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PG&E Letter DCL-11-104

10 CFR 50.90

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D.C. 20555-0001

Diablo Canyon Units 1 and 2
Docket No. 50-275, OL-DPR-80
Docket No. 50-323, OL-DPR-82
License Amendment Request 11-07
Process Protection System Replacement

- References:
1. Digital Instrumentation and Controls DI&C-ISG-06 Task Working Group #6: "Licensing Process Interim Staff Guidance," Revision 1, January 19, 2011 (ADAMS Accession No. ML110140103)
 2. Letter No. NRC-V10-11-001, B. Haynes (Invensys) to NRC, "Nuclear Safety-Related Qualification of the Tricon TMR Programmable Logic Controller (PLC) – Update to Qualification Summary Report Submittal and "Application for Withholding Proprietary Information from Public Disclosure (TAC No. ME2435)," dated January 5, 2011 (ADAMS Accession No. ML110140437)
 3. Letter No. 6002-00301, D. Dunsavage (CS Innovations) to NRC, "CS Innovations ALS Topical Report and Supporting Documents Submittal Follow Up of Non-proprietary Document Versions" dated August 13, 2010 (ADAMS Accession No. ML102570791)
 4. NRC Letter from J. E. Dyer (NRC) to James R. Becker (PG&E), dated October 14, 2009

Dear Commissioners and Staff:

Pursuant to 10 CFR 50.90, Pacific Gas and Electric Company (PG&E) hereby requests approval of the enclosed proposed amendment to Facility Operating License Nos. DPR-80 and DPR-82 for Units 1 and 2 of the Diablo Canyon Power Plant (DCPP) respectively. The enclosed license amendment request (LAR) proposes to permanently replace the DCPP Eagle 21 digital process protection system (PPS) with a new digital PPS that is based on the Invensys Operations Management Tricon Programmable Logic Controller (PLC), Version 10, and the CS Innovations, LLC (a Westinghouse Electric Company), Advanced Logic System.

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The current Eagle 21 PPS is a digital microprocessor-based system which provides process protection functions for the reactor protection system that is comprised of the reactor trip system and engineered safety features actuation system. The proposed PPS replacement consists of a microprocessor-based Tricon PLC and the field programmable gate array based Advanced Logic System that will improve the reliability and diversity of the PPS.

The NRC has issued Interim Staff Guidance (ISG) in digital instrumentation and control (I&C) DI&C-ISG-06 (Reference 1) that describes the licensing process that may be used in the review of LARs associated with digital I&C system modifications. This LAR is the pilot application for use of DI&C-ISG-06. The LAR format and contents are consistent with the guidance provided in Enclosure E and Section C.3, respectively, of DI&C-ISG-06. Prior to the submittal of this LAR, PG&E held four pre-application (DI&C-ISG-06 Phase 0) meetings with the staff on August 27, 2009, March 18, 2010, February 3, 2011, and June 7, 2011.

DI&C-ISG-06 describes three different tiers of applications for approval of I&C system modifications. Tier 1 is applicable to LARs proposing to reference a previously approved topical report regarding a digital I&C platform or component(s). Tier 2 is applicable to LARs proposing to reference a previously approved topical report with deviations to suit the plant-specific application. Tier 3 is applicable to LARs proposing to use a new digital I&C platform or component(s) with no generic approval. This application consists of both a Tier 2 and Tier 3 application. This application is a Tier 2 application for use of the Invensys Operations Management Tricon PLC, Version 10, that includes deviations from the previously approved topical report for the Tricon PLC, Version 9. Invensys Operations Management identified the deviations to Tricon PLC, Version 9, in the topical report for the Tricon PLC, Version 10, in Reference 2. This application is a Tier 3 application for use of the CS Innovations, LLC, Advanced Logic System. Westinghouse submitted the topical report for the Advanced Logic System in Reference 3.

DI&C-ISG-06, Enclosure B, lists documents that are typically submitted by the licensee in support of a typical Tier 2 and Tier 3 submittal during Phases 1 and 2 of the NRC staff review. The Phase 1 documents that are associated with this application are summarized in Attachment 2 of the Enclosure. All Phase 1 documents have already been submitted by Invensys Operations Management, CS Innovations, LLC, or Westinghouse Electric Company, or are contained in the Attachments to the Enclosure.

PG&E is providing the staff more than twelve months for NRC approval since the scope of change in the LAR is complex. DI&C-ISG-06 Enclosure B identifies Phase 2 documents to be submitted within twelve months of the requested approval date.



DI&C-ISG-06 Section C.4 states that documentation may be submitted in less than twelve months prior to the anticipated issuance of the amendment as mutually agreed with the staff in the Phase 0 meetings. Some Phase 2 documents required manufacture and factory acceptance testing to complete the document. During the June 7, 2011, Phase 0 meeting, PG&E identified that the vendor factory acceptance testing would be completed in December 2012.

Phase 2 documents that have not been previously submitted to the staff will be submitted within 12 months of the requested approval date, by May 30, 2012, except for the specific Phase 2 documents identified below that require manufacture and factory acceptance testing to complete.

The following Invensys Operations Management Phase 2 documents will be submitted by December 2012:

- Summary Test Reports (including Factory Acceptance Tests)
- Summary Test Results (including Factory Acceptance Tests)
- Summary of Final Digital Electromagnetic Interference, Temperature, Humidity, and Seismic Testing Results for 3601 TN Module
- System Response Time Confirmation
- As-Manufactured, System Configuration Documentation

The following Westinghouse Phase 2 documents will be submitted by December 2012:

- Summary Test Reports (including Factory Acceptance Tests)
- Summary Test Results (including Factory Acceptance Tests)
- As-Manufactured, System Configuration Documentation

The completion of the Final Safety Analysis Report (FSAR) changes and Technical Specification Bases changes requires completion of several supporting Phase 2 documents. The FSAR changes and Technical Specification Bases changes will be submitted within 12 months of the requested approval date by May 30, 2012.

The NRC previously granted a fee exemption for this LAR in accordance with 10 CFR 170.11(b) in Reference 4.

PG&E requests approval of this LAR no later than May 2013 to support preparations for the Unit 1 Refueling Outage Eighteen (1R18) which is currently scheduled to begin in February 2014. PG&E is currently working to a timeline to implement the PPS replacement in the 1R18, but work scope for the 1R18 has not been finalized. Therefore, PG&E requests the license amendments be made effective upon NRC issuance, to be implemented prior to entry into Mode 4 following completion of the 1R18 and the Unit 2 Refueling Outage Eighteen.



The enclosure to this letter contains the evaluation of the proposed change.

This communication contains new commitments to be implemented following NRC approval of the LAR. The commitments are contained in Attachment 1 of the Enclosure.

In accordance with site administrative procedures and the Quality Assurance Program, the proposed amendment has been reviewed by the Plant Staff Review Committee.

Pursuant to 10 CFR 50.91, PG&E is sending a copy of this proposed amendment to the California Department of Public Health.

If you have any questions or require additional information, please contact Tom Baldwin at 805-545-4720.

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

Executed on October 26, 2011.

Sincerely,

James R. Becker
Site Vice President

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Enclosure

cc: Diablo Distribution

cc/enc: Gary W. Butner, Branch Chief, California Dept of Public Health

Elmo E. Collins, NRC Region IV

Michael S. Peck, NRC, Senior Resident Inspector

James T. Polickoski, NRR Project Manager

Alan B. Wang, Project Manager