

October 30, 2008

U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, DC 20555-0001

Subject: **Docket Nos. 50-361 and 50-362**
Extension Request Related to Generic Letter 2004-02
San Onofre Nuclear Generating Station, Units 2 and 3

Reference: Letter dated September 17, 2008 from N. Kalyanam (NRC) to Ross T. Ridenoure (SCE), Subject: San Onofre Nuclear Generating Station, Unit 2 and 3 – Request for Additional Information Related to Test Protocol Used in the Testing at VUEZ (TAC Nos. MC4714 and MC4715)

Dear Sir or Madam:

The referenced letter requested additional information regarding the test protocol used in the chemical effects testing at the VUEZ facility in support of containment sump debris bed performance testing for San Onofre Nuclear Generating Station (SONGS) Units 2 and 3. The letter stated that if an alternate approach to the VUEZ testing were to be utilized, response to the specific RAIs is not necessary.

As stated in an October 3, 2008 teleconference with NRC staff, Southern California Edison (SCE) plans to utilize a “test for success” approach in resolving the potential impact of chemical effects. This test program is being developed in collaboration with Alion Science and Technology and other affected licensees. As such, SCE does not plan to respond to the specific RAI questions in the referenced letter, except as required in development of the testing protocol and test plan.

The referenced letter further stated that SCE is required to submit an extension request in accordance with the established process from SECY-06-0078, to include a detailed description of plans and schedule.

The purpose of this letter, therefore, is to request an extension of the completion date for Generic Letter (GL) 2004-02 closeout for SONGS Units 2 and 3 until November 20, 2009, consistent with the schedule discussion during the October 3, 2008

teleconference. The description of SCE plans and schedule is provided in the enclosure, which also provides the basis supporting SCE's conclusion that it is acceptable to extend closeout until November 20, 2009. Additionally, the enclosure outlines the mitigative actions (including permanent plant modifications) already taken to provide margins until the chemical effects testing issues are resolved. Finally, the enclosure describes planned work in 2009 and 2010 to replace the steam generators, which will significantly reduce the quantity of mineral wool.

This extension request is based on successful confirmation of margins provided by actions already completed. It is possible that additional actions may be identified in the course of the testing program now under development or in the course of NRC staff review of our February 27, 2008 supplemental response to GL 2004-02. Identification of additional actions could necessitate an additional request for extension beyond November 20, 2009.

SCE is committing in this submittal to completing a chemical effects retest program, and identifying any additional required plant modifications, by November 20, 2009.

If you have any questions or would like additional information concerning this subject please call Ms Linda T. Conklin at (949) 368-9443.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on October 30, 2008
Date

Sincerely,



Enclosure: as stated

cc: E. E. Collins, Regional Administrator, NRC Region IV
N. Kalyanam, NRC Project Manager, SONGS Units 2 and 3
G. G. Warnick, Senior Resident Inspector, SONGS Units 2 and 3

Enclosure

Generic Letter 2004-02 Extension Request

San Onofre Nuclear Generating Station Units 2 and 3

Enclosure
Generic Letter 2004-02 Extension Request
San Onofre Nuclear Generating Station Units 2 and 3

SECY-06-0078

NRC document SECY-06-0078, "Status of Resolution of GSI-191, 'Assessment of [Effect of] Debris Accumulation on PWR Sump Performance,'" dated March 31, 2006, specifies three criteria to be addressed in Generic Letter (GL) 2004-02 extension requests. These criteria and the Southern California Edison (SCE) responses are provided below.

PLAN AND SCHEDULE

"The licensee has a plant-specific technical/experimental plan with milestones and schedule to address outstanding technical issues with enough margin to account for uncertainties."

SCE response

SCE, in cooperation with the other affected licensees and Alion Science and Technology, will develop a test protocol for a chemical effects head loss test in an array tank. The protocol will incorporate NRC staff review guidance for strainer head loss and vortexing, issued in March of 2008. With respect to chemical effects, SCE anticipates that the protocol will adopt a hybrid approach, utilizing the precipitate identified in WCAP-16530, tempered by the VUEZ test results, in order to achieve a success path. Specifically, SCE anticipates the protocol will address the timing of precipitate addition in order to allow the use of time (and therefore sump fluid temperature) dependent net positive suction head margin (similar to the Three Mile Island approach) and the quantity of precipitates added.

The affected licensee group plans to submit the protocol to NRC staff for review, and to meet with the staff as necessary to resolve any identified issues prior to performing the tests.

In parallel with the test protocol development, analytical work will be performed to define the range of debris loadings to be tested. There are two reactor cooling system (RCS) break cases at the San Onofre Nuclear Generating Station (SONGS). Case 1 is an RCS break at the steam generators resulting in mineral wool insulation debris. Case 2 is an RCS break at the reactor vessel resulting in Microtherm debris.

For the mineral wool debris case, the majority of the mineral wool is from the insulation on the steam generators. The SONGS replacement steam generators, to be installed in 2009 (Unit 2) and 2010 (Unit 3), utilize reflective metallic insulation. Following replacement of the steam generators, small quantities of mineral wool will remain on

various piping segments. The range of mineral wool volume in containment will be considered in developing the detailed test plan.

For the Microtherm debris case, SCE originally made an assumption in the debris generation calculation that destruction of the Microtherm insulation on the reactor vessel is limited to 50% of the total volume of material, due to "shadowing" by the vessel. This assumption was challenged by NRC staff during the audit of our Generic Letter 2004-02 response (Open Item 1 of the NRC audit report, Reference 6). Based on the VUEZ test results, in our Supplemental Response of February 27, 2008 (Reference 5), SCE adopted a conservative approach by assuming 100% of the Microtherm insulation was destroyed. Prior to executing the testing, SCE plans to prepare additional justification for the 50% shadowing assumption, in order to reduce the quantity of this potentially problematic insulation debris. SCE plans to submit this justification for NRC staff consideration early in 2009.

