The Response to San Bruno

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- 30 inch natural gas pipeline fails
- Burns 90 minutes
- Eight killed, many injured
- 38 homes destroyed
- 70 homes damaged
First Responders
Flames into the Night
The Damage
The Cause

- Long seam failure
- PG&E as-built drawings show 30 inch seamless steel pipe
  - In fact, longitudinally seam welded pipe
- Line 132 was 1952 “grandfathered” pipeline built before 1970 DOT standards (49 CFR Part 192) Implementing Federal Pipeline Safety Act
Applies to all California gas utilities.

Required Pipeline Safety Enhancement Plans (PSEP) by August, 2011.

Phase 1:

- Pressure test or replace all transmission pipeline for which reliable records of post-construction test are not available in populated areas.
June 9, 2011 CPUC Order (cont’d)

- **Phase 2:**
  - Pressure test or replace in less populated areas
  - End “grandfathering:
    - Bring all pre-1970 pipelines to “modern standards” (49 CFR Part 192)
SoCalGas and SDG&E (Sempra) PSEP

- **Phase 1A (2012 - 2015):**
  - Pressure test or replace transmission lines located in populated areas that lack records of strength test to 1.25 times MAOP.
  - SoCalGas: 321 miles + 299 accelerated.
  - SDG&E: 37 miles + 21 accelerated.
SoCalGas and SDG&E (Sempra) PSEP (Cont’d)

- Phase 1A Direct Cost:
  - SoCalGas: $1.2 billion capital
    $255 million O&M
  - SDG&E: $229 million capital
    $7 million O&M

- Phase 1A Revenue Requirement:
  - SoCalGas: $593 million
  - SDG&E: $62 million
PSEP Phase 1B (2012-2021)

- 16 Inch Line 1600 to San Diego cannot be pressure tested without “manageable customer impacts.”
- Replace with 54 mile 36 inch pipeline.
  - Direct cost: $325 million
- Then pressure test Line 1600.
Phase 2 (2016-?)

- Pressure test or replace transmission lines in less populated areas that lack records of a pressure test.
- Bring all pre-1970 transmission lines to “modern standards” (49 CFR Part 192).
  - 8 hour instead of 1 hour test.
  - Retain records showing more than test medium and test pressure.
Phase 2 (2016-?)
(Cont’d)

- Direct Cost (2011-?):
  - SoCalGas: $3.1 billion.
  - SDG&E: $715 million.
  - Total: $3.8 billion.

- Revenue Requirement (2011-?):
  - SoCalGas: $9.4 billion.
  - SDG&E: $2.4 billion.
  - Total: $11.8 billion
Cutting Phase 1A Costs: Shareholder Liability

- **DRA**: Shareholders bear cost for post-1935 pipe.
  - American Standard Association issues first code for pressure piping in 1935.

- **TURN**: Shareholders bear cost for post-1955 pipes.
  - 1955 ASA Code developed class locations; required post-construction pressure tests, and required record retention.
Cutting Phase 1A Costs: Shareholder Liability (Cont’d)

- Interveners:
  - Shareholders bear cost for post-1961 pipe:
    - CPUC issued General Order No. 112 in 1961 requiring post construction pressure tests and record retention.
  - Require Commission review and approval of 44 capitalized replacement projects over $5 million ($843 million total)
Cutting Phase 1B Costs

- Do not build 36-inch replacement pipeline.
- Use Transmission Field (Flux) Inspection (“TFI”) to validate Line 1600 MAOP.
  - SoCalGas will use TFI before pressure testing in Phase 1A.
  - In 2015 SoCalGas may ask CPUC to approve TFI as an alternative to pressure testing.
Cutting Costs: Alternatives to Pressure Testing

- Require testing of pre-1970 pipe to standards existing at time of construction.
  - Reduces Phase 2 cost of bringing pre-1970 pipelines up to “modern standards.”

- Non-Destructive Examination (NDE) of segments less than 1,000 feet.
  - Reduces Phase 1A and Phase 2 costs.
Cutting Cost: Alternatives to Pressure Testing (Cont’d)

- Reduce Pressure to 72% of highest operating pressure.
  - Reduces Phase 1A and 2 costs.

- TFI.
  - Reduces Phase 2 cost.
Thank You

Questions and Discussion

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