PG&E Gas Operations
PSEP Program Orientation

FEBRUARY 20, 2013

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Introductions

PG&E Gas Transmission Pipeline facts/background

CPUC Decision, 11-06-017

PSEP Plan/Strategy

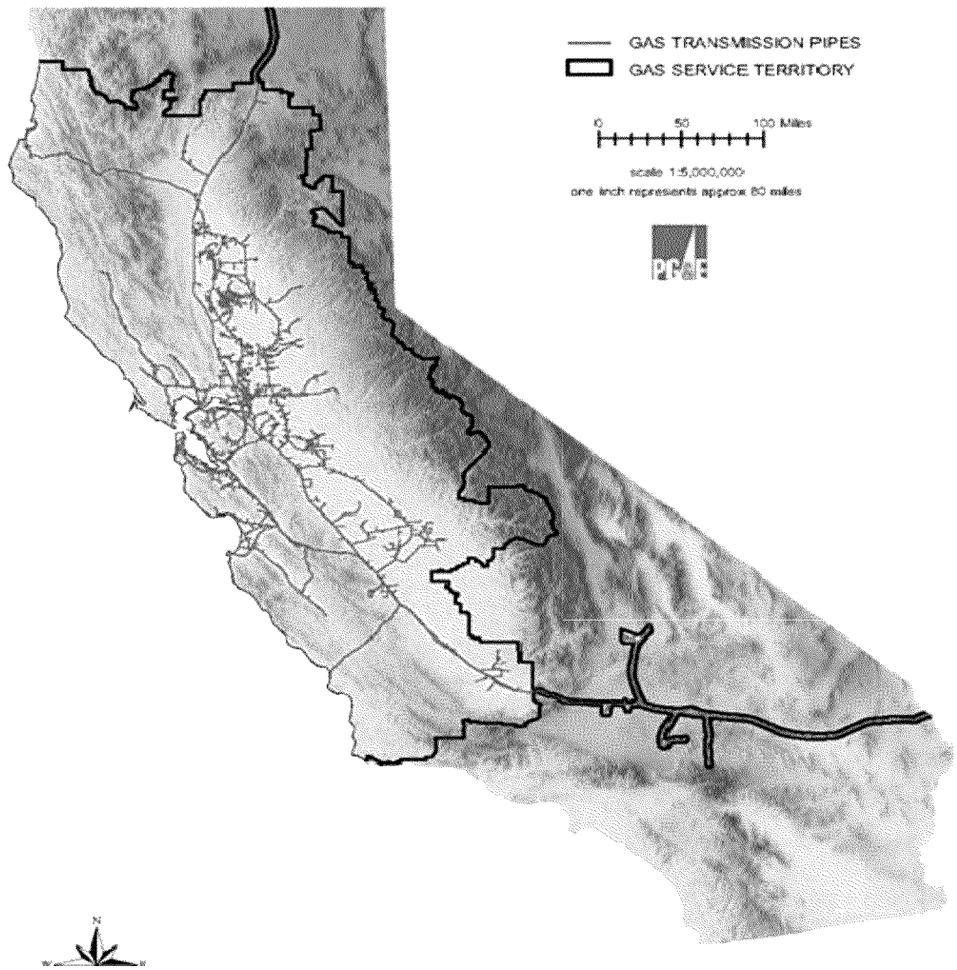
Pipeline Modernization Decision Tree

Valve Automation Decision Tree

Gas Transmission Statistics (2009)

- Approx. 6,700 miles of gas transmission pipeline operating above (> 60 psig)
- 5,780 mile of gas transmission pipe, DOT
- Approx. 42,000 miles of gas distribution pipe
- 4.3 million natural gas customer accounts
- Deliver 970 BCF/year (2.6 BCF/daily average)

PG&E GAS TRANSMISSION PIPES



CPUC ordered intrastate gas transmission operators to file an Implementation Plan, to pressure test or replace all in-service natural gas transmission pipelines that have never been pressure tested.

