Pacific Gas and Electric Company

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October 3, 2003

PG&E Letter DIL-03-011

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

Docket No. 72-26
Diablo Canyon Independent Spent Fuel Storage Installation
Response to NRC Request for Additional Information Regarding Cask Transporter Lateral Restraints for the Diablo Canyon ISFSI (TAC No. L23399)

Dear Commissioners and Staff:

By letter dated December 21, 2001, the Pacific Gas and Electric Company (PG&E) submitted an application to the U.S. Nuclear Regulatory Commission (NRC) for a 10 CFR 72 site-specific license to build and operate an independent spent fuel storage installation (ISFSI) at the Diablo Canyon Power Plant (DCPP) site. The application included a Safety Analysis Report (SAR), Environmental Report, and other required documents in accordance with 10 CFR 72.

On September 15, 2003, the NRC staff requested additional information regarding the design of the lateral restraints for the cask transporter when the transporter is positioned over the cask transfer facility (CTF).

Enclosure 1 contains PG&E's response to the specific NRC questions regarding lateral restraints.

Enclosure 2 contains revised SAR Figures 5.1-1 (Sheet 3 of 3) and 5.1-2 (Sheet 1 of 2). These revised figures are related to the response to NRC Question 2 in Enclosure 1.

If you have any questions regarding this letter, please contact Mr. Terence Grebel at (805) 545-4160.

Sincerely,

David H. Oatley

NMSS01

rlj/4160
Enclosures
cc: Diablo Distribution
Thomas D. Green, Esq
Darcie L. Houck
Christopher Helenius
Sheldon L. Trubatch
cc/enc: Diane Curran, Esq.
Brian Gutherman
James R. Hall (10)
David A. Repka, Esq.
John Stamatakos (2)
Robert K. Temple, Esq.
Robert R. Wellington, Esq.
Jacquelyn Wheeler

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

In the Matter of PACIFIC GAS AND ELECTRIC COMPANY Diablo Canyon Independent Spent Fuel Storage Installation	Docket No. 72-26

AFFIDAVIT

David H. Oatley, of lawful age, first being duly sworn upon oath says that he is Vice President and General Manager – Diablo Canyon of Pacific Gas and Electric Company, that he is familiar with the content thereof; that he has executed this response to an NRC request for additional information regarding cask transporter lateral restraints for the Diablo Canyon Independent Spent Fuel Storage Installation license application on behalf of said company with full power and authority to do so; and that the facts stated therein are true and correct to the best of his knowledge, information, and belief.

David H. Oatley
Vice President and General Manager - Diablo Canyon

Subscribed and sworn to before me this 3rd day of October 2003.

Notary Public
State of California
County of San Luis Obispo

CHUCK MACKEY
Commission # 1397547
Notary Public - California
San Luis Obispo County
My Comm. Expires Feb 1, 2007

PG&E Response to NRC Request for Additional Information Regarding Cask Transporter Lateral Restraints When the Transporter is Positioned Over the CTF

NRC Question 1

PG&E committed to design the lateral restraints for the cask transporter when it is positioned over the CTF to the relevant ASME and ACI code requirements, as stated in PG&E's response to NRC RAI question 3-3, dated October 15, 2002 (PG&E Letter DIL-02-009). The NRC staff would like to see this same commitment included as part of the updated SAR.

PG&E Response

PG&E's commitment to the ASME and ACI code requirements for the cask transporter restraint system, as stated in PG&E's response to NRC RAI Question 3-3, dated October 15, 2002, is stated in SAR Section 3.3.3.2 and Table 3.4-4 for the cask transporter and SAR Section 3.3.4.2 and Table 3.4-5 for the CTF anchorage and CTF seismic restraints. Amendment 2 of Section 5.1.1.3 of the ISFSI SAR will be revised to include operational statements clarifying the installation of the seismic restraints for the cask transporter and CTF. Amendment 2 will be submitted to the NRC under separate cover.

