

ATTACHMENT 1

Date of Issuance
September 24, 2010

PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Legal Division

San Francisco, California
Date: September 23, 2010
Resolution No. L-403

RESOLUTION

DIRECTIVES OF THE CALIFORNIA PUBLIC UTILITIES COMMISSION PURSUANT TO CALIFORNIA CONSTITUTION, ARTICLE 12, SECTIONS 1-6, PUBLIC UTILITIES CODE SECTIONS 315, 451, 701, and 702, TO INVESTIGATE THE FACTS SURROUNDING THE EXPLOSION AND FIRE OF PACIFIC GAS AND ELECTRIC COMPANY'S NATURAL GAS TRANSMISSION LINE NO. 132, TO MAKE AN IMMEDIATE ASSESSMENT OF THE SAFETY OF PG&E'S OTHER GAS TRANSMISSION LINES, TO ESTABLISH AN INDEPENDENT REVIEW PANEL TO ASSIST IN THE FACT-FINDING INVESTIGATION OF THE SAN BRUNO EXPLOSION AND THE OVERALL SAFETY OF PG&E'S GAS TRANSMISSION LINES IN CALIFORNIA, TO RATIFY THE MANDATORY INSTRUCTIONS OF THE EXECUTIVE DIRECTOR'S PREVIOUS EMERGENCY MANDATES TO INVESTIGATE THE SAN BRUNO INCIDENT (INCLUDING, REDUCTION OF PRESSURE IN LINE 132, REQUIRED INSPECTIONS AND, SURVEYS, AND THE PREPARATION OF PLANS), TO MAKE ALL OF THE UTILITY'S EMPLOYEES AND CONTRACTORS AVAILABLE FOR FACT-FINDING INVESTIGATORY INTERVIEWS, AND TO PRESERVE ACCIDENT RECORDS AND GENERAL RECORDS REGARDING THE SAFETY AND INTEGRITY OF LINE 132.

SUMMARY

This Resolution is issued to ensure the immediate safety of the residents of the City of San Bruno and the people of California in connection with the operation of the Pacific Gas and Electric Company ("PG&E") natural gas transmission system. The orders within this Resolution provide, among other things, for an investigation into the explosion of PG&E's natural gas transmission line 132 in the City of San Bruno on the evening of September 9, 2010 ("San Bruno explosion"), and into the general safety risks associated with PG&E's other gas transmission lines in the State. This investigation will

be limited to fact-finding only. Adjudicatory or rulemaking proceedings may follow but are not part of the ordered investigation in this Resolution. The Resolution also creates an Independent Review Panel of experts (“Independent Review Panel” or “Panel”) to gather facts, review these facts and make recommendations to the Commission for the improvement of the safe management of PG&E’s natural gas transmission lines. The costs of the Panel will be funded by PG&E. A memorandum account is authorized to track the costs of the Panel for cost recovery purposes, but the Commission defers any decision on the allocation of such costs between PG&E’s shareholders and customers. The President of the Commission is authorized to select the members of the Panel, subject to confirmation by a vote of the Commission.

BACKGROUND

At approximately 6:15 in the evening of September 9, 2010, a portion of PG&E’s natural gas pipeline 132 ruptured and exploded in the City of San Bruno near Skyline Boulevard, killing seven residents and injuring numerous others, some of them severely. The San Bruno explosion resulted in a large fireball which ultimately destroyed 37 homes. It took PG&E approximately one and a half hours to shut off the gas flow on the ruptured line, by closing two manually operated pipeline valves—one of them a mile away from the rupture, and the other one and a half miles away. The San Bruno explosion may be the largest transmission pipeline explosion in an urban/suburban setting in U.S. history, certainly the most catastrophic in California history.

JURISDICTION AND AUTHORITY

The Commission issues the directives in this Resolution pursuant to its plenary and broad powers under, *inter alia*, the California Constitution and the Public Utilities Code section 451, which mandates the following: “Every public utility shall furnish and maintain such adequate, efficient, just, and reasonable service, instrumentalities, equipment, and facilities ... as are necessary to promote the safety, health, comfort, and convenience of its patrons, employees, and the public.” (Pub. Util. Code, § 451.) In our broad grant of jurisdiction over public utilities in California, we are authorized to “do all things, whether specifically designated in ... [the Public Utilities Code] or in addition thereto, which are necessary and convenient” to our regulation of public utilities, including, though not limited to, adopting necessary rules and requirements in furtherance of our constitutional and statutory duties to regulate and oversee public utilities operating in California. (Pub. Util. Code, § 701.) This Commission has comprehensive jurisdiction over questions of public health and safety arising from utility operations. (*San Diego Gas & Electric v. Superior Court* (“*Covalt*”) (1996) 13 Cal.4th 893, 923-924.) Our jurisdiction to regulate these entities is set forth in the California Constitution and in the Public Utilities Code. (Cal. Const., art. XII, §§ 1-6; see generally, Pub. Util. Code, §§ 216, 701, 768, 1001.) Public utilities are required to “obey and comply with every order, decision, direction, or

rule made or prescribed by the commission" (Pub. Util. Code, § 702; see also, Pub. Util. Code, §§ 761, 762, 767.5, 768, 770.)"

Under federal statutes, the Commission is certificated by the Pipeline and Hazardous Materials Safety Administration ("PHMSA") in the U.S. Department of Transportation to adopt the federal pipeline safety standards, to enforce those standards, order the preservation and maintenance of records, and enforce these powers through injunctive relief. (See 49 U.S.C. § 60105, subds. (b)(1) through (b)(7)).

RATIFICATION AND APPROVAL OF THE MANDATES OF THE EXECUTIVE DIRECTOR

Because of this unforeseen emergency, the Commission's Executive Director ordered PG&E to perform certain duties in a letter dated September 13, 2010. By this Resolution, the Commission hereby approves those mandates. Specifically, those mandates included the following:

- 1) Reduce the operating pressure on PG&E's Line 132 to a pressure level of 20% below the operating pressure at the time of the failure and retain that lower pressure level until such time as the Commission allows PG&E to return to Line 132's normal operating pressure;
- 2) Ensure that there are no additional risks to the residents of San Bruno by conducting an integrity assessment of all gas facilities in the impacted area;
- 3) Conduct an accelerated leak survey of all transmission lines in PG&E's service territory, giving priority to segments in class 3 and class 4 locations, within one month of the date of this letter and take corrective action as required and report the results to the Executive Director on or before October 12, 2010;
- 4) Evaluate records of customer leak-complaint response times and response effectiveness system-wide, take immediate mitigation measures if deficiencies are found, and report the results to the Executive Director;
- 5) Prepare a plan for a complete safety inspection of PG&E's entire natural gas transmission pipeline system and provide the plan to me no later than September 23, 2010;

- 6) Make all employees and contractors available for interviews with federal and state investigators, including if requested, examinations under oath;
- 7) Preserve all records related to the incident, including work at the Milpitas Terminal during the month of September 2010;
- 8) Preserve all records related to the maintenance or modification of Line 132 by PG&E and/or its contractors performed within the City of San Bruno over the past ten (10) years;
- 9) Review the classification of natural gas transmission lines and determine if the classification has changed since the initial designation and report the results to the Executive Director;
- 10) Investigate and report to the Executive Director PG&E's forecasted versus actual levels of spending on pipeline safety and pipeline replacements from 2005 to the present; and
- 11) Conduct a review of all gas transmission line valve locations in order to determine locations where it would be prudent to replace manually operated valves with automated valves and report the results to the Executive Director.

Mandate #1, above, which required PG&E to reduce the operating pressure on PG&E's Line 132 to a pressure level of 20% below the operating pressure at the time of the pipeline rupture and to retain that lower pressure level until such time as the Commission allows PG&E to return Line 132 to a higher operating pressure, is consistent with PHMSA's Corrective Action Orders in similar emergency situations, including the following recent example:

Pursuant to 49 U.S.C. §60112, I hereby order BP to take the following corrective actions...The terms of the restart plan must include provisions for...Reducing the MOP of the Affected Pipeline Facility to 80 percent of the highest operating pressure experienced at the White Oak Station (MP 0) and Crete Station (MP 19.95) in the 60 days prior to August 17, 2010."

In the Matter of BP Pipelines (North America), Inc., Respondent, (Aug. 26, 2010) CPF No. 3-2010-5010H, at p. 4; see also Evaluation of the Effectiveness of a 20% Pressure Reduction After a Pipeline Failure (May 1997) Report No. DTRS56-96-C-0002-001, U.S. Department of Transportation.

With respect to mandates #7 and #8, PG&E is required to maintain its gas transmission pipeline records and make them available for review under 49 C.F.R. Part 192.947.

In this Resolution, the Commission approves the foregoing mandates of the Executive Director in his letter to PG&E of September 13, 2010, and adopt these mandates in this Resolution, but with minor modifications as set forth in the Ordering Paragraphs below.