- Requirement that all in-service natural gas transmission pipeline will be pressure tested in accordance with 49 CFR 192.619, excluding 49 CFR 192.619(c).
- Prioritize pipeline segments located in Class 3 and Class 4 locations and Class 1 and Class 2 HCA's
- Contain priority-ranked schedule for pressure testing based on risk assessment and maintaining reliability.
- Set forth criteria on which pipeline segments were identified for replacement instead of pressure testing.
- Must consider retrofitting pipeline to allow for in-line inspection tools and where appropriate, automated or remote controlled 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
- Submit Implementation Plans by August 26, 2011

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,

Pipeline Modernization Decision Tree

Pipeline Implementation Plan focuses on 4 specific threats (B31.8S)

- Manufacturing
- Fabrication & Construction
- Corrosion (Internal & External) and Latent Mechanical Damage

Confirm safe operating pressure through:

- MAOP Records validation
- Strength testing (hydro/pressure testing)
- Pipeline segment replacement
- MOP Pressure reductions

Every Gas Transmission pipe segment is processed through the "Decision Tree"

The "Decision Tree" defines what actions will be taken (strength testing/ replacement /ILI)

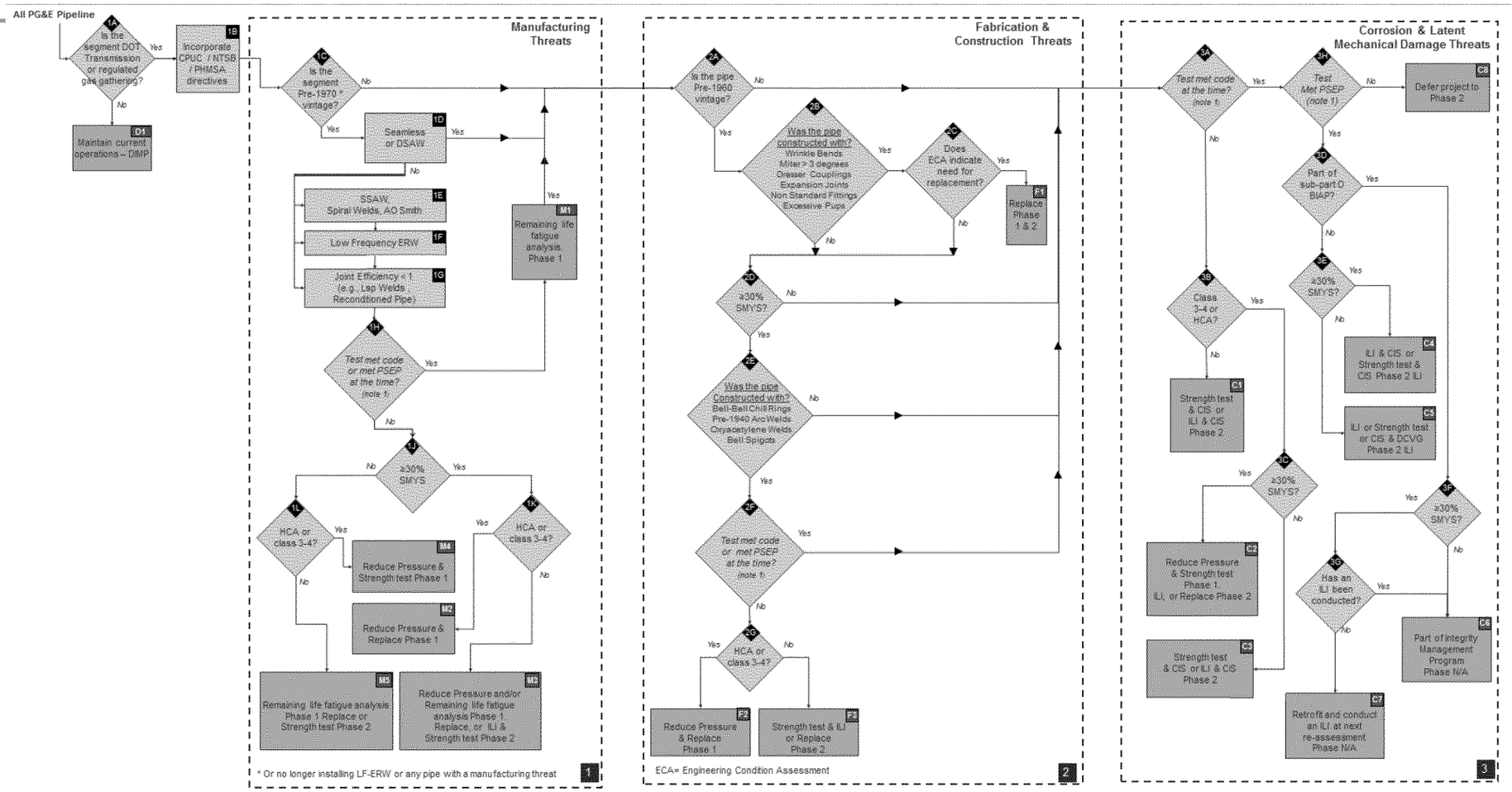
High level prioritization divided into two phases:

