



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

July 14, 2011

LICENSEE: Pacific Gas and Electric Company

FACILITY: Diablo Canyon Power Plant, Units 1 and 2

SUBJECT: SUMMARY OF JUNE 7, 2011, MEETING WITH PACIFIC GAS AND ELECTRIC COMPANY TO DISCUSS DIGITAL UPGRADE AT DIABLO CANYON POWER PLANT, UNITS 1 AND 2 (TAC NOS. ME5283 AND ME5284)

On June 7, 2011, a Category 1 public meeting was held between the U.S. Nuclear Regulatory Commission (NRC) and representatives of the Pacific Gas and Electric Company (PG&E, the licensee) at NRC Headquarters, One White Flint North, 11555 Rockville Pike, Rockville, Maryland. This was the fourth meeting held to discuss the digital upgrade of the reactor protection system and engineered safety features actuation system (RPS/ESFAS) at the Diablo Canyon Power Plant (DCPP), Units 1 and 2. The June 7 2011, meeting notice and agenda are available in the Agencywide Documents Access and Management System (ADAMS) under Accession No. ML111300230. The morning session was closed to discuss security-related information. In the open session, PG&E discussed the status of its license amendment request (LAR) preparation and the NRC staff discussed the status of two supporting topical reports related to PG&E's digital upgrade. A list of attendees is enclosed.

At the meeting, the licensee presented two sets of meeting slides, one entitled, "Diablo Canyon Power Plant, Process Protection System Replacement, NSIR Meeting," dated June 7, 2011 (ADAMS Accession No. ML111640534), and one entitled, "Diablo Canyon Power Plant, Process Protection System Replacement Meeting," dated June 7, 2011 (ADAMS Accession No. ML111600238). A summary of the items discussed at the meeting is provided below:

In the morning session, PG&E stated that it was committed to cyber security compliance in accordance with the DCPP Cyber Security Plan. The NRC staff stated that the DCPP Cyber Security Plan would be approved this summer. PG&E stated that the plant process system (PPS) would be evaluated to the same acceptance criteria applicable to all systems for cyber security. PG&E plans to install the PPS on Unit 1 in February 2014 and Unit 2 in October 2014.

PG&E informed the NRC staff that the draft LAR is well underway and several sections are still in progress. PG&E indicated that some phase 1 documents are still being drafted or are in the review and approval process. The NRC staff asked that the status of, and estimated completion dates of, these documents be added to the ISG-06¹ Enclosure B Matrix. PG&E provided draft LAR sections 4.1, 4.6, and 4.7 prior to this meeting and asked for informal comments on its level of detail, figures, and organization. The NRC staff provided its review comments on the draft LAR sections 4.1, 4.6, and 4.7. In general, the draft LAR provided good information pertaining

¹ U.S. Nuclear Regulatory Commission, Digital Instrumentation and Controls, DI&C-ISG-06, "Task Working Group #6: Licensing Process," Interim Staff Guidance (ADAMS Accession No. ML110140103).

to the applicable sections. However, the discussions about the platforms were, in some cases, too high level and seemed to not be specific to the implementation of the platform technology proposed by PG&E for the DCPD RPS/ESFAS application. Several other specific comments were provided, which include:

- The drawings of the RPS/ESFAS were very good, but some higher level drawings would be useful in explaining the scope and operation of the DCPD RPS/ESFAS system to the public and NRC review committees.
- Additional text is recommended to explain the operation of the DCPD RPS/ESFAS system, as depicted in the applicable drawings.
- References were made to the platform license topical report (LTR) for additional details of specific attributes of the DCPD RPS/ESFAS design and operation, without citing the specific section of the LTR that is applicable to the DCPD LAR. This would make the NRC staff's review much more time consuming and would likely generate numerous requests for additional information (RAIs) to clarify what portions of the LTR were referenced. The platform LTRs are being reviewed and approved on a generic basis with no reference to plant-specific application details. Therefore, the LAR must provide the additional text needed to integrate the generic portions of the LTRs into the DCPD application-specific implementation of the approved platforms.

Numerous other comments were provided in a marked-up copy of the draft LAR.

PG&E plans to submit the LAR about 30 days after issuance of the TRICON V.10 platform Safety Evaluation Report (SER). The NRC staff informed PG&E that the schedule for issuing the V.10 SER has been delayed and is currently scheduled as follows:

- Issue the draft SER to Invensys for proprietary review – July 22, 2011
- Invensys provide its review and comments on the draft SER – August 26, 2011
- Final V.10 LTR SER issued (80-90 percent confidence) – September 30, 2011

Therefore, based on the licensee's plan, as described above, the LAR would be submitted on or about October 31, 2011.

