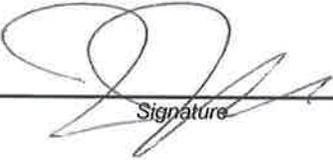


**STAFF REPORT**  
**COUNCIL MEETING DATE:**  
**May 14, 2012**

**ITEM FOR COUNCIL CONSIDERATION:**

INFORMATIONAL REPORT ON NATURAL GAS TRANSMISSION PIPELINE SAFETY

Report prepared by:  
**Julie E. Jeakle**  
Emergency Services Coordinator



\_\_\_\_\_  
Signature

City Manager



\_\_\_\_\_  
Signature

**STAFF RECOMMENDATION:**

Action \_\_\_ Non-Action X

**Recommendation:** This is an informational report and no action is required.

**I. BACKGROUND:**

According to the National Transportation Safety Board's (NTSB) "Pipeline Accident Report: Pacific Gas and Electric Company Natural Gas Transmission Pipeline Rupture and Fire, San Bruno, California, September 9, 2010" (San Bruno Report), "On September 9, 2010, about 6:11 p.m. Pacific daylight time, a 30-inch-diameter segment of an intrastate natural gas transmission pipeline known as Line 132, owned and operated by the Pacific Gas and Electric Company, ruptured in a residential area in San Bruno, California." The release of natural gas from this rupture ignited, causing a fire that damaged 70 homes, destroyed 38 homes and killed 8 people. This accident brought pipeline safety to the forefront and left residents and city jurisdictions wondering "Are the gas transmission pipelines in our community safe?"

The City of Carpinteria is unique in that there are three gas transmission pipelines that converge in the narrow landscape between the Pacific Ocean and the mountains. These lines are operated by the Southern California Gas Company (SoCalGas). A map referencing the general location of these gas transmission pipelines is included as Attachment A. It is important to distinguish between gas transmission and gas distribution pipelines. According to the American

Gas Association, “a transmission line is a larger diameter line operating at a higher operating pressure and transports the natural gas between states, counties, cities and towns,” while “distribution pipelines are generally the smaller diameter lines at lower operating pressures that deliver natural gas directly to local homes and businesses.”

In California, two agencies impact the regulation of natural gas transmission pipelines: the U.S. Department of Transportation's Pipeline and Hazardous Material Safety Administration (PHMSA) and the California Public Utilities Commission (CPUC). According to the PHMSA, they are “primarily responsible for developing, issuing, and enforcing pipeline safety regulations,” however, “the pipeline safety statutes provide for states to assume intrastate regulatory, inspection, and enforcement responsibilities under an annual certification.” Pursuant to the annual certification program and under federal and state authorities, the CPUC is responsible for the regulation and inspection of intrastate gas pipelines in the State of California. According to the CPUC, in 2008, they had “regulatory jurisdiction over 100,000 miles of utility-owned natural gas pipelines.”

As a result of specific corrective action recommendations directed towards the CPUC by the NTSB after the San Bruno Report was completed, the CPUC has “ordered all California natural gas transmission operators to develop for CPUC consideration a Natural Gas Transmission Pipeline Comprehensive Pressure Testing Implementation Plan to orderly and cost effectively replace or test all natural gas transmission pipelines that have not been pressure tested.” SoCalGas submitted a Pipeline Safety Enhancement Plan on August 26, 2011, in compliance with that order. The Gas Pipeline Safety Proceeding is still underway at the State level and all plans submitted by gas companies are being reviewed. It is expected that new safety and reliability regulations will be adopted as part of this Proceeding.

To proactively address concerns that have been brought forth by local residents regarding the natural gas transmission pipelines that traverse through Carpinteria, as well as to address concerns the City has regarding the safety of these gas pipelines, the City has: (1) Reviewed the NTSB's San Bruno Report to gather information on factors leading to the San Bruno accident (2) Developed and submitted questions to SoCalGas and the CPUC regarding the maintenance and safety of the gas transmission pipelines in Carpinteria, and (3) Invited representatives from SoCalGas and the CPUC to provide a presentation to the City Council regarding the management and safety of the gas transmission pipelines in Carpinteria as well as to share what regulatory and safety enhancements are being made to mitigate against another accident of this nature.