- Phase 1 – Non strength-tested urban pipelines
- Phase 2 – Previously strength□tested and rural pipelines

Phase 1 of the PSEP focuses on gas transmission pipelines:

- with older seam types and/or fabrication/construction methods;
- Segments that have not been pressure tested;
- located in/adjacent to High Consequence Areas (HCA's); and
- operating above >30% SMYS

Implementation Plan
Pipeline Modernization Decision Tree



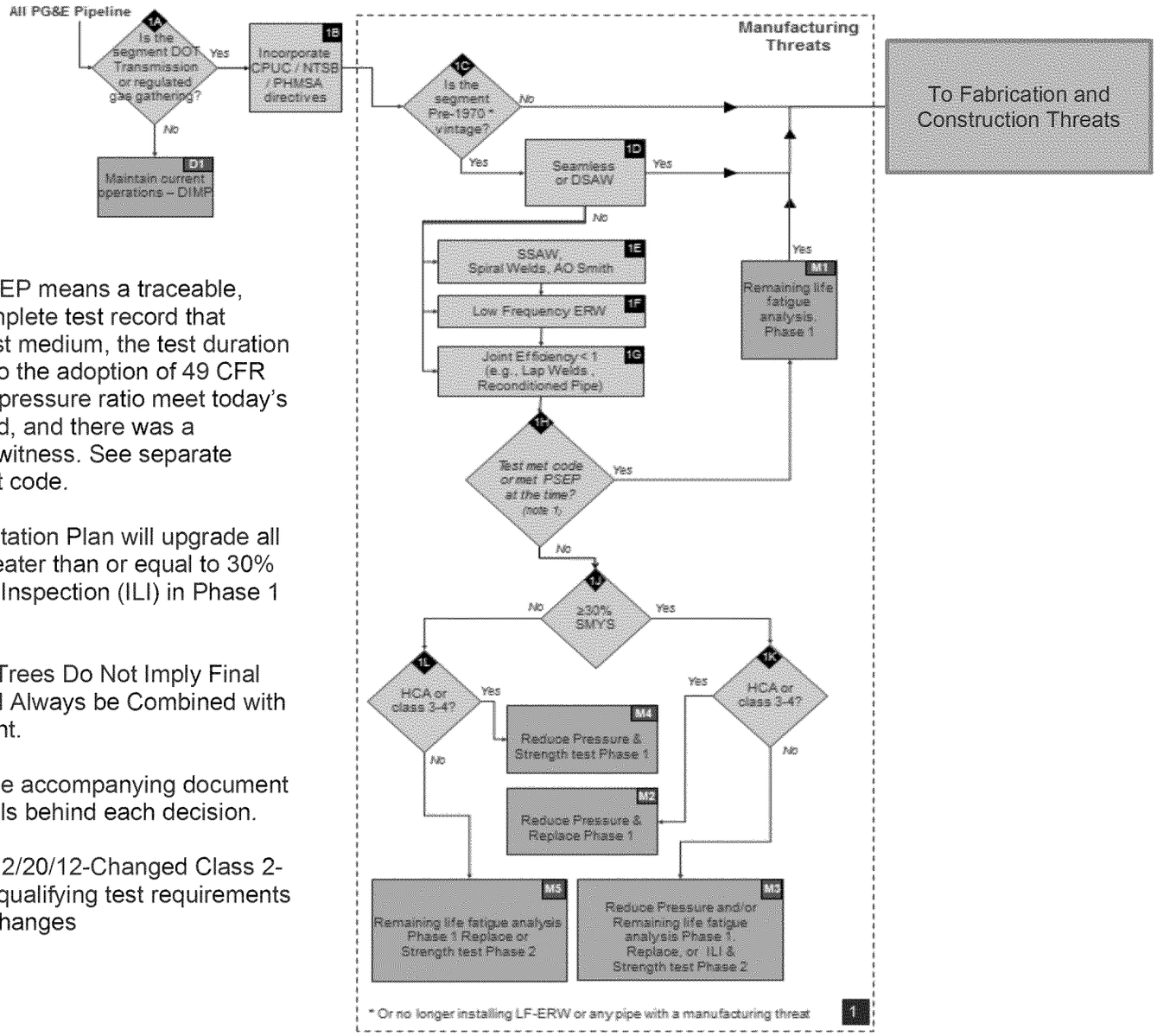
Note 1: Meets PSEP means a traceable, verifiable and complete test record that shows that the test medium, the test duration (1 hour OK prior to the adoption of 49 CFR 192) and the test pressure ratio meet today's subpart J standard, and there was a documented test witness. See separate chart for what met code.

