

May 16, 2006

Mr. Richard M. Rosenblum
Senior Vice President and Chief Nuclear Officer
Southern California Edison Company
San Onofre Nuclear Generating Station
P.O. Box 128
San Clemente, CA 92674-0128

SUBJECT: SAN ONOFRE NUCLEAR GENERATING STATION, UNITS 2 AND 3 -
REQUEST FOR ADDITIONAL INFORMATION (RAI) ON THE PROPOSED
TECHNICAL SPECIFICATION AMENDMENT REQUEST TO UPGRADE
BATTERY AND DC SOURCES INCLUDING A BATTERY CROSS-TIE
CAPABILITY WITH AN EXTENDED 30-DAY BATTERY COMPLETION TIME
(TAC NOS. MD0300 AND MD0301)

Dear Mr. Rosenblum:

By letter dated February 28, 2006, Southern California Edison submitted an application to change the San Onofre Nuclear Generating Station, Units 2 and 3, technical specifications related to upgrade of battery and direct current sources including a battery cross-tie capability with an extended 30-day battery completion time.

After reviewing your request, the Nuclear Regulatory Commission staff has determined that additional information is required to complete the review. We discussed this information with your staff by telephone and they agreed to provide the additional information requested in the enclosure within 30 days from the receipt of the formal RAI.

If you have any questions, please contact me at (301) 415-1480.

Sincerely,

/RA/

N. Kalyanam, Project Manager
Plant Licensing Branch IV
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-361 and 50-362

Enclosure: Request for Additional Information

cc w/encl: See next page

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ACCESSION NO: **ML061360146** * No major change from Staff provided RAI

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DATE	5/15/06	5/15/06	5/9/06	5/16/06

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REQUEST FOR ADDITIONAL INFORMATION (RAI)
SAN ONOFRE NUCLEAR GENERATING STATION, UNITS 2 AND 3
AMENDMENT REQUEST TO UPGRADE BATTERY AND DC SOURCES
INCLUDING A BATTERY CROSS-TIE CAPABILITY WITH
AN EXTENDED BATTERY COMPLETION TIME
TAC NOS. MD0300 AND MD0301

Page references are from the license amendment request (LAR) (Reference 1), from Southern California Edison (SCE, the licensee) for San Onofre Nuclear Generating Station, Units 2 and 3 (SONGS).

1. The licensee's preventive maintenance risk estimates for the 30-day battery completion time (CT) for change in core damage frequency (Δ CDF), change in large early release frequency (Δ LERF), incremental conditional core damage probability (ICCDP), and incremental conditional large early release probability (ICLERP) are within the Regulatory Guide (RG) 1.174 and RG 1.177 acceptance guidelines for a very small change. However, risk estimates for ICCDP ($1.87E-06$) and ICLERP ($4.0E-7$) during corrective maintenance do not meet the RG 1.177 acceptance guidelines of $5E-7$ and $5E-8$, respectively, and require further justification for an extended corrective-maintenance 30-day battery CT. Please include a discussion on common-cause evaluation and operator actions required for corrective maintenance and performance of the battery cross-tie.
2. Cumulative Risk

Please provide a discussion on cumulative risk impact of previous changes and/or current risk-informed requests. The discussion should confirm SONGS' risk-informed changes are incorporated into the risk evaluation for the proposed extended battery completion time and that the SONGS' probabilistic risk analysis (PRA) includes the cumulative impact of these changes.
3. External Events

The LAR does not provide an evaluation with respect to the potential risk impact of external events (seismic, fires, high winds, floods and other (HFO)). The evaluation as provided by the licensee in Reference 2 is limited to a discussion of external event peer review results for seismic and fire events. HFO events were not specifically addressed by the licensee in the submittal or the RAI. Please provide an assessment (qualitative or quantitative) as to the risk impact of external events (seismic, fire and HFO) on the proposed extended 30-day battery CT.

