Gas Transmission Update
City of Redacted

November 30, 2011

Todd Hogenson
Director, PSEP Engineering
Pacific Gas & Electric Company

Presentation Topics:

- **CPUC Decision 11-06-017, Gas Transmission Pipeline Replacement & Testing Plans**
- **PG&E's Pipeline Safety Enhancement Plan (PSEP) Program**
- **Gas Transmission Pipelines within** Redacted
  - Asset Information (Pipelines and Mainline Valves)
  - Planned Project Work
- **Q&A**

June 9, 2011 CPUC Decision 11-06-017

Required Implementation Plan to be filed and served by August 26, 2011

- Requirement that all in-service (grandfathered) natural gas transmission pipeline will be pressure tested in accordance with 49 CFR 192.619.
- Start with pipeline segments located in Class 3-4 and Class 1-2 HCAs, with other locations given lower priority.
- Set forth criteria on which pipeline segments are identified for replacement instead of pressure testing.
- Contain priority-ranked schedule for pressure testing based on risk assessment and maintaining reliability.
- Must consider retrofitting pipeline to allow for in-line inspection tools and improved shut-off valves.
- Include interim safety enhancement measures, such as increased patrols and leak surveys, pressure reductions, and prioritization of pressure testing of critical pipelines.

Pipeline Safety Enhancement Plan (PSEP)

PG&E Proposed a Multi-Phase Program

- Phase 1 2011-2014
- Phase 2 would begin 2015

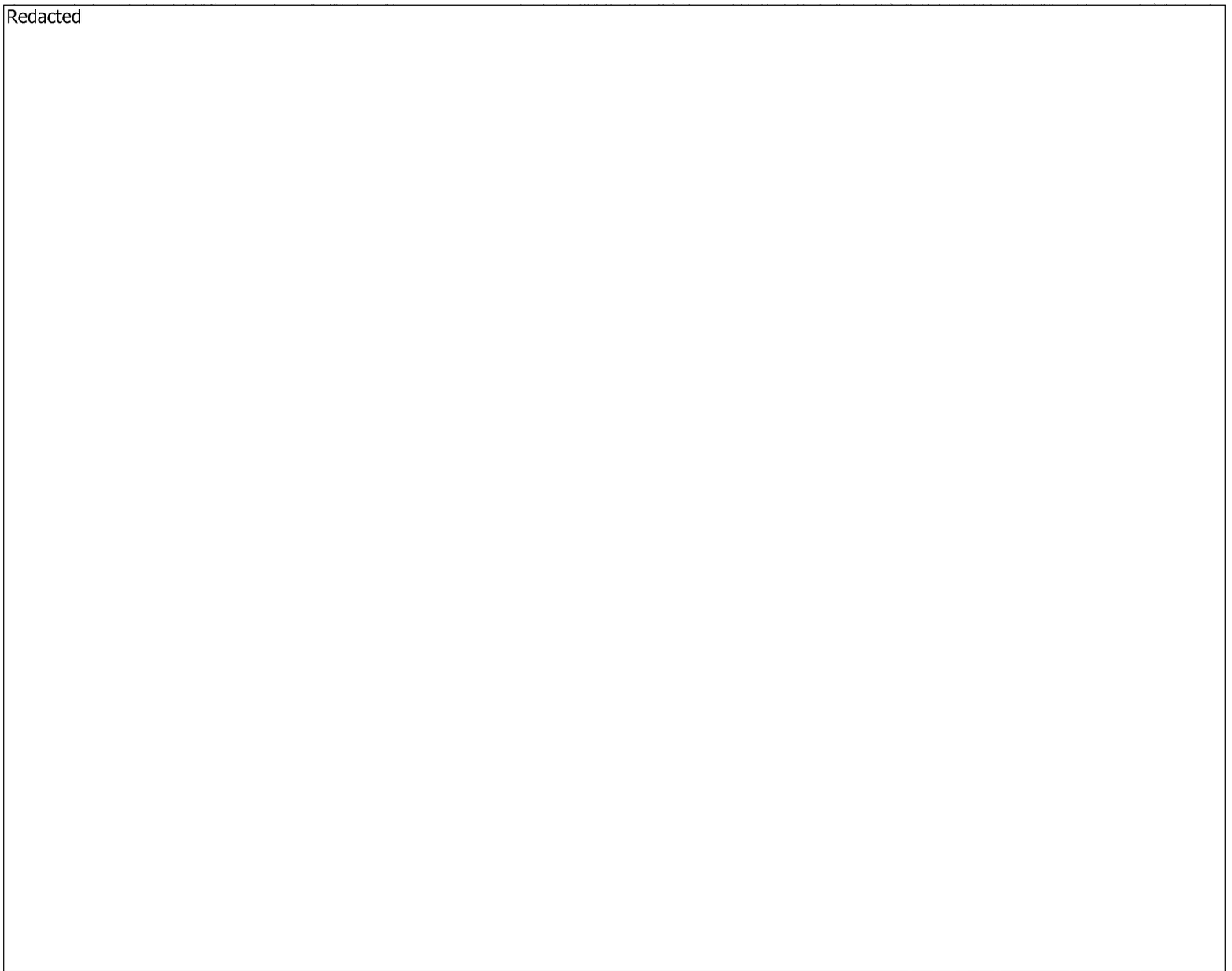
1. **Pipeline Modernization**
   - Strength Testing
   - Pipeline Replacements
   - ILI Upgrades and Inspections
2. **Valve Automation**
   - RCV/ASV Valve Installation & Automation
   - SCADA Enhancements
3. **Records Integration**
   - MAOP Validation
   - Gas Transmission Asset Management
4. **Interim Safety Measures**
   - Pressure Reductions
   - Increased Leak Surveys & Patrols

