



Presentation to the Assembly Committee on Accountability and Administrative Review



Paul Clanon, Executive Director
California Public Utilities Commission
August 17, 2011





Natural Gas Pipeline Oversight

- California's gas system (natural gas and propane) serves approximately 11 million gas customers with approximately 100,000 miles of gas distribution mains and 10,000 miles of gas transmission pipeline.
- Focus is on seven primary areas:
 - 1) Gas pipeline integrity management (transmission and starting in 2011, distribution)
 - 2) Operations, maintenance, and emergency plans for natural gas operators
 - 3) Excavation damage prevention and public awareness of natural gas hazards (third party damage causes over 95% of all gas related incidents)
 - 4) Mobile home park gas safety (2560 systems)
 - 5) Propane gas safety (675 systems)
 - 6) Operator qualifications
 - 7) Accident/incident investigations





Two Disasters

- December 24, 2008: Rancho Cordova natural gas distribution line leak, explosion, and fire.
- September 9, 2010: PG&E natural gas transmission line rupture and fire in San Bruno.





Rancho Cordova Investigation

- Natural gas explosion and fire in Rancho Cordova, CA, occurred on December 24, 2008, at 1:35 p.m. killing one person and injuring three others.
- At 5:30 p.m. a CPUC representative arrived at the site, met with PG&E representatives, and conducted an initial field investigation of the incident.
- CPUC participated with NTSB in its investigation throughout 2009.
- On May 18, 2010, NTSB released its Pipeline Accident Brief.





Rancho Cordova Investigation (cont.)

- Between December 24, 2008, and November 10, 2010, the CPUC conducted its own investigation. The investigation concluded that:
 - Gas leaked from a 2006 repair that used substandard pipe that separated from the coupling.
 - The pipe segment installed in 2006 to repair a leak was not pressure tested prior to reinstating gas service.
 - PG&E installed another substandard pipe in October 2006 in Elk Grove. When PG&E discovered the unauthorized pipe in Elk Grove, PG&E neither replaced the pipe with an approved pipe, nor followed its procedures to locate similar substandard pipes in the area.
 - PG&E did not ensure that its properly trained and equipped personnel arrived timely at the site to investigate the gas leak and to safeguard life and property.
 - The dilatory response of PG&E personnel contributed to the cause of the explosion and loss of life.
 - PG&E did not administer drug and alcohol tests after the Rancho Cordova explosion to all employees whose performance on December 24, 2008, could not be completely discounted as a contributing factor to the accident





Rancho Cordova Investigation (cont.)

- Once NTSB releases its findings, other entities may formally pursue their own enforcement investigations of the same incident.
- CPUC Investigation continued after NTSB released its findings.
- On November 19, 2010, the CPUC instituted a formal “Order Instituting Investigation” to begin the prosecutorial phase of the investigation to determine whether PG&E violated any provision or provisions of the California Public Utilities Code, CPUC general orders or decisions, or other applicable rules or requirements in regards to its gas service and facilities pertaining to the gas explosion and fire that occurred on December 24, 2008, in Rancho Cordova(I-10-11-013).





Rancho Cordova Investigation (cont.)

- On June 20, 2011, CPUC Enforcement Staff and PG&E filed a joint motion to resolve the investigation.
- PG&E admitted to several violations of state and federal code including failure to pressure test the pipe and use of pipe that did not meet minimum wall thickness requirements and agreed to pay \$26 million to the General Fund within 20 days of the CPUC approval.
- On July 29, 2011, the assigned Administrative Law Judge and Commissioner held a hearing to consider the joint motion and proposed stipulation.
- A Presiding Officer's Decision addressing the proposed stipulation is expected by the end of September.





Incorporating Lessons From Rancho Cordova Into Ongoing PG&E Activities

- Following the explosion, CPUC Staff directed PG&E to take certain remedial measures to address the problems identified during the investigation and to develop an action plan and follow up activities to improve PG&E system safety.
- PG&E has since reported to NTSB and the CPUC that it has undertaken the following process improvement initiatives to improve response time and efficiency and to preclude the introduction of non-specification pipe for repairs:
 - Field service representatives have been trained, qualified, and given the necessary combustible gas detector equipment, in addition to the indoor natural gas detectors they previously carried, to conduct outdoor leak investigations and grade outdoor leaks.
 - If gas above 1 percent is found indoors, the structure is to be evacuated and Dispatch is to be contacted to request 911 assistance.
 - A prescriptive written evacuation policy has been established that utilizes the expertise of the fire department and first responders.





Incorporating Lessons From Rancho Cordova Into Ongoing PG&E Activities (cont.)