WAIVER OF COMMENT PERIOD

The tragic San Bruno explosion is an unforeseen emergency of local and statewide importance requiring immediate action by the Commission. The normal 30-day comment period for the issuance of an order or resolution may be waived in circumstances such as these. (Pub. Util. Code §§ 311, subs. (d) & (g)(2); see also *Resolution E-3731, Pacific Gas and Electric Company* (April 3, 2001) 2001 Cal. PUC LEXIS 659.) The Commission's Rules of Practice and Procedure also permit such a waiver.¹

ESTABLISHMENT OF AN INDEPENDENT REVIEW PANEL TO ASSIST IN THE FACT-FINDING INVESTIGATION

The Commission will establish, within 60 days of the date of this Resolution, an Independent Review Panel of experts to gather facts and make recommendations based on the facts to the Commission as to whether there is a need for the general improvement of the safety of PG&E's natural gas transmission lines, and if so, how these improvements should be made. The Panel will be retained by the Commission and funded by PG&E. The President of the Commission will select the experts on the Panel. The Commission establishes this Panel pursuant to its powers under Public Utilities Code sections 451, 701 and 702. The Charter of the Panel is appended to this Resolution and incorporated herein by reference.

PG&E shall provide full cooperation to Commission staff and the Panel during the investigation into the cause of the San Bruno explosion and the safety of PG&E's gas transmission pipelines in general. In this regard, upon request, PG&E shall provide Commission staff and/or the Panel: (i) any factual or physical evidence under the utility

¹ "In an unforeseen emergency situation, the Commission may reduce or waive the period for public review and comment on proposed decision, draft resolutions, and alternates. "Unforeseen emergency situation" means a matter that requires action or a decision by the Commission more quickly than would be permitted if advance publication were, made on the regular meeting agenda. Examples include, but "are not limited to...[a]ctivities that severely impair or threaten to severely impair[,] public health or safety[,]...[c]rippling disasters that severely impair public health or safety[,]...[u]nusual matters that cannot be disposed of by normal procedures if the duties of the Commission are to be fulfilled." (Cal. Code of Regs., tit. 20, § 14.6 subs. (1), (2) and (8).)

or utility agent's physical control, custody, or possession related to the San Bruno explosion; (ii) the name and contact information of any known percipient witness; (iii) any employee or agent of PG&E, who is a percipient witness or expert witness; the name and contact information of any person or entity that has taken possession of any physical evidence removed from the site of the San Bruno explosion; (iv) any and all documents under the utility's control that contain facts related to the San Bruno explosion; any additional information deemed relevant and necessary by Commission staff and/or the Panel to the investigation of the San Bruno explosion; and (v) any and all information related to the safety and integrity of PG&E's gas transmission pipelines. In obtaining information from PG&E and other sources, the Panel shall coordinate as necessary with Commission staff as their respective investigations proceed.

The Commission observes that Public Utilities Code sections 311, 313, and 314, authorize each of the Commissioners, the Executive Director, the Assistant Executive Directors and the Administrative Law Judges to issue subpoenas requiring the attendance of witnesses and production of documents for examinations under oath even prior to the initiation of formal proceedings, which is similar to the investigatory authority, prior to hearings under Government Code sections 11180-11191. In this regard, even without the compulsion of a subpoena, the Commission hereby confirms that under Public Utilities Code §§ 313, 314, 314.5, 315, 581, 582, 584, 701, 702, 771, 1794, and 1795, the Commission staff may obtain information from utilities and is already deemed to have the general investigatory authority of the Commission. Because the Commission staff already has the authority, there is no need to grant this authority to Commission staff. However, inasmuch as the Panel is newly established, it is necessary that the Commission confer the same investigatory authority as the Commission staff already possesses to the Panel, for purposes of the fact-finding investigation of the San Bruno explosion and the safety of PG&E's natural gas transmission pipelines.

The Panel, like the Commission staff, may review documents that are marked "Confidential under § 583" subject to the provisions of Public Utilities Code section 583. This statute requires such documents to be kept confidential (unless the utility waives the confidentiality requirement, the Commission orders the release, or a Commissioner orders release in the course of a proceeding). However, in order to ensure that documents are not withheld from the public without legally valid justification, we will require that in order for PG&E to maintain the confidentiality of documents produced to the Commission in this pre-adjudicatory investigation, PG&E must comply with the following procedures: (1) each page of the confidential documents must be marked "Confidential under § 583"; (2) for each document marked "Confidential under § 583", the utility must provide a justification for treating it confidentially; and (3) any document designated for protection as confidential must not already be available to the public. In addition, unless or until a formal proceeding is initiated, the Commission authorizes the Commission's President to act on behalf of the Commission to release for public

inspection documents marked by PG&E as “Confidential under § 583”, if he finds that PG&E has not sufficiently justified its confidentiality or that the public interest warrants its release to the public.

Since we are in a fact-finding stage and are not interested in the thoughts, opinions or communications of PG&E’s attorneys, we expect that PG&E will not withhold facts or expert opinions under the guise of attorney-client privilege or the work product doctrine. Indeed, public utilities in California are statutorily required to report any facts or expert opinions as to the cause of accidents to the Commission under the Public Utilities Code section 315.² Similarly, we put PG&E on notice that it must promptly make available its employees and independent contractors for interviews requested by federal investigators (e.g., the National Transportation Safety Board (“NTSB”)) and state investigators (e.g., Commission staff or the Panel), including examinations under oath pursuant to Public Utilities Code section 314. Under analogous statutory provisions, such as Government Code sections 11180-11191, courts have recognized the differences between examinations under oath, which are conducted prior to formal hearings, and depositions. (See, e.g., *People v. West Coast Shows, Inc.* (1970) 10 Cal. App. 3d 462, 470.) Moreover, as the United States Supreme Court explained in *Hannah v. Larche* (1960) 363 U.S. 420, 446, “[w]hen agencies are conducting nonadjudicative, fact-finding investigations, rights such as appraisal, confrontation, and cross-examination generally do not obtain. While the person summoned may have the advice of counsel, counsel may not, as a matter of right, otherwise participate in the investigation.” The Supreme Court further recognized that the lack of counsel participation or other parties was necessary for agencies to conduct efficient investigations, and that this would not violate the due process rights of a party, because the party, if ultimately charged, would be accorded all of the traditional judicial safeguards at a subsequent adjudicative hearing. (*Id.*) For all of these reasons, the Commission interprets very broadly the investigatory authority of Commission staff, and the investigatory authority granted to the Panel.

² It is also the Commission’s understanding that although the utilities have an attorney-client privilege, that privilege does not extend to the underlying facts as they have been communicated to the attorney. (See, e.g. *Wells Fargo Bank v. Superior Court* (2000) 22 Cal.4th 201, 210; see also *Martin v. Workers Compensation Appeals Board* (1997) 59 Cal. App. 4th 333, 345.) Moreover, it is not clear that the work product doctrine, Code of Civil Procedure section 2018.030, is applicable to pre-adjudicatory administrative fact-finding. However to the extent it does apply, except for the attorney’s own thoughts and mental impressions, the work product doctrine is considered a qualified privilege. We find that the public interest in ensuring the safety of California citizens from potential disasters, such as the San Bruno Explosion, clearly outweighs PG&E’s need for its experts’ opinion to be withheld from the Commission. (See, *Kizer v. Sulnick* (1988) 202 Cal.App.3d 437, 441 [“Appellant cannot fulfill his statutory duty to investigate the possible health hazards posed by the waste facility without access to all relevant information....”].)

FINDINGS OF FACT

1. The Commission finds that the San Bruno explosion of September 9, 2010, is an “unforeseen emergency” under Public Utilities Code sections 311(d) and 311(g)(2).
2. The mandates issued by the Commission’s Executive Director set forth in his letter to PG&E dated September 13, 2010, were necessary to immediately address the unforeseen emergency of the San Bruno explosion.
3. The Commission finds that the normal 30-day comment period for the issuance of an order or resolution should be waived. (Pub. Util. Code § 311(d) and 311(g)(2).)
4. The Commission finds that the establishment of an Independent Review Panel is reasonable and necessary under these emergency circumstances, and that the authority to select the members of such Panel shall be exercised by the President of the Commission, subject to confirmation by a vote of the Commission.
5. The Commission finds that it is reasonable and necessary for the expenses of the Panel to be paid by PG&E. Issues regarding the allocation of the costs and expenses of the Panel between shareholders and customers shall be determined in a later proceeding. PG&E is instructed to pay the costs and expenses, and record those costs and expenses in a memorandum account.
6. The Commission finds that the Charter of the Panel, appended hereto, is reasonable and appropriate.
7. The Commission finds that it is necessary for the Panel to have access to information involving the investigation of the San Bruno explosion and the safety and integrity of PG&E’s natural gas transmission pipelines, and such access should be pursuant to Public Utilities Code sections 313, 314, 314.5, 315, 581, 582, 584, 701, 702, 771, and 1795.
8. In order to ensure that documents are not withheld from the public without legally valid justification during this pre-adjudicatory investigation, PG&E must comply with the following procedures : (1) each page of the confidential documents must be marked “Confidential under § 583”; (2) for each document marked “Confidential under § 583”, the utility must provide a justification for treating it confidentially; and (3) any document designated for protection as confidential must not already be available to the public.
9. The Commission finds that it is reasonable and necessary under these emergency circumstances that the Commission authorize the Commission’s President to act on behalf of the Commission to release for public inspection documents marked “Confidential under § 583” if he finds that PG&E has not sufficiently justified its

assertion of confidentiality or that the public release of such documents is in the public interest.

