

DRA-Prepared Handout



Contact: Cheryl Cox, Policy Advisor - cxc@cpuc.ca.gov - 415.703.2495

Proceeding: R.11-02-019

Date: July 2013

DRA Motion to Require a Comprehensive Quality Assurance / Quality Control Plan

DRA Position: The NTSB and IRP Reports determined that the San Bruno Explosion resulted, in large part, from PG&E's failure to have a Quality Assurance (QA) Plan with Quality Control (QC) procedures in place. PG&E's response to DRA's motion shows that PG&E is performing QC on an *ad hoc* basis and that it does not have a comprehensive QA/QC Plan in place. The Commission should order PG&E to prepare such plans immediately to ensure the safety of PG&E's current and future PSEP work.

QA/QC Activities Guided by a Comprehensive QA/QC Plan Ensures Both Safety and Cost-Effectiveness

- In the context of pipeline safety, QA/QC plays a vital role:
 - ▶ QA activities aim to prevent errors through proactive planning.
 - ▶ QC activities aim to catch and correct errors that occur in spite of QA.
- A lack of adequate QA/QC was cited by the NTSB and the Independent Review Panel (IRP) report as factors contributing to the San Bruno explosion.
- QA/QC activities should be performed on the planning and engineering work during **development** of PSEP projects, as well as ongoing **implementation** of the PSEP.
 - ▶ Development is planning, engineering, and prioritizing projects.
 - ▶ Implementation is actually replacing or testing specific pipes.
- QA/QC activities should be guided by a comprehensive QA/QC Plan established in advance of work actually being performed.
- PG&E should be required to develop a QA/QC plan for all going forward work on its system in order to ensure the safety and cost effectiveness of that work.
- PG&E should be able to incorporate current QC activities into a QA/QC Plan.

DRA Discovery

- PG&E did not prepare a comprehensive QA/QC plan before starting the PSEP — as would be expected for a project of the PSEP's scale and from a company committed to developing a safety culture.
- PG&E is performing QC procedures on its PSEP design/prioritization and project costing work in an *ad hoc* fashion after the work is completed.
- PG&E fails to explain the QA/QC standards it is applying to determine whether the work has been done correctly.
- As of April 30, PG&E has completed or eliminated over 70% of proposed PSEP projects

▪ (over)



DRA's Motion and PG&E Response

- DRA filed a Motion on July 8, 2013 requesting that the CPUC order:
 - ▶ PG&E to develop a comprehensive QA/QC Plan for all PSEP activities.
 - ▶ PG&E to perform QA/QC for all PSEP work consistent with the QA/QC Plan.
 - ▶ PG&E to document quality standards, procedures, results of QA checks, and how "sound engineering practice" will be achieved.
 - ▶ CPUC Safety and Enforcement Division (SED) review of QA/QC activities used by PG&E, except those related to PSEP costs.

