

September 25, 2003

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Mr. Rick A. Muench
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Wolf Creek Nuclear Operating Corporation
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SUBJECT: REQUEST FOR ADDITIONAL INFORMATION RE: TECHNICAL
SPECIFICATIONS 3.8.1 AND 3.8.4 FOR CALLAWAY, DIABLO CANYON, PALO
VERDE, AND WOLF CREEK PLANTS (TAC NOS. MB9664, MB9476, MB9477,
MB9150, MB9151, MB9152, AND MB8763, RESPECTIVELY)

Dear Messrs. Randolph, Rueger, Overbeck and Muench:

By letters dated June 6 (Callaway, ULNRC-04837), May 29 (Diablo Canyon, DCL-03-061), May 28 (Palo Verde, 102-04946), and April 30 (Wolf Creek, WO 03-0009), 2003, you submitted applications for license amendments to modify several surveillance requirements (SRs) in Technical Specifications (TSs) 3.8.1 and 3.8.4 on alternating current and direct current sources – operating, respectively, for plant operation. The revised SRs would have notes deleted or modified to allow the SRs to be performed, or partially performed, in reactor modes that are currently not allowed by the TSs. The current SRs are not allowed to be performed in Modes 1 and 2, and several of the current SRs also cannot be performed in Modes 3 and 4.

You jointly submitted your applications as members of the Strategic Teaming and Resource Sharing (STARS), an industry consortium of six nuclear power plant licensees. The applications are similar, but there are some differences. The staff is reviewing the applications jointly.

The enclosed information is needed for the staff to complete its review of the applications. To expedite the staff's review to meet the agreed-upon schedule, the request for additional information was provided to your staff by e-mail on September 3, 2003. Any differences between the enclosed questions and the e-mail is editorial. In a call on the questions with your staff, they agreed to submit the responses to the questions by October 30, 2003. If the

responses are submitted by that date, the staff expects to issue its evaluation on schedule. If you have any questions, contact me, the lead project manager, at 301-415-1307, or at jnd@nrc.gov through the internet.

Sincerely,

/RA/

Jack Donohew, Senior Project Manager, Section 2
Project Directorate IV
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket Nos. 50-275, 50-323, 50-482, 50-483,
50-528, 50-529, and 50-530

Enclosure: Request for Additional Information

cc w/encl: See next page

responses are submitted by that date, the staff expects to issue its evaluation on schedule. If you have any questions, contact me, lead project manager, at 301-415-1307, or at jnd@nrc.gov through the internet.

Sincerely,

/RAI

Jack Donohew, Senior Project Manager, Section 2
Project Directorate IV
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket Nos. 50-275, 50-323, 50-482, 50-483,
50-528, 50-529, and 50-530

Enclosure: Request for Additional Information

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* Three EEIB RAI memos dated 08/29/2003

ACCESSION NO.: ML032721646

NRR-088

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REQUEST FOR ADDITIONAL INFORMATION

TECHNICAL SPECIFICATION CHANGES TO SECTIONS 3.8.1 AND 3.8.4

AC AND DC SOURCES – OPERATING

CALLAWAY, DIABLO CANYON, PALO VERDE, AND WOLF CREEK PLANTS

DOCKET NOS. 50-483, 50-275, 50-323, 50-528, 50-529, 50-530, AND 50-482

The required onsite emergency backup power supply to offsite power is referred to in the licensees' applications, as either the emergency diesel generators (EDGs) or the diesel generators (DGs). Both acronyms are used in the staff's questions.

The following questions are separated into (1) those questions which are the same for the four plants, and (2) those questions which are different:

1. Callaway, Diablo Canyon Units 1/2, Palo Verde Units 1/2/3, and Wolf Creek
 - 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.)
 - 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 a walk-down is not required.
 - c. Indicate where the loss-of-offsite power signal comes from when the EDG is powering, or is paralleled to, the safety bus.
 - 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.
 - 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?
 - 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.

- 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.

1. Callaway and Wolf Creek Only

- a. 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?
- b. SR 3.8.1.10 – In Section 4.1.4 of the application, it is stated that "In the event of a LOOP [loss-of-offsite power] occurring while a DG 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.
- c. Questions a. and b. above are also applicable to SR 3.8.1.14.

3. Diablo Canyon Units 1/2 Only

- a. SR 3.8.1.10 – In Section 4.1 of the application, it is stated that "during the last refueling outage at DCPD [Diablo Canyon Power Plant] when the DG full load reject SRs were performed on each diesel, the voltage transients experienced by the loads on the associated buses were minor (the worst case was an approximate 1.29 percent change of 54 volts in the bus voltage at the 4.16 kV level, in approximately 0.09 seconds)." 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?
- b. Question a. above is also applicable to SR 3.8.1.14.

4. Palo Verde Units 1/2/3 Only

- a. SR 3.8.4.6 contains 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." Discuss the intent of this note in detail (e.g., 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.).

- b. SR 3.8.1.10 – In Section 4.1 of the application, it is stated that "at PVNGS when the DG full load reject SR is performed at shutdown, the voltage transients experienced by the loads on the associated bus are considered minimal [at approximate 10 percent step change (400Vac)] in the bus voltage at the 4.16 kV level, with voltage recovery within 1 second." Discuss the impact of this voltage transient on degraded voltage relay. Also, since the voltages at the safety buses during power operation are relatively lower than during shutdown, what will be the voltage transient due to full load rejection test during power operation?
- c. SR 3.8.1.10 – In Section 4.1 of the application, it is stated that "If a LOP occurs during testing, the diesel generator either trips on overcurrent or continues to run, depending upon if the resulting load is in excess of the diesel generator's load rating. If the load is excessive, the diesel generator will trip on overcurrent and the diesel generator breaker will trip automatically on a DG shutdown signal." Discuss how will the DG be started and DG breaker be closed once overcurrent relay tripped the DG? Will it involve manual resetting of the relays? If so, discuss the time associated with the manual resetting of the relay.
- d. Questions b. and c. above are also applicable to SR 3.8.1.14.
- e. Discuss the compensatory measures that will be implemented during performance of SR 3.8.1.20.
- f. On page 12 of the application, it is stated that "only one DG per unit is paralleled to offsite power at any one time and any offsite grid disturbances would only affect one operable DG." Discuss the possibility of testing an EDG of each unit being simultaneously paralleled to offsite power, such that an offsite disturbance could affect all three units. Discuss the testing practice for SRs 3.8.1.10, 3.8.1.13, 3.8.1.14, and 3.8.1.20 in terms of such a situation.

Callaway Plant, Unit 1

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July 2003