- PG&E efforts (continued):
 - Field technicians carry warning tape that they can use to cover entrances to warn homeowners not to enter the premises during leak investigations in the event that PG&E is unable to gain access during an investigation.
 - The term "hazardous leak" is now more specifically defined in the PG&E operating instructions, and the written instructions include two examples of leaks that qualify as hazardous.
 - Packing pipe is explicitly prohibited from any use and must be discarded.
 - Written requirements have been established to check the wall thickness, outside diameter, and print line on all plastic pipes before installation to be certain that the mechanical fittings are compatible with the pipe.
 - Heat fusion saddle installation procedures previously used to join service lines to the 1 1/4-inch polyethylene distribution lines have been replaced with an electrofusion process that is a safer and more reliable means of joining the service and distribution lines.
 - Written requirements have been established that all incoming plastic pipe be checked for dimensions with the national and/or PG&E specification standards by PG&E quality assurance personnel and that nonconforming materials be returned to the vendor or scrapped.





Incorporating Lessons From Rancho Cordova Into Ongoing CPUC Activities

During audits of PG&E's gas pipeline system, CPUC engineers are:

- Examining records of pressure testing of new gas pipeline installations as well as pipeline repair and replacements in detail to ensure that no pipelines were installed without proper pressure testing.
- Spending more time on gas leak discovery and investigation issues by reviewing and analyzing documents related to distribution and transmission gas leak details such as grading, response time, and repair methods.
- Conducting more field investigations of gas pipeline incidents, safety condition reports to identify root and contributing causes of such failures, document violations, corrective actions, and developed recommendations to minimize safety hazards to the general public and utility employees, and verifying completion of the remedial actions taken to prevent recurrence of similar failures in the future.
- Actively involved in assessing PG&E's new programs, procedures, and policies to ensure the safety and reliability of gas pipeline systems for conformance with state and federal regulations .





San Bruno Pipeline Rupture Investigation

Overview of Pipeline Failure

- On Sept. 9, 2010, a PG&E pipeline (Line 132) exploded in San Bruno
- Line 132 Statistics:
 - 30-inches in diameter
 - .375" wall thickness
 - Steel
 - Operating Pressure: 386 psig at time of rupture (MAOP: 400 psig)
 - Runs from Milpitas to San Francisco (>50 miles)



28-foot-long ruptured section of pipeline at laboratory facilities at the NTSB Training Center, Ashburn, VA



Impact of Pipeline Failure

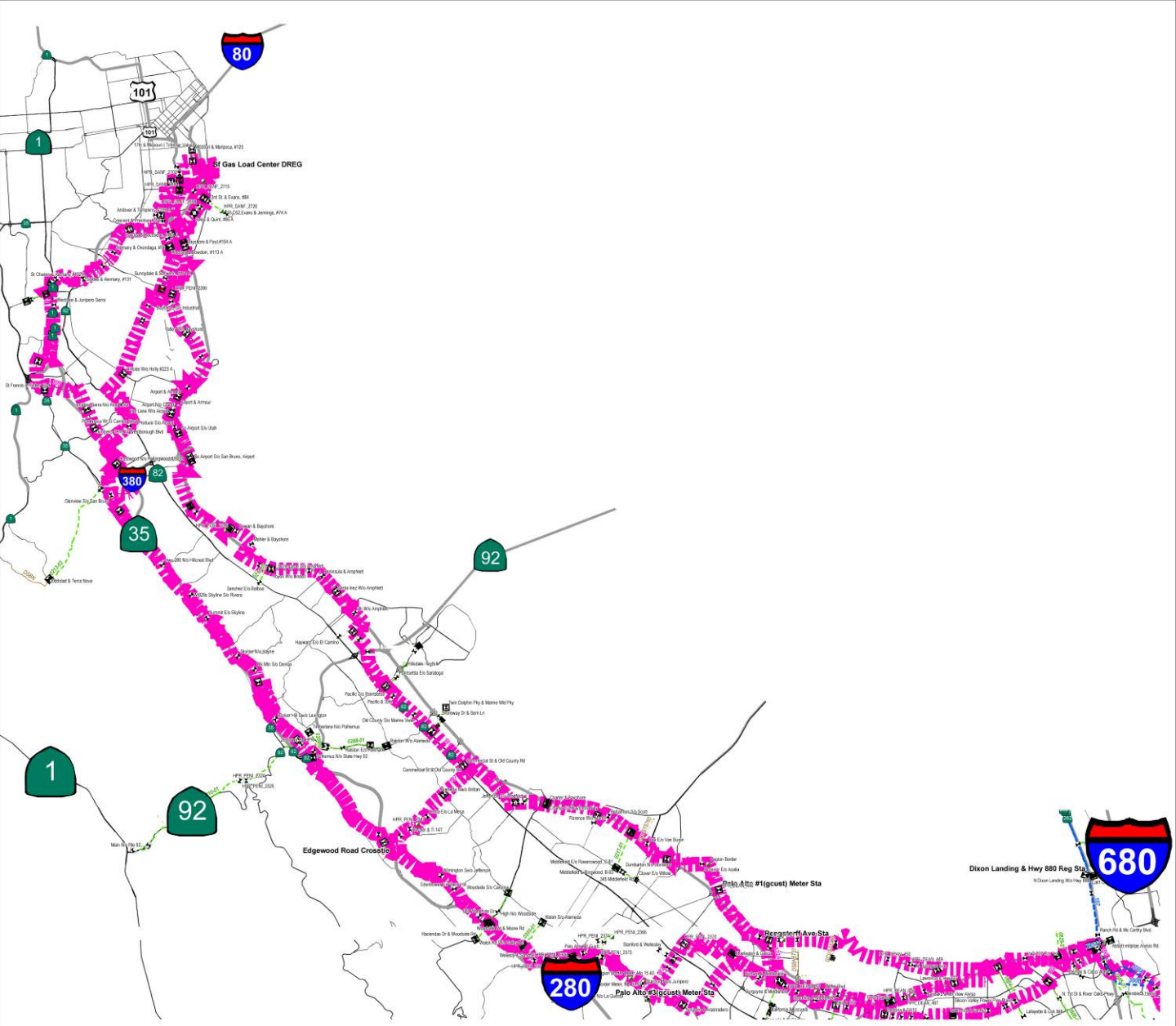
- 8 Deaths
- 65 Injuries
- 37 Homes destroyed or demolished
- 48 Homes damaged