CONCLUSIONS OF LAW

1. The San Bruno explosion is an “unforeseen emergency” under Public Utilities Code sections 311(d) and 311(g)(2).
2. The mandates issued by the Commission’s Executive Director in his letter to PG&E dated September 13, 2010, were reasonable and necessary to immediately address the unforeseen emergency of the San Bruno explosion.
3. The Commission’s ratification of the mandates set forth in the Executive Director’s letter to PG&E of September 13, 2010, is a reasonable, necessary and appropriate means of immediately addressing the unforeseen emergency of the San Bruno explosion.
4. It is reasonable and necessary to waive the normal 30-day comment period for the issuance of this Resolution pursuant to Public Utilities Code sections 311(d) and 311(g)(2).
5. It is reasonable and necessary to establish an Independent Review Panel of experts to gather facts regarding the San Bruno explosion and PG&E’s natural gas transmission pipeline system, and to evaluate these facts and make recommendations regarding the overall safety of PG&E’s transmission pipelines in order to address this unforeseen emergency.
6. It is reasonable and necessary that the President of the Commission select the members of the Panel, under these emergency circumstances, subject to confirmation by a vote of the Commission
7. It is reasonable and necessary that PG&E fund the costs and expenses of the Panel because of these emergency circumstances. PG&E is instructed to pay the costs and expenses and to record those costs and expenses in a memorandum account. Issues regarding the allocation of costs and expenses of the Panel between shareholders and customers shall be determined later.
8. The Charter of the Panel, appended hereto, is reasonable and appropriate under these emergency circumstances.
9. The Panel is given the same investigatory authority as the Commission staff has under the Public Utilities Code. Access by the Panel to information shall be limited to the investigation of the San Bruno explosion and the safety and integrity of PG&E’s natural gas transmission pipelines.
10. In this fact-finding and investigatory process, in order for PG&E to maintain the confidentiality of documents produced to the Commission in this pre-adjudicatory investigation, PG&E must comply with the following procedures:

- (1) each page of the confidential documents must be marked "Confidential under §583;" (2) for each document marked "Confidential under § 583," the utility must provide a justification for such confidential treatment; and (3) any document designated by PG&E for protection as confidential must not already be available to the public.
11. It is reasonable and necessary under these emergency circumstances to authorize the Commission's President to act on behalf of the Commission and to release to the public documents PG&E has marked "Confidential under § 583" if he finds that PG&E has not sufficiently justified its assertion of confidentiality or that the public release of such documents is in the public interest. This authorization will remain in effect until a formal proceeding is initiated.
 12. It is in the best interests of this investigation that PG&E make PG&E employees or independent contractors available for examinations under oath by the Commission staff or by the Panel.
 13. Examination under oath prior to adjudicatory hearings are different from depositions and, for purposes of efficiency in conducting the Commission's investigation, the participation of counsel for the witness or other parties shall not be allowed at this early stage of investigation.

ORDER

1. The normal 30-day comment period for the issuance of the Executive Director's letter to PG&E of September 13, 2010, and this Resolution shall be waived pursuant to Public Utilities Code sections 311(d) and 311(g)(2), *Resolution E-3731, Pacific Gas and Electric Company* (April 3, 2001) 2001 Cal. PUC LEXIS 659, and Cal. Code of Regs., tit. 20, §§ 14.6 subd. (1), (2) and (8).
2. In response to this unforeseen emergency, an Independent Review Panel shall be established to gather information regarding the San Bruno explosion and the overall safety of PG&E's natural gas transmission pipelines, and to review and evaluate such information, as well as make recommendations to the Commission.
3. The President of the Commission shall select the members of the Panel, subject to confirmation by a vote of the Commission. The Panel shall operate under the Charter appended to this Resolution.
4. PG&E shall pay for the costs and expenses of the Panel and shall establish a memorandum account to record those costs and expenses.
5. PG&E shall provide cooperation to Commission staff and the Panel during the investigation into the cause of the San Bruno Explosion and safety of PG&E's

- transmission lines in general. In this regard, upon request, PG&E shall provide Commission staff and/or the Panel: (i) any factual or physical evidence under the utility or utility agent's physical control, custody, or possession related to the San Bruno Explosion; (ii) the name and contact information of any known percipient witness; (iii) the name and contact information of any employee or agent of PG&E who is a percipient witness or an expert witness; (iv) the name and contact information of any person or entity that has taken possession of any physical evidence removed from the site of the San Bruno explosion; (v) any and all documents under the utility's control that contain facts related to the San Bruno explosion, and (vi) any and all information related to the safety and integrity of PG&E's gas transmission pipelines.
6. For the limited purpose of this investigation in the San Bruno explosion and the general safety and integrity of PG&E's natural gas transmission pipelines, the Commission authorizes the Panel to have the same investigatory authority and access to information as the Commission staff possesses under Public Utilities Code sections 313, 314, 314.5, 315, 581, 582, 584, 701, 702, 771, 1794, and 1795.
 7. In order to maintain the confidentiality of documents produced to the Commission in this pre-adjudicatory investigation, PG&E shall comply with the following procedures: (1) each page of the confidential documents must be marked "Confidential under §583"; (2) for each document marked "Confidential under § 583", the utility must provide a justification for its confidential treatment; and (3) any document designated by PG&E for protection as confidential must not already be available to the public.
 8. The Commission authorizes the Commission's President to act on behalf of the Commission to determine whether documents that PG&E has marked "Confidential under § 583" shall be released to the public. The President may release such a document if he finds that PG&E has not sufficiently justified its assertion of confidentiality or that its public release is in the public interest.
 9. PG&E shall make available for examinations under oath by the Commission staff or by the Panel, PG&E employees or independent contractors. Neither PG&E's counsel, nor any other person other than the person being examined, may "participate" in the examination under oath.
 10. PG&E shall reduce the operating pressure on PG&E's Line 132 to a pressure level of 20% below the operating pressure at the time of the failure and retain that lower pressure level until such time as the Commission allows PG&E to increase the pressure in Line 132.
 11. PG&E shall ensure that there are no additional risks to the residents of the City of San Bruno by conducting an integrity assessment of all gas facilities in the impacted area.

12. PG&E shall conduct an accelerated leak survey of all natural gas transmission pipelines, giving priority to segments in class 3 and class 4 locations, within one month of the date of this letter and take corrective action as required and report the results to the Commission's Executive Director on or before October 12, 2010.
13. PG&E shall evaluate records of customer natural gas leak-complaint response times and response effectiveness system-wide, take immediate mitigation measures if deficiencies are found, and report the results to the Executive Director within ten (10) days of the date of this Resolution.
14. PG&E shall prepare a plan for a complete safety inspection of PG&E's entire natural gas transmission pipeline system and provide the plan to the Executive Director immediately.
15. PG&E shall make all employees and independent contractors who performed work on Line 132 prior to the San Bruno explosion available for interviews with federal and state investigators, including if requested, examinations under oath.
16. PG&E shall preserve all records related to the San Bruno explosion, including work at the Milpitas Terminal during the months of August and September 2010.
17. PG&E shall preserve all records related to the inspection, maintenance or modification of Line 132 by PG&E and/or its contractors performed within the City of San Bruno over the past ten (10) years.
18. PG&E shall review the classification of its natural gas transmission pipelines and determine if those classifications have changed since the initial designation.
19. PG&E shall report the results of its review of the classification of its natural gas transmission lines and any subsequent changes to those classifications since PG&E's initial designation to the Executive Director within ten (10) days of the date of this Resolution.
20. PG&E shall investigate and report to the Commission PG&E's forecasted versus actual levels of spending on pipeline safety and pipeline replacements from 2003 to the present within ten (10) days of the date of this Resolution.
21. PG&E shall conduct a review of all natural gas transmission line valve locations in order to determine locations where it would be prudent to replace manually operated valves with remotely operated or automated valves and shall report its results to the Commission within thirty (30) days of the issuance date of this Resolution.

22. In all other respects, PG&E shall fully cooperate with the Commission's investigation into the San Bruno explosion, including a general investigation into the safety and integrity of PG&E's gas transmission lines, and respond expeditiously to the Commission's request for information.

This Order is effective today.

I certify that this Resolution was adopted by the Public Utilities Commission at its regular meeting of September 23, 2010. The following Commissioners approved it:

/s/ PAUL CLANON

PAUL CLANON
Executive Director

MICHAEL R. PEEVEY
President

DIAN M. GRUENEICH
TIMOTHY ALAN SIMON
NANCY E. RYAN
Commissioners

Commissioner John A. Bohn, being necessarily absent, did not participate.