The presentation to the Council is designed to communicate information obtained from the questions posed to SoCalGas and the CPUC; for the City Council and local residents to address concerns they have with these gas transmission pipelines; and for SoCalGas to share with local residents what they are doing to maintain and enhance the safety of gas transmission pipelines in Carpinteria. The CPUC was invited to participate, but they will not be sending a representative.

## **II. DISCUSSION:**

According to the San Bruno Report, “The NTSB determines that the probable cause of the accident was the Pacific Gas and Electric Company's (1) inadequate quality assurance and quality control in 1956 during its Line 132 relocation project, which allowed the installation of a substandard and poorly welded pipe section with a visible seam weld flaw that, over time grew to a critical size, causing the pipeline to rupture during a pressure increase stemming from poorly planned electrical work at the Milpitas Terminal; and (2) inadequate pipeline integrity management program, which failed to detect and repair or remove the defective pipe section. Additionally, several findings were outlined in the San Bruno Report, including the statement

that the “Use of automatic shutoff valves or remote control valves along the entire length of Line 132 would have significantly reduced the amount of time taken to stop the flow of gas and to isolate the rupture.”

The San Bruno Report concluded with several recommendations to the PHMSA and CPUC. A few of the recommendations are to:

1. Require operators of natural gas transmission pipelines to provide system-specific information about their pipeline systems to jurisdictions and emergency response agencies of the communities in which those pipelines are located.
2. Require operators of natural gas transmission pipelines to ensure their control room operators immediately and directly notify the 911 emergency call center when a possible rupture is indicated.
3. Require automatic shutoff valves or remote control valves in high consequence areas.
4. Delete the grandfather clause and require that all gas transmission pipelines constructed before 1970 be subjected to a hydrostatic pressure test.
5. Require all natural gas transmission pipelines be configured to accommodate in-line inspection tools.
6. Revise integrity management inspection protocols at the PHMSA.
7. Develop and implement standards for integrity management that require pipeline operators to regularly assess the effectiveness of their program.
8. Assess the effectiveness of oversight programs at the CPUC and correct deficiencies.

As a result of the probable cause, findings and recommendations identified in the San Bruno Report, as well as inquiries raised by local residents, the City developed a series of questions that were directed independently to SoCalGas and the CPUC. These questions were designed to obtain information regarding the safety and management of three high pressure gas transmission pipelines that pass through Carpinteria. Questions were divided into three categorical areas: General Pipeline Information, Integrity Management Practices and Future Action. Below is a summary of the questions posed by the City and responses received from SoCalGas and the CPUC. It was our hope that we would receive independent responses from SoCalGas and the CPUC, but, while the responses were submitted independently, they were identical, which leads staff to believe that they were not formulated independently of each other.

#### General Pipeline Information

1. When were the three high pressure gas pipelines that pass through Carpinteria installed?
  - SoCalGas & CPUC Response: *Line 1003 was originally installed in 1930; Line 1004 was originally installed in 1944; Line 1005 was originally installed in 1950.*
2. What material are these pipelines made out of?
  - SoCalGas & CPUC Response: *They are made of steel.*
3. For each of these pipelines: What is the pipe diameter? What is the operating pressure? What product is transported? What is the potential impact radius (*the distance within which the potential failure of a gas pipeline could have significant impact to people and property*)
  - SoCalGas & CPUC Response: *The nominal pipeline diameters are 16” for Lines 1003 & 1004 and 20” for Line 1005. Each line operates at varying pressures but the Maximum Allowable Operating Pressure (MAOP) of each respectively is as follows: Line 1003 MAOP is 187 psig; Line 1004 MAOP is 1000 psig; Line 1005 MAOP is 1000 psig. We transport odorized natural gas. The calculated Potential Impact Radius (PIR) values are as follows: Line 1003, PIR is not applicable to this pipeline because it operates at a low stress level; Line 1004 PIR ≈ 350 feet; Line 1005 PIR ≈ 440 feet.*