View of ruptured section of pipeline with NTSB investigator cleaning a fracture surface



Map of Line 132





The Investigation

Areas of Inquiry:

- PG&E recordkeeping
- Setting maximum pressures
- Corrosion
- Excavation damage
- Maintenance Records
- Pipeline inspection technology
 - Internal
 - External
- Automatic valves and remote controlled valves
- Rate Regulation for Infrastructure Maintenance, Improvement, and Replacement



CPSD Inspector on-site in San Bruno





Regulatory Response



National Transportation Safety Board



U.S. Department of Transportation:
Pipeline and Hazardous Materials Safety
Administration (PHMSA)



California Public Utilities Commission





NTSB Findings and Recommendations to Date

- Ruptured segment installed in 1956.
- Metallurgy report indicates longitudinal weld failure.
 - No evidence of corrosion or dig-in damage.
- PG&E records appeared to show pipe was seamless.
- Slight pressure spike (from 375 to 386 psig) just prior to rupture, due to equipment failure upstream at Milpitas.
- “Urgent Safety Recommendation” that PG&E diligently search for as-built drawings and other pipeline records.
- Hearing on San Bruno accident conducted March 1-3, 2011; final NTSB investigation report anticipated August 2011.





PHMSA Response

- DOT (PHMSA) is responsible for natural gas pipeline safety regulations codified at 49 C.F.R.
- Pipeline Safety Forum hosted by DOT Secretary Ray LaHood, Washington, D.C., April 18, 2011.
- PHMSA relies on state agencies (such as CPUC) as partners to conduct inspections and enforce federal pipeline safety rules.





CPUC Response - Overview

- Ordered immediate pressure reductions on specified PG&E pipelines.
- Participation in NTSB's ongoing "root cause" investigation.
- Appointment and Report of Independent Review Panel.
- Enforcement against PG&E, alleging poor record-keeping.
- Calibrating Maximum Allowable Operating Pressure (MAOP).
- Rulemaking for new, statewide pipeline safety rules.
- Ordered all natural gas transmission operators to develop for CPUC consideration a Natural Gas Transmission Pipeline Comprehensive Pressure Testing Implementation Plan.
- Added additional 13 safety-related positions: Created new Risk Assessment Unit, augmented pipeline inspector team by nine, and, searching for a new safety expert to lead Consumer Protection and Safety Division.





CPUC: Pressure Reductions and Other Safety Actions

- After the San Bruno rupture, the CPUC immediately directed PG&E to lower pressure on Line 132 to 80% of its prior operating pressure, as a safety precaution.
- After December NTSB metallurgy report, CPUC imposed pressure reductions on additional PG&E lines with weld characteristics similar to the ruptured segment of Line 132.
- PG&E has reduced pressure on other pipelines for which it has incomplete pressure records or that were operating at an insufficient margin of safety based on changes in nearby population density.
- CPUC is holding open the prospect of additional pressure reductions for PG&E and other pipeline operators.