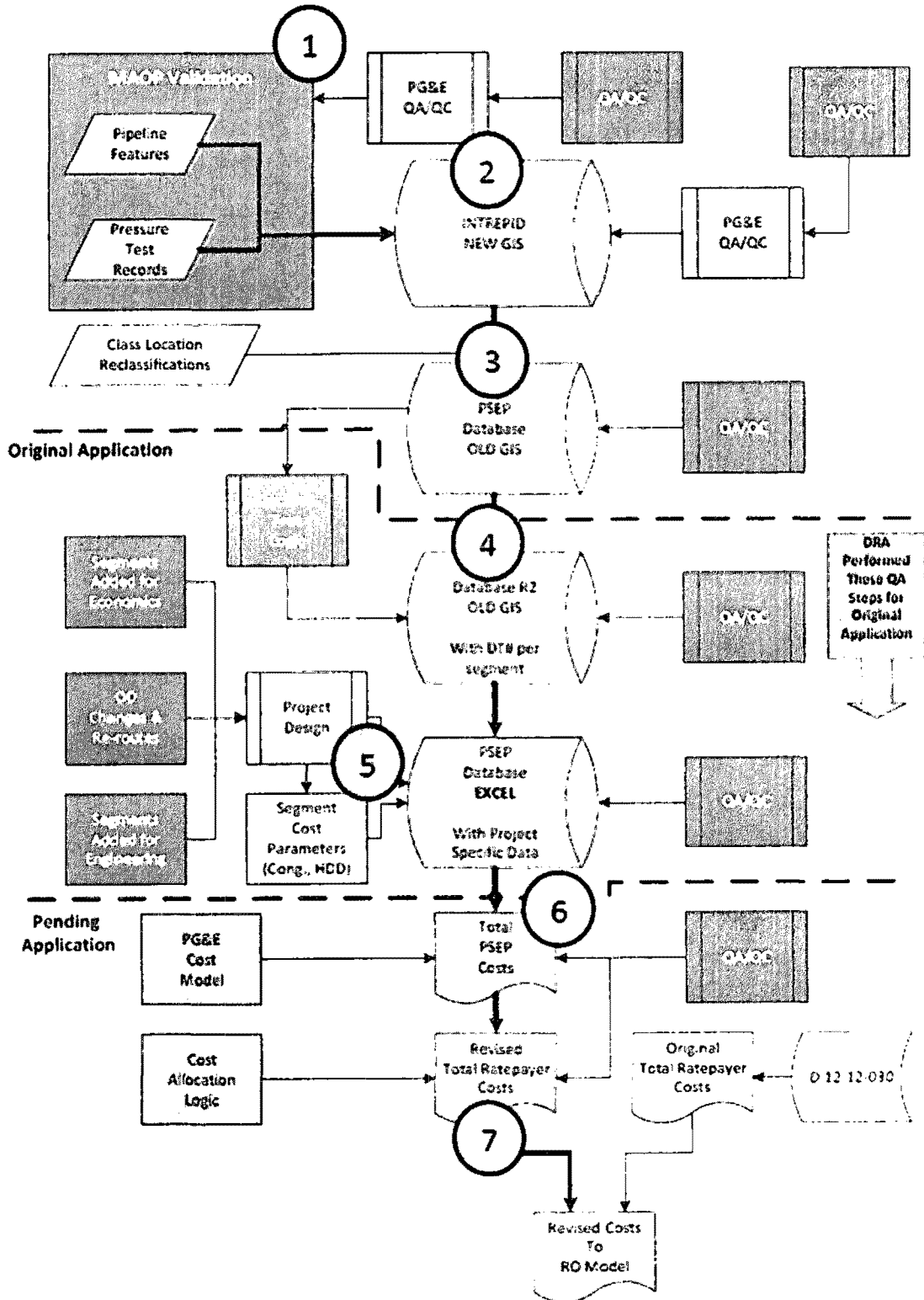
- PG&E response to this Motion on July 23, 2013 stated that it will "describe and document" its QA/QC procedures in the pending Update Application, and that:
 - ▶ SED has been involved with MAOP Validation QA/QC since June 2011.
 - ▶ PG&E is in the process of developing QA/QC procedures which it will describe in testimony format in the Update Application.
 - ▶ PG&E's Project Management Office (PMO) is responsible for the accuracy and consistency of PSEP, including project design.
 - ▶ SED and its contractor have been involved with oversight of PSEP execution.
 - ▶ The flow chart of PSEP activities it provides is more accurate than DRA's flow chart.

DRA Conclusions

- DRA appreciates that there is evidence PG&E is performing after-the-fact quality control on some aspects of the PSEP work.
- DRA also appreciates that PG&E has committed to address some of DRA's concerns regarding QA/QC as part of the PSEP Update Application.
- However, retrospective documentation of QC activities is not a substitute for a proactive QA/QC Plan, and the Update Application is not the appropriate forum to address PG&E's QA/QC activities.
- The PSEP Decision D.12-12-030 authorized nearly \$35 million for a Program Management Office (PMO), in part, to pay for QA/QC activities.
- The Commission should order PG&E to prepare a comprehensive QA/ QC Plan for all going-forward PSEP activities and provide them for review as soon as practicable.
- The Commission should provide oversight of PG&E's QA/QC efforts independent of the pending updated PSEP application.
- The Commission should hold PG&E accountable for complying with its QA/QC Plan.
- PG&E's failure to embrace QA/QC and to develop legitimate QA/QC Plans demonstrate that it has not turned the corner to embracing a safety culture.



PG&E Pipeline Data & PSEP Update Reference Process Flow



August 2, 2012 Letter from PG&E to the U.S. Nuclear Regulatory Commission

August 2, 2012

PG&E Letter DCL-12-069

10 CFR 50.90

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

Docket No. 50-275, OL-DPR-80
Docket No. 50-323, OL-DPR-82
Diablo Canyon Units 1 and 2

Submittal of Quality Assurance Plan and Revised Phase 1 Documents for the
License Amendment Request for Digital Process Protection System Replacement

- References:
1. PG&E Letter DCL-11-104, "License Amendment Request 11-07, Process Protection System Replacement," dated October 26, 2011 (ADAMS Accession No. ML11307A331).
 2. 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).
 3. NRC Letter "Diablo Canyon Power Plant, Unit Nos. 1 and 2 - Acceptance Review of License Amendment Request for Digital Process Protection System Replacement (TAC Nos. ME7522 and ME7523)," dated January 13, 2012.
 4. NRC Letter "Summary of June 13, 2012, Teleconference Meeting with Pacific Gas and Electric Company on Digital Replacement of the Process Protection System Portion of the Reactor Trip System and Engineered Safety Features Actuation System at Diablo Canyon Power Plant (TAC Nos. ME7522 and ME7523)," dated June 27, 2012 (ADAMS Accession No. ML12170A866).
 5. Invensys Operations Management Letter, "Invensys Operations Management Letter Submittal to Support License Amendment Request from PG&E for Replacement of the Eagle 21 Process Protection System at Diablo Canyon Power Plant," dated October 26, 2011 (ADAMS Accession No. ML113190392).