Note 2: Implementation Plan will upgrade all pipe operating greater than or equal to 30% SMYS for In-Line Inspection (ILI) in Phase 1 & 2.

Note 3: Decision Trees Do Not Imply Final Decisions, Should Always be Combined with Practical Judgment.

Note 4: Please see accompanying document for logic and details behind each decision.

Note 5: Revised 12/20/12-Changed Class 2-4 to 3-4, detailed qualifying test requirements and other minor changes



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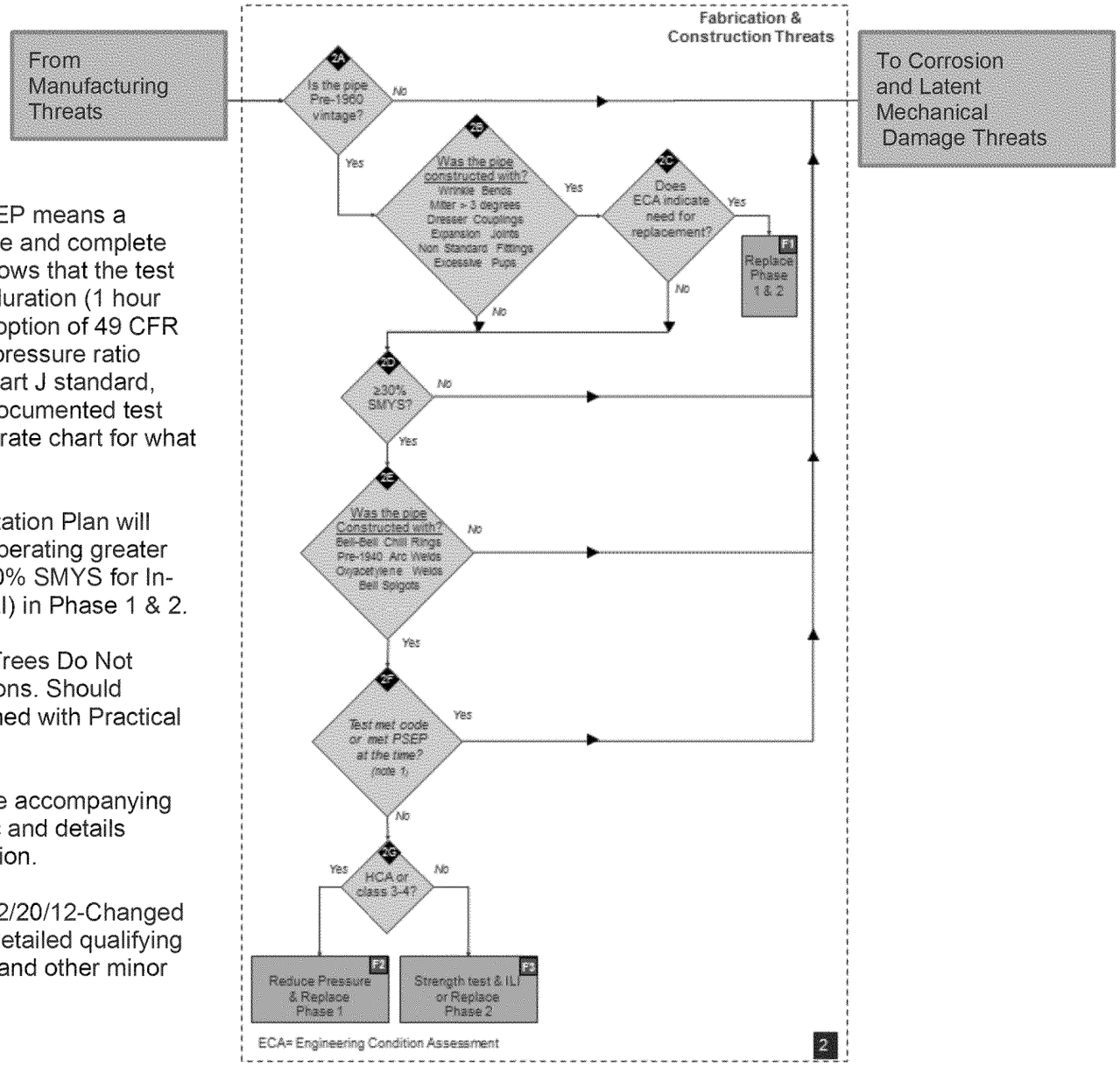