NRC Question 2

In a recent telephone call, PG&E staff indicated that the design of the cask transporter lateral restraints did not need to account for the weight of a loaded transfer cask, or loaded storage cask. For the specific configurations in question during MPC transfer at the CTF, PG&E indicated that the transporter is not relied upon to support these loads, except for very brief periods. The NRC staff requests that PG&E provide estimates of the brief time periods that the transporter is positioned over the CTF and is supporting: 1) the MPC as it is lowered into the overpack, and 2) the loaded HI-STORM 100 SA as it is raised off the CTF lift platform and out of the CTF. We understand that you consider the probability of an earthquake occurring while in either of these configurations to be so small as to make these events non-credible. This information is necessary for the staff to make its finding.

PG&E Response

Revised Figures 5.1-1 (Sheet 3 of 3) and 5.1-2 (Sheet 1 of 2) are contained in Enclosure 2 with information added regarding the top shell seismic restraint installation and removal and the mating device. Also, in revised Figure 5.1-2 (1/2), under Cask Transfer Facility, the steps, "Remove Pool Lid Using the Mating Device," and "Connect Downloader Slings to Transporter," were reversed to show the correct order of these operations. Changes to the figures in Enclosure 2 are shown with side bars. PG&E will incorporate these figures into Amendment 2 of the FSAR, Section 5.1, which will be submitted to the NRC under separate cover. The revised figures will also be included in Section 5.1 of the ISFSI FSAR that will be submitted to the NRC within 90 days of the issuance of the ISFSI license.

Lowering of MPC

Table 7.4-1, Occupational Exposure During Overpack Loading Operations (Steps 55 and 56), and Table 7.4-2, Occupational Exposure During Overpack Unloading Operations (Steps 11 and 12), indicate the MPC can be suspended from the MPC lifting slings for up to 1.5 hours. This is a very conservative number used for dose calculations. When the MPC is suspended by the lifting slings, seismic forces on the cask transporter seismic restraints would be reduced as described below.

When the MPC is suspended and lowered into the HI-STORM 100 SA, the seismically restrained transporter is carrying the additional weight of the MPC on redundant flexible slings approximately 350-inches long. The MPC is free to move horizontally within the gap between the MPC and either the transfer cask or the HI-STORM. This movement would result in a minor horizontal component in the sling. (The horizontal forces generated by the MPC against the transfer cask or HI-STORM are taken by the seismically qualified stack, which is independently supported as described in Calculation HI-2012626, "Structural Evaluation of Diablo Canyon Cask Transfer Facility" (submitted to the NRC in PG&E Letter DIL-01-004, dated December 21, 2001). The gap between the MPC and the transfer cask is a maximum of 1.19 inches and between the MPC and HI-STORM is 2.25 inches.

The maximum component of the horizontal force applied to the transporter lifting beam by the movement of the MPC in the HI-STORM is approximately 0.003 (1.125/350 - half the gap divided by the length of the sling) times the mass of the MPC. The horizontal resisting frictional forces between the transporter and the ground are increased by the coefficient of friction (COF) times the mass of the MPC. Since the COF between steel and concrete is approximately 0.45[a], the horizontal frictional forces far exceed (0.45/0.003 = 150 times) the force generated by the horizontal movement of the MPC and the load on the transporter seismic restraints would be reduced in this configuration. Therefore, PG&E does not believe that the transporter lateral seismic restraints need to account for the weight of a loaded MPC.

