Natural Gas Working Group Meeting
PG&E's Pipeline Safety Enhancement Plan

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Todd Hogenson
Director, PSEP Engineering
Pacific Gas & Electric Company

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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

PSEP - Phase 1 Scope

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.*

PSEP Work Streams

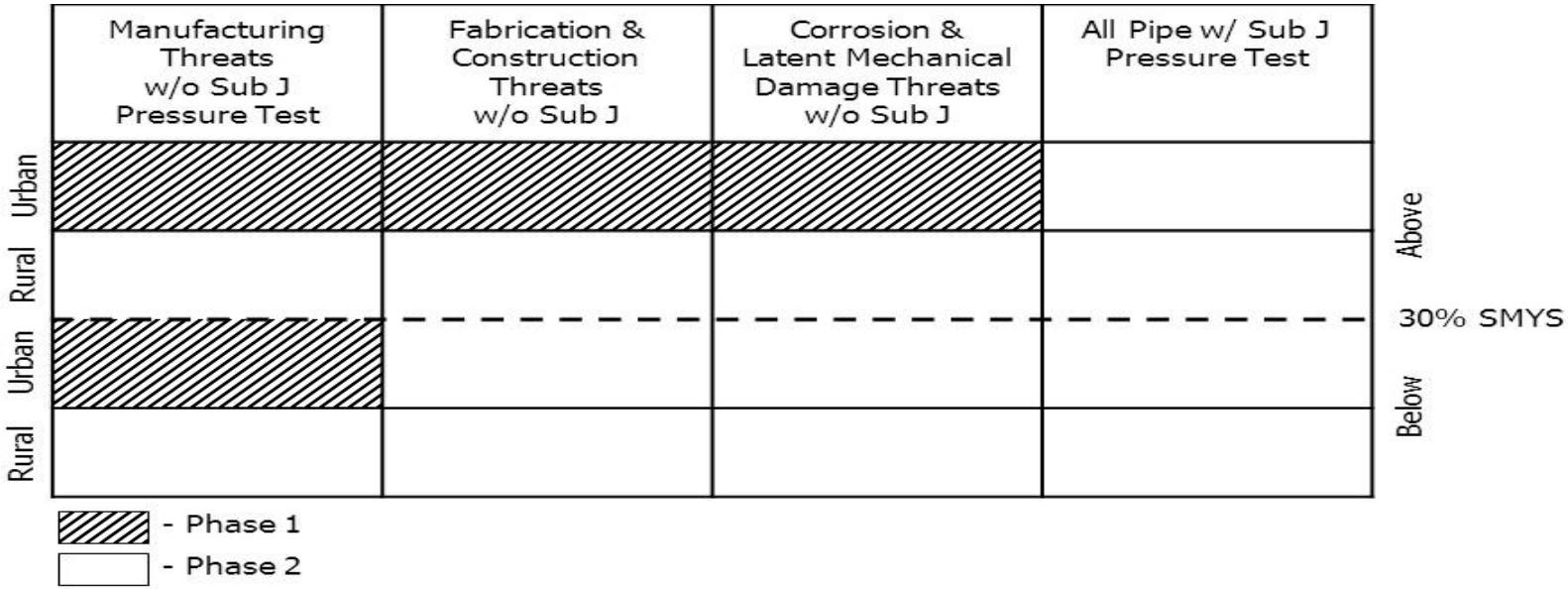
Multi-Phase Program	Phase 1: 2011-2014 Phase 2: commencing 2015

Work Streams	Objective
Pipeline Modernization	Assure every gas transmission pipeline operates at or below proven, tested and verified safe operating pressure, “margin of safety” through • Strength Testing • Pipe Replacement • Pressure Reductions • Engineering assessments, MAOP Validations
Valve Automation	Facilitate emergency response to minimize the potential consequences of a natural gas fueled fire
Pipeline Records Integration	Reflect the NTSB’s recommendation for a new standard of “traceable, verifiable and complete” gas transmission records
Interim Safety Enhancement Measures	Increase public safety of PG&E’s gas transmission system prior to completing the work proposed

Pipeline Modernization Program

Pipeline Work Prioritization

- Targets pre-1970 pipe segments that have not been strength tested
- Uses ASME, industry-recognized pipeline threats, physical pipeline attributes, Class location, and operating specified minimum yield strength (SMYS) to define action
- Targets “Urban areas” all Class 2,3,4 and Class 1 HCA w/ high potential impact on people and property
- Project prioritization (annual work plans) based on Class location, HCA, PIR, and customer and public impacts



