### BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking on the Commission's Own Motion to Adopt New Safety and Reliability Regulations for Natural Gas Transmission and Distribution Pipelines and Related Ratemaking Mechanisms. FILED PUBLIC UTILITIES COMMISSION FEBRUARY 24, 2011 SAN FRANCISCO OFFICE RULEMAKING 11-02-019

# ORDER INSTITUTING RULEMAKING

#### 1. Overview

On September 9, 2010, a 30-inch diameter natural gas transmission pipeline owned and operated by Pacific Gas and Electric Company (PG&E) ruptured and caught fire in the city of San Bruno, California, causing the death of eight persons, injury of many others, as well as massive property damage. The explosion left a crater 72 feet long by 26 feet wide and propelled a 28 feet long section of the pipeline about 100 feet away from crater.

The human suffering caused by these events is overwhelming. Families lost loved ones and an entire community endured widespread destruction. The depth of this tragedy is the source of our resolve to take all actions necessary to ensure that it never happens again.

This rulemaking is a forward-looking effort to establish a new model of natural gas pipeline safety regulation applicable to all California pipelines. Specific investigations of PG&E's conduct and any penalties will take place in a different docket. In this proceeding, the Commission will obtain public input, as well as collect and analyze the data and conclusions from the on-going internal and external investigations and reports of the San Bruno pipeline explosion. Recommendations from the Independent Review Panel will be presented, considered, and implemented. The result of this proceeding will be new rules for the safe and reliable operation of natural gas pipelines in California. We also consider the important role of ratemaking for safety related operations.

### 2. National Transportation Safety Board and United States Department of Transportation, Pipeline and Hazardous Materials Safety Administration

Two federal agencies have critical roles in our investigation and rulemaking. The National Transportation Safety Board (NTSB) is an independent agency responsible for investigating the explosion, determining the probable cause, and making recommendations to prevent similar accidents from occurring. Although its investigation is not yet complete, the NTSB has issued an urgent safety recommendation that PG&E "aggressively and diligently" search its records for "traceable, verifiable, and complete" pipeline documents for all pipelines that have not been subject to hydrostatic testing and are located in populated areas.<sup>1</sup> The NTSB is also holding a fact-finding hearing as part of the investigative process. The NTSB decided to hold the hearing when it determined that the San Bruno explosion had exposed issues that required further attention with implications for the pipeline infrastructure throughout the country. The

<sup>&</sup>lt;sup>1</sup> NTSB Press Release, January 3, 2011, <u>http://www.ntsb.gov/Pressrel/2011/110103.html</u>

hearing is scheduled for March 1 - 3, 2011, at NTSB headquarters in Washington, D.C., and will be webcast over <u>www.ntsb.gov</u>.

The Pipeline and Hazardous Materials Safety Administration (PHMSA) is part of the United States Department of Transportation and its Office of Pipeline Safety administers the Department's national regulatory program to assure the safe transportation of natural gas, petroleum, and other hazardous materials by pipeline. The Office of Pipeline Safety develops regulations and other approaches to risk management to assure safety in design, construction, testing, operation, maintenance, and emergency response of pipeline facilities.<sup>2</sup> PHMSA is responsible for the federal rules which are part of the Commission's General Order (GO) 112-E.

Each of these federal agencies may issue reports and make recommendations, which may require further action by this Commission. We will fully cooperate with these agencies and, if appropriate, we may hold joint hearings as part of this rulemaking.

# 3. Primary Objectives of this Proceeding

Immediately after the tragic event in San Bruno, our staff began its work investigating the cause and ordering additional safety measures. To date, we have imposed operational limitations on PG&E's natural gas transmission lines, ordered PG&E to comply with NTSB directives, instituted an inquiry by the Independent Review Panel, and expanded our inspections of natural gas transmission pipelines.

<sup>&</sup>lt;sup>2</sup> See generally, <u>http://www.phmsa.dot.gov/portal/site/PHMSA</u>.

We also expanded the scope of PG&E's gas transmission and storage rate case (Application (A.) 09-09-013) to include a "safety phase" focusing on PG&E's disaster and emergency plans, shut-off valve testing and monitoring, changes to capital project priorities, safety related protocols or procedures, and relationships with first responders.

In this proceeding, we consolidate and coordinate our efforts, obtain public input on this matter, and propose rule and policy changes as necessary. The primary objectives of this proceeding are listed below and are discussed further in the sections that follow.

- A. Provide the Public with a means to make their views known to this Commission. (Section 4.)
- B. Provide the Public with the Independent Review Panel's expert recommendations regarding the technical explanation for the explosion, assessment of likelihood that similar events may occur, and recommendations for preventive measures and other improvements. (Section 5.)
- C. Develop and adopt safety-related changes to the Commission's regulation of natural gas transmission and distribution pipelines, including requirements for construction, especially shut-off values, maintenance, inspections, operation, record retention, ratemaking, and the application of penalties. (Section 6.)
- D. Consider ways that this Commission can undertake a comprehensive risk assessment for all natural gas pipelines regulated by this Commission, and possibly for other industries that the Commission regulates. (Section 7.)
- E. Consider available options for the Commission to better align ratemaking policies, practices, and incentives to elevate safety considerations, and maintain utility management focus on the "nuts and bolts" details of prudent utility operations. (Section 8.)

- F. Consider the appropriate balance between the Commission's obligation to conduct its proceedings in a manner open to the public with the legitimate public safety concerns that arise from unlimited availability of certain utility information. (Section 9.)
- G. Consider if we need further rules or other protection for whistleblowers to inform the Commission of safety hazards. (Section 10.)
- H. Expand our emergency and disaster planning coordination with local officials. (Section 11.)

# 4. Public Participation Hearings

To allow the public full opportunity to present their views on the Commission's regulation of natural gas transmission and distribution pipelines, the Commission will convene Public Participation Hearings in San Bruno, Los Angeles, and another location in northern California. The respondents will be responsible for notifying their customers of these hearings. In today's decision, we will schedule the San Bruno En Banc hearing and the details for the other hearings will set by further ruling of the assigned Commissioner.<sup>3</sup>

<sup>&</sup>lt;sup>3</sup> No later than 10 days after the effective date of this order, PG&E shall submit its proposed customer notice and mailing plan for approval by the Commission's Public Advisor.