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From Fabrication and Construction Threats

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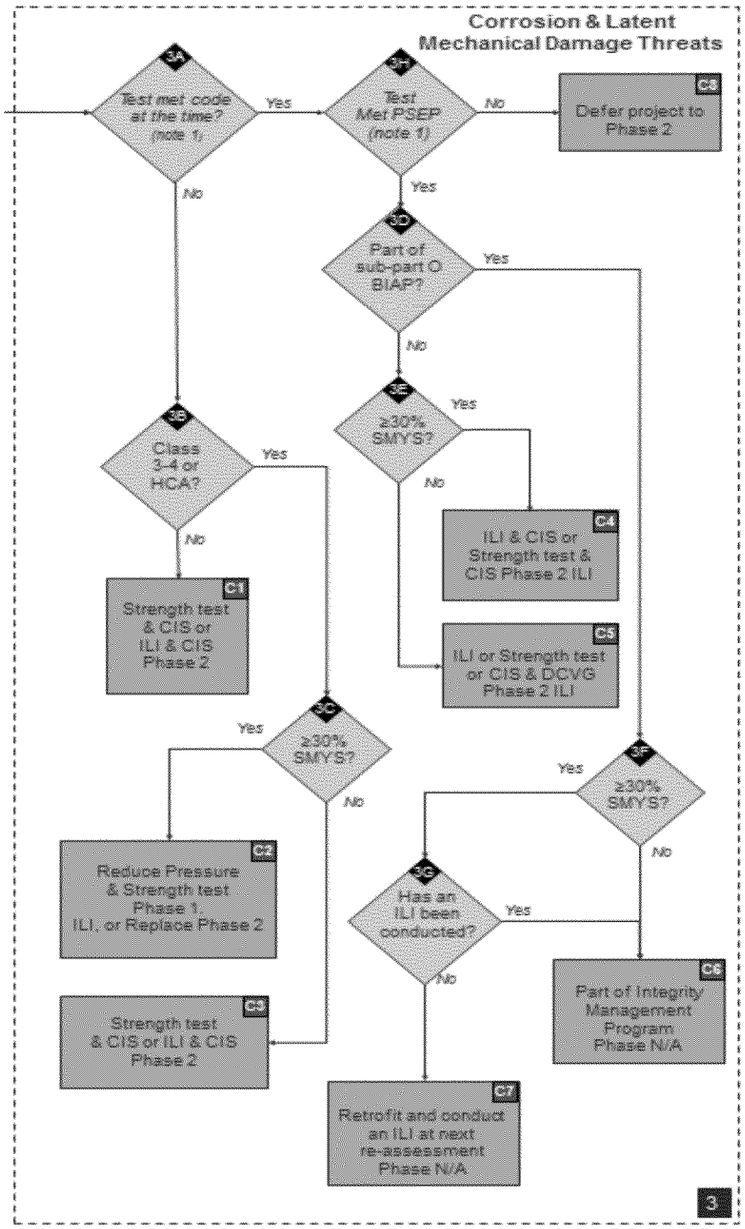


Strength Testing, prioritization criteria

"Safety, Operational Impacts, Schedule"

Potential Impact Radius (PIR) = .69*D*$P^{0.5}$

HCA density (HCA footage/segment)

Highest customer impact if pipeline maximum operating pressure (MOP) is reduced

- Core curtailments
- Frequent noncore curtailments at warmer than CWD
- Impacts to elevated pressure customers

System operating impacts, constraints

Efficiency of project completion

Pipe Replacement, prioritization criteria

"Safety, Operational Impacts, Schedule"

Potential Impact Radius (PIR) = $.69*D*P^{0.5}$

HCA density (HCA footage/segment)