**CHARTER
OF THE
INDEPENDENT REVIEW PANEL**

Independent Review Panel – September 9, 2010 San Bruno Explosion

Charter

On behalf of the California Public Utilities Commission, an Independent Review Panel of experts shall be retained for the purpose of conducting a comprehensive study and investigation of the September 9, 2010, explosion and fire along a Pacific Gas and Electric Company ("PG&E") natural gas transmission pipeline in San Bruno, CA. The investigation shall include a technical assessment of the events and their root causes, and recommendations for action by the Commission to best ensure such an accident is not repeated elsewhere. The recommendations may include changes to design, construction, operation, maintenance, and replacement of natural gas facilities, management practices at PG&E in the areas of pipeline integrity and public safety, regulatory changes by the Commission itself, statutory changes to be recommended by the Commission, and other recommendations deemed appropriate by the Panel. The latter shall include examining whether there may be systemic management problems at the utility and whether greater resources are needed to achieve fundamental infrastructure improvements.

Specific Questions to Guide the Fact-Finding Investigation

- What happened on September 9, 2010?
- What are the root causes of the incident?
- Was the accident indicative of broader management challenges and problems at PG&E in discharging its obligations in the area of public safety?
- Are the Commission's current permitting, inspection, ratemaking, and enforcement procedures as applied to natural gas transmission lines adequate?
- What corrective actions should the Commission take immediately?
- What additional corrective actions should the Commission take?

- What is the public's right to information concerning the location of natural gas transmission and distribution facilities in populated areas?

Membership and Support

The membership of the Panel shall consist of no fewer than three experts, and no more than five, selected by the President of the Commission, and confirmed by a vote of the Commission. The President of the Commission shall select a leader for the Panel. The Panel shall exercise investigatory powers as granted by the Commission. Commission staff shall provide administrative support to members of the Panel. The Panel also shall be free to seek opinions and recommendations from expert consultants.

Compensation and Expenses

Members of the Panel shall be paid a nominal sum. Reasonable expenses incurred by members will be paid. Expert consultants to the Panel shall be paid reasonable compensation.

ATTACHMENT 2



**Pacific Gas and
Electric Company**

Brian K. Cherry
Vice President
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October 4, 2010

Paul Clanon, Executive Director
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Re: PG&E's Response to CPUC Resolution L-403

Dear Mr. Clanon:

In your letter to PG&E dated September 13, 2010 and in the Commission's Resolution L-403, PG&E was directed to take several actions with respect to its natural gas transmission pipelines. This letter transmits PG&E's response to Items 4, 9 and 10 in the September 13, 2010 letter and Ordering Paragraphs 13, 18, 19 and 20 of Resolution L-403.

Resolution L-403, Ordering Paragraph 13

In combination, Item 4 in the September 13, 2010 letter and Ordering Paragraph 13 Resolution L-403, require the following:

PG&E shall evaluate records of customer natural gas leak-complaint response times and response effectiveness system-wide, take immediate mitigation measures if deficiencies are found, and report the results to the Executive Director within ten (10) days of the date of Resolution L-403

As stated in its September 20, 2010 letter, PG&E does not have any record of customer leak "complaints" in 2010. In the normal course of business, PG&E does receive calls from customers regarding possible gas odors and gas leaks. When a customer calls PG&E's contact centers to report a suspected gas odor or gas leak, the calls are classified as field orders requiring either "immediate response" or "same day" response. This distinction takes into consideration a number of factors including whether the customer can hear hissing or blowing and how strong the odor is. Additionally, even if these conditions are not met, if the customer seems anxious, the field order is issued as an immediate response order.

PG&E has set an internal goal of responding to 94 percent of all immediate response calls in one hour or less from when the call is received. The immediate response metric takes into consideration calls from customers, as well as all other calls that require immediate response (e.g., calls from emergency service agencies, gas leaks called in by PG&E employees or contractors performing system leak surveys, calls from third-party contractors who may find a potentially hazardous gas leak or carbon monoxide issue while providing weatherization services to customers).

Year to date through September 15, 2010, system-wide PG&E has responded to 94.2 percent of all immediate response calls within one hour, with an average response time of 33 minutes and 24 seconds. Also, year to date through September 15, 2010, PG&E has responded to 97.5 percent of all same day gas leak and gas odor calls within 12 hours, with an average response time of 3 hours and 33 minutes.

Each week, missed immediate response field orders are reported and reviewed to identify trends, root causes and areas requiring improvement. The primary drivers of missed immediate response field orders are: 1) immediate response calls received during times when field staffing is lower, (e.g., during the swing shift (typically from 4 p.m. to midnight) and the graveyard shift (typically from midnight to 8 a.m.)); 2) changing field conditions requiring the transfer of the field order from the initial field employee to a second field employee; 3) field employees delayed due to the need to complete an in-progress field order; and 4) long travel times due to field employees covering large, sparsely populated geographic areas or traffic delays during heavy travel times. PG&E promptly addresses deficiencies in its process through training, modifications to staffing, and discipline as appropriate.

Resolution L-403, Ordering Paragraphs 18 and 19

In combination, Item 9 in the September 13, 2010 letter and Ordering Paragraphs 18 and 19 of Resolution L-403, require the following:

PG&E shall review the classification of its natural gas transmission pipelines and determine if the classifications have changed since the initial designation. PG&E shall report the results of its review of the classification of its natural gas transmission lines and any subsequent changes to those classifications since PG&E's initial designation to the Executive Director within ten (10) days of the date of Resolution L-403.

PG&E interpreted this directive to mean that it would review its facilities and records to determine if field conditions have changed to warrant a reclassification of any segment of its pipelines. PG&E completed the review of its gas transmission pipelines operating at pressures greater than 60 pounds per square inch gauge (PSIG) totalling approximately 6,700 miles of pipeline as directed. PG&E's review utilized its gas transmission pipeline database to compare the classification recorded at initial installation to the current classification. This comparison identified 1,057 miles of

pipeline where the current classification is different from the initial classification.

Resolution L-403, Ordering Paragraph 20

In combination, Item 10 in the September 13, 2010 letter and Ordering Paragraph 20 of Resolution L-403, require the following:

PG&E shall investigate and report to the Commission PG&E's forecasted versus actual levels of spending on pipeline safety and pipeline replacements from 2003 to the present within ten (10) days of the date of Resolution L-403.

PG&E interpreted this directive to apply to pipelines covered by Gas Transmission and Storage rate cases and provides the details of the required comparison in Attachment 1 to this letter. In summary, PG&E actually spent \$698 million, or \$23 million more than authorized for the period 2003 through 2009 for work specific to pipeline safety and replacement as determined by examining expenditures in PG&E's work categories for Integrity Management, Pipeline Reliability, System Maintenance, and Mark and Locate.

Please contact me if you have any questions about this report or other matters related to PG&E's natural gas transmission system.

Sincerely,



Brian K. Cherry

Attachment

cc: Patrick Berdge, Legal Division
Joe Como, Division of Ratepayer Advocates

Gas Pipeline Safety and Replacement
2003 through 2009
(\$ millions)