SCE, in cooperation with the other affected utilities and Alion, expects the work to be conducted to the following schedule.

<u>ACTIVITY</u>	<u>DATE(s)</u>
Develop test protocol, NRC staff review, comment resolution	10/08 – 12/08
Receipt of NRC RAI* on SCE's 2/27/08 supplemental response	11/08
Analytic work to finalize debris loading and design conditions	10/08 – 02/09
Finalize test plan	03/09
Perform top-hat array tank test	04/09
Test Report, Head Loss Report, documentation changes	05/09 – 07/09
Prepare Supplemental Response	08/09 – 10/09
Submit Supplemental Response to NRC	11/20/09

*Request for Additional Information

MITIGATIVE MEASURES

"The licensee identifies mitigative measures to put in place prior to December 31, 2007, and adequately describes how these mitigative measures will minimize the risk of degraded [Emergency Core Cooling System] and [Containment Spray System] functions during the extension period."

SCE response

Procedural Guidance and Training

In References 1 through 4, SCE has documented actions taken to train operators in the recognition and mitigation of debris blockage of the containment emergency sump screens during the recirculation mode of emergency core cooling. References 1 through 4 also document how guidance to operators has been captured in emergency operating instructions.

Containment Cleanliness and Control of Debris Sources

In Reference 5, SCE reported establishing and maintaining the Containment Cleanliness / Loose Debris Inspection Procedure requiring “clean as you go” during work inside containment, periodic inspection walkdowns throughout outage periods, and inspections prior to Mode changes during plant startup.

SCE has established in the Engineering Change Package procedure, a process for controlling the introduction of materials into containment that would effect operability of the containment emergency sump screens. Process and procedure are designed to ensure that materials are properly evaluated for post-accident debris generation and chemical effects interaction.

A Configuration Control Procedure is in place to maintain control over tags, labels and signs inside containment.

Containment Coatings

SCE has procedures for Coating Service Level I Application and for Containment Coating Condition Assessment. These procedures are designed to maintain control over coatings used inside containment, and to perform a routine coating assessment to document the condition of design basis accident qualified coatings and track the quantities of unqualified coatings inside containment. The assessment is performed and documented each refueling interval.

Permanent Modifications

In Reference 5, SCE has documented the following permanent modifications to mitigate the effects of debris blockage of the containment emergency sump screens during the recirculation mode of emergency core cooling.

- Increase in the effective screen surface area from approximately 75 square feet to approximately 976 square feet per train per unit;
- Replacement of Microtherm insulation with reflective metallic insulation on select piping within containment to minimize the Microtherm debris source term;
- Modifications of bioshield gates by removing grating at the bottom in order to preclude debris and water hold-up;

TEMPORARY PHYSICAL IMPROVEMENTS

“For proposed extensions beyond several months, a licensee’s request will more likely be accepted if the proposed mitigative measures include temporary physical improvements to the ECCS sump or materials inside the containment to better ensure a high level of sump performance.”

SCE response

The mitigative measures described above for SONGS Units 2 and 3 include permanent, not temporary, physical improvements to the ECCS sumps and materials inside containment. The improvements increase the probability of acceptable sump performance. No additional temporary measures are planned.

CONCLUSION

An extension until November 20, 2009 for completing the required GL 2004-02 actions at SONGS Units 2 and 3 is acceptable because:

1. SCE has presented a plant-specific test plan with milestones and schedule to address the outstanding technical issue of chemical effects.
2. SCE has identified permanent mitigative measures (including new larger sump screens) and described how the measures minimize the risk of degraded ECCS and CSS functions during the extension period.

REFERENCES

1. Letter dated August 1, 2003 from A. Edward Scherer (SCE) to Document Control Desk (NRC), Subject: San Onofre Nuclear Generating Station, Units 2 and 3, Docket Nos. 50-361 and 50-362, 60-Day Response to NRC bulletin 2003-01, "Potential Impact of Debris Blockage on Emergency Sump Recirculation at Pressurized-Water Reactors"
2. Letter dated October 13, 2004 from A. Edward Scherer (SCE) to Document Control Desk (NRC), Subject: Docket Nos. 50-361 and 50-362, NRC Bulletin 2003-01, Response to NRC Request for Additional Information, San Onofre Nuclear Generating Station Units 2 and 3
3. Letter dated July 15, 2005 from A. Edward Scherer (SCE) to Document Control Desk (NRC), Subject: San Onofre Nuclear Generating Station Units 2 and 3, Docket Nos. 50-361 and 50-362, NRC Bulletin 2003-01, Response to Second NRC Request For Additional Information.
4. Letter dated September 8, 2005 from A. Edward Scherer (SCE) to Document Control Desk (NRC), Subject: San Onofre Nuclear Generating Station Units 2 and 3, Docket Nos. 50-361 and 50-362, NRC Bulletin 2003-01, Response To Third NRC Request For Additional Information
5. Letter dated February 27, 2008 from Ross T. Ridenoure (SCE) to Document Control Desk (NRC), Subject: Docket Nos. 50-361 and 50-362, NRC Generic Letter 2004-02, San Onofre Nuclear Generating Station Units 2 and 3
6. Letter dated May 16, 2007 from Thomas G. Hiltz (NRC) to Richard M. Rosenblum (SCE), Subject: San Onofre Nuclear Generating Station, Units 2 and 3 – Report on Results of Staff Audit of Corrective Actions to Address Generic Letter 2004-002 (TAC Nos. MC4714 and MC4715)