The NRC staff and PG&E expressed some concern with delaying the LAR submittal to the end of October. PG&E said that its drop-dead-date for submitting the LAR was November 2011, so an LAR submittal date of late October 2011 does not leave much room for schedule delays. The NRC staff is concerned that other licensing actions may challenge the NRC to provide resources to commence the review of the LAR if it arrives in late October/early November. The NRC staff and PG&E discussed other possible options to expedite submittal of the LAR. Since the V.10 LTR is not yet approved, PG&E could submit its LAR referencing the V.10 platform as a Tier 2 submittal, based on the approved TRICON V.9 platform. Virtually all of the documentation needed to complete the NRC staff's review and approval of the V.10 platform has been submitted and accepted by the NRC. Therefore, PG&E could reference the V.10 LTR

documentation submitted in accordance with ISG-06, Enclosure B for that platform as part of its LAR. This would be in accordance with ISG-06 protocol and would allow the NRC staff to move forward with the acceptance review and subsequent technical review of the DCPD RPS/ESFAS LAR. PG&E stated that it needed to discuss this internally and would notify the NRC by Friday, June 17, 2011, of its decision of when it will submit the LAR.

PG&E reviewed its updated ISG-06, Enclosure B Matrix with the NRC staff. The majority of Phase 1 documentation has been prepared, however, there are about 10-12 documents still in preparation. PG&E stated that it would indicate the status and estimated completion dates for these documents within the matrix and start submitting this matrix to the NRC staff monthly (or sooner, depending on when it plans to submit the LAR) in order to keep the staff informed of its progress.

PG&E provided an update of its plan to address open items that were identified in the approved DCPD Defense-in-Depth and Diversity Topical Report SER. The plan appears adequate for resolving these open items. However, the NRC staff reminded PG&E that the basis for declaring all the diverse systems related to the new RPS/ESFAS system must be clearly documented in the LAR.

PG&E discussed the task of developing its LAR referencing the Westinghouse Advanced Logic System (ALS) platform LTR as a Tier 3 submittal and then addressing this platform as it is approved and becomes a Tier 1 platform. The NRC staff informed PG&E that since the ALS platform is a Tier 3 submittal, it is inherently part of its application-specific licensing action. Therefore, the LAR must address all portions of the ALS platform in the detail that is being used for its LAR. However, since the ALS LTR has already been submitted and accepted for review by the NRC staff, PG&E may reference the applicable sections, paragraphs, topics, etc., of the ALS LTR within its LAR. Care should be taken to ensure that all referenced ALS LTR information is accurate and within the scope of the DCPD LAR. The NRC staff will provide specific approval of all ALS portions of the application (LAR), similar to what was done for the Wolf Creek Main Steam and Feedwater Isolation System LAR². However, if the ALS LTR is approved before the DCPD LAR is approved, which is likely (barring any unforeseen regulatory issues) since the SER for the ALS LTR is currently planned for issuance May 10, 2012, then the SER will likely reference the relevant sections in the ALS SER for approval of the DCPD LAR.

PG&E also asked the NRC staff if audits performed by other divisions of the NRC on equipment/programs being used in the DCPD LAR would be shared and not duplicated for the DCPD LAR review. The NRC staff informed PG&E that data from previous audits performed by other divisions could be used, if applicable. However, the NRC staff noted that it is often difficult to do this because the scope, focus, and objectives of audits performed by other divisions are often inconsistent with that of an audit needed to verify Chapter 7 of the Standard Review Plan³ (SRP) criteria for licensing reviews by the Office of Nuclear Reactor Regulation.

² Singal, B. K., U.S. Nuclear Regulatory Commission, letter to Rick A. Muench, Wolf Creek Nuclear Operating Corporation, "Wolf Creek Generating Station - Issuance of Amendment Re: Modification of the Main Steam and Feedwater Isolation System Controls (TAC No. MD4839)," dated March 31, 2009 (ADAMS Accession No. ML090610317).

³ U.S. Nuclear Regulatory Commission, NUREG-0800, "Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants: LWR [Light-Water Reactor] Edition."

The status of vendor LTRs, that are part of the DCPD RPS/ESFAS LAR, was also discussed. The NRC staff reported that for the TRICON V.10 LTR, all technical issues have been addressed and the SER is in the final stages of completion. The SER will then receive a peer review and subsequently be issued in a time frame consistent with the schedule as noted above. The NRC staff reviewed the status of the Westinghouse ALS LTR briefly and noted that RAIs had just been issued. The LTR technical review is well underway and scheduled for completion in March 2012 and final issuance as stated above.

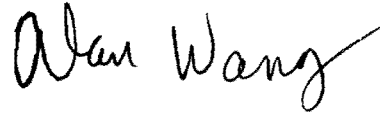
PG&E also inquired about what portions of the DCPD RPS/ESFAS equipment Factory Acceptance Tests (FAT) would the NRC staff need to witness/audit. Would the NRC staff also need to review the FAT for both DCPD units? The NRC staff explained that witnessing/auditing the FAT for a license application is not a required element of the NRC staff's review/approval of the LAR. ISG-06 Section D.4.4.2.4, "Testing Activities," states that test procedures specifications (including FAT) and summary of test results (including FAT) will be provided in Phase 2. The NRC staff reviews this information to confirm that the safety system verification and validation (V&V) process was completed and executed properly (i.e., in a high quality manner). On occasion, the NRC staff has audited FATs for other license applications because special circumstances dictated that witnessing the FAT was needed to complete the NRC staff's review of the safety system's V&V effort/process. If PG&E follows accepted practices for V&V, as identified in ISG-06 and Chapter 7 of the SRP, then it is highly unlikely that the NRC staff will need to audit the FAT. Regarding whether the NRC staff will need to review the FAT for the DCPD, Unit 2 RPS/ESFAS upgrade, the NRC staff stated that its usual process is to review the initial license application, which addresses RPS/ESFAS upgrades for both DCPD units, and will conduct its review on the first unit's RPS/ESFAS upgrade. Approval is typically applicable to both units, even though the safety system for the second unit may not have been developed yet. The expectation is that the conditions of the LAR that formed the safety finding for approval of the first unit will also be applied to the second unit's safety system. If this is not possible, then the license application should be amended and the NRC staff will explicitly review/approve the changes associated with the second unit's safety system.