4. Tier 2 Evaluation

A specific Tier 2 analysis is not referenced in the LAR although a Tier 2 discussion with respect to compensatory measures is referenced in Reference 2. The licensee's Tier 2 evaluation concluded that no risk-significant configurations exist based solely on the low risk increase of the proposed extended 30-day battery cross-tie CT. The Nuclear Regulatory Commission staff is concerned that the licensee's Tier 2 evaluation is not consistent with the guidance of RG 1.177, Section 2.3, "Evaluation of Risk Impact," Subsection, "Tier 2," which states that reasonable assurance must be provided that risk-significant plant equipment outage configurations will not occur when specific plant equipment is out of service. RG 1.177 states that one appropriate method to evaluate such combinations of equipment out of service is to use the Tier 1 ICCDP and ICLERP acceptance guidelines to identify risk-significant configurations associated with the proposed change. This information is required to ensure that the Tier 2 evaluation in Reference 2 meets the guidance of RG 1.177.

5. Reference 2 states that the seismic PRA requires no modeling changes for the replacement batteries B009 and B010. However, batteries B007 and B008 are also being upgraded, which will also replace the existing battery racks. The licensee stated that the seismic PRA will be reviewed again when the upgrade is designed and implemented. Please identify if the additional seismic review is a commitment per the LAR.
6. The LAR discusses the use of the SONGS risk monitor to avoid high-risk configurations but does not provide information on applicable acceptance guidance (Tier 3) used to identify a risk-significant configuration. Please provide this information to complete the review.
7. Table 3, Line 7, on page 13 of Attachment I of Reference 1 estimates the single allowed outage time risk ICCDP as 1.87E-06. The risk estimate appears to be inconsistent with the guidance of RG 1.177 in that the estimate appears to use 15 days instead of the proposed CT of 30 days when estimating ICCDP. Note c for Table 3 states that battery replacement and testing requires 30 days, which is given as the mean duration in Table 3, Line 10. Please explain the discrepancy.
8. Reference 2 discusses additional technical specification (TS) changes including CT and surveillance test intervals (STIs) not related to the proposed risk-informed 30-day battery cross-tie CT. The RAI response qualitatively accepts the additional risk based on conformance to either TSTF-360, Revision 1, IEEE 450-2002, or with a specific risk assessment statement. Discuss whether these additional STI, CT, and TS changes were addressed in the modified SONGS risk estimate of the proposed 30-day battery cross-tie CT.
9. In the Reference 2, the licensee commits to control the battery/bus cross-tie using a step-by-step procedure with local independent (second checker) verification and to complete this verification within the 2-hour CT. Please identify whether development of the battery cross-tie procedure is a licensee commitment per the LAR.

10. The SONGS' individual plant examination of external events (IPEEE) references plant improvement measures in Section 7.1, "Plant Improvements," for both seismic and fire initiators. Please confirm that the improvements identified for fire and seismic initiators in the IPEEE have been implemented and are reflected in the SONGS extended battery PRA evaluation.
11. Attachment I, Table 2, "SONGS Conditional CDF and LERF Contributions for Preventive Maintenance (PM)," on page 11 of Reference 1, states in Note b, 6 tests
* 4 batteries/10 years. Table 2 on page 16 of Reference 2 lists 7 tests
* 4 batteries/10 years. Please clarify why the number of service tests has been reduced in the revised submittal. See also revised Table 2, Attachment I included in Reference 2.
12. Attachment I, Table 2, "SONGS Conditional CDF and LERF Contributions for Preventive Maintenance (PM)," located on page 11 of Reference 1, lists the proactive multiple jar replacements mean outage duration as 20 days. Table 1 on page 5 of Attachment I states that the duration for jar replacement is 21 days. Please clarify what is the correct jar replacement duration to be used in the estimate of mean duration for Table 2.

References

1. Letter from Brian Katz (SCE) to Document Control Desk, dated February 28, 2006, Subject: "Docket Nos. 50-361 and 50-362, Proposed Change Number (PCN)-548 Revision 1, Battery and DC Sources Upgrades and Cross-Tie, San Onofre Nuclear Generating Station, Units 2 and 3." (Agencywide Documents Access and Management System (ADAMS) Accession No. ML060610185)
2. Letter from A. Edward Scherer (SCE) to Document Control Desk, dated January 26, 2006, Subject: "Docket Nos. 50-361 and 50-362, Response to NRC Request for Information, Proposed Change Number (PCN)-548, Battery and DC Sources Upgrades and Cross-Tie, San Onofre Nuclear Generating Station, Units 2 and 3." (ADAMS Accession No. ML060310298)

San Onofre Nuclear Generating Station
Units 2 and 3

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