Permitting (CEQA), routing (easement/franchise)

Constructability

Operational constraints/customer impacts

Project efficiencies (PH1, PH2 and base work)

Prior to Engineering Replacement and Strength Testing projects:

- **Perform data validation:** Confirm/update the pipeline attribute data included in PSEP filing from pipeline features list. Segments immediately adjacent to the project segment are included.
- **Run validated data through the PSEP decision tree.**
- **Confirm Project Scope:** review decision tree results and update the project scope and document actions that deviate from the decision tree.
- **Update the PSEP Database:** Enter the results of the data validation, new decision tree results and final project scope into the PSEP Database.
- **Present all project changes to the program leads for approval.**

PSEP,

Valve Automation Decision Trees

Program Focus

Facilitate emergency response to minimize the potential **consequences** of an extended duration natural gas fueled fire from a pipeline rupture

Consequences are a function of:

- The population density and type of structures and infrastructure in the surrounding area, **Class Location & HCA's**
- The intensity of the ignited flame at the rupture site, **PIR**
- The **time required to isolate** and vent the pipe segment
- The combustible fire threat in the area and the ability of emergency responders to respond to the fire.

Strategy

- ASV's - Automatic Shutdown Valves
- RCV's – Remote Control Valves
- SCADA - Enhance gas system monitoring and Gas Control Operators knowledge to quickly detect and react to a pipeline rupture event

Two Decision Trees were created to evaluate where to provide automated isolation capability to gas transmission pipelines

Population

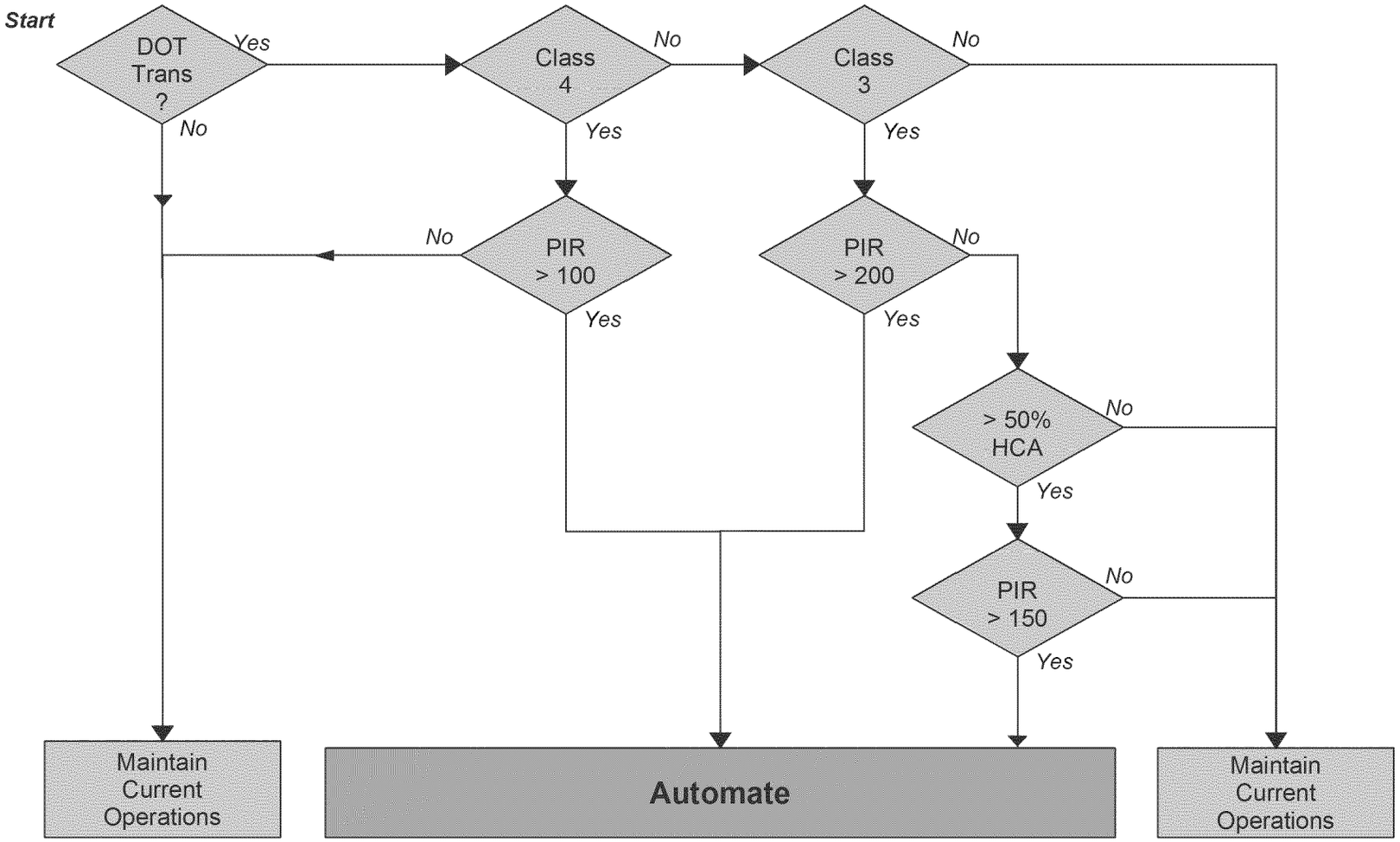
- Heavily Populated Urban Areas (Class location & HCA's)
- Larger Diameter, Higher Pressure (High PIR) Pipelines (PIR = 0.69 x D x $\sqrt{P}$)
- Use of Remotely Controlled Valves (RCVs), Capable of ASV in future
- As population increases, lower PIR threshold for valve automation