	Location	Date and Time
Public Utilities Commission En Banc	Senior Center 1555 Crystal Springs Road San Bruno, CA	Tuesday April 5, 2011 5:00 p.m. to 10:00 p.m.
Assigned Commissioner <sup>4</sup>	Commission Offices Los Angeles, CA	To Be Scheduled
Assigned Commissioner	Northern California	To Be Scheduled

# 5. Independent Review Panel

On September 23, 2010, the Commission created an Independent Review Panel of experts to conduct a comprehensive study and investigation of the September 9, 2010, explosion and fire. The Commission directed the Panel to make a technical assessment of the events, determine the root causes, and offer recommendations for action by the Commission to best ensure such an accident is not repeated elsewhere. The Commission encouraged the Panel to make such recommendations as necessary. Such recommendations could 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, and statutory changes to be recommended by the Commission. The Commission offered the following questions to guide the Panel:

- What happened on September 9, 2010?
- What are the root causes of the incident?

<sup>&</sup>lt;sup>4</sup> In addition to the assigned Commissioner, up to one additional Commissioner may also preside at the Public Participation Hearing.

- 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?

The Independent Review Panel's final report is expected in May.

# 6. Changes to the Commission's Regulations

This rulemaking will consider what aspects of the Commission's regulation of natural gas transmission and distribution pipelines should change, e.g., siting, maintenance, inspections, best operating practices, ratemaking, and safety audits. Based on the information gathered so far in our investigation, we propose immediate changes to certain rules. The draft revised rules are attached to today's decision as Attachment A, and parties may file and serve comments on these rules as set forth below.

Our staff is also developing additional rules for near-term implementation. In Appendix B, our staff has set forth the rationale for and description of draft rules they are currently developing on 12 topics that range from prioritizing retrofit of existing pipelines to allow in-line inspections to making uniform our rules on underground clearance requirements. We expect to bring forward specific draft rules on these topics early in this proceeding. To develop further proposed rules, we have preliminarily identified the following questions and issues, and we fully expect that other issues will arise as investigations are completed and recommendations brought forward:

- Are some changes more urgent and obvious than others?
- How widespread is the problem of inaccurate pipeline records found by the NTSB in the San Bruno instance?
- What requirements should the Commission adopt to ensure that natural gas pipeline operators possess and are maintaining traceable, verifiable, and complete pipeline records?
- Should the state pipeline regulations in GO 112-E be changed and how?
- Should this Commission advocate for changes to federal gas pipeline regulations?
- Should the Commission adopt rules for enhanced penalties for life-threatening violations?
- Should the Commission use its existing enforcement authority earlier or more aggressively as part of its graduated enforcement program for safety-related violations?
- Should the Commission seek additional legislative authority for an enhanced enforcement regime for safety related matters?

On January 3, 2011, the NTSB issued urgent safety recommendations as a result of discovering "discrepancies between installed pipe and as-built drawings in PG&E's gas transmission system."<sup>5</sup> The Executive Director ordered PG&E and all other California gas pipeline utilities to search all available records for their

<sup>&</sup>lt;sup>5</sup> Letter from Deborah A.P. Hersman, NTSB Chairman, to Paul Clanon, referencing P-10-5 through – 7, at 2. The letter also directed this Commision to "ensure, through adequate oversight" that PG&E complies with the NTSB record search requirements and, where PG&E is unable to locate satisfactory records, to "provide oversight to any spike and hydrostatic tests that PG&E is required to perform." *Id.* at 3.

respective pipelines to ensure that the maximum allowable operating pressure for each pipeline has been established with traceable, verifiable, and complete records. PG&E is scheduled to report the results of its review to the Commission on March 15, 2011, San Diego Gas & Electric Company (SDG&E) and Southern California Gas Company (SoCalGas) will report on April 15, and Southwest Gas Corporation has already reported. These gas utilities shall formally file their reports in the record of this rulemaking and serve the report on the service list.

In GO 112-E, the Commission adopted the federal rules for the design, construction, quality of materials, locations, testing, operations and maintenance of facilities used in the gathering, transmission and distribution of natural gas and in liquefied natural gas facilities in California. The Commission's rules follow the Federal Pipeline Safety Regulations, as the regulations are updated from time to time.

This GO is the linchpin of the Commission's regulation of natural gas pipelines. To the extent that the record in this proceeding identifies deficiencies in the Commission's regulation of gas utilities, changes to this GO will be proposed for consideration by the Commission. Because many of the actual regulations flow from federal rules, it may be necessary to seek changes to the underlying federal regulations or, where necessary, the Commission may proceed to formulate regulations with stricter standards.

This rulemaking will also consider whether the rules and requirements we adopt in the safety phase of PG&E's gas transmission and storage rate case, A.09-09-013, should apply to the state's other gas utilities. We anticipate a decision in A.09-09-013 for PG&E in the first half of this year.

Our goal through all of these proceedings will be to establish rules and policies that accord safety of gas utility operations the highest level of

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significance. We must ensure that our gas utilities recognize that mere compliance is not enough. Safe pipeline operations must begin with utility management and the culture it creates in the workrooms and field crews of the utility. The pipeline operators must have a corporate ethic and workplace culture that places safety as their first responsibility.

#### 7. Comprehensive Catastrophic Risk Assessment

This rulemaking will consider ways that this Commission can undertake a comprehensive catastrophic risk assessment for all natural gas pipelines regulated by this Commission. Due to aging utility infrastructure, we are interested in assessing whether we may be missing other natural gas pipeline safety issues or other catastrophic risks that are currently unidentified. In short, we pose the questions: "what else is out there?" and "what can we do to prevent another tragedy from unexpected sources?" We are also open to considering whether such a comprehensive assessment should be completed for other industries that the Commission regulates.

We are also keenly interested in improving our regulation of the far more common threat to natural gas transmission and distribution system safety – accidental damage during unrelated but nearby excavation, often referred to as a "dig in."

As required by 49 CFR § 198.37, we have in place a one-call damage prevention program that enables excavators to request marking of all underground facilities near a proposed excavation site. The federal regulations also require each operator of underground pipeline facilities to have a written damage prevention program to prevent damage to the pipeline from excavation activities. Pursuant to such a program, the pipeline operator must, upon notice from a one-call center to which the operator is a member, mark all the operator's

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subsurface facilities in the area of proposed excavation activity and, in a timely manner, inspect any facilities that the operator has reason to believe could have been damaged by any excavation activities, 49 CFR § 192.614.