CPUC: Calibrating “MAOP” for Gas Transmission Pipelines

- In response to NTSB’s “Urgent Safety Recommendations” in January, CPUC embarked on extensive effort to have pipeline operators re-calibrate Maximum Allowable Operating Pressure (MAOP) for gas transmission pipelines in California.
- Focus of this effort is on using “traceable, verifiable” records of pressure tests or other equivalent tests to ensure MAOP is appropriately set, especially for older, pre-1970 pipes.
- PG&E has been cited for failing to comply with this order in a March 15th submittal; proposed fine (\$6 million, with \$3 million suspended) and remedial measures are pending.
- June 9, 2011: CPUC ordered all California natural gas transmission operators to develop and file for CPUC consideration a Natural Gas Transmission Pipeline Comprehensive Pressure Testing Implementation Plan to achieve the goal of orderly and cost effectively replacing or testing all natural gas transmission pipeline that have not been pressure tested.





CPUC: Root Cause Investigation

- CPUC investigators participate as a “party” to NTSB investigation.
- CPUC Consumer Protection and Safety Division employs pipeline engineers and inspectors.
- Upon issuance of NTSB final report on accident, CPUC can initiate enforcement proceedings if it appears any safety violations occurred.
- CPUC has broad enforcement powers over gas pipeline safety under federal and state law.





CPUC: Enforcement Action Against PG&E, Alleging Inadequate Pipeline Record Keeping

- February 24, 2011: CPUC “Order Instituting Investigation,” alleging violations by PG&E in record-keeping (I.11-02-016).
- This enforcement order was issued in response to the NTSB’s “Urgent Safety Recommendations” of January 3, 2011, finding “discrepancies” in PG&E’s records for Line 132.
- OII alleges PG&E’s records were inadequate “to ... correctly identify major characteristics in the type of pipe that was buried in the ground and ruptured on September 9, 2010”.
- Docket remains open and unresolved; hearing is pending.





CPUC: Statewide Rulemaking on Pipeline Safety Rules

- February 24, 2011: CPUC “Order Instituting Rulemaking,” to develop new rules for safe and reliable operation of gas pipelines in California (R.11-02-019).
- Rulemaking order proposed certain immediate changes in California’s pipeline safety rules, while opening a public comment process soliciting ideas for other rule changes.
- Focus includes enhanced ability to perform in-line inspections of pipelines, using so-called “smart pigs,” as well as testing and replacement of older pipeline segments.
- Remote control or automatic valves for emergency shut-off.
- Implementation Plans to eliminate grandfathering of pre-1970 pipes are due August 26, 2011 and will be reviewed in this proceeding.





CPUC: Independent Review Panel

- CPUC created an Independent Review Panel to conduct a comprehensive investigation and study examining the root causes and making recommendations for action by the CPUC to best ensure such an accident is not repeated elsewhere. Panel Members: Chair Larry N. Vanderhoef, Patrick Lavin, Karl S. Pister, Paula Rosput Reynolds, and Jan Schori.
- The report concludes that the pipeline rupture was “a consequence of multiple weaknesses in PG&E’s management and oversight of the safety of its gas transmission system,” and that the CPUC “did not have the resources to monitor PG&E’s performance in pipeline integrity management adequately or the organizational focus that would have elevated concerns about PG&E’s performance in a meaningful way”.
- CPUC says it will adopt all of the Panel's recommendations specific to the CPUC to the best of its ability and in an expeditious manner.





Next Steps

- NTSB Final Report on San Bruno Rupture.
- Possible future CPUC enforcement actions against PG&E, depending on NTSB findings and CPUC 's independent investigation.
- Continuing consideration of rule changes for all gas pipeline operators in California.
- Continuing consideration of penalties against PG&E for poor recordkeeping.
- Expanding staffing as promptly as possible:
 - Four inspectors added in February 2011.
 - Five inspectors and four risk assessment specialists in process of being hired.





Challenges

- Ability to hire outside of agency is limited during these challenging fiscal times.
- Salaries for state engineers are not competitive with outside opportunities.
- Specialized skills and training take time and funding to acquire, which are not always available during tight fiscal times.
- Ability to effectively analyze and predict areas of risk requires excellent data management/ information technology systems which are difficult to pursue within state contracting limitations.





Thank you.

For Additional Information:

www.cpuc.ca.gov/PUC/events/sanbruno.htm