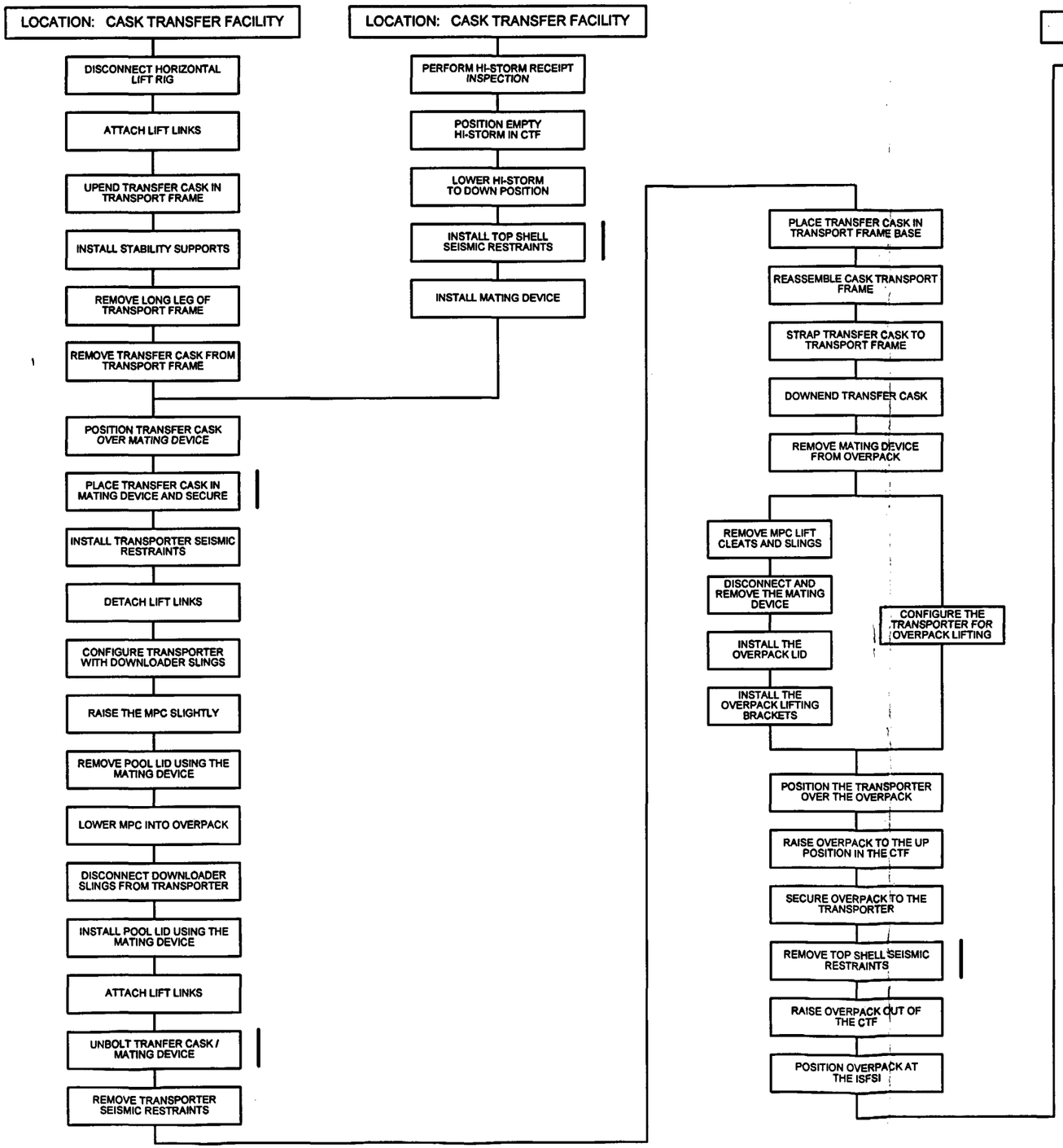
Lifting a Loaded HI-STORM

The PG&E cask transporter has not been constructed at this time, however, cask transporters provided by Holtec to date to other customers lift the fully loaded HI-STORM at approximately 12 inches/minute. Since the base of the HI-STORM is 40 inches below grade when the transporter lifting of the HI STORM starts, it will take less than 4 minutes to lift the HI-STORM clear of the CTF. Therefore, PG&E considers the probability of an earthquake occurring while the HI-STORM is being lifted by the transporter to be so small as to make this event non-credible.

