June 10, 2011

Mr. John T. Conway
Senior Vice President – Energy Supply
& Chief Nuclear Officer
Pacific Gas and Electric Company
77 Beale Street
Mail Code B32
San Francisco, CA 94105

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION FOR AMENDMENT TO SPECIAL NUCLEAR MATERIALS LICENSE NO. 2514

Dear Mr. Conway:

By letter dated September 8, 2010, as supplemented January 11, and April 1, 2011, Pacific Gas and Electric Company submitted proposed Amendment No. 3 to Special Nuclear Materials License No. 2514 for the Humboldt Bay independent spent fuel storage installation. The application proposes to add process wastes as allowed Greater than Class C Waste to the license.

To assist with our review, the U.S. Nuclear Regulatory Commission staff Request for Additional Information (RAI) is identified in the enclosure to this letter. We request that you provide this information by September 9, 2011, to support issuance of the amendment in October, 2011. Please inform us at your earliest convenience, but no later than August 26, 2011, if you are not able to provide the information by that date. To assist us in re-scheduling your review, you should include a new proposed submittal date and the reasons for the delay.

Please reference Docket No. 72-27 and TAC No. L24472 in future correspondence related to this amendment request. If you have any questions regarding this matter, feel free to contact me at (301) 492-3148.

Sincerely,

/RA/
William C. Allen, Project Manager
Licensing Branch
Division of Spent Fuel Storage and Transportation
Office of Nuclear Material Safety
and Safeguards

Docket No. 72-27
TAC No. L24472

Enclosure: RAI

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Request for Additional Information
Docket No. 72-0027
Materials License No. SNM-2514
Amendment No. 3

By letter dated September 8, 2010, as supplemented January 11 and April 1, 2011, Pacific Gas and Electric Company submitted proposed Amendment No. 3 to Special Nuclear Materials License No. 2514 for the Humboldt Bay Independent Spent Fuel Storage Installation (ISFSI). This request for additional information (RAI) identifies information needed by staff in connection with its review of the application. The requested information is listed by chapter number and title in the applicant's safety analysis report. NUREG 1567, "Standard Review Plan for Spent Fuel Dry Storage Facilities," was used by the staff in its review of the application.

Each individual RAI describes information needed by the NRC staff for it to complete its review of the application to determine whether the applicant has demonstrated compliance with 10 CFR Part 72 regulatory requirements.

Chapter 4 – ISFSI Design

1. Provide an analysis of the effect of radiolysis of water in the grout on the Maximum Normal Operating Pressure of the GTCC Waste Container (GWC) and the potential generation of flammable hydrogen gas in the GWC over the life of the ISFSI. Provide any assumptions and/or documents supporting the analysis.

   Scientific literature[1] consulted by the staff indicates that there is a potential for gas generation, including flammable hydrogen, due to the radiolysis of water in grout used to encapsulate the GTCC waste. This could potentially affect the pressure of the GWC and needs to be evaluated.

   This information is requested in accordance with 10 CFR 72.128(a)(3).

2. Provide a brief description of the process of sealing of the GTCC cask, including the welding and subsequent leak testing of the GWC. Include details on how helium leak testing of the entire confinement boundary is completed in accordance with ANSI N14.5-1997.

   From the description of the closure of the GTCC cask, after the placement of the process waste canister and subsequent welding of the GWC, it is not clear whether the closure, sealing, and leak testing procedures for the HI-STAR cask system are followed for the GTCC cask.

   This information is requested in accordance with 10 CFR 72.128(a)(3).

3. Specify the industrial code which will be used to establish the mixing, chemistry, placement, properties and acceptance tests of the grout.

   This information is requested in accordance with 10 CFR 72.122(d).

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1. C.D. Jonah, S. Kapoor, D. Meisel and M.S. Matheson, "Radiolytic and Thermal Generation of Gases from Hanford Grout Samples," Argonne National Laboratory, ANL-93/42, October 1993.