on work controls and addresses emergent work. Emergent work is unforeseen or unexpected work requiring immediate attention which may require 24 hour coverage due to impact on the safe, reliable, and legal operation of the plant. At a minimum, all issues causing unplanned entry into a Technical Specification Equipment Outage of 72 hours or less can be considered emergent. For emergent work activities, focus groups are identified for providing input into the required repairs and testing necessary to restore OPERABILITY. As discussed above, the plant procedures associated with surveillance testing specify that the shift manager (or specified designee) ensure required surveillance test are completed prior to declaring a system/component OPERABLE and takes into consideration the proper plant conditions for the testing, briefings with the test performer on the effect of the testing on plant equipment, and assuring the testing will not place the plant in an unsafe condition.

The amendment process has provisions for providing the technical specifications to appropriate personnel for required reading (in some cases prior to assuming shift responsibilities) or training, depending on the complexity of the changes. The procedure change process also has provisions for determining if the resulting changes require training. Therefore, during the implementation phase of the amendment, the need and timing for necessary training is determined.

Question 1.f. Discuss the compensatory measures that will be implementing during performance of SRs 3.8.1.10, 3.8.1.13, and 3.8.1.14.

Response:

Plant procedures currently require that DG testing will not be performed during adverse weather conditions in the area of WCGS or adverse weather conditions in other areas of the grid controlled by System Operations that may make the grid unstable for WCGS. Procedure AP 21C-001, "Substation Protection," provides guidance for access to the switchyard and assessing the plant conditions prior to performing work activities in the switchyard. The guidance in the procedure identifies that every attempt shall be made to schedule maintenance in the switchyard or in the vicinity of the main, unit auxiliary, and startup transformer, or on the main generator during times when both DGs are OPERABLE.

As previously discussed, if the Operational Risk Assessment performed in accordance with AP 22C-003 identifies a plant configuration that result in a minimal increase from the plant's baseline risk, then the appropriate risk management actions are considered for that plant configuration.

Question 1.g. For SR 3.8.1.13, discuss (1) how the SR is performed and (2) how the safety injection (SI) signal is generated without disturbing power operation.

Response:

As discussed in Subsection 4.1.2 of Reference 1, SR 3.8.1.13 is currently performed during shutdown while the DG is in emergency mode and actually supplying its associated bus. The DG is considered OPERABLE during this testing since there are no jumpers or blocking devices installed and no other features are disabled. The test currently involves actuating a bypassed protection relay and verifying that the DG remains running, the DG output breaker remains closed, and the associated annunciator is in alarm. It is expected that this test will continue to be performed during refueling outages. However, the test would be performed in MODES 1 or 2 using an appropriate overlap testing scheme rather than having the DG actually supplying the emergency bus in the emergency mode when it is determined that the test is necessary to establish OPERABILITY.

Question 2.a. For SR 3.8.1.10, in Section 4.1.1 of the application, it is stated that "experience with this test has shown that the voltage 'perturbation' seen on the bus during and just after the load rejection is not significant, i.e. within 5 percent step change. Data recorded from past performances of this test show that bus voltage during the "transient" remains well above the minimum required voltage for bus loads and typically recovers within one second." Discuss the impact of this voltage transient on degraded voltage relays. Also, during power operation the voltages at the safety buses are relatively lower than during shutdown, what will be the voltage transient due to a full load rejection test at the lower voltages and its impact on degraded voltage relays?

Response:

For the electrical transient that may occur during this test there is significant margin relative to the degraded voltage relay settings. The highest voltage level at which the degraded voltage relay may actuate (and not reset) is 91.5% of nominal (assuming maximum upward drift). In addition, the relays have a time delay of 119 +/- 11 seconds before actuation can occur. This voltage level and time duration are not significantly approached during the load rejection test.

The voltage on the safety related buses during plant operation is not significantly different than the voltage during shutdown conditions. Operating data indicates that the bus voltage during plant operation is at or slightly higher than the voltage during shutdown condition. A review of previous full load reject test information indicate that these tests have been performed during periods when the bus voltage has been at its lowest voltage level and there has been no impact on the degraded voltage relays.

Question 2.b. For SR 3.8.1.10, in Section 4.1.4 of the application, it is stated that "In the event of a LOOP occurring while a DG [diesel generator] is running and paralleled to offsite power for testing . . . At some point, however, because loading would exceed the DG's capability, the DG would be unable to match load and either the bus undervoltage relays would trip (after timing out) or the DG overcurrent or underfrequency relays would trip." Discuss the time associated with manually resetting the involved relays and components.

Response:

There are five possible protective relay functions that could be actuated by grid events while paralleled. These are underfrequency, degraded voltage, loss of voltage, time overcurrent, and voltage restrained overcurrent. Only one of the five, voltage restrained overcurrent, requires manual action to reset. Bus undervoltage protection, consisting of the degraded and loss of voltage relays, only serve to trip the incoming feeder breaker supplying offsite power to the bus. In the event of their actuation, the DG feeder breaker remains closed and continues to feed the bus. No manual action is required. Two other protective relay functions, underfrequency and time overcurrent, are primary protection and only serve to open the DG output breaker. No lockout of the breaker or DG occurs. The DG remains running and able to support loss of power events, if needed. No manual action is required. For secondary protection, there is a voltage restrained overcurrent relay. Due to protective relay coordination, this relay is not called upon to actuate unless a primary relay failed to actuate properly. Thus, it is highly unlikely that this relay would be actuated during surveillances in which the emergency diesel generator is connected to the grid. In the unlikely event that the voltage restrained overcurrent relay is actuated, a single lockout will shutdown the DG and trip its associated output breaker. If the bus offsite feeder breaker opens due to the grid event, a single manual action of resetting the lockout relay will cause an immediate, automatic, restart of the DG in the emergency mode and allow the output breaker to automatically re-close.

Question 2.c. Questions a and b above are also applicable to SR 3.8.1.14.

Response:

The above responses also apply to SR 3.8.1.14.