Line	2003			2004			2005			2006			2007			2008			2009		
	Recorded	Authorized	Variance	Recorded	Authorized	Variance	Recorded	Authorized	Variance	Recorded	Authorized	Variance	Recorded	Authorized	Variance	Recorded	Authorized	Variance	Recorded	Authorized	Variance
GAS TRANSMISSION - EXPENDITURES																					
1	80.0	71.5	17.5	81.2	71.5	9.7	118.9	87.6	31.2	120.4	101.5	27.9	158.3	152.6	5.7	218.8	220.3	(1.5)	200.3	188.1	12.2
2	78.9	77.9	(0.9)	80.9	92.9	(12.0)	85.5	89.4	(4.0)	84.9	90.7	(5.8)	88.8	97.4	(8.6)	90.3	93.1	(2.8)	94.2	95.1	(0.9)
3	166.0	148.4	17.6	162.1	164.4	(2.3)	204.3	177.1	27.2	214.3	192.2	22.0	245.1	259.0	(13.9)	297.9	313.4	(15.5)	287.2	283.2	4.0
	Total																				
GAS TRANSMISSION - TOTAL EXPENDITURES (Excluding Customer Driven Work)																					
Major Work Category																					
Gas Transmission Capital																					
4	10.8	0.0	10.8	12.1	11.1	1.1	19.3	15.8	3.5	15.3	17.2	(1.9)	28.9	24.0	4.9	17.9	19.2	(1.3)	23.4	17.5	5.9
5	19.0	16.1	2.9	12.1	11.0	1.1	17.3	12.8	4.4	15.0	15.8	(0.8)	19.9	15.8	4.1	16.5	19.9	(3.4)	28.5	20.3	8.2
6	29.8	16.1	13.7	24.3	22.1	2.2	26.6	28.6	(2.0)	20.3	23.0	(2.7)	45.7	42.9	2.8	34.1	38.1	(4.0)	61.9	47.8	14.1
	Subtotal - Pipeline Safety & Replacement																				
7	0.4	0.2	0.2	0.1	0.2	(0.1)	0.4	0.2	0.2	0.2	0.2	0.0	0.2	0.2	0.0	1.3	0.3	1.0	0.6	0.8	(0.2)
8	4.4	4.2	0.2	3.4	6.5	(3.1)	1.7	0.9	0.8	3.1	1.1	2.0	6.7	4.4	2.3	9.8	6.0	3.8	10.7	14.2	(3.5)
9	28.2	28.7	(0.5)	28.9	28.5	0.4	45.7	35.2	10.5	49.2	40.7	8.5	53.0	53.9	(0.9)	64.0	56.4	7.6	70.8	68.8	2.0
10	29.3	28.7	0.6	28.9	28.5	0.4	0.9	1.2	(0.3)	1.4	1.4	0.0	4.7	7.3	(2.6)	5.0	4.0	1.0	5.4	3.9	1.5
11	63.2	63.8	(0.6)	64.9	63.8	1.1	83.4	68.2	15.2	84.2	76.3	7.9	111.3	103.8	7.5	114.3	107.8	6.5	139.3	135.4	3.9
	Total Capital																				
Gas Transmission Expense																					
12	1.8	0.0	1.8	5.1	7.1	(2.0)	6.1	7.9	(1.8)	10.3	9.3	1.0	11.8	7.7	4.0	15.2	18.4	(3.2)	15.5	17.4	(1.9)
13	49.8	51.9	(2.1)	49.8	56.7	(6.9)	53.5	55.5	(2.0)	52.9	55.3	(2.4)	52.5	55.2	(2.7)	49.2	47.6	1.6	56.1	50.5	5.6
14	1.4	0.2	1.2	1.2	0.9	0.3	1.3	0.0	1.3	1.6	0.0	1.6	1.5	0.0	1.5	4.2	3.8	0.4	4.2	3.5	0.7
15	82.8	61.3	21.5	66.0	63.7	(2.3)	66.9	63.4	3.5	64.7	64.9	(0.2)	68.8	62.9	5.9	68.8	67.8	1.0	75.8	71.8	4.0
	Subtotal - Pipeline Safety & Replacement																				
16	1.9	2.5	(0.6)	2.1	2.6	(0.5)	2.7	2.5	0.2	2.7	2.5	0.2	2.4	2.5	(0.1)	2.6	3.0	(0.4)	2.5	3.3	(0.8)
17	0.2	0.3	(0.1)	0.1	0.3	(0.2)	0.1	0.2	(0.1)	0.4	0.2	0.2	0.1	0.2	(0.1)	0.1	0.2	(0.1)	0.1	0.2	(0.1)
18	13.8	14.4	(0.6)	13.7	15.9	(2.2)	14.0	14.5	(0.5)	10.1	14.8	(4.7)	10.4	11.3	(1.0)	10.9	11.2	(0.3)	10.5	11.8	(1.3)
19	0.2	0.1	0.1	0.1	0.3	(0.2)	0.2	0.2	0.0	0.3	0.3	0.0	0.2	0.1	0.1	0.3	0.3	0.0	0.2	0.3	(0.1)
20	7.0	8.0	(1.0)	7.1	8.3	(1.2)	7.1	7.9	(0.7)	7.0	8.0	(1.0)	7.8	8.2	(0.4)	7.7	8.7	(1.0)	7.3	8.2	(0.9)
21	1.1	1.2	(0.1)	1.7	1.7	0.0	0.4	0.4	0.0	0.0	0.5	(0.5)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	(1.2)	0.0	0.0	0.0	0.0	0.0	0.0
	Total Expense																				
24	82.3	67.5	14.8	80.3	85.8	(5.5)	97.5	92.0	5.5	98.0	97.6	(0.4)	112.4	108.7	3.7	192.7	197.0	(4.3)	127.7	119.3	8.4
25	148.1	128.8	17.3	145.8	143.6	2.2	168.8	158.2	10.6	169.4	157.1	12.3	198.0	191.1	6.9	204.5	200.1	4.4	235.9	220.4	15.5
	Total (Excluding Customer Driven Work)																				

Note: Approved GTS rate cases during the 2003-2009 time period did not result in a line item approval of spending in the various work categories. For this reason, the authorized amounts reflected are PGE's estimates of the amount included in the final authorized rates.

ATTACHMENT 3



National Transportation Safety Board

Washington, D.C. 20594

Safety Recommendation

Date: January 3, 2011

In reply refer to: P-10-2 and -3 (Urgent) and
P-10-4

Mr. Christopher Johns
President
Pacific Gas and Electric Company
P.O. Box 770000
Mail Code B32
San Francisco, California 94177

The National Transportation Safety Board (NTSB) is an independent federal agency charged by Congress with investigating transportation accidents, determining their probable cause, and making recommendations to prevent similar accidents from occurring. The urgent safety recommendations in this letter are derived from the NTSB's ongoing investigation of the natural gas pipeline rupture and explosion that killed eight people in San Bruno, California, on September 9, 2010. The NTSB would appreciate a response from you within 30 days addressing the actions you have taken or intend to take to implement our recommendations.

On September 9, 2010, about 6:11 p.m. Pacific daylight time,¹ a 30-inch-diameter natural gas transmission pipeline (Line 132) owned and operated by Pacific Gas and Electric Company (PG&E) ruptured in a residential area in the city of San Bruno, California. The accident killed eight people, injured many more, and caused substantial property damage. The rupture on Line 132 occurred near milepost 39.33, at the intersection of Earl Avenue and Glenview Drive in San Bruno. About 47.6 million standard cubic feet of natural gas were released as a result of the rupture. The rupture created a crater about 72 feet long by 26 feet wide. A ruptured pipe segment about 28 feet long was found about 100 feet away from the crater. The released natural gas was ignited sometime after the rupture; the resulting fire destroyed 37 homes and damaged 18.

When the NTSB arrived on scene on September 10, the investigation began with a visual examination of the pipe and the surrounding area. The investigators measured, photographed, and secured the ruptured pipe segment. On September 13, the ruptured pipe segment and two shorter segments of pipe, cut from the north and south sides of the ruptured segment, were crated for transport to an NTSB facility in Ashburn, Virginia, for examination.

¹ All times mentioned in this letter refer to Pacific daylight time, unless otherwise specified.

According to PG&E as-built drawings and alignment sheets, Line 132 was constructed using 30-inch-diameter seamless steel pipe (API 5L Grade X42) with a 0.375-inch-thick wall. The pipeline was coated with hot applied asphalt and was cathodically protected. The ruptured pipeline segment was installed circa 1956. According to PG&E, the maximum allowable operating pressure (MAOP) for the line was 400 pounds per square inch, gauge.

The NTSB's examination of the ruptured pipe segment and review of PG&E records revealed that although the as-built drawings and alignment sheets mark the pipe as seamless API 5L Grade X42 pipe, the pipeline in the area of the rupture was constructed with longitudinal seam-welded pipe. Laboratory examinations have revealed that the ruptured pipe segment was constructed of five sections of pipe, some of which were short pieces measuring about 4 feet long. These short pieces of pipe contain different longitudinal seam welds of various types, including single- and double-sided welds. Consequently, the short pieces of pipe of unknown specifications in the ruptured pipe segment may not be as strong as the seamless API 5L Grade X42 steel pipe listed in PG&E's records.² It is possible that there are other discrepancies between installed pipe and as-built drawings in PG&E's gas transmission system. It is critical to know all the characteristics of a pipeline in order to establish a valid MAOP below which the pipeline can be safely operated. The NTSB is concerned that these inaccurate records may lead to incorrect MAOPs.

The MAOP for a pipeline can be established by conducting a hydrostatic pressure test that stresses the pipe to 125 percent of the desired MAOP without failure. In a hydrostatic pressure test, a pipe segment is typically filled with water at a specific pressure for a specific period of time to test the strength of the pipe. Hydrostatic testing requirements and restrictions for natural gas pipelines are specified in Title 49 *Code of Federal Regulations* (CFR) Part 192, Subpart J. The spike test is a variation of the hydrostatic pressure test in which a higher hydrostatic pressure, usually 139 percent of the MAOP, is applied for a short period of time (typically about 30 minutes). The spike test is intended to eliminate flaws that may otherwise grow and cause failure during pressure reduction after the hydrostatic test or resulting from normal operational pressure cycles. It is advantageous to include a spike test because it limits the time the line is at the higher pressure to reduce the potential amount of crack growth. Although hydrostatic testing is recognized to be a direct and effective methodology for validating an MAOP, its implementation requires that operating lines be shut down, which may adversely affect customers dependent on the natural gas supplied by the pipeline, particularly if the pipe fails during the test, which could necessitate a protracted shutdown. Consequently, it is

² PG&E's records identify Consolidated Western Steel Corporation as the manufacturer of the accident segment of Line 132. However, after physical inspection of the ruptured section, investigators were unable to confirm the manufacturing source of some of the pieces of ruptured pipe. Determining the identity of the manufacturer of these pieces of pipe is an ongoing part of the investigation.

preferable to use available design, construction, inspection, testing, and other related records³ to calculate the valid MAOP.