4. Are all of the pipeline segments in Carpinteria piggable (*in-line serviceable*)? If not, have the lines undergone a hydrostatic pressure test? If so, when? Was there a spike test incorporated in the hydrostatic pressure test?
  - SoCalGas & CPUC Response: *Lines 1004 and 1005 are piggable, and each has been pigged. In fact, Line 1005 has been pigged twice per the Baseline Assessment Plan (BAP). Line 1003 is not piggable. However, Line 1003 has had its pressure lowered (de-rated) and falls under a different set of requirements. It falls under another integrity program called Distribution Integrity Management Program (DIMP).*
5. Have leak survey inspections been conducted on pipelines that pass through Carpinteria? If so, when? Were any pipeline defects found?
  - SoCalGas & CPUC Response: *As part of our regular maintenance practices, we leak survey our lines. As part of our safety program, we are leak surveying the high pressure transmission lines every two months. No leaks were found.*
6. Are any automatic shutoff valves (ASVs) or remote control valves (RCVs) utilized on pipelines that pass through Carpinteria? What type is used and when were they installed?
  - SoCalGas & CPUC Response: *Yes, we have ASVs on the lines. They were installed in the 1980s.*

#### Integrity Management Practices

1. Do the pipelines that pass through Carpinteria meet the generally accepted industry quality control and welding standards in effect when pipeline installation occurred?
  - SoCalGas & CPUC Response: *Yes. SoCalGas adheres to governing federal and state requirements.*
2. Does the Southern California Gas Company have an effective pipeline integrity management program that: is based on complete and accurate pipeline information; considers pipeline design and materials; identifies welded seam cracks as part of risk assessment; and assesses the program and takes active steps leading to pipeline improvements?
  - SoCalGas & CPUC Response: *Yes, SoCalGas does have an effective integrity management program.*
3. How does the Southern California Gas Company demonstrate that they have an adequate quality assurance and quality control program?
  - SoCalGas & CPUC Response: *SoCalGas has a quality assurance program to ensure that its specifications and materials are current. In addition, the company maintains a formal process to update its specifications when regulatory changes occur. Finally, the company maintains a field QC program during construction to assure that pipeline assets are installed as designed and according to code.*
4. How does the Southern California Gas Company demonstrate that they have an adequate integrity management program?
  - SoCalGas & CPUC Response: *There are five main ways that SoCalGas demonstrates it has a compliant pipeline integrity program by: 1—Conducting internal audits; 2— supporting CPUC audits; 3— engaging Senior Management, 4—Participating in industry organizations to learn best practices and approaches to enhance safety programs, and; 5—having a process to incorporate new regulations and technologies.*
5. What information does the Southern California Gas Company collect and maintain on pipeline segments to assist with the identification and evaluation of potential threats to

those pipelines? Does the Southern California Gas Company calculate risk for each pipeline segment? Has a target threshold been set for pipelines that pass through Carpinteria that identify pipeline segments that may be at risk? How often are pipelines evaluated to assess new and existing risks?

➤ SoCalGas & CPUC Response: *SoCalGas collects and maintains the necessary information needed to evaluate the risks associated with its pipeline assets. This information along with other pertinent factors such as field conditions are used to assess, risk rank, and prioritize pipeline inspection and maintenance activities. SoCalGas is continuously monitoring its pipeline for threats, through patrols, leak surveys, and under TIMP, performing an integrity assessment once every seven years.*

6. What measures does the PUC have in place to detect inadequacies in a gas company's integrity management program?

➤ SoCalGas & CPUC Response: *The CPUC is the designated agent of the Pipeline & Hazardous Materials Safety Administration (PHMSA) and as such conducts regular audits of SoCalGas' compliance programs, which include its pipeline integrity program. The CPUC conducts annual inspections, which include field inspections and an audit of the company's operating procedures and maintenance records, of SoCalGas' operating regions to ensure that the company's operations continue to comply with federal regulations (49 CFR 191-192) and state regulations (CPUC General Order 112-E).*

