MEMORANDUM

April 22, 2009

TO: MEMBERS, PORT COMMISSION
    Hon. Rodney Fong, President
    Hon. Stephanie Shakofsky, Vice President
    Hon. Kimberly Brandon
    Hon. Michael Hardeman
    Hon. Ann Lazarus

FROM: Monique Moyer
      Executive Director

SUBJECT: Informational Presentation Regarding Environmental Investigations Conducted by Pacific Gas & Electric, Inc. in the Vicinity of the Potrero Power Plant, South of Pier 70

DIRECTOR’S RECOMMENDATION: Informational Only – No Action Required

Overview
Pacific Gas & Electric, Inc. (“PG&E”) is in the process of investigating shoreline contamination in the vicinity of the Potrero Power Plant (“Potrero Site”) related to a manufactured gas plant (“MGP”) that formerly existed on the Potrero Site. Manufactured gas plants were used in the late 1800’s through early 1900’s to produce “town gas,” a natural-gas like product that was used for street lighting and industrial and domestic uses prior to the advent of a modern system of long-distance natural gas pipelines. The MGP-related contamination extends onto adjacent Port property, including offshore sediments (see Exhibit A).

The Potrero Power Plant is located on private property owned by PG&E since the early 1870’s, but sold by PG&E to Mirant Corporation (formerly Southern Energy, “Mirant”) in 1999. Pursuant to the Burton Act, the Port owns a small strip of shoreline adjacent to the Potrero Site and the offshore sediments. The Port’s Pier 70, a 65-acre site that has been the subject of Port master planning for the past two years, lies directly north of and adjacent to the Potrero Site. MGP-related contamination affects the shoreline strip, the offshore sediments, and a small part of the Pier 70 area.

After receiving preliminary data from its last round of investigations, PG&E has proposed preliminary, conceptual plans to Port staff, Mayor Gavin Newsom’s Office, and the Regional Water Quality Control Board (“Regional Board”) that Port staff hope will result in a satisfactory remedial solution for the Potrero Site and adjacent areas of Port property.

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Background
The Potrero Site and an adjacent parcel to the south have a long industrial history dominated by gas manufacturing and sugar refining. These industrial activities were consistent with the shipyard and other industrial uses to the north at the Pier 70 area and with freight rail and other industrial uses to the south.

Potrero Site
The Potrero Site looked much different in years past. The Potrero manufactured gas plant (“Potrero MGP”) was located along the north border of the property (see Exhibit B). The Potrero MGP operated from 1872 to 1930, then was placed on stand-by status for approximately 30 years prior to its dismantling in 1961-62. A large sugar refinery, owned by Claus Spreckles, operated on the current power plant property in the area immediately south of the Potrero MGP from 1881 to 1951. In addition, an electric generating plant, Station A, operated on the power plant property from 1901 to 1979. A large wharf extended along the waterfront to the east of the sugar refinery and a smaller wharf was located along the waterfront east of the MGP.

In 1965, the first unit of the existing Potrero Power Plant was constructed by PG&E in the area of the former sugar refinery. PG&E retained ownership of the power plant until April 1999, when the Potrero Power Plant was sold to Southern Energy (now Mirant). As part of the power plant sale, PG&E retained liability for environmental impacts existing at the time of sale.

Independent MGP
In 1901, the Spreckles family started a gas company, known as Independent Gas Company, and constructed a small manufactured gas plant located between the sugar refinery and Warm Water Cove, essentially on the north shore of Warm Water Cove (Exhibit B). The Independent MGP was located on an adjacent property that is not part of the Potrero Site. This MGP was purchased by San Francisco Gas and Electric Company in 1903. In 1905, PG&E became the owner/operator of both the Potrero and Independent MGPs. In 1906, PG&E converted the gas generators of the Independent MGP to use lampblack from the larger Potrero MGP as fuel in its generation of gas. The Independent MGP ceased operations in 1915.