Excavators who damage subsurface facilities, e.g., pipelines, but do not report the incident or, worse yet, actively conceal the damage may be threats to public safety in violation of Government Code § 4216 and such actions may be disturbingly common. We will endeavor to maintain a broad perspective in this proceeding and take such actions as will enhance overall public safety with regard to all subsurface utility facilities.

#### 8. Ratemaking and Other Incentives for Prudent Utility Operations

This rulemaking will consider how we can align ratemaking policies, practices, and incentives to better reflect safety concerns and ensure ongoing commitments to public safety. For instance, how do we maintain public and utility management attention to the "nuts and bolts" details of prudent utility operations? How do we foster a culture of commitment to safe utility operations with changing and increasingly competitive energy markets?

The unique circumstances of PG&E's pipeline records and pipeline strength testing program for its pre-1970 pipeline may require extraordinary safety investments. Our ratemaking authority empowers this Commission to impose such ratemaking consequences as the public interest may require. See e.g., Cal. Const. Art. 12; Pub. Utils. Code §§ 701, 451 ("every public utility shall...maintain such...equipment and facilities...as are necessary to promote the safety, health, comfort, and convenience of its patrons, employees, and the public.") The extraordinary safety investments required for PG&E's gas pipeline system and the unique circumstances of the costs of replacing the San Bruno line are

situations where this Commission may use its ratemaking authority to, for example, reduce PG&E's rate of return on specific plant investments or impose a cost sharing requirement on shareholders. We will consider these, and other ratemaking mechanisms, in this proceeding.<sup>6</sup>

Given the economic challenges confronting California's families and businesses, we must be certain that each investment in safety that we order provides value to customers. We also need to be certain that authorized expenditures on needed maintenance and capital projects are implemented. This proceeding will consider whether to adopt a special ratemaking "feedback loop" for safety-justified expenditures to ensure that such expenditures are made or only higher priority safety projects are substituted, and any other ratemaking mechanisms that may be useful in promoting prudent utility operations.

In general, it is likely that in California, as in the rest of the nation, we are facing a situation of aging infrastructure and the need for investment in upgrading and replacement of portions of that infrastructure. In the case of PG&E, when the utility reports to us on March 15, we will have a better idea of the state of the records and inspections performed on the oldest parts of their pipeline system (in general, pipelines that were installed prior to 1970). Once we receive that information, we will need to begin a process to prioritize the need for additional testing on segments for which records are not adequate or where previous testing was not sufficient or conclusive about the appropriate pressures to be maintained on those pipelines. Depending on the types of tests required, expenses associated will likely be non-trivial.

<sup>&</sup>lt;sup>6</sup> We will take official notice of the record in other proceedings, including the investigation of PG&E's gas system record-keeping, in our ratemaking determination.

In addition, once additional tests are performed, some segments of pipeline may become more urgent for upgrading or replacement. These expenses are also likely to be non-trivial. Not only for PG&E, but also for the rest of California's gas pipeline infrastructure, the Commission will be looking at the need for a more comprehensive infrastructure upgrade and replacement policy and program that is likely to take place over at least the next decade. In considering this, the Commission will need to balance the potential cost against the likelihood of danger to public safety.

PG&E has already proposed, and it has been covered in press reports and generally summarized in an advice letter filing for a memorandum account, a program called the "Pipeline 2020 Program." This rulemaking will be the venue for evaluating that proposal and potentially others like it from the other natural gas utilities in the state.

#### 9. Limitations on Public Information

Like The Utility Reform Network (TURN), we seek the "greatest amount of public participation as is feasible under the circumstances" in this proceeding.<sup>7</sup> While we share this objective, we are also limited by the requirements placed on data obtained from other state and federal agencies and the legitimate public security interest in restricting access to pipeline location information. We intend to employ all means at our disposal to make useful information available, while respecting limitations. Where necessary, we will encourage the parties to use

<sup>&</sup>lt;sup>7</sup> Motion of TURN and Consumer Federation of California for a Coordinated and Public Investigation of Factors Leading to the San Bruno and Similar Catastrophes and Appropriate Preventative and Remedial Measures, filed in Application 09-12-020 at 4 (January 26, 2011).

summarized or redacted documents, and other such devices to distribute the maximum amount of relevant information. Such determinations will almost necessarily be made on a case-by-case basis.

What we will not tolerate is litigation-inspired attempts to either withhold information relevant to public safety, or conversely, misuse of the rulemaking process as a means to gather information for civil litigation. We expect all entities with information relevant to our inquiry to make all such information conveniently available to our staff, and to identify and bring forward pertinent facts and documents that have a bearing on safety issues. To be specific, all persons and entities have an affirmative obligation to bring evidence, information, data, or any other item that has or may have a bearing on safe operations of natural gas transmission and distribution pipelines to the attention of this Commission.

#### **10. Whistleblower Protections**

The Commission does not have a comprehensive program to protect persons who have and wish to protect an on-going relationship with a public utility but who are also in possession of information regarding a threat to public safety concerning that utility's operations. The Commission established a limited whistleblower program for affiliate matters which was primarily a means for the Commission to accept anonymous complaints.<sup>8</sup> Should the Commission adopt rules that protect utility employees from management retaliation for bringing

<sup>&</sup>lt;sup>8</sup> Re Standards of Conduct Governing Relationships Between Energy Utilities and Their Affiliates, 84 CPUC 2d 155, 174-5 (Decision 98-12-075).

information to the Commission regarding unreported utility public safety issues? Are such rules necessary or practical?

#### 11. Local Emergency and Disaster Preparedness

When natural gas transmission pipelines catastrophically fail, the public turns to local emergency authorities – police, fire, ambulance – for immediate assistance. These authorities would not necessarily be familiar with the location and characteristics of natural gas transmission and distribution pipelines. In this rulemaking, we will consider whether we should require pipeline operators to do more for local authorities, such as providing locational information, training, special tools, designated utility contacts, or other support.

#### 12. Other Issues

As the record in this proceeding develops, we may discover other issues that relate to natural gas transmission pipeline safety that may require Commission action. We may also identify issues and learn lessons in our review of this industry that may be applicable to other industries subject to our jurisdiction. Before taking any action, of course, we will comply with procedural requirements and afford all interested parties notice and due process opportunities.