Therefore, the National Transportation Safety Board makes the following safety recommendations to the Pacific Gas and Electric Company:

Aggressively and diligently search for all as-built drawings, alignment sheets, and specifications, and all design, construction, inspection, testing, maintenance, and other related records, including those records in locations controlled by personnel or firms other than Pacific Gas and Electric Company, relating to pipeline system components, such as pipe segments, valves, fittings, and weld seams for Pacific Gas and Electric Company natural gas transmission lines in class 3 and class 4⁴ locations and class 1 and class 2⁵ high consequence areas⁶ that have not had a maximum allowable operating pressure established through prior hydrostatic testing. These records should be traceable, verifiable, and complete. (P-10-2) (Urgent)

Use the traceable, verifiable, and complete records located by implementation of Safety Recommendation P-10-2 (Urgent) to determine the valid maximum allowable operating pressure, based on the weakest section of the pipeline or component to ensure safe operation, of Pacific Gas and Electric Company natural gas transmission lines in class 3 and class 4 locations and class 1 and class 2 high consequence areas that have not had a maximum allowable operating pressure established through prior hydrostatic testing. (P-10-3) (Urgent)

If you are unable to comply with Safety Recommendations P-10-2 (Urgent) and P-10-3 (Urgent) to accurately determine the maximum allowable operating pressure of Pacific Gas and Electric Company natural gas transmission lines in class 3 and class 4 locations and class 1 and class 2 high consequence areas that have not had a maximum allowable operating pressure established through prior hydrostatic testing, determine the maximum allowable operating pressure with a spike test followed by a hydrostatic pressure test. (P-10-4)

³ Some relevant records may not currently be in PG&E's possession, such as those that may reside with the city of San Bruno, San Mateo County, the state of California, or former employees or contractors of PG&E. During the investigation of the collapse of the I-35W Highway Bridge in Minneapolis, Minnesota, on August 1, 2007, NTSB investigators interviewed retired engineers and other technical personnel who had worked on the design of the bridge in the early 1960s. In the course of their interviews, NTSB investigators were provided with critical engineering records related to the bridge design that had been personally retained by one of the retired employees of the company that had designed the bridge. See *Collapse of I-35W Highway Bridge, Minneapolis, Minnesota, August 1, 2007*, Highway Accident Report NTSB/HAR-08/03 (Washington, DC: National Transportation Safety Board, 2008), pp. 78, 103, on the NTSB website at <<http://www.nts.gov/publicctn/2008/HAR0803.pdf>>.

⁴ Class 3 refers to any location unit that has 46 or more buildings intended for human occupancy. Class 4 refers to any class location unit where buildings with four or more stories above ground are prevalent.

⁵ Class 1 refers to an offshore area or any class location unit that has 10 or fewer buildings intended for human occupancy. A class 2 location is any class location unit that has more than 10 but fewer than 46 buildings intended for human occupancy.

⁶ A high consequence area is any class 3 or 4 location or any area where a potential impact radius of 660 feet would contain more than 20 buildings intended for human occupancy.

The NTSB also issued a safety recommendation to the Pipeline and Hazardous Materials Safety Administration:

Through appropriate and expeditious means such as advisory bulletins and posting on your website, immediately inform the pipeline industry of the circumstances leading up to and the consequences of the September 9, 2010, pipeline rupture in San Bruno, California, and the National Transportation Safety Board's urgent safety recommendations to Pacific Gas and Electric Company so that pipeline operators can proactively implement corrective measures as appropriate for their pipeline systems. (P-10-1) (Urgent)

The NTSB also issued safety recommendations to the California Public Utilities Commission:

Develop an implementation schedule for the requirements of Safety Recommendation P-10-2 (Urgent) to Pacific Gas and Electric Company (PG&E) and ensure, through adequate oversight, that PG&E has aggressively and diligently searched documents and records relating to pipeline system components, such as pipe segments, valves, fittings, and weld seams, for PG&E natural gas transmission lines in class 3 and class 4 locations and class 1 and class 2 high consequence areas that have not had a maximum allowable operating pressure established through prior hydrostatic testing as outlined in Safety Recommendation P-10-2 (Urgent) to PG&E. These records should be traceable, verifiable, and complete; should meet your regulatory intent and requirements; and should have been considered in determining maximum allowable operating pressures for PG&E pipelines. (P-10-5) (Urgent).

If such a document and records search cannot be satisfactorily completed, provide oversight to any spike and hydrostatic tests that Pacific Gas and Electric Company is required to perform according to Safety Recommendation P-10-4. (P-10-6) (Urgent)

Through appropriate and expeditious means, including posting on your website, immediately inform California intrastate natural gas transmission operators of the circumstances leading up to and the consequences of the September 9, 2010, pipeline rupture in San Bruno, California, and the National Transportation Safety Board's urgent safety recommendations to Pacific Gas and Electric Company so that pipeline operators can proactively implement corrective measures as appropriate for their pipeline systems. (P-10-7) (Urgent)

In response to the recommendations in this letter, please refer to Safety Recommendations P-10-2 and -3 (Urgent) and P-10-4. If you would like to submit your response electronically rather than in hard copy, you may send it to the following e-mail address: correspondence@ntsb.gov. If your response includes attachments that exceed 5 megabytes, please e-mail us asking for instructions on how to use our secure mailbox procedures. To avoid confusion, please use only one method of submission (that is, do not submit both an electronic copy and a hard copy of the same response letter).

Chairman HERSMAN, Vice Chairman HART, and Members SUMWALT, ROSEKIND, and WEENER concurred in these recommendations.

[Original Signed]

By: Deborah A.P. Hersman
Chairman

ATTACHMENT 4

PUBLIC UTILITIES COMMISSION

505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102-3298



January 3, 2011

Christopher Johns, President
Pacific Gas and Electric Company
P.O. Box 770000
Mail Code B32
San Francisco, California 94177

Re: Directions in Response to the NTSB's Safety Recommendations of January 3, 2011

Dear Mr. Johns:

Today the National Transportation Safety Board ("NTSB") issued Safety Recommendations concerning the San Bruno pipeline explosion of September 9, 2010. In consequence, you are directed to do the following in addition to the earlier directives contained in my letter of December 16, 2010. These latter directives should be completed by February 1, 2011. Please confirm by the end of this week, January 7, 2011, that you can complete these directives by February 1, 2011.

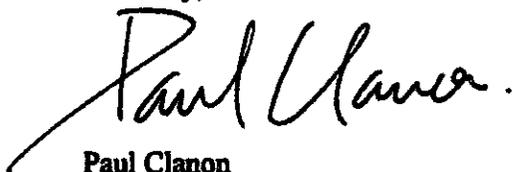
1. Aggressively and diligently search for all as-built drawings, alignment sheets, and specifications, and all design, construction, inspection, testing, maintenance, and other related records, including those records in locations controlled by personnel or firms other than Pacific Gas and Electric Company, relating to pipeline system components such as pipe segments, valves, fittings, and weld seams for Pacific Gas and Electric Company natural gas transmission lines in class 3 and class 4 locations and class 1 and class 2 high consequence areas that have not had a maximum allowable operating pressure established through prior hydrostatic testing. These records should be traceable, verifiable, and complete. (P-10-2) (Urgent)
2. Use the traceable, verifiable, and complete records located by implementation of Safety Recommendation P-10-2 (Urgent) to determine the valid maximum allowable operating pressure, based on the weakest section of the pipeline or component to ensure safe operation, of Pacific Gas and Electric Company natural gas transmission lines in class 3 and class 4 locations and class 1 and class 2 high consequence areas that have not had a maximum allowable operating pressure established through prior hydrostatic testing. (P-10-3) (Urgent)

Christopher Johns, President
Pacific Gas and Electric Company
January 3, 2011
Page 2

Pacific Gas & Electric Company will receive further directives from the Commission regarding the following recommendation from the NTSB:

If you are unable to comply with Safety Recommendations P-10-2 (Urgent) and P-10-3 (Urgent) to accurately determine the maximum allowable operating pressure of Pacific Gas and Electric Company natural gas transmission lines in class 3 and class 4 locations and class 1 and class 2 high consequence areas that have not had a maximum allowable operating pressure established through prior hydrostatic testing, determine the maximum allowable operating pressure with a spike test followed by a hydrostatic pressure test. (P-10-4)

Sincerely,

A handwritten signature in black ink that reads "Paul Clanon". The signature is written in a cursive style with a long, sweeping underline that extends to the left.

**Paul Clanon
Executive Director**

ATTACHMENT 5

CPUC Class Location Study

Chhatre Ravindra

From: Hayes, William [WDH2@pge.com]
Sent: Friday, July 01, 2011 12:10 PM
To: Chhatre Ravindra
Subject: Class Location Study
Attachments: 6-30-11 Class Report_Final2.pdf

Ravi - As follow-up to our discussion yesterday morning, attached is the Class Location study commissioned by the CPUC and submitted accordingly. Providing this for your information only.

Bill Hayes



**Pacific Gas and
Electric Company®**

Brian K. Cherry
Vice President
Regulatory Relations

Pacific Gas and Electric Company
77 Beale St., Mail Code B10C
P.O. Box 770000
San Francisco, CA 94177

415.973.4977
Fax: 415.973.7226

June 30, 2011

Paul Clanon, Executive Director
California Public Utilities Commission
505 Van Ness Avenue
San Francisco, CA 94102

Re: PG&E's Class Location Study Report

Dear Mr. Clanon:

In your letter to PG&E dated September 13, 2010 (Item 9), and in the Commission's Resolution L-403 adopted on September 23, 2010 (Ordering Paragraphs 18 and 19), PG&E was directed to review the classification of its natural gas transmission pipelines, determine if the classification has changed since the initial designation, and report the results to you. In response, on September 23, 2010, PG&E committed to report the results of its review by October 4, 2010, and perform a system-wide verification of pipeline class location designations and report the results by June 30, 2011.