Manufactured Gas Plants: Operations and Issues
MGPs typically used coal or petroleum as a feed stock and, in addition to the desirable gas, produced solids (lampblack) and viscous liquids (coal tar) as waste products. Coal tar is denser than water, so when released into the environment, it will migrate through porous earth materials, unimpeded by groundwater, until its migration is contained by an impermeable geologic barrier. For this reason, coal tar is referred to as a “dense, non-aqueous phase liquid,” or “DNAPL.”

Both coal tar and lamblack contain high proportions of a group of chemicals called poly-aromatic hydrocarbons (PAH). PAH occurs naturally in crude oil and coal, as well as in petroleum products and as byproducts of combustion. The PAH family of chemicals are characterized structurally by interlocked groups of carbon rings, producing large, flat molecules having high molecular weights (see Exhibit C). PAH is of environmental concern due to toxicity and carcinogenicity. The chemical characteristics of PAH tend to restrict their mobility in the environment.
PG&E–Regional Board–Port Interactions Regarding Potrero Site
PG&E has been conducting environmental investigations at the Potrero Site since the mid-1990’s. On April 17, 2001, the Regional Board was designated as the administering agency for the voluntary cleanup pursuant to a state law known as "AB 2061" law which allows for a single agency to be the lead oversight agency for a cleanup. The California Department of Toxic Substances Control ("DTSC") and the San Francisco Department of Health ("DPH") also review and provide input on the cleanup through the Regional Board. PG&E's actions have been strictly voluntary; no environmental agency has issued an enforceable cleanup order, nor has PG&E entered into an enforceable agreement for cleanup, although the Regional Board has recently given PG&E direction through a Section 13267 letter. To date, PG&E’s site investigation has not included investigations of potential contamination arising from the Independent MGP, located outside the Potrero Site boundary, on the north shore of Warm Water Cove.

The investigations began at the west side of the Potrero property and have generally progressed toward the east. An investigation by Fluor Daniel (1998), first described the presence of liquid coal tar as a DNAPL beneath part of the property. This observation was confirmed by additional studies completed by Geomatrix and its subconsultants for PG&E (e.g., Geomatrix 2000, 2004, 2008; Anchor, 2006). The existence of an area of PAH contamination in the sediments offshore of the property was confirmed by a URS (2001) study completed for Mirant.

In the review of documents submitted by Mirant to the California Energy Commission (CEC) pertaining to the repowering of the Potrero Power Plant, Port staff first became aware of the sediment contamination at the Potrero Site. Port staff submitted testimony to the CEC in 2002 indicating that this was of concern to the Port.

As PG&E’s consultants investigated the east part of the property, including the Port-owned shoreline area, Port staff submitted a number of comment letters to Regional Board staff (Port of San Francisco, 2004, 2005, 2006, 2008). In these letters, Port staff identified a number of technical issues that were not adequately resolved, leading to conclusions that Port staff believed to be unwarranted and prejudicial to the Port’s interests. Specifically, Port staff believed that PG&E consultants placed too much emphasis on potential contamination from Pier 70 as an alternative source of offshore sediment PAH contamination. Despite periodic discussions, these issues remained outstanding until recently.

Pursuant to Regional Board-approved site investigation and a Port license agreement negotiated in late 2008, PG&E and its consultants began an extensive program of sampling of the offshore sediments in February 2009. The Port took the additional step of having an independent consultant observe the sediment sampling operation and conduct a separate analytical program in order to provide an independent data set.

When the sediment sampling was underway, the Office of Mayor Gavin Newsom convened a meeting between the Port and senior PG&E management to encourage cooperation between the Port and PG&E to accomplish more aggressive and expedited remedial action at the site.
Subsequent to that meeting, Port staff and PG&E representatives have met on four occasions to review and refine PG&E proposals for further site investigation, interim remedial action to protect human health on the Port’s shoreline, and future steps to develop a final remedial solution for both offshore and onshore contamination to protect human health and the environment. PG&E staff has updated Regional Board staff on these proposals. Port staff has been impressed by the staffing and resources PG&E has dedicated to this project in the past two months.