#### 13. Preliminary Scoping Memo

#### 13.1. Scope of this Proceeding

This Commission supports a comprehensive review of all the issues encompassed by the objectives of this proceeding. Immediate actions may be required based on information developed within or moved into the record of this proceeding. Such actions will be presented for Commission action in interim decisions. Other matters may require either or a combination of workshops,

written comments and replies, or full evidentiary hearings to develop and adequate record for Commission consideration.

At this point, we envision first receiving the reports from the utilities and the Independent Review Panel and holding the public participation hearings, and then conducting a prehearing conference (PHC) to gather input on the scoping memo for the remainder of the proceeding. We also anticipate determining whether to adopt the rules set forth in Attachment A early in this rulemaking. We are keenly aware that fully exploring all aspects of all of the issues set forth in today's decision would be impractical. Our goal will be to prioritize based on information obtained in the initial stage.

#### 13.2. Preliminary Schedule

The preliminary schedule for this proceeding shall be as follows:

Within 45 days of the mailing date of this order, parties may file comments identifying issues that should be included in the scope of this proceeding but are not stated in this order. At the same time, the comments should address whether to adopt the rules set forth in Attachment A. The comments should also: identify the party and interest of the party in this proceeding (See Rule 1.4(b) of the Commission's Rules of Practice and Procedure (Rules)); raise any objections to or recommendations regarding this order's determinations as to categorization of the proceeding as ratesetting, the need for hearing, or scheduling (See Rule 6.2); and, identify any other procedural or substantive issues parties believe to be relevant.

As set forth above, the Commission will be convening public participation hearings throughout the state to receive public input. Reports are scheduled from the gas utilities and the Independent Review Panel. Further reports and recommendations may be forthcoming from the NTSB. We anticipate holding a PHC to address scoping and scheduling issues late in the second quarter of this year. Shortly thereafter, the assigned Commissioner will issue a scoping memo setting forth the scope of the proceeding and establishing a procedural schedule. Subsequent to the issuance of such a scoping memo, evidentiary hearings, workshops and filed comments will be required to establish a full record.

We also anticipate issuing a proposed decision on whether to adopt the rules set forth in Attachment A as soon as practicable. The Commission may issue the proposed decision prior to the issuance of the scoping memo.

#### 13.3. Proceeding Category and Need for Hearing

Rule 7.1(d) of the Commission's Rules specifies that an Order Instituting Rulemaking (OIR) will preliminarily determine the category of the proceeding and the need for hearing. We determine that this proceeding is ratesetting as defined in Rule 1.3(e), and evidentiary hearings may be necessary. At this point, we are unable to predict whether the issues may be resolved through comments and workshops or whether evidentiary hearings will be needed. A final determination on the need for hearings will be made in the assigned Commissioner's scoping memo.

#### 14. Becoming a Party; Joining and Using the Service List

PG&E, SDG&E, SoCalGas, and Southwest Gas Corporation shall be respondents in this proceeding. All natural gas distribution utilities including, West Coast Gas, Alpine Natural Gas, and Southern California Edison (Catalina Island), as well as natural gas storage companies, Wild Goose Storage, Lodi Gas Storage, Gill Ranch Storage, and Central Valley Gas Storage are placed on notice that they may be subject to the decisions issued in this rulemaking, and this Order Instituting Rulemaking (OIR) shall be served upon them. This OIR shall also be

served on Sacramento Natural Gas Storage, LLC, because this company has applied for a Certificate of Public Convenience and Necessity from the Commission to operate a gas storage facility. (See A.07-04-013.) If A.07-04-013 is granted, Sacramento Natural Gas Storage would be subject to the orders issued in this OIR.

Respondents shall be placed on the service list automatically as parties, but other entities as well as other interested parties and those interested in monitoring the proceeding shall follow the instructions below.

To ensure you receive all documents, send your request within 30 days after the OIR is published. The Commission's Process Office will publish the official service list at the Commission's website (<u>www.cpuc.ca.gov</u>) and will update the list as necessary.

#### 14.1. During the First 30 days

Within 30 days of the publication of this OIR, any person may ask to be added to the official service list. Send your request to the Process Office. You may use e-mail (<u>Process\_Office@cpuc.ca.gov</u>) or letter (Process Office, California Public Utilities Commission, 505 Van Ness Avenue, San Francisco, CA 94102). Include the following information:

- Docket Number of this Rulemaking;
- Name (and party represented, if applicable);
- Postal Address;
- Telephone Number;
- E-mail Address; and

• Desired Status (Party, State Service, or Information Only).9

If the OIR names you as respondent, you are already a party, but if you wish a different representative, you must still ask to be added to the official service list.

# 14.2. After the First 30 Days

If you want to become a party after the first 30 days, you may do so by filing and serving timely comments in the Rulemaking (Rule 1.4(a)(2)), or by making an oral motion (Rule 1.4(a)(3)), or by filing a motion (Rule 1.4(a)(4)). If you file a motion, you must also comply with Rule 1.4(b). These rules are in the Commission's Rules of Practice and Procedure, which you can read at the Commission's website.

If you want to be added to the official service list as a non-party (that is, as State Service or Information Only), follow the instructions in Section 14.1 above.

# 14.3. Updating Information

Once you are on the official service list, you must ensure that the information you have provided is up-to-date. To change your postal address, telephone number, e-mail address, or the name of your representative, send the change to the Process Office by letter or e-mail, and send a copy to everyone on the official service list.

<sup>&</sup>lt;sup>9</sup> If you want to file comments or otherwise actively participate, choose "Party" status. If you do <u>not</u> want to actively participate but want to follow events and filings as they occur, choose "State Service" status if you are an employee of the State of California; otherwise, choose "Information Only" status.

#### 14.4. Serving and Filing Documents

When you serve a document, use the official service list published at the Commission's website as of the date of service. You must comply with Rules 1.9 and 1.10 when you serve a document to be filed with the Commission's Docket Office. If you are a party to this Rulemaking, you must serve by e-mail any person (whether Party, State Service, or Information Only) on the official service list who has provided an e-mail address.

The Commission encourages electronic filing and e-mail service in this Rulemaking. You may find information about electronic filing at <u>http://www.cpuc.ca.gov/PUC/efiling</u>. E-mail service is governed by Rule 1.10. If you use e-mail service, you must also provide a paper copy to the assigned Commissioner and Administrative Law Judge. The electronic copy should be in Microsoft Word or Excel formats to the extent possible. The paper copy should be double-sided. E-mail service of documents must occur no later than 5:00 p.m. on the date that service is scheduled to occur.