Earthquake Fault – *Unique Threat*

- California has a number of major earthquake faults in heavily populated areas
- During a major earthquake, emergency responders would be overwhelmed with other life safety issues
- Focus:
  - Pipelines crossing "major" Active Faults
  - Earthquake Threat, Likelihood/Magnitude of EQ Event, Design Mitigation
  - Heavily Populated Areas near Fault Crossing
  - Larger PIR Pipelines

Valve Automation Decision Tree

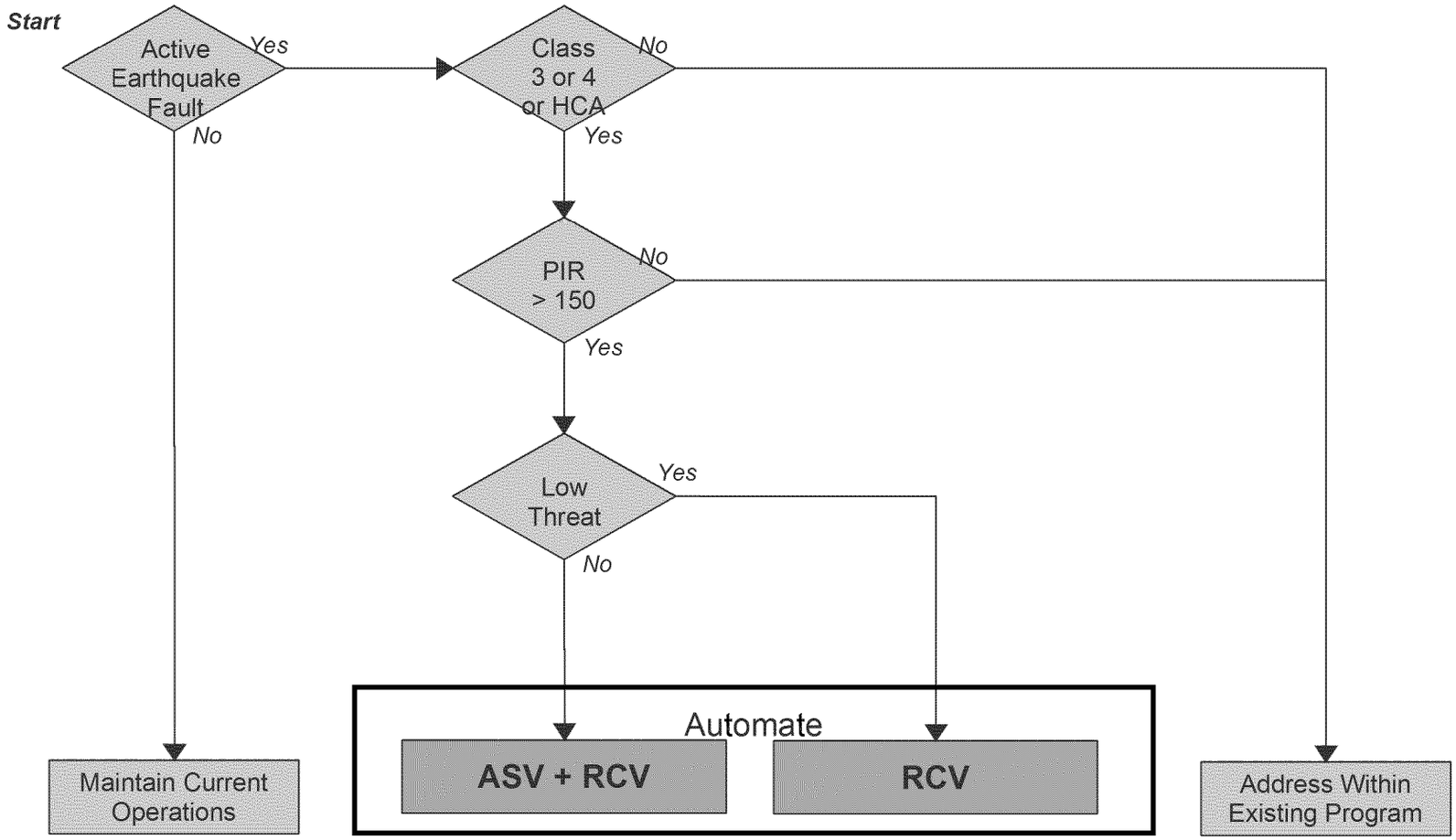
1. Population Density



*Note: PIR = 0.685 * √(pd²)

Decision Trees Do Not Imply Final Decisions. Should Always be Combined with Practical Judgment

2. Earthquake Fault Crossings



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Over 1,200 miles of pipe upgraded and 228 valves automated 2011-2014 as proposed in PG&E's PSEP filing

Work Streams	2011	2012	2013	2014	Phase 1
Strength Testing*	236 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 miles pressure tested or pressure test records validated

Program Objectives

PSEP's primary objective is to enhance safety and improve operations by completing the comprehensive assessment of all 5,786 miles of PG&E's natural gas transmission pipelines.

Safety	Execution	Quality
• Ensure safety of our customers, PSEP team and fellow employees	• Execute hydrostatic tests, pipeline replacements, valve automation and inline inspection projects within budget and on schedule	• Perform and document PSEP work with the highest quality and accuracy • Deliver traceable, verifiable, and accurate test documentation

Contractor Expectations

- Conduct all work with safety as our highest priority and according to the Contractor Code of Conduct
- Complete projects as scheduled and within budget