Finally, PG&E asked for clarification on whether the software design specification (SDS) and the software test plan (STP) should be submitted as a Phase 2 document rather than Phase 1 documents, as is currently stipulated in ISG-06, Enclosure B. The NRC staff explained that these documents are typically developed in the planning stage or very early in the software life-cycle development stage. This is the type of information the staff is required to review at the early stages of a digital safety system licensing review. Chapter 7 of the SRP provides guidance for development of both these documents as well as all other planning documents enumerated in Enclosure B. Therefore, submittal of the SDS and the STP is required to be submitted at Phase 1.

PG&E stated that it will make a decision on whether the LAR will reference the V.10 platform as a Tier 2 submittal, based on the approved TRICON V.9 platforms, by June 17, 2011. The NRC staff thanked PG&E for the status update. Members of the public were in attendance; however, no public Meeting Feedback forms were received.

- 5 -

Please direct any inquiries to me at 301-415-1445, or Alan.Wang@nrc.gov.

A handwritten signature in black ink that reads "Alan Wang". The signature is written in a cursive style with a long, sweeping tail on the "g".

Alan Wang, Project Manager
Plant Licensing Branch IV
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-275 and 50-323

Enclosure:
List of Attendees

cc w/encl: Distribution via Listserv

LIST OF ATTENDEES

NUCLEAR REGULATORY COMMISSION (NRC) MEETING ON

JUNE 7, 2011, WITH PACIFIC GAS AND ELECTRIC COMPANY (PG&E)

DIGITAL UPGRADE OF EAGLE 21 SYSTEM

DIABLO CANYON POWER PLANT, UNITS 1 AND 2

DOCKET NOS. 50-275 AND 50-323

<u>NAME</u>	<u>AFFILIATION</u>
J. Hefler	Altran Solutions
R. Shaffer	Invensys
C. Scott	Invensys
S. Zimmerman	Invensys
T. Quinn	Altran Solutions
G. Clarkson	Altran Solutions
B. Lint	Altran Solutions
J. Mauck	Altran Solutions
T. Foley	Altran Solutions
S. Seaman	Westinghouse
S. Smith	Westinghouse
K. Bonton	Exelon
V. Sham	Exelon
P. Campbell	General Electric – Hitachi
K. Schrader	PG&E
S. Patterson	PG&E
R. Stattel	NRC
W. Kemper	NRC
A. Wang	NRC
B. Dittman	NRC
A. Hon	NRC
K. Rowley	NRC
S. Wyman	NRC
E. Lee	NRC
F. Clark	Public
B. George	Public

Enclosure

Please direct any inquiries to me at 301-415-1445, or Alan.Wang@nrc.gov.

/RA/

Alan Wang, Project Manager
Plant Licensing Branch IV
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-275 and 50-323

Enclosure:
List of Attendees

cc w/encl: Distribution via Listserv

DISTRIBUTION:

PUBLIC	CSteger, NRR
LPL4 Reading	SBush-Goddard, EDO RIV
RidsAcrsAcnw_MailCTR Resource	VDricks, OPA RIV
RidsNrrDeEicb Resource	PPederson, NSIR/DSP/ISCPB
RidsNrrDorl Resource	ELee, NSIR/DSP
RidsNrrDorlLpl4 Resource	AHon, NRR/DPR/PLPB
RidsNrrDprPspb Resource	WKemper, NRR/DE/EICB
RidsNrrLAJBurkhardt Resource	BDittman, NRR/DE/EICB
RidsNrrPMDiabloCanyon Resource	JRowley, NRR/DE/EICB
RidsNsirDsp Resource	SWyman, NRR/DE/EICB
RidsOgcRp Resource	RStattel, NRR/DE/EICB
RidsOpaMail Resource	WMaier, RIV
RidsRgn4MailCenter Resource	

ADAMS Accession Nos. Meeting Notice ML111300230, Meeting Summary ML111860033
Handouts ML111640534, ML111600238 *meeting input email

OFFICE	NRR/LPL4/PM	NRR/LPL4/LA	NRR/DE/EICB	NRR/LPL4/BC	NRR/LPL4/PM
NAME	AWang	JBurkhardt	BKemper*	MMarkley	AWang (NKalyanam for)
DATE	7/11/11	7/8/11	6/14/11	7/12/11	7/14/11