If you have questions about the Commission's filing and service procedures, contact the Docket Office.

#### 15. Service List

The Executive Director shall serve copies of this rulemaking on respondents, the other natural gas distribution and gas storage companies listed on the Commission's official records, the California Energy Commission, the Pipeline Safety Division of the State Fire Marshall, the most recent service list for GO 112-E; PG&E's General Rate Case (GRC) A.09-12-020; PG&E's Gas transmission and storage rate case A.09-09-013; SDG&E's GRC A.10-12-005; and SoCalGas' GRC A.10-12-006. Such service does not confer party status in this proceeding upon any person or entity other than respondents, and does not result in that person or entity being placed on the service list for this proceeding.

### 16. Public Advisor

Any person or entity interested in participating in this rulemaking who is unfamiliar with the Commission's procedures should contact the Commission's Public Advisor in San Francisco at (415) 703-2074 or (866) 849 8390 or e-mail <u>public.advisor@cpuc.ca.gov</u>; or in Los Angeles at (213) 576-7055 or (866) 849 8391, or e-mail <u>public.advisor.la@cpuc.ca.gov</u>. The TYY number is (866) 836 7825.

#### 17. Intervenor Compensation

Any party that expects to claim intervenor compensation for its participation in this rulemaking shall file its notice of intent to claim intervenor compensation no later than 30 days after the first PHC, or as otherwise provided in Rule 17.1.

#### 18. Ex Parte Communications

Article 8 of the Commission's Rules of Practice and Procedure applies to all communications with decisionmakers and advisors regarding the issues in this proceeding. This proceeding is categorized as ratesetting and Rule 8.2(c) restricts *ex parte* communications under certain circumstances and requires reporting. In addition, because this proceeding is closely related to expected adjudicatory proceedings, we authorize the assigned Commissioner pursuant to Rule 1.2 of the Commission's Rules of Practice and Procedure, to issue such further ex parte limitations, including complete prohibition, as may be necessary to ensure a just resolution of the issues presented.

#### **IT IS ORDERED** that:

1. The Commission hereby institutes this rulemaking on its own motion to initiate rule and policy changes for California natural gas transmission and distribution utilities.

2. Pacific Gas and Electric Company, San Diego Gas & Electric Company, Southern California Gas Company, and Southwest Gas Corporation are named as respondents and are parties to this proceeding pursuant to Rule 1.4(d) the Commission Rules of Practice and Procedure (Rules). All natural gas distribution utilities including, West Coast Gas, Alpine Natural Gas, and Southern California Edison (Catalina Island), as well as natural gas storage companies, Wild Goose Storage, Lodi Gas Storage, Gill Ranch Storage, and Central Valley Gas Storage, and Sacramento Natural Gas Storage, LLC (if Application 07-04-013 is granted) are placed on notice that they may be subject to the decisions issued in this rulemaking, and this order shall be served upon them. Any error or omission in the service list shall not excuse any gas utility from complying with the decisions and rules issued in this proceeding.

3. No later than March 15, 2011, Pacific Gas and Electric Company and Southwest Gas Corporation shall file and serve on all parties to this proceeding their respective reports on its record review in compliance with the National Transportation and Safety Board's recommendations. San Diego Gas & Electric Company and Southern California Gas Company shall file and serve their respective reports in the record of this rulemaking no later than April 15, 2011.

4. Respondents shall be placed on the service list automatically as parties, but other interested parties and those interested in monitoring the proceeding must follow the directions set forth in Section 14 of this order instituting rulemaking to become a party or be placed on the official service list as a non-party.

5. This proceeding is classified as ratesetting, as that term is defined in Rule 1.3(e), and hearings may be necessary.

6. No later than 45 days after the mailing date of today's decision, parties may file comments that will serve as the basis for the establishment of a detailed scope for this proceeding and shall identify any other relevant procedural issues. Any person who objects to this order's determinations regarding categorization of the proceeding as ratesetting, the need for hearing, issues to be considered or scheduling shall state such objections in their comments. Comments on the proposed rule revisions set forth in Attachment A shall also be filed and served no later than 45 days after the mailing date of today's decision.

7. The Executive Director shall serve copies of this rulemaking on respondents, the other natural gas distribution and gas storage companies listed on the Commission's official records, the California Energy Commission, the Pipeline Safety Division of the State Fire Marshall, the most recent service list for General Order 112-E; Pacific Gas and Electric Company's General Rate Case, Application (A.) 09-12-020; Pacific Gas and Electric Company's Gas transmission and storage rate case A.09-09-013; San Diego Gas & Electric Company General Rate Case, A.10-12-005; and Southern California Gas Company's General Rate Case, A.10-12-006.

8. Parties serving documents in this proceeding shall comply with Section 14.4 of this order instituting rulemaking regarding electronic service. Any documents served on the assigned Commissioner and Administrative Law Judge shall be both by e-mail and by delivery or mailing a paper format copy of the document.

9. A party that expects to request intervenor compensation for its participation in this rulemaking shall file its notice of intent to claim intervenor

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compensation in accordance with Section 16 of this Order Instituting Rulemaking and Rule 17.1 of the Rules.

10. *Ex parte* communications in this rulemaking initially will be governed by Rule 8.2(c), and the assigned Commissioner is authorized to issue such further *ex parte* limitations, up to and including complete prohibition, as may be necessary to ensure a just resolution of the issues presented herein.

11. The assigned Commissioner or the Administrative Law Judge may make such revisions to the scheduling determinations made herein as may be necessary to facilitate the efficient management of this proceeding.

12. No later than 10 days after the effective date of this order, Pacific Gas and Electric Company shall submit to the Commission's Public Advisor for review and approval a draft customer notice of the San Bruno Public Participation Hearing with a mailing plan for timely notice to all customers.

This order is effective today.

Dated February 24, 2011, at San Francisco, California.

MICHAEL R. PEEVEY President TIMOTHY ALAN SIMON MICHEL PETER FLORIO Commissioners

Commissioner Catherine J.K. Sandoval, being necessarily absent, did not participate.