- Follow all technical specifications, test procedures, and drawings as documented
- Communicate continuously to your Construction Management and Project Management teams
- Submit invoices and all reporting in a timely and accurate manner
- Complete the as-built documentation with quality and efficiency
- Maintain compliance with all safety and environmental regulations

Overview of PSEP Phases

Phase 1 (2011-2014): Targets all non-strength-tested Class 3&4 and Class 1&2 HCA pipelines operating greater than 30 percent SMYS, and pipe subject to manufacturing-related threats operating less than 30 percent SMYS.

Phase 2 (2015-2025): Targets everything else, including non-strength-tested urban pipelines without manufacturing threats operating below 30 percent SMYS, Class 1 and 2 non-strength tested pipeline segments and all pipeline segments not tested to Sub-part J requirements.

PSEP Phase 2 implementation plan is expected to be filed in November 2013.

Phase 1 Workstream	Total
Strength Testing (Miles)	783
Pipe Replacement (Miles)	185
ILI Upgrades (Miles)	234
Valve Automation (Valves)	228

Phase 2 Workstream	Total
Strength Testing (Miles)	1,700
Pipe Replacement (Miles)	250-500
ILI Upgrades (Miles)	2,800

Phase 1 (2011-2014) Breakdown

Workstreams	Project Count	Quantities				
		2011	2012	2013	2014	Total
1. Pipe Modernization						
Strength Testing (Miles)	165	236	185	204	158	783
Pipe Replacement (Miles)	149	0.3	39	64	82	185
ILI Upgrades / Inspections (Miles)	13	0 / 0	78 / 0	121 / 78	0 / 156	199 / 234
2. Valve Automation (Valves)		13 (As Filed: 29)	46 (As Filed: 46)	75 (As Filed: 90)	80 (As Filed: 63)	214 (As Filed:228)

Program Operations

PSEP PMO Meetings

Work Stream Meetings