Beginning with existing information, and incorporating the draft data from the sediment investigation, PG&E is developing a site conceptual model1 and a way forward that Port staff believes is likely to lead to the successful remediation of the property and adjacent Port parcels.

**Future Steps – Potrero Power Plant Site**

PG&E is proposing the following as next steps, with each step to be reviewed by the Regional Board prior to implementation:

**Sediments and Shoreline**
- Construct a Shoreline Interim Remedial Measure (IRM) to include limited excavation of near-surface material and cover with a reactive mat (to prevent interim migration of any underlying PAH contamination) and riprap for erosion control - (scheduled to be completed in November 2009 if the necessary permits are granted expeditiously).
- Conduct additional sediment sampling to further delineate areas with MGP residues (scheduled for September/October 2009).
- Complete a Final Sediment Evaluation Report with results from all sediment sampling (scheduled to be completed in April 2010).
- Final remedy selection for offshore sediments and permitting for remedy – 2010 and 2011, subject to environmental review
- Construct sediment and final shoreline remedy (scheduled to be completed in October 2012), subject to environmental review.

**NE Area of Potrero Power Plant Property:**
- Construct an upland sheet pile wall to prevent the potential for dense non-aqueous phase liquids (DNAPL) to migrate to the Bay (scheduled to be completed in December 2011 under an expedited schedule, subject to environmental review).

**Area of Power Plant Property Outside the NE Area:**
- Maintain the asphalt cap and the Deed Restriction (which limits property use to industrial/commercial uses).
- Perform soil vapor sampling (scheduled to be done in Fall 2009) to support regulatory closure and potential redevelopment for this portion of the site.

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1 A site conceptual model identifies the primary source of contamination in the environment, shows how chemicals at the original point of release might move in the environment, and identifies exposure pathways that may harm human health or the environment.
PG&E notes that the steps outlined above are subject to regulatory approval and the dates are tentative due to uncertainties in stakeholder and regulatory review times. PG&E has stated that it remains committed to expedite the remediation process and to work continuously with stakeholder groups throughout the process, as well as provide updates to the Port at important milestones in the project.

Port staff and PG&E representatives have also agreed to seek periodic meetings with staff from regulatory agencies (in addition to the Regional Board) that have project permitting functions and/or whose comments are required on proposed remedial alternatives (e.g., U.S. Army Corps of Engineers, National Oceanic and Atmospheric Administration, U.S. Fish and Game, Calif. Dept. of Toxic Substances Control (DTSC), San Francisco Bay Conservation and Development Commission (BCDC), SFDPH, etc.).

While reserving the right to comment on proposed remedial alternatives, Port staff believes that the general steps outlined above are likely to lead to a successful remedial outcome that is protective of human health and the environment.

**Future Steps - Warm Water Cove**

Due to potential effects from industrial activities in the vicinity of Warm Water Cove, including the former Independent MGP located near the north shore, PG&E has committed to working with Port staff to develop plans for environmental investigation of Warm Water Cove and to implement any appropriate remedial measures. PG&E retains a portion of the liability for any contamination to the submerged parcels in Warm Water Cove. While recognizing that the Regional Board has significant staffing limits due to state budget and related considerations, PG&E proposes that it would be appropriate to apply for Regional Board oversight of this investigation and any subsequent remedial actions. PG&E also proposes that other Potential Responsible Parties (PRPs) should be included in the site characterization process. Port staff concurs with these steps.

**Future Updates**

In meetings with PG&E representatives, Port staff has emphasized the need for community outreach and stakeholder involvement during the site investigation and remedial planning phases of the project. Port staff proposes periodic updates regarding site investigation results and remedial milestones to the Port Commission and the Port’s Central Waterfront Advisory Group. Port staff will also continue to brief staff from Mayor Newsom’s Office and members of the Board of Supervisors, including District 10 Supervisor Sophie Maxwell.

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**Exhibits**

Exhibit A: Location of Potrero Power Plant  
Exhibit B: Site Plan Showing Locations of Historical Uses, Potrero Power Plant Site  
Exhibit C: Molecular Structure of Representative PAH Compounds
References