Attachment A – Proposed Rules for Immediate Implementation

### A. <u>New section for General Order 112 – E</u>

#### 145 STRENGTH TEST REQUIREMENTS FOR CERTAIN PIPELINES OPERATED BY PACIFIC GAS AND ELECTRIC COMPANY

- 145.1 Pacific Gas and Electric Company is prohibited from operating any natural gas transmission line that meets all of the characteristics listed in subsection 145.2 at more than 80% of actual maximum operating pressure reliably and verifiably recorded during the period February 15, 2006 through February 15, 2011. All overpressure protection devices on each such line must be set to control pressure to not exceed the limit established by this subsection.
- **145.2** The operating limitation set forth in Rule 145.1 applies to all natural gas transmission lines exhibiting all of the following characteristics:
  - **145.2.1** Operated by Pacific Gas and Electric Company
  - 145.2.2 Installed before January 1, 1970
  - **145.2.3** Located in a High Consequence Area of Class 1 or Class 2, or in any area of a Class 3 or 4 pipeline location classification as defined in 49 CFR § 192.5.
  - **145.2.4** Reliable, verifiable, and complete records of strength testing in accord with 49 CFR subpart J are not available for inspection by authorized Commission or federal pipeline authorities.
- **145.3** Pacific Gas and Electric Company may seek temporary exemptions from the above requirements as follows:
  - **145.3.1** For exemptions to allow operating up to 90% of recorded maximum operating pressure and limited to no more than 30 days at the higher operating pressure, Pacific Gas and Electric Company may submit a letter request to the Commission's Executive Director, who, in consultation with the Commission's pipeline safety personnel, may grant, deny, or modify the request. Any such letter request must be submitted no less than 45 days before the proposed start date, with a copy sent to all municipalities in which the pipeline is located and parties in R.11-02 \_\_\_\_, or a successor proceeding. Pacific Gas and Electric Company will be responsible for serving the Executive Director's responsive letter on all municipalities and parties to R.11-02-\_\_\_\_ or a successor proceeding.
  - **145.3.2** Any other exemption requests will be by formal application to the Commission in accordance with the Commission's Rules of Practice and Procedure.

- B. <u>Proposed Revisions to Reporting Requirements in General Order 112-E,</u> <u>Section 122.2</u> (revisions underlined in bold)
- 122.2 Requirements for reporting to the CPUC.
  - (a) Each operator shall report incidents to the CPUC that meet the following criteria:
    - 1. Incidents which require DOT notification.
      - i. An event that involves a release of gas from a pipeline or of liquefied natural gas (LNG) or gas from an LNG facility and
        - A death, or personal injury necessitating in-patient hospitalization; or
        - Estimated property damage, including cost of gas lost, of the operator or others, or both, of \$50,000 or more.
      - ii. An event that results in an emergency shutdown of an LNG facility.
    - 2. Incidents which have either attracted public attention or have been given significant news media coverage, that are suspected to involve natural gas and/or propane (LPG), which occur in the vicinity of the operator's facilities; regardless of whether or not the operator's facilities are involved.
    - 3. <u>Incidents where the failure of a pressure relieving and limiting</u> <u>stations, or any other event, results in pipeline system pressure</u> <u>exceeding its established Maximum Allowable Operating</u> <u>Pressure (MAOP) plus the allowable limitations set forth in 49</u> <u>CFR § 192.201.</u>
    - 4. <u>Incidents in which an under-pressure condition, caused by the failure of any pressure controlling device, or any other event other than excavation related damage, results in any part of the gas pipeline system being shut-down.</u>
  - (b) (unchanged)
  - (c) Written Incident Reports .
    - The operator shall submit to the CPUC on DOT Form PHMSA\_F7100.1 (<u>http://ops.dot.gov/library/forms/forms.htm#7100.1</u>)for distribution systems and on DOT Form PHMSA F7100.2 (<u>http://ops.dot.gov/library/forms/forms.htm#7100.2</u>) for transmission

and gathering systems a report describing any incident that required notice under Items 122.2(a)(1) or (2).

- 2. Together with the form required by (c)(1) above, the operator shall furnish a letter of explanation giving a more detailed account of the incident unless such letter is deemed not necessary by the CPUC staff. The operator may confirm the necessity of a letter of explanation by email. If, subsequent to the initial report or letter, the operator discovers additional material information related to the incident, the operator shall furnish a supplemental report to the CPUC as soon as practicable, with a clear reference by date and subject to the original report. These letters, forms, and reports shall be held confidential under the provisions of Paragraph 2, Exclusions, of General Order 66-C and Public Utilities Code Section 315.
- 3. The operator of a distribution system serving less than 100,000 customers need not submit the DOT forms required by paragraph (1) above; however, such operator must submit the letter of explanation required by (2) above, subsequent to any initial report to the CPUC, unless such letter is deemed unnecessary by the CPUC staff.
- (d) Quarterly Summary Reports. Each operator shall submit to the CPUC quarterly, not later than the end of the month following the quarter, a summary of all CPUC reportable and non-reportable gas leak related incidents which occurred in the preceding quarter as follows:
  - 1. Incidents that were reported through the Commission's Emergency Reporting website.
  - 2. Incidents for which either a DOT Form PHMSA F7100.1 or F7100.2 was submitted.
  - 3. Incidents which involved escaping gas from the operator's facilities and property damage including loss of gas in excess of \$1,000.
  - 4. Incidents which included property damage between \$0 and \$1,000, and involved fire, explosion, or underground dig-ins.
  - 5. <u>Incidents where the failure of a pressure relieving and limiting</u> <u>stations, or any other event, results in pipeline system pressure</u> <u>exceeding its established Maximum Allowable Operating</u> <u>Pressure (MAOP).</u>
  - 6. <u>Incidents in which an under-pressure condition, caused by the</u> <u>failure of any pressure controlling device, or any other event</u> <u>other excavation related damage, result in a shut-down of any</u> <u>part of the gas pipeline system.</u>

### C. <u>Proposed Revisions to Rule 125 – This entire rule is revised. The proposed</u> <u>new text is set out below.</u>

