

# Placer County Water Agency

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A Public Agency

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March 16, 2005

Mr. Takeshi Yamashita, Regional Engineer  
FEDERAL ENERGY REGULATORY COMMISSION  
901 Market Street, Suite 350  
San Francisco, CA 94103

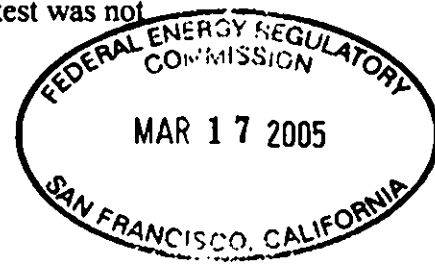
Re: FERC Project No. 2079-CA

Dear Mr. Yamashita:

By letter dated December 14, 2001, we submitted three copies of the Five-Year Dam Safety Inspection Report for Hell Hole Dam, and by letter dated February 12, 2002, we submitted three copies of our Plan of Action to satisfy the Independent Consultant's recommendations. By letter dated February 6, 2004 we requested your approval to delay implementation of the consultant's recommendation to repair the Middle Fork Tunnel surge shaft from Fall 2004 to Fall 2005. You granted our request by letter dated June 25, 2004. With this letter we respectfully request your approval to delay implementation of the consultant's recommendation to repair the Middle Fork Tunnel surge shaft from Fall 2005 to Fall 2006.

One of the Independent Consultant's recommendations was as follows: "The Middle Fork Tunnel surge shaft should be repaired to mitigate the seepage into the hillside that could result in additional debris flows . . . The surge shaft leakage should be mitigated within three years." Our Plan of Action in response to this recommendation was to: (1) determine the best alternative of three alternatives that had been identified: Installation of a steel shaft liner, grouting of the surge shaft, or construction of a drainage system to control drainage; and (2) to initiate construction of the preferred alternative in 2004. Over approximately the next year and a half (2002 and first half of 2003), considerable investigation and analysis was completed in order to determine the best alternative of the three alternatives with the result that by about the mid-point of 2003, Pacific Gas and Electric Company (PG&E) and PCWA jointly agreed that installation of a circular steel liner in the surge shaft was the best alternative to mitigate leakage from the existing cracked concrete lining in order to significantly reduce water leakage through the shaft lining.

In cooperation with PCWA, PG&E then entered into a contract with an engineering firm, Jacobs Associates, that had done the conceptual design of the steel liner, to complete detailed design of the new liner including the design of a bottom seal that would allow the placement of grout between the existing cracked concrete lining and the new steel liner while the shaft is full of water. To ensure a successful design, a full-scale mock-up test was required of the proposed bottom seal. The mock-up test was performed in late October 2003 and the test was not



successful, indicating that the bottom seal design would need to be significantly modified or replaced with a different concept.

Last year we requested that the surge shaft steel liner be deferred from Fall 2004 to Fall 2005 because of serious shortcomings identified in the mock-up test, long lead times required for a project of this magnitude, and major uncertainties that remained to be resolved.

Since the Jacobs' bottom seal design proved not to be feasible, PG&E contracted with Black & Veatch to design a steel liner that utilizes a new bottom seal design. PG&E accepted a proposal from Black & Veatch and authorized Black & Veatch to proceed in March, 2004. A kick-off meeting was held with Black & Veatch, PG&E and PCWA representatives on April 19, 2004 at which Black & Veatch presented their progress in developing conceptual designs and potential methods of dealing with some of the challenges of this project.

A second meeting was held on May 18, 2004 at which Black & Veatch presented four design approaches for repairing the surge shaft, cost estimates, a recommended approach and a proposed construction schedule showing construction being completed in the Fall, 2005. A third meeting was held on July 22, 2004 at which Black & Veatch presented the recommended design, a bottom-supported, predominately welded steel liner, in more detail. The presentation and discussion then turned to "Design Verifications and Validations," which are eight critical tests that must be passed before PG&E will award the construction contract. The first of these tests was completing a successful shaft alignment survey in the Fall, 2004. An earlier plumb line survey showed a clear 9-foot diameter opening throughout the length of the surge shaft, but important details were not provided by that survey. In the Fall, 2004, a successful survey of the surge shaft was completed by ASI Group which indicated that the surge shaft could theoretically accept a 9.475 foot diameter cylinder.

Other design verification and validation tests that were presented at the July 22, 2004 meeting included verifying that divers can work in the available space and at the depths required of them, verifying that diver production rates are acceptable, verifying that the most critical parts, e.g., the bottom seal, the rock-bolted support system, etc., of the design will work, and validating the project cost estimate. Black & Veatch presented a proposed schedule to complete the design verifications by the end of November, 2004, and to complete the final design by the end of May, 2005.

At PCWA's request, PG&E had Black & Veatch prepare analyses and cost estimates for an unwatered tunnel approach for repairing the surge shaft during which the options would also be available to clean out and modify the downstream rock trap and repair potentially weak tunnel sections. A status update was provided by Black & Veatch at a meeting on September 14, 2004. Subsequently, a decision was made to not pursue this approach.

PG&E verbally notified PCWA in December, 2004, that it was most likely not going to be possible to construct the surge shaft repairs in 2005. In a January 21, 2005 letter, PG&E requested PCWA's concurrence to defer construction of the surge shaft repair from Fall 2005 to Fall 2006 due to contracting issues. PG&E's request was approved by PCWA's Board of Directors at a March 3, 2005 meeting. Representatives of PG&E, Black & Veatch and PCWA

met on February 22, 2005 to review and discuss the status of the surge shaft repair project. Black & Veatch distributed a schedule showing construction occurring between the middle of September, 2006 and the middle of January, 2007.

We would be happy to meet with you to explain in greater detail the work that has been accomplished to date and the work that remains to be completed.

If you have any questions, please call me at (530) 885-6917.

Sincerely,

PLACER COUNTY WATER AGENCY



Stephen J. Jones  
Power System Manager

cc: David Breninger  
Kevin Goishi, PG&E  
Richard Harlan  
Edward Tiedemann