Dear Commissioners and Staff:

In Reference 1, Pacific Gas and Electric (PG&E) submitted License Amendment Request (LAR) 11-07 to request NRC approval to replace the Diablo Canyon Power

Plant (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, Version 10, and the CS Innovations, LLC (a Westinghouse Electric Company), Advanced Logic System. The LAR format and contents in Reference 1 are consistent with the guidance provided in Enclosure E and Section C.3, respectively, of Digital Instrumentation and Controls (I&C) Revision 1 of Interim Staff Guidance Digital I&C-ISG-06, "Licensing Process" (ISG-06) (Reference 2). In Reference 3, the NRC staff documented its acceptance of Reference 1 for review.

The PG&E Quality Verification group has developed the quality assurance plan document "Quality Assurance Plan for the Diablo Canyon Process Protection System Replacement". This plan is contained in Attachment 1 to the Enclosure and addresses the Open Item Number 27 contained in Enclosure 2 of Reference 4.

PG&E has revised the ISG-06 Phase 1 documents, "DCPP Units 1 & 2 PPS Replacement Functional Requirements Specification (FRS)" and the "DCPP Units 1 & 2 PPS Replacement Interface Requirements Specification (IRS)." The revised "DCPP Units 1 & 2 PPS Replacement FRS, Revision 5," and the "DCPP Units 1 & 2 PPS Replacement IRS, Revision 6," are contained in Attachments 2 and 3 to the Enclosure, respectively. These revised FRS and IRS documents supersede the documents previously submitted in Attachments 7 and 8 to the Enclosure of Reference 1, respectively.

Invensys Operations Management has created document "993754-1-916, V10 Tricon Reference Design Change Analysis," that addresses the impact of changes between Tricon version 10.5.1 and Tricon version 10.5.3. Tricon version 10.5.3 is intended to be installed for the Diablo Canyon PPS replacement. The Invensys Operations Management document "993754-1-916, V10 Tricon Reference Design Change Analysis, Revision 0" is contained in Attachment 4 to the Enclosure.

Invensys Operations Management submitted, in Reference 5, the following Invensys Operations Management ISG-06 Enclosure B Phase 1 Tricon documents to support Reference 1; "993754-1-802, Revision 1, Software Verification and Validation Plan," "993754-1-813, Revision 0, Validation Test Plan," and "993754-1-906, Revision 0, Software Development Plan." These Invensys Operations Management documents have been revised to address NRC comments contained in Enclosure 2 of Reference 4. The non-proprietary versions of the Tricon Software Verification and Validation Plan, Validation Test Plan, and Software Development Plan are contained in Attachments 5, 6, and 7 of the Enclosure, respectively, and the proprietary versions are contained in Attachments 9, 10, and 11 of the Enclosure, respectively. These revised Tricon documents supersede the documents previously submitted in Reference 5.

August 2, 2012

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This letter contains Invensys Operations Management documents contained in Attachments 9, 10, and 11 to the Enclosure that contain information proprietary to Invensys Operations Management. Accordingly, Attachment 8 to the Enclosure includes Invensys Operations Management Affidavit No. 993754-AFF-38T. The affidavit is signed by Invensys Operations Management, the owner of the information. The affidavit sets forth the basis on which the Invensys Operations Management proprietary information contained in Attachments 9, 10, and 11 to the Enclosure may be withheld from public disclosure by the Commission, and it addresses with specificity the considerations listed in paragraph (b)(4) of 10 CFR 2.390 of the Commission's regulations. PG&E requests that the Invensys Operations Management proprietary information be withheld from public disclosure in accordance with 10 CFR 2.390. Correspondence with respect to the Invensys Operations Management proprietary information or the Invensys Operations Management affidavit provided in Attachment 8 to the Enclosure should reference Invensys Operations Management Affidavit No. 993754-AFF-38T and be addressed to Roman Shaffer, Project Manager, Invensys Operations Management, 26561 Rancho Parkway South, Lake Forest, CA 92630.

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

This information does not affect the results of the technical evaluation or the significant hazards consideration determination previously transmitted in Reference 1.

This communication does not contain regulatory commitments (as defined by NEI 99-04).

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

Executed on August 2, 2012.

Sincerely,

James M. Welsch
Interim Site Vice President

kjse/4328 SAPN 50271918

Enclosure

cc: Diablo Distribution