



**Pacific Gas and
Electric Company®**

James R. Becker
Site Vice President

Diablo Canyon Power Plant
Mail Code 104/5/601
P. O. Box 56
Avila Beach, CA 93424

805.545.3462
Internal: 691.3462
Fax: 805.545.6445

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PG&E Letter DCL-10-132

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20852

Docket No. 50-275, OL-DPR-80
Docket No. 50-323, OL-DPR-82
Diablo Canyon Units 1 and 2
Response to NRC Letter dated September 17, 2010, Request for Additional
Information (Set 26) for the Diablo Canyon License Renewal Application

Dear Commissioners and Staff:

By letter dated November 23, 2009, Pacific Gas and Electric Company (PG&E) submitted an application to the U.S. Nuclear Regulatory Commission (NRC) for the renewal of Facility Operating Licenses DPR-80 and DPR-82, for Diablo Canyon Power Plant (DCPP) Units 1 and 2, respectively. The application included the license renewal application (LRA), and Applicant's Environmental Report – Operating License Renewal Stage.

By letter dated September 17, 2010, the NRC staff requested additional information needed to continue their review of the DCPP LRA.

PG&E's response to the request for additional information is provided in Enclosure 1.

PG&E makes no regulatory commitments (as defined in NEI 99-04) in this letter.

If you have any questions regarding this response, please contact Mr. Terence L. Grebel, License Renewal Project Manager, at (805) 545-4160.

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

Executed on October 12, 2010.

Sincerely,


James R. Becker



TLG/50342637

Enclosure

cc: Diablo Distribution

cc/enc: Elmo E. Collins, NRC Region IV Regional Administrator

Nathanial Ferrer, NRC Project Manager, License Renewal

Kimberly J. Green, NRC Project Manager, License Renewal

Fred Lyon, NRC Project Manager, Office of Nuclear Reactor Regulation

Michael S. Peck, NRC Senior Resident Inspector

**PG&E Response to NRC Letter dated September 17, 2010
Request for Additional Information (Set 26) for the
Diablo Canyon License Renewal Application**

RAI 2.1-1 (follow-up)

In license renewal application (LRA) Section 2.1.2.2, the applicant stated that the scoping methodology for nonsafety-related structures, and components (SCs) with spatial interaction with safety-related structures, systems and components (SSCs) was, "Nonsafety-related systems and components that contain fluid or steam, and are located inside structures that contain safety-related SSCs are included in scope for potential spatial interaction under criterion Title 10 of the Code of Federal Regulation (10 CFR) 54.4(a)(2)."

During plant walkdown, the staff observed inside the turbine building area, there were nonsafety-related fluid-filled SCs that were not included in the scope of license renewal located near safety-related SCs, Control Room Pressurization System (CRPS), in scope under 10 CFR 54.4(a)(1). Therefore, in accordance with the applicant's methodology stated above in LRA Section 2.1.2.2, all fluid-filled SCs in the turbine building area should have been included in the scope of license renewal.

By letter dated May 24, 2010, the staff issued RAI 2.1-1, requesting the applicant provide a review of nonsafety-related SSCs located in the turbine building, which have the potential to spatially interact with safety-related SSCs.

By letter dated June 18, 2010, the applicant provided additional SSCs to the scope of license renewal. However, the applicant did not provide an evaluation of nonsafety-related SCs with the potential to adversely interact with SCs in scope under 10 CFR 54.4(a)(1) inside the turbine building, specifically CRPS components.

The staff requests that the applicant justify the exclusion of nonsafety-related fluid-filled components in the turbine building, in accordance with the methodology as stated in the LRA Section 2.1.2.2, from the scope of license renewal in areas containing SCs in scope under 10 CFR 54.4(a)(1), specifically including an evaluation of the CRPS system.

PG&E Response to RAI 2.1-1 (follow-up)

PG&E amended the Diablo Canyon Power Plant license renewal application (LRA) to include additional nonsafety-related (NSR) fluid-filled components located in the turbine building whose failure could prevent satisfactory accomplishment of any of the functions performed by safety-related components (Reference PG&E letters DCL-10-067 dated June 18, 2010, DCL-10-091 dated July 28, 2010, DCL-10-100 dated August 17, 2010, and DCL-10-122 dated September 22, 2010).

NSR fluid-filled components in the turbine building included components in the diesel generator (DG) rooms, the component cooling water heat exchanger rooms, the 125 VDC battery rooms, and the 4 kV switchgear room. A walkdown of the turbine building was performed to identify any safety-related components located in other areas of the turbine building. The following safety-related components were identified and evaluated.