#### Future Action

1. What measures does the PUC have in place to detect inadequacies in a gas company's integrity management program?

➤ CPUC Response: *The CPUC conducts audits of the programs and utilizes the metrics reported by SoCalGas with its Annual Report to the PHMSA.*

2. How many times has the PUC audited the Southern California Gas Company integrity management program since 2002? What areas of concern were highlighted? Has the Southern California Gas Company addressed and taken action on these concerns?

➤ CPUC Response: *The PUC completed its IM Audit of SoCalGas in 2010 and noted that SoCalGas has addressed its concerns.*

3. What steps are being taken to address the NTSB's recommendations that the PHMSA's state pipeline safety program certification be assessed?

➤ CPUC Response: *The CPUC has conducted various audits with PHMSA and there are other efforts underway by PHMSA to address the NTSB's recommendations in California, as well as nation-wide.*

4. What steps are being taken to revise the PHMSA's integrity management inspection protocol?

➤ CPUC Response: *PHMSA, the agency which develops the protocols which the CPUC follows, is still working on this item through various proceedings. These include rules related to grandfathering, integrity management, automated valves, and others. We expect the protocols to be revised based on the outcome of these proceedings.*

5. What steps are being taken to develop and implement a program that requires gas pipeline operators to regularly assess program effectiveness and identify and correct deficiencies?

➤ CPUC Response: *The gas integrity management programs, public awareness, operator qualification, incident investigations, and other regulations currently require*

*operators to monitor their operations on an on-going basis as part of efforts to continually improve their system.*

6. What steps are being taken to address the NTSB's recommendation to equip Supervisory Control and Data Acquisition (SCADA) systems with tools to assist in recognizing and pinpointing the location of pipeline leaks?
  - *CPUC proceedings are underway to examine the issues related to automated valves on transmission lines. SCADA is an integral part of this evaluation since it is required to provide notice of conditions needing attention as well as towards actually implementing commands to remote controlled valves. As part of the proceedings, ways to improve the use of SCADA (i.e., through software improvements and additional SCADA monitoring points) in assisting control room operators to more quickly pinpoint conditions and locations is being examined.*
  
7. What steps are being taken by the CPUC and PHMSA to address the NTSB's findings that they have fundamental problems with enforcement practices and policies?
  - *CPUC Response: The CPUC has significantly increased the penalty amounts related to violations of its GO 112-E and has provided its Consumer Protection and Safety Division with streamlined authority to issue fines against offenders.*

### **III. ANALYSIS:**

Local resident Bob Franco posed the initial question regarding the safety of the gas transmission pipelines in Carpinteria, which prompted the City Council to request that research be conducted by the City. In his letter, Mr. Franco wanted to know if the gas transmission pipelines were safe, "once and for all." This is a challenging question to answer. There will always be inherent risk associated with gas transmission pipelines, however, there are mechanisms in place, such as safety and integrity management programs, to mitigate the associated risks. In the above responses from SoCalGas and the CPUC, we learned details regarding the local gas transmission pipelines and steps both agencies are taking to ensure the safety of these lines.

In the aftermath of the San Bruno accident, it became clear that, while there were many safety and reliability mechanisms in place, more needed to be done to ensure that gas transmission pipeline operators have reliable integrity and safety management programs and that regulatory agencies are holding these operators accountable to the standards that have been set. And, in the year and a half since the San Bruno accident, we have already seen a shift towards strengthening the management and safety associated with gas transmission pipelines. Senate Bill No. 216 was introduced in the fall of 2011, which "would require the commission, unless it determines that doing so is preempted under federal law, to require the installation of automatic shutoff or remote controlled sectionalized block valves on certain intrastate transmission lines that are located in a high consequence area, as defined, or that traverse an active seismic earthquake fault." Additionally, the CPUC ordered all gas companies in the state to submit a Natural Gas Transmission Pipeline Comprehensive Pressure Testing Implementation Plan last fall. The Gas Pipeline Safety Proceeding is still underway at the State level and all plans submitted by gas companies are being reviewed. New safety and reliability regulations will most likely be adopted in the near future that will impact both gas pipeline operators as well as regulatory agencies.