Over 1,200 Miles of Pipe Upgraded & 228 Valves Automated 2011-2014

Work Streams	2011	2012	2013	2014	Phase 1
Strength Testing*	165 miles**	185 miles	204 miles	158 miles	**783****
Pipeline Replacements	0.3 miles	39 miles	64 miles	82 miles	**186**
ILI Upgrades	--	78 miles	121 miles	--	**199**
In-line Inspections	--	--	78 miles	156 miles	**234**
Valve Automation	29 valves	46 valves	90 valves	63 valves	**228**
Records Integration	Data Validation, MAOP Calculations, Integrated Asset & Work Management				
Interim Safety Measures	Pressure Reductions, Leak Surveys, Aerial Patrols				

* *Mileage reflects actual miles pressure tested*

** *2011 estimated strength test miles as of October. Total may change due to records validation efforts.*



Gas Transmission Pipelines within Redacted

Miles and Age of Install:

- 3.74 miles, installed from 1959 – 1986 (MP 28.8 to 32.2)

Diameter:

- 20" and 24"

Seam type:

- Double Submerged Arc Welded (DSAW)

MAOP/MOP:

- Maximum Allowable Operating pressure (MAOP) = 400 psig,
- Maximum Operating Pressure (MOP) since 9/2010 = 300 psig
- PG&E formally requested the CPUC for approval to increase the MOP to 365 psig

Strength testing:

- No new strength testing planned

ILI Upgrades and Inspections:

- Construction & pipeline modifications 2012/2013, ILI runs planed for 2014

Main Line Valves:

- Redacted
-

Gas Transmission Pipelines within Redacted

Miles and Age of Install:

- .79 miles (4,162 feet), installed in 1992

Diameter & Seam type:

- 24", DSAW

MAOP/MOP:

- Maximum Allowable Operating pressure (MAOP) = 375 psig,
- Maximum Operating Pressure (MOP) since 9/2010 = 300 psig (20% reduction)
- MOP will not be increased until 1936 pipe has been replaced elsewhere on the pipeline

Strength testing:

- No strength testing planned, Records Verification in progress.

Pipeline Replacement

- Plan to replace all 1936 in other areas, 22" diameter SSAW pipe in 2012-2014. No pipeline replacement planned in Redacted

ILI Upgrades and Inspections:

- Construction & pipe modifications in 2014, ILI run planed for 2015

Main Line Valves (MLV):

- No MLV's on this pipeline Redacted
- Redacted
-

Gas Transmission Pipelines within Redacted

Miles and Age of Install:

- .48 miles (2,519 feet), installed in 1948

Diameter & Seam-type:

- 30", DSAW

MAOP/MOP

- Maximum Allowable Operating pressure (MAOP) = 400 psig,
- Maximum Operating Pressure (MOP) since 9/2010 = 300 psig (25% reduction)

Strength testing:

- Successfully hydrotested between MP 31.95-34.68 on 10/20/11 to 1.5 x MAOP (600 psig)
- Successfully hydrotested between MP 34.68-38.39 on 10/30/11 to 1.5 x MAOP (600 psig)

ILI Upgrades and Inspections:

- Construction & pipeline modification in 2012/2013, ILI run planned for 2014

Main Line Valves:

- No MLV's on this pipeline Redacted
- Redacted
-

Gas Transmission Pipelines withi

Redacted

Miles and Age of Install:

- .68 miles (3,582 feet), installed from 1945 to 1986

Diameter :

- 2",6",8"

Seam-type :

- Seamless and ERW

MAOP/MOP

- Maximum Allowable Operating pressure (MAOP) = 400 psig,
- Maximum Operating Pressure (MOP) since 9/2010 = 300 psig (25% reduction)
- PG&E formally requested the CPUC for approval to increase the MOP to 365 psig

Strength testing:

- Successfully strength tested on 10/28/11, to 1.5 X MAOP (600 psig)

Main Line Valves:

- Two bridled valves connected to Redacted

Distribution Feeder Mains:

- PG&E maintains and operates about 226 feet of pipeline taps and branches ranging in size from 2 to 6 inches, installed from 1965 to 1986.
- There is an additional 620 feet of non transmission pipe operating at pressures over 60 psig and < 20% SMYS. All pipeline segments are 4 inches or less in diameter, installed prior to 1986.

Regulating Stations:

- 7 District Regulating Stations serving PG&E's gas distribution system.

Questions?