On October 4, 2010, PG&E provided the Commission with its results on the review of all gas pipelines operating at pressures greater than 60 psig. Enclosed with this letter is PG&E's report on the results of its system-wide verification of pipeline class locations.

Please let me know if you have any questions.

Sincerely, 

Brian K. Cherry
VP, Regulatory Relations 

cc: **Michael R. Peevey, President**
Mike Florio, Commissioner
Catherine Sandoval, Commissioner
Timothy A. Simon, Commissioner
Mark Ferron, Commissioner
Michelle Cooke, Assistant Chief ALJ
Richard Clark, Consumer Protection Safety Division
Julie Halligan, Consumer Protection Safety Division
Frank Lindh, General Counsel
Harvey Y. Morris, Legal Division
Patrick S. Berdge, Legal Division
Joe Como, Division of Ratepayer Advocates
Julie Fitch, Energy Division

Pacific Gas and Electric Company's Class Location Study Report

June 30, 2011

Summary

This report provides the results of Pacific Gas and Electric Company's (PG&E's) system-wide verification of class location designations for transmission pipe. In brief, the class location review has indicated that some segments of pipe had or may have a Maximum Allowable Operating Pressure (MAOP) higher than appropriate for its current class location. As a result, PG&E has reduced pressure on approximately 3.5 miles of pipelines, and is in the process of reducing pressure on approximately 4 miles of additional pipelines. We are still reviewing our records for another approximately 100 miles of pipe and may take additional pressure reductions depending upon the results of that review.

PG&E may need to restore operating pressure on some of these lines or segments in a heat wave or other emergency situation to avoid electric outages. We will coordinate closely with the California Independent System Operator ("CAISO"), and will, if necessary, seek a special permit from the CPUC. PG&E's first and foremost concern is public safety and we want to stress that -- even though we are reducing pressure -- the system is and was safe. A class change requires an operator to confirm or revise its MAOP, if more people live nearby. But the strength of the steel in the ground, and its ability to safely operate, does not change when a class location changes; a line that was safe to operate when in a Class 1 location is not "unsafe" now that a new house is built and it is a Class 2 location.

The actions PG&E has already taken and is continuing to take as a result of the class location review are as follows:

- PG&E has already reduced pressure on 3.5 miles of pipe where the prior MAOP was inconsistent with the class location designation confirmed by this report. To date we have been able to avoid any customer impacts from these reductions.
- PG&E is in the process of implementing additional pressure reductions based on the results. This will involve over thirty different locations and requires careful planning to perform safely and without unintended adverse consequences. Some of these reductions can be done without an immediate customer impact. Other pressure reductions will affect electric generators and possibly other customers. PG&E will be coordinating with the CAISO about the generator impacts. A list of the pressure reductions that can be done without immediate customer impact are contained in Attachment A. A list of the pressure reductions that may impact customers is contained in Attachment B.
- PG&E is proceeding with the engineering and planning to replace those appurtenances (such as valves, fittings, blow-downs, drips) or pipe segments that may be the limiting feature on the MAOP, so we can quickly restore pressure and system capacity. PG&E has opened an Incident Command Center to coordinate the pressure reductions and to replace pipe or appurtenances as expeditiously as possible.

-
- PG&E is aggressively reviewing its records for approximately 100 miles (less than 2%) of its system that, according to information in PG&E's Geographic Information System (GIS) database, may be operating at pressures above their current class level. PG&E may make additional pressure reductions as that review progresses, and we will keep the Commission closely informed of our progress.

Background

By letter dated September 13, 2010, and Resolution L-403, the California Public Utilities Commission directed PG&E to:

Ordering Paragraph 18: PG&E shall review the classification of its natural gas transmission pipelines and determine if those classifications have changed since the initial designation.

Ordering Paragraph 19: PG&E shall report the results of its review of the classification of its natural gas transmission lines and any subsequent changes to those classifications since PG&E's initial designation to the Executive Director within ten (10) days of the date of this Resolution.

In response, on September 23, 2010, PG&E committed to the following:

1. PG&E will review the classification of our natural gas transmission lines and determine if the classification has changed since the initial designation and will report the results by October 4, 2010.
2. PG&E will perform a system-wide verification of pipeline class locations designations. PG&E will complete the review, change its records and practices accordingly and report the results by June 30, 2011.

With respect to Commitment # 1, on October 4, 2010, PG&E reported to the CPUC that PG&E had reviewed the class designations for all gas pipelines operating at pressures greater than 60 pounds per square inch gauge (psig), totaling approximately 6,700 miles¹. Utilizing its GIS database to compare the classification recorded at initial installation with the then-current classification, PG&E identified 1,057 miles of pipeline where the then-current classification differed from the initial classification.

To complete Commitment #2, PG&E retained Willbros Engineers, (U.S.), LLC ("Willbros") to perform the system-wide verification. Willbros has an in-depth understanding of GIS databases backed by extensive gas transmission engineering expertise, and has experience performing this type of verification effort.

¹ The approximately 6,700 miles includes pipe operating above 60 pounds per square inch gauge (psig). This report is focused on transmission pipe, as defined by 49 CFR 192.3, which is 5766.7 miles.

Results of System-wide Verification

The basic concept of class location designations is the greater the population density (i.e., the number of buildings intended for human occupancy) within any continuous one mile of pipeline (the so-called "sliding mile"), the higher the class location designation. (See 49 C.F.R. 192.5(a)(1) (definition of "class location unit"). The following table sets forth the different class definitions:

Table 1 – Summary of Class Definitions

Class	# of Buildings; Other Criteria
1	10 or fewer
2	11 – 45
3	46 or more (or public assembly areas)
4	Buildings of 4 or more stories

In total, the system-wide verification has determined that approximately 550 miles have changed in class designation. Of these, 173 miles (3%) have gone up in class location, and 378 miles (6.5%) have gone down in class location.² The following table provides a detailed breakdown:

Table 2 - Total Miles of Transmission Pipe and Change in Class Location Designations

Category	Miles
Total Pipe	
Class 1	3,679.4
Class 2	401.0
Class 3	1,684.8
Class 4	1.5
Total	5,766.7
Class Change Up	
Class 1 to Class 2	54.2
Class 1 to Class 3	52.1
Class 1 to Class 4	0.4
Class 2 to Class 3	64.4
Class 3 to Class 4	1.0
Total Class Up	172.1

² PG&E has not yet investigated why particular segments went down in class. We believe this is largely due to increased accuracy of measurement or to segments having been listed in PG&E's Geographic Information System database based on the class for which they were designed, not the class based on population.

Category	Miles
Class - No Change	
Class 1	3,359.7
Class 2	291.9
Class 3	1,564.7
Class 4	0
Total No Change	5,216.3
Class Change Down	
Class 4 to Class 3	3.7
Class 3 to Class 1	103.3
Class 3 to Class 2	54.9
Class 2 to Class 1	216.5
Total Class Down	378.4

The class location designations in Table 2 above are based on the number of buildings in the vicinity of the pipeline, and other physical criteria (such as the existence of playgrounds or other places of public assembly).

Under state and federal regulations, a pipeline's MAOP is required to be commensurate with its class location. Table 3 below shows the maximum permissible percentage of Specified Minimum Yield Strength (SMYS) by class.

Table 3 - Permissible Percentage of SMYS

Class	Maximum % of SMYS without Pressure Test	Maximum % of SMYS with both Class Change and Pressure Test
1	72%	72%
2	60%	72%
3	50%	60%
4	40%	50%

This is an upper limit: the majority of PG&E's transmission pipelines operate at a much lower percentage of SMYS than the maximum permissible under the Code. In fact, approximately 45% of PG&E's transmission lines have an MAOP below 40% of SMYS, and more than 60% operate with an MAOP below 50% of SMYS. In other words, an increase in the class location designation for a pipeline does not automatically mean that the pipeline segment is operating at too high a pressure. The pipeline may be operating well below the maximum percentage, or may have been built in a rural location but designed with future population growth in mind.

In addition, a utility normally can take up to 24 months within which to confirm or revise its MAOP after there has been a change in class location. (See 49 CFR 192.611(d).) PG&E has not yet determined when the class location changes actually occurred in order

to calculate the twenty-four month period for each segment. Our primary focus is on safety and ensuring that pressure is commensurate with the current class, regardless of whether the "twenty-four month" window has expired. PG&E is moving as quickly as possible to confirm or revise its MAOP in light of these results, and has or is in the process of reducing the MAOP for any portion of the system that is not commensurate with its current class.

PG&E Response and Next Steps

PG&E has taken and is taking a number of steps in response to this class location validation review, including a number of pressure reductions as discussed below.

1. Pressure Reductions and Pipe Replacement.

First, PG&E has reduced pressure on several pipelines as a result of the class location validation effort, as follows:

- Lines 300A and 300B in Kern County from 766 psig to 714 psig.
- Line 400 near Antioch from 965 psig to 798 psig.
- Line 300A near Bakersfield from 754 psig to 688 psig.