1. PT-505 and PT-506 Instrument Tubing

The instrument tubing associated with PT-505 and PT-506 (transmitters providing redundant first stage impulse pressure input from the high pressure turbine to the reactor trip circuit, and providing input to the main steam dump control circuitry and input to anticipated transient without scram (ATWS) mitigation system actuation circuitry (AMSAC)) is a seismically induced system interaction Class 1 target. The tubing runs in the turbine building from the transmitters located in the component cooling water heat exchanger vaults up to the high pressure (HP) turbines. These transmitters are fail-safe and portions of the tubing are missile protected. In the unlikely event that fluid spray from postulated failure of NSR fluid-filled components in the turbine building causes sufficient damage to an instrument line to breach the line, it would cause a drop in pressure in the line. AMSAC provides a way to trip the main turbine, initiate auxiliary feedwater flow, and isolate steam generator blowdown in the event that an ATWS results in the loss of the secondary heat sink. A drop in pressure, or equivalent reading, will result in AMSAC initiating a reactor trip that will bring the plant to a safe shutdown condition. Therefore, the tubing is not a target for (a)(2) considerations in the turbine building.

2. Emergency Diesel Generator (EDG) Engine Exhaust Lines in the Turbine Building

The EDG engine exhaust lines are safety related and exit through the top of the DG rooms in the turbine building. The function of the exhaust lines is to provide a directed flow path for EDG engine exhaust to the atmosphere. Maintaining an airtight pressure boundary of the EDG engine exhaust is not required. The primary requirement is that damage to the line would not result in blockage of the flow path. All high energy lines in the turbine building will be aging managed and prevents the possibility of damage to the exhaust lines by pipe whip or jet impingement. It is not likely that the damage to the exhaust lines from postulated failure of NSR fluid-filled components in the turbine building would block the flow path such that the safety function of the diesels would be impaired. The EDG engine exhaust lines are subject to periodic external surfaces monitoring per LRA Section B2.1.20; thereby, ensuring that any external aging effects will be managed.

3. Heating, Ventilation, and Air Conditioning (HVAC) Supply and Exhaust Ducts for the Vital 480 V Switchgear Rooms in the Turbine Building

The HVAC supply and exhaust ducts for the vital 480 V switchyard rooms are safety related and provide a directed flow path for supply and exhaust ventilation air to and from the vital 480 V switchgear rooms. Maintaining an airtight pressure boundary is not required. The primary requirement is that damage to the ductwork would not result in blockage of the flow path. All high energy lines in the turbine building will be aging managed and prevents the possibility of damage to the ducts by pipe whip or jet impingement. Therefore, it is unlikely that damage to the ducts by fluid spray from postulated failure of NSR fluid-filled components in the turbine building would block the flow path sufficiently to have a significant impact on the safety function of the ducts. Therefore, the ductwork is not considered a target for potential (a)(2) spatial interaction considerations in the turbine building. The HVAC ducts are subject to periodic external surfaces monitoring per Aging Management Program XI.M36, External Surfaces Monitoring Program; thereby, ensuring that any external aging effects will be managed.

4. Control Room Pressurization System (CRPS) Ductwork and Fans on the Turbine Deck in the Turbine Building

The CRPS supply fans, valves and instrumentation and pipe duct are designed for the environment in which they are located. Specifically, the pipe is schedule 10 and 20 galvanized carbon steel and designed to be located outside subject to severe weather conditions. Additionally, the pipe is designed to withstand the pressures of a high energy line break event.

A walkdown of the CRPS system supply fans, controls, and instrumentation identified fire water system piping and service water system piping and a small head tank located near to the pipe duct. However, based on the design of the pipe duct to operate in the environment in which it is located, evaluation of nearby NSR structure, system, and component (SSC) is not required. This is consistent with Section 5.2.3.2 of NEI 95-10, Rev. 6, Appendix F which states that "If a component is qualified/designed to maintain its function in an environment that could be caused by failure of a nearby non-safety SSC, that non-safety SSC would NOT need to be within the scope of 54.4(a)(2)." Therefore, only the CRPS pipe duct is within the scope of license renewal based on the criteria of 10CFR54.4(a)(1) and no spatial interaction evaluation is required for the CRPS pipe duct.

Therefore the LRA has been amended to include all NSR fluid-filled piping in the turbine building that could fail and interact with any safety-related SSC in a manner that would prevent the performance of the system safety function for which the safety-related SSC is required.