#### 125 PROPOSED INSTALLATION REPORT

- **125.1** This section applies to the construction of a new pipeline, or the reconstruction or reconditioning of an existing pipeline, to be operated at a hoop stress of 20 percent or more of the specified minimum yield strength.
- **125.2** The proposed installation reports required by this section shall be filed based on the following:
- (a) For utilities with less than 50,000 services in the state of California according to the Annual DOT Report, Form PHMSA F 7100.1-1 that is required by 49 CFR §191.11, the Proposed Installation Report shall be submitted to the Commission for any installation that is estimated to cost \$1,400,000 or more. The Annual DOT Report referenced above shall be the report filed by the utility for the year previous to that of the proposed installation; or
- (b) For utilities with 50,000 services or more in the state of California according to the Annual DOT Report, Form PHMSA F 7100.1-1 required by 49 CFR §191.11, the Proposed Installation Report shall be submitted to the Commission for any installation that is estimated to cost \$3,500,000 or more. The Annual DOT Report referenced above shall be the report filed by the utility for the year previous to that of the proposed installation.
- 125.3 Definitions:
- (a) "Construction of a new pipeline" means the installation of pipeline that will serve as a loop or extension to an existing pipeline or as an independent or stand-alone pipeline, any of which will be placed in service for the first time by an operator who filed a Form PHMSA F-7100.1-1 for the calendar year preceding the year in which construction takes place. An operator commencing service for the first time shall file a Proposed Installation Report with the Commission after receiving CPCN approval from the Commission and prior to the start of construction of the approved project.
- (b) "Reconstruction of an existing pipeline" means the installation of pipeline that will replace an existing pipeline or pipeline segment due to alignment interference, deteriorating or aging conditions, pressure/capacity enhancement, or other reason.
- (c) "Reconditioning of an existing pipeline" is defined as the work associated with repairing, structurally reinforcing, the replacement of fittings or short

segments of pipe, or for the removal and reapplication of pipe coating. The term does not include altering or retrofitting a pipeline or its appurtenances to allow for the passage of internal inspection devices.

- **125.4** At least 30 days prior to the construction of a new pipeline, reconstruction, or reconditioning of an existing pipeline, a report shall be filed with the Commission setting forth the proposed route and general specifications for such pipeline. The specifications shall include but not be limited to the following items:
- (a) Description and purpose of the proposed pipeline.
- (b) Specifications covering the pipe selected for installation, route map segregating incorporated areas, class locations and design factors, terrain profile sketches indicating maximum and minimum elevations for each test section of pipeline, and, when applicable, reasons for use of casing or bridging where the minimum cover will be less than specified in §192.327.
- (c) Maximum allowable operating pressure for which the line is being constructed.
- (d) Test medium and pressure to be used during strength testing.
- (e) Protection of pipeline from hazards as indicated in §192.317 and

§192.319.

- (f) Protection of pipeline from external corrosion.
- (g) Estimated cost with supporting detail.

In cases of reconditioning projects that do not result in relocating pipeline from the general location it occupies prior to the project, then the information stated in Section 125.4 (b) does not need to be provided within the report filed per Section 125.4. Also, in cases of projects necessary on an emergency basis, the report required by Section 125.4 shall be filed with the Commission as far in advance of the project as practicable, but no later than 5 business days after the project has been initiated. Reports filed for emergency projects, in addition to other information required per Section 125.4, must also detail reasons that necessitated the project being performed on an emergency basis.

**125.5** During strength testing of a pipeline to be operated at hoop stresses of 20 percent or more of the specified minimum yield strength of the pipe used, any failure shall be reported on appropriate forms established by the Secretary of Transportation to comply with the requirement of 49 CFR, §191.15. Copies of all reports submitted to the Secretary of Transportation pursuant to the foregoing requirements shall be submitted to the Commission concurrently.

# (End of Attachment A)

# Attachment B – Topics on which new rules will likely be proposed

# Retrofitting of transmission lines to allow inline inspections

*Rationale:* The technology for inline inspection of pipelines is continuously advancing and CFR 49, Part 192 recognizes this advancement in technology by requiring new transmission pipelines to be "piggable" (capable of being inspected by inline inspection tools). However, our current aging pipeline infrastructure may contain conditions which may or may not allow such inline inspection tools to be used. The new rule aims to promote the use of inline inspection technology in natural gas transmission pipelines throughout California.

*Description:* The rule will require operators of natural gas transmission lines to establish a program that will continuously evaluate and prioritize transmission pipelines that are currently considered "non-piggable" to be retrofitted to allow inline inspection tools. The rule will require operators to make continuous upgrades throughout their transmission systems such that, in a specified period of time, all transmission lines in California can accommodate inline inspection tools.

# Require operators to perform evaluations for installing automatic or remote controlled valves on transmission pipelines

*Rationale:* When a transmission line fails, it is important that an operator be able to respond in a timely fashion to a failure, especially if the failure is in a High Consequence (as defined in CFR 49, Part 192, Subpart O), Class 3 or Class 4 area. Long distances and availability of personnel can impact this response. A delayed response can result in loss of life and property damage.

*Description:* This rule would require utilities to develop criteria for installing either automatic or remotely controlled valves located in High Consequence, Class 3 or Class 4 areas. Considerations must include the location of the valve and the estimated response times.

# Require operators to strengthen emergency response procedures

*Rationale:* Current rules in General Order 112-E and 49 CFR, Part 192 do not have specific incident response time requirements for operators. 49 CFR §192.615 (a)(3) requires "prompt and effective response to a notice of each type of emergency". "Prompt" and "effective" response by an operator should be improved upon in light of recent events.

*Description:* The new rule would require that each operator to establish a program to monitor and analyze emergency response data in order to improve incident response time and response effectiveness.

### Requirement for the gas quality monitoring

*Rationale:* Liquid intrusion or sulfur buildup in an operator's pipeline can result in equipment failure which can cause the pipeline system pressure to exceed its Maximum Allowable Operating Pressure (as defined in CFR 49, Part 192). With a program in place to monitor, analyze, and prevent liquid intrusion or sulfur buildup in a pipeline system, the likelihood of additional equipment failures due to liquid intrusion or sulfur buildup would be minimized.

*Description:* The new rule would require that each operator have a program in place to monitor, analyze, and prevent liquid intrusion and sulfur buildup in its pipeline system.