It is our hope that changes impacting gas transmission pipelines will also bring a greater level of transparency regarding the gas transmission pipeline operations in our community and allow for more open and proactive dialogue between the City, SoCalGas and the CPUC. The responses the City received from SoCalGas and the CPUC are a start to the dialogue and follow up will continue.

**IV. POLICY:**

At the federal level, 49 CFR 191-192 specifies requirements for the reporting of incidents, safety-related conditions, and annual pipeline summary data by operators of gas pipeline facilities. At the state level, CPUC General Order 112-E governs the design, construction, testing, maintenance and operation of utility gas gathering, transmission and distribution piping systems. At the local level, the Santa Barbara County Fire Department (SBCFD) is the agency responsible for the development and oversight of the Santa Barbara County Hazardous Materials Emergency Response Plan, of which the City of Carpinteria is part of. This plan includes provisions for pre-emergency planning and coordination among emergency responders within the jurisdiction and identifies the responsibilities and procedures for responding agencies in the event of a hazardous materials emergency.

**V. LEGAL ISSUES:**

The public did inquire about the possibility of the City conducting an independent test of the gas transmission pipelines by a third party and conducting our own analysis of the results. Per the Gas Franchise Agreement, it was determined that the CPUC's broad authority to regulate public utilities preempts local regulation and enforcement. Any action taken by the City to order unique or additional gas transmission pipeline testing above what the state and federal laws require would not be enforceable.

**VI. PRINCIPAL PARTIES EXPECTED AT MEETING:**

Tim Mahoney, Public Affairs Manager, Southern California Gas Company

**VII. ATTACHMENTS:**

Attachment A: Mr. Franco letter to the City Manager regarding gas transmission pipelines

Attachment B: Southern California Gas Company High Pressure and Transmission System in Carpinteria

**Attachment A**

Dear Mr. Durflinger:

Probably because of all the fuss with Councilman Joe Armendariz and plastic bags during the meeting of 12/12; our request to be certain that the gas line that runs down 8<sup>th</sup> Street is safe or not seemed to be disregarded. I don't entirely know if it was completely ignored or not, but are you indeed looking into this matter? I am writing this letter to ask you again if the city can do its own independent test of the gas line and answer the major question. **Is this gas line safe once and for all?**

I would guess the easiest way to answer this, is to obtain the test results from the gas company and do our own analysis. But since that is "proprietary information" that probably would not be possible. But proprietary only means ownership it does not mean this information cannot be shared or disclosed, so maybe by simply asking the gas company to share their test results we can answer this question. Or perhaps invoking the Freedom of Information Act might help.

Because the reputations of energy companies are less than stellar, we are very leery of just accepting their word for it. I wish we could trust our gas company but as the customers of PG&E in San Bruno found out the hard way we cannot. We feel that we have to verify their claims that this gas line is completely safe in a manner that is totally acceptable and reliable to all of us.

We understand that this matter can be very costly, complicated and time consuming. We are not saying this should be done immediately, but soon if at all possible. If I can be of any assistance in this matter please let me know and also if I may be advised as to the progress of this request. Thank you for your attention to this very important matter and we are awaiting your response.

Sincerely;  
Bob Franco

[REDACTED]

[REDACTED]

[REDACTED]

7012

## **Attachment B**



**High Pressure Gas Pipeline**

- IDOT Transmission
- El Estero High Pressure

Southern California Gas Co.  
 Operations Technology - CG  
 Created: September 27, 2010

Map File Path: Assets\Documents  
 100410051002.dwg

**Southern California Gas Company  
 High Pressure and Transmission System**



Disclaimer:  
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