RAI 2.1-2 (follow-up)

By letter dated June 18, 2010, the applicant responded to RAI 2.1-2 and amended the LRA by including a small segment for the extraction steam piping in scope for (a)(2) on LRA drawing LR-DCPP-05-107705-04 at location 45-E. In addition, the applicant include two segments of service water piping into scope of license renewal, denoted on LRA drawing LR-DCPP-15107715-05, as inside the diesel generator room. However, the piping and components between these two segments were not included in the scope of license renewal. Based upon the information provided, the staff cannot determine if the spatial interaction boundaries were appropriate.

Therefore, the staff requests the applicant provide an evaluation of the spatial interaction boundaries of the abovementioned extraction steam and service water piping that were included in scope of licensing renewal.

PG&E Response to RAI 2.1-2 (follow-up)

Boundary drawing LR-DCPP-05-107705-04, was revised for the extraction steam system to include all of the system piping and components containing high energy fluids in license renewal application (LRA) amendment 5 (Reference PG&E letter DCL 10-091 dated July 28, 2010). The current revision of LR-DCPP-05-107705-04 now reflects that all of the components containing high energy fluids are now within the scope of license renewal. This includes the section of extraction steam pipe located in the component cooling water system heat exchanger room as previously shown on revision 1 of LR-DCPP-05-107705 submitted by PG&E letter DCL-10-067 on June 18, 2010.

Boundary drawing LR-DCPP-15-107715-05, shows the portions of the service water piping that are within the diesel generator room emergency diesel generator (EDG) 2-3 which are in scope of license renewal for a(2) spatial interaction. The two segments shown as in scope are from the point of entrance to the point of exit for cooling water supply and return lines for a room cooler. A walkdown performed by PG&E confirmed that the only diesel generator room with service water piping in it is the room that houses EDG 2-3. (The piping is screened in as generic component GC-15008 in LRID 15.)

Boundary drawing LR-DCPP-15-106715-03, has been revised to indicate the portion of the service water piping that is inside of the component cooling water heat exchanger room.

No changes were required to the LRA to reflect these revised boundary drawings.

RAI 2.1-2 (follow-up)

By letter dated July 28, 2010, the applicant provided an evaluation of high energy piping in the turbine building that should be included in the scope of license renewal to protect safety-related cable in the turbine building from the effects of pipe whip and jet impingement.

However, the staff made the following observations of the scoping of the high energy lines in the turbine building:

- *On LRA drawing LR-DCPP-02-106702-15, the applicant depicts high energy lines in scope for 10 CFR 54.4(a)(2), but several tanks are not highlighted, to indicate they are within the scope of license renewal under 10 CFR 54.4(a)(2), in which the high energy lines go through.*
- *On LRA drawing LR-DCPP-02-106702-13, the applicant depicts high energy lines in scope for 10 CFR 54.4(a)(2), but air blowers and tanks are not highlighted, to indicate they are within the scope of license renewal under 10 CFR 54.4(a)(2), in which the high energy lines go through.*
- *On LRA drawing LR-DCPP-02-106702-18, the applicant depicts high energy lines in scope for 10 CFR 54.4(a)(2), but pumps and tanks are not highlighted to indicate they are within the scope of license renewal under 10 CFR 54.4(a)(2), in which the high energy lines go through.*
- *On LRA drawings LR-DCPP-02-106702-12 and LR-DCPP-02-107702-12 at location 125-C, SCs are shown not highlighted in scope for 10 CFR 54.4(a)(2) heading into the continuation flag. However, on LRA drawings LR-DCPP-02-106702-13 and LR-DCPP02-107702-13 at location 130-E, the SCs are shown highlighted in scope for 10 CFR 54.4(a)(2).*

The staff requests that the applicant justify its exclusion of the above fluid-filled non safety-related SCs in the turbine building.

PG&E Response to RAI 2.1-2 (follow-up)

The portions of the condensate system depicted on the following drawings consist of only moderate energy piping and piping components, which were not included within the scope of license renewal:

LR-DCPP-02-106702-15
LR-DCPP-02-107702-15
LR-DCPP-02-106702-13
LR-DCPP-02-107702-13
LR-DCPP-02-106702-18
LR-DCPP-02-107702-18

Since these boundary drawings contain no high energy piping components, the portions of the condensate system shown on these drawings should not be considered within the scope of license renewal. The drawings have been removed from the references sections of the condensate system scoping report. The license renewal application was not affected.

License renewal boundary drawings LR-DCPP-02-106702-12 and LR-DCPP-02-107702-12 do show some high energy piping components in the condensate system, and are correctly included within the scope of license renewal. The other portions shown on this drawing are moderate energy and therefore are not included in scope for a(2) considerations.