Valve Automation Program

Valve Work Prioritization

- Targets large diameter/high pressure pipelines located within high population density areas
- ~ 60 percent of Phase 1 automation miles located in the Peninsula/East Bay/South Bay

  Project prioritization based PIR, HCA density and geographic area
- Includes additional SCADA information, tools, and training for gas operators for early detection and quick response to pipeline rupture events

Valve Automation Decision Tree Outcome Summary				
Valve Location	Class 4 pipe segments PIR* > 100 ft.	Class 3 pipe segments PIR > 200 ft.	Class 3 pipe with > 50% HCA , PIR > 150 ft	Active fault, Class 3 or 4 or HCA, PIR > 150 ft
Phase 1 Outcome	**200 Remote Control Valves (PIR > 300, Class 3&4 HCA)** **28 Automatic Shutoff Valve (high threat earthquake fault crossings)**			

* PIR is defined as the radius of a circle within which the potential failure of a pipeline could have significant impact on people or property

PSEP Cost Approach

Proposes to put costs of new safety programs and standards not previously required into rates beginning in 2012.

Not in rates:

- Costs directly related to the San Bruno accident
- Non-Implementation Plan activities
- Work already included in 2011 GT&S Rate Case funding
- Pressure testing or validation for post-1970 pipe

Cost Recovery Approach Includes
• 2011 PSEP costs paid by shareholders • Cost targets for expense and capital w/mid program adjustment request mechanism • Use of funds limited to PSEP • Customers pay only for capital projects put in-service • Expense dollars not spent on PSEP returned to customers after 2014 • Semi-annual reporting for funds budgeted vs. spent, and project status

PSEP Revenue Requirement

- **2011 revenue requirement funded by shareholders**
- **2011-2014 revenue requirement: $768MM for 4 years**

Phase 1 Plan Incremental Annual Rev. Req.					
($ in millions)	2011**	2012	2013	2014	Total
Total RRQ	0	$247	$221	$300	$768

* Assumes non-core customers pay small commercial procurement rates.
** 2011 RRQ (approx. $224 MM) to be funded by shareholders.

PSEP Rate Impacts

Illustrative Class Average End-User Rates
($ per Therm)

	Rates Effective June 1, 2011			
	Present June 2011 Rates	Gas Pipeline Safety Rate	Total Rate Including Gas Pipeline Safety Rate	Percent
CORE RETAIL - Bundled				
Residential Non-CARE	$1.223	$.050	$1.272	**4.1%**
Small Commercial Non-CARE	$.975	$.050	$1.025	**5.1%**
Large Commercial	$.766	$.050	$.816	**6.5%**
NGV1 - (uncompressed service)	$.661	$.050	$.711	**7.6%**
NGV2 - (compressed service)	$1.912	$.050	$1.962	**2.6%**
CORE RETAIL - Transport Only				
Residential Non-CARE	$.650	$.050	$.700	**7.7%**
Small Commercial Non-CARE	$.418	$.050	$.468	**11.9%**
Large Commercial	$.248	$.050	$.298	**20.1%**
NONCORE - Transportation Only *				
Industrial - Distribution	$.171	$.025	$.197	**14.9%**
Industrial - Transmission	$.069	$.025	$.095	**36.7%**
Industrial - Backbone	$.042	$.006	$.048	**13.5%**
Electric Generation - Transmission (G-EG-D/LT)	$.029	$.025	$.054	**87.8%**
Electric Generation - Backbone (G-EG-BB)	$.007	$.006	$.013	**76.4%**
NGV 4 - Distribution (uncompressed service)	$.155	$.025	$.180	**16.5%**
NGV 4 - Transmission (uncompressed service)	$.055	$.025	$.081	**46.2%**
WHOLESALE CORE AND NONCORE (G-WSL) *				
Alpine Natural Gas	$.026	$.025	$.051	**99.1%**
Coalinga	$.026	$.025	$.051	**98.8%**
Island Energy	$.027	$.025	$.053	**92.9%**
Palo Alto	$.025	$.025	$.051	**100.7%**
West Coast Gas - Castle	$.100	$.025	$.126	**25.4%**
West Coast Gas - Mather Distribution	$.123	$.025	$.149	**20.6%**
West Coast Gas - Mather Transmission	$.026	$.025	$.051	**98.0%**

* Noncore end-use rate increases range from 3.7%-4.7% on total bill, assuming cost of commodity equal to PG&E's core large commercial commodity rates.