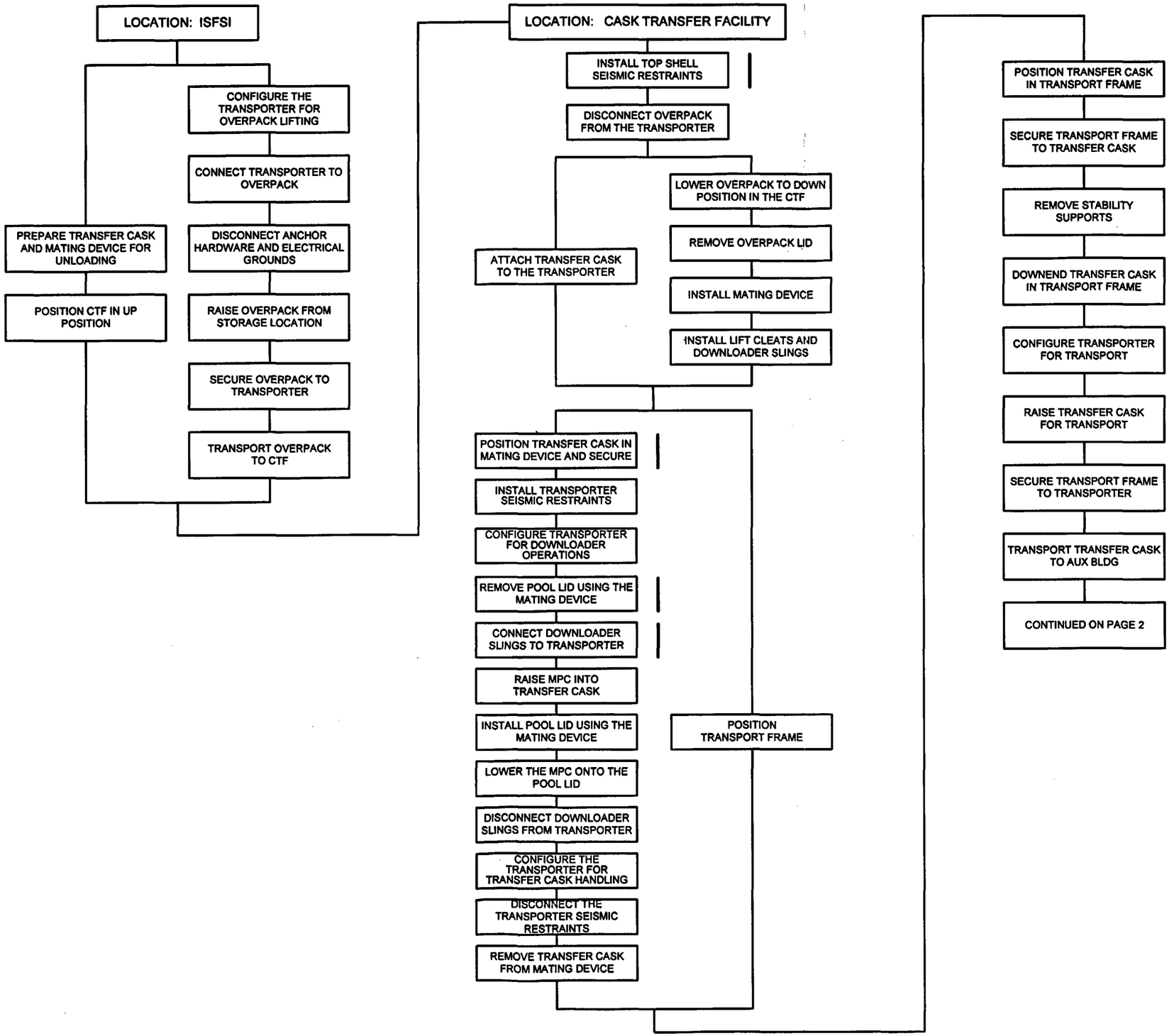
[a] "Construction Planning, Equipment and Methods," Second Edition, R.L. Peurifoy, McGraw-Hill Book Company has a friction factor of 0.45 for crawler tracks on concrete.

Enclosure 2

Draft of Revised SAR Figures
5.1-1 (Sheet 3 of 3)
and
5.1-2 (Sheet 1 of 2)



SAFETY ANALYSIS REPORT
DIABLO CANYON ISFSI
FIGURE 5.1-1 (3 of 3)
OPERATION SEQUENCE FLOWCHART FOR CASK SYSTEM LOADING, SEALING, TESTING, AND STORAGE



SAFETY ANALYSIS REPORT
DIABLO CANYON ISFSI

FIGURE 5.1-2 (1 of 2)
OPERATION SEQUENCE FLOWCHART FOR UNLOADING OPERATIONS