In addition, PG&E reduced pressure from 250 psig to 50 psig on outlet piping supplied by Line 331 to a customer in Merced County. The repair on this outlet was completed and the pipe has been restored to its original operating pressure.

Second, PG&E is in the process of implementing additional pressure reductions. This will involve over thirty different locations and requires careful planning to perform safely and without unintended adverse consequences. A list of the segments where PG&E is in the process of reducing pressure and we do not think there will be immediate customer impacts is set forth in Attachment A.

Some of these reductions will affect electric generators, and PG&E has notified the CAISO. We will be coordinating with the CAISO and the generators. A list of the pressure reductions that may impact customers, including generators, is contained in Attachment B.

We have already begun planning for both the pressure reductions and for the pipe and appurtenance replacement projects to upgrade the system to allow the restoration of the MAOP commensurate with the new class. We are prioritizing the engineering of replacement work above all other non-emergency work. Many of the segments listed on Attachments A and B are small, with some as short as two feet.³ We will be performing field inspections or engineering jobs to replace these short segments as quickly as possible. We are continuing to refine our analyses and actions plans, but Attachment B is

³ Even though the limiting feature may be only a few feet long, the work involved to replace it could involve a larger segment. Even if only the small segment needs to be replaced, the work will probably involve a much greater area, depending upon how far the segment is from valves to reduce pressure.

the current list of the most significant segments that PG&E plans to address as quickly as possible. We commit to report to the Commission on our progress on a bi-weekly basis, or on any other interval that the Commission deems appropriate.

Depending upon guidance from CAISO, and the upcoming weather, PG&E may need to raise pressure in some of these lines, even before replacement equipment is installed, in order to try to avoid significant electrical impacts. We will only raise pressure when and where it is safe to do so, and only with the Commission's authorization. To avoid the safety risks associated with uncontrolled outages, PG&E may need to issue substantially more frequent Operational Flow Orders (OFO), and potentially Emergency Flow Orders (EFO).⁴

PG&E is continuing to find records to support the current operating pressure; for example, in the past two days we were able to remove from the "not commensurate list" several backbone segments, and we are guardedly optimistic that we will find more records, even for the segments on Attachment B.

2. Records Review for Other Segments.

PG&E is aggressively reviewing its records to confirm the appropriate MAOP for approximately 100 miles (less than 2%) of the transmission system that, according to information in PG&E's GIS database, may be operating at a higher pressure than appropriate for their current class designation.⁵ PG&E is confirming that it has pressure tests for those segments operating above their current class. As noted in Table 3 above, an operator can operate one level above the normal class MAOP if, among other things, there has been a class location designation change, the segment is in satisfactory physical condition and the segment has been pressure tested for a period of not less than 8 hours. PG&E has identified approximately 100 miles of pipe where PG&E needs to validate a complete pressure test record, based on GIS information for SMYS and MAOP. This work is moving forward as rapidly as possible.

3. Increase Scope of the MAOP Validation Effort.

PG&E will prioritize gathering the necessary records to perform the records-based MAOP validation for approximately 94 miles of additional Class 3 and Class 4 segments that were originally scheduled to be addressed during later phases.⁶

⁴ These pressure reductions will also interfere with PG&E's hydro testing efforts, although we have not finished analyzing the specifics of those effects.

⁵ PG&E's GIS database is not the system of record for determining SMYS; PG&E's job files are the primary records for validating SMYS and MAOP.

⁶ Although there are 117 miles of former Class 1 and Class 2 location pipe is now Class 3 or Class 4, about 23 miles of that pipe was already included in the MAOP validation review because it was in an HCA.

4. Process Improvements.

PG&E recognizes the need to identify development along its pipelines in real time and to diligently capture changes in class location for its system. Accordingly, PG&E has enhanced its ongoing class verification efforts. PG&E will perform a system-wide class location review once each calendar year, not to exceed fifteen months. PG&E has also strengthened its processes for timely assessment of the impact of potential class location changes. PG&E will develop improved methods to capture structure information at the field level and will streamline the class location calculation process such that a more robust and repeatable program is implemented.

Conclusion

PG&E is committed to improving our operations and enhancing public safety. We are continuing to dedicate significant internal and external resources to the effort to confirm the appropriate class and the appropriate MAOP. Much of this is based on the records effort, and, as both PG&E and the Commission know, we need to improve the accessibility of our records. Although we have not completed the process of verifying that every segment is operating at an MAOP commensurate with its current class designation, we have less than 2% of the transmission system left, and we will complete this as soon as possible.


JANEK. YURA
Vice President, Gas Engineering and Operations
Date: June 30, 2011

Attachment A: Pressure Reductions Without Immediate Customer Impact

No.	Line	Mile Point	COUNTY	MOP before	MOP revised	% reduction	feet
1	300A	248.41	KERN	766	688	10%	161
2	300A	248.6	KERN	766	688	10%	574
3	300B	242.71	KERN	766	688	10%	1567
4	300B	243.0887	KERN	766	688	10%	915
5	300B	246.14	KERN	766	688	10%	448
6	300B	246.4706	KERN	766	688	10%	3155
7	300B	247.16	KERN	766	688	10%	10
8	300B	247.161	KERN	766	688	10%	17
9	300B	247.17	KERN	766	688	10%	1119
10	300B	248.91	KERN	766	688	10%	136
11	300B	271.2766	KERN	754	631	16%	1184
12	300A	181.77	San Bernardino	860	741	14%	55
13	300A	181.85	San Bernardino	860	754	12%	119
14	300A	181.87	San Bernardino	860	741	14%	787
15	300A	182.11	San Bernardino	860	741	14%	93
16	300A	199	KERN	860	741	14%	713
17	300A	199.2	KERN	860	741	14%	647
18	300B	190.614	KERN	860	745	13%	1362
19	300B	191.02	KERN	860	745	13%	95
20	1213-01	0.03	FRESNO	839	725	14%	143
21	1213-01	0.6707	FRESNO	839	725	14%	58
22	1213-01	0.6707	FRESNO	839	725	14%	814
23	300-1	0.0121	KERN	754	490	35%	6
24	300-1	0.0057	KERN	754	541	28%	85
25	300B	384.2827	FRESNO	839	741	12%	681
26	STUB6247	--	KERN	860	789	8%	6
27	DREG5479	--	SHASTA	600	451	25%	95
28	DREG3873	0.0025	MARIN	450	368	18%	16
29	STUB8500	--	MARIN	450	368	18%	1

Attachment A: Pressure Reductions Without Immediate Customer Impact

No.	Line	Mile Point	COUNTY	MOP before	MOP revised	% reduction	feet
30	X6338	16.66	MARIN	450	367	18%	10
31	X6339	6.42	MARIN	450	440	2%	15
32	X6339	6.42	MARIN	450	440	2%	15
33	X6340	13.72	MARIN	450	367	18%	11
34	X6340	13.72	MARIN	450	377	16%	15
35	X6340	13.72	MARIN	450	377	16%	4
36	X6342	16.66	MARIN	450	367	18%	10
37	STUB6082	--	SAN JOAQUIN	412	315	23%	5
38	STUB6098	--	MERCED	400	377	6%	5
39	DCUST1496	--	FRESNO	650	378	42%	80
40	DRIP5664	--	FRESNO	400	377	6%	5
41	STUB6259	--	San Bernardino	861	802	7%	7
42	6635-01	--	KERN	754	445	41%	15
43	6635-01	--	KERN	754	445	41%	15
44	200-435	--	SOLANO	800	650	19%	3
45	200-435	--	SOLANO	800	710	11%	9
46	X6554	--	SACRAMENTO	965	378	61%	65
47	200A-2-1	--	SOLANO	800	650	19%	3
48	200A4-2	--	SOLANO	800	736	8%	3
49	BD	--	SOLANO	792	731	8%	5
50	STUB8239	--	SACRAMENTO	510	452	11%	1
51	STUB8284	--	COLUSA	975	835	14%	2
52	STUB9013	--	SACRAMENTO	800	541	32%	22
53	X6553	--	SACRAMENTO	520	452	13%	10
54	X9097	--	SACRAMENTO	510	306	40%	8

Attachment B: Pressure Reductions That May Impact Customers

No.	Line	Mile Point	COUNTY	MOP before	MOP revised	% reduction	feet
1	L300A	443.8	SAN BENITO	620	550	11%	2
2	L300A	482.49	SANTA CLARA	631	542	16%	15
3	L300A	489.34	SANTA CLARA	631	451	28%	91
4	108	--	SAN JOAQUIN	412	315	27%	5
5	STUB6285	--	STANISLAUS	408	376	8%	12
6	196A	--	SACRAMENTO	800	440	47%	2
7	138	--	SONOMA	650	378	44%	80
8	191	--	CONTRA COSTA	600	462	26%	5
9	L401	83.33	SHASTA	884	814	8%	673
10	L401	83.8121	SHASTA	884	814	8%	496
11	L400	113.6221	SHASTA	884	785	11%	1216
12	L401	113.75	SHASTA	911	814	10%	369
13	L401	113.92	SHASTA	911	814	10%	446