# Test requirements for pipelines operating below 100 psig and service lines

*Rationale:* Current rules do not specify durations for pressure tests for both distribution mains operating below 100 psig and service lines. Additionally, there is no specific requirement for pressure test on service lines to be operated at less than 1 psig. Instead, 49 CFR Part 192.511(a) contains a general statement requiring service lines to be tested for leaks at the operating pressure. The proposed rule will define minimum pressure test durations and provide consistency for pressure test requirements for both distribution mains operating below 100 psig and service lines

*Description:* Consistent with the pressure test requirements for mains operating below 1 psig, the proposed rule will require new service lines to be operated below 1 psi gage to be pressure tested at a minimum pressure of 10 psi gage. The proposed rule will also require short sections of pipeline used for repairs to be pressure tested at the operating pressure, at a minimum. The minimum pressure test durations for new installations and repairs should be explored during the rulemaking process.

#### Clearance between gas pipelines and other subsurface structures

*Rationale:* The Commission's General Order 128 provides clearance requirements for underground electric and communication systems from other underground utilities, including gas pipelines. The proposed rule will include these clearance requirements to provide uniformity for all underground utilities operators throughout California.

*Description:* The new rule will maintain the current requirement for transmission lines per 49 CFR 192.325, and contain similar clearance requirements as General Order 128, Rule 31.4. It will also address instances wherein, if the required separations cannot be obtained, the party installing facilities will be required to contact the operator of the existing gas facilities near their installation to ensure that reduced separation will not compromise the integrity of the existing gas facilities.

# Incorporating One-Call Law requirements for marking underground facilities

*Rationale:* Currently, CFR 49, Part 192, section 192.614(a) requires operators of buried pipelines to participate in "a written program to prevent damage to that pipeline from excavation activities." The operator can substantially meet the requirements of 192.614 by participating in a qualified one-call system, and California has such a program that operators participate in (Government Code Sections 4216-4216.9). The One Call Law has certain requirements for both pipeline operators and excavators. One of these requirements addresses the need to accurately mark their facilities. Inaccurate markings are one cause of dig-ins. While section 192.614 provides an option for a utility to participate in the one call system, it does not mandate utilities to accurately mark their facilities.

*Description:* This rule would incorporate the one call law by reference it into the general order and require jurisdictional utilities to accurately mark their facilities, as well as meet all other requirements contained therein.

# Report Cathodic Protection deficiencies and provide a timetable for remedial actions

*Rationale:* Cathodic Protection (CP) is an integral part of the system that prevents buried underground metallic pipe from rusting. The longer an underground piping system stays without this protection, the more the pipe will rust and compromise its integrity. For a variety of reasons, pipeline operators can and do take extended periods of time to restore areas to proper levels (defined in Part 192, Appendix D). Some of the causes are within the operator's control, and some are outside of the operator's control.

*Description:* This rule would require operators to report to the Utilities Reliability and Safety Branch (USRB) any CP systems that remain down for a period longer than six months. It would also require operators to provide a timetable for restoring the CP, and the reasons for the delay. This would provide the USRB a method to proactively monitor CP deficiencies.

# **Cover requirements for transmission lines**

*Rationale:* 49 CFR, Part 192, section 192.327(c) currently allows installation of transmission lines or mains with less than the minimum cover required, provided that it has additional protection to withstand anticipated external loads. However, this requirement does not address other external threats which the pipe may be susceptible to due to reduced cover such as excavation damage.

*Description:* The rule will require operators to establish a program to monitor their transmission pipelines in order to identify segments, with reduced underground cover. The program must provide additional damage prevention measures for such segments. Additionally, the new rule will require operators to continuously monitor these transmission pipelines for any damages caused, directly or indirectly, by the reduced cover and take corrective actions.

# Reporting problems associated with mechanical/compression fittings

*Rationale:* Gas pipeline operators use mechanical fittings for joining and pressure sealing of two pipes together. Properly installed and supported fittings and couplings successfully connect steel, cast iron, copper, and plastic pipes. Past incidents indicate that failures occur when the couplings are incorrectly installed or supported or installed with components that differ from the original manufacturer specifications, modified prior to installation, or have entirely missing parts. Pipeline and Hazardous Materials Safety Administration (PHMSA) issued an advisory bulletin on March 4, 2008 to warn gas pipeline operators using mechanical couplings about the risks involved in installing mechanical/compression fittings. 49 CFR, Part 192 does not have specific requirements applicable to mechanical/compression fitting installations and failure analysis.

*Description:* In the light of PHMSA's advisory bulletin, this rule would require operators to review procedures for using mechanical couplings, including coupling design and installation, and ensure that they meet manufacturer recommendations and take action to prevent future failures and minimize risks associated with mechanical/compression fittings.

# Assessment of existing Meter Set Assemblies (MSA) and other pipeline components to protect them from excessive snow and ice loading

*Rationale:* Recent gas pipeline incidents indicated that excessive snow and ice accumulation on pipeline facilities can cause failures due to additional stress imposed on MSAs or other pipeline components. On March 10, 2008, PHMSA issued an advisory bulletin advising owners and operators of gas pipelines of the need to take steps to prevent damage to pipeline facilities from accumulated

snow or ice. Current federal regulations do not require operators to monitor the potential impact of excessive snow and ice on these facilities or to inform the public about possible hazards from snow and ice accumulation on regulators and other pipeline facilities.

*Description:* This rule would require all California gas pipeline operators to initiate an assessment program to evaluate the condition of MSAs which are susceptible to snow and ice accumulation, replace or recondition all existing MSAs that are not adequately supported or protected from excessive snow and ice load and install protective barriers and support for all new MSA installations.

# Require operators to identify threats along their pipelines and come up with a plan to mitigate the threats, including research and development (192.919)

*Rationale*: Current federal rules require operators to identify potential threats to each covered pipeline segment and the information supporting the threat identification, specify the methods selected to assess the integrity of the line pipe, and provide a schedule to complete integrity assessments. However, they do not specify the requirements to provide details about mitigation techniques they would use to comply with standards.

*Description:*This rule would require gas pipeline operators to provide details on their threat identification, assessment of pipeline conditions, mitigative actions to correct identified anomalies, defects, and imperfections and reassessment intervals for all threats, development of an improved management and analysis processes that integrate all available integrity-related data and information and assess the risks associated with pipeline segments in HCAs, any other damage prevention programs and any other preventive activities to implement additional risk control measures such as installing computerized monitoring and leak detection systems, replacing pipe segments with pipe of heavier wall thickness, providing additional training to personnel on response procedures, conducting drills with local emergency responders and implementing additional inspection and maintenance programs.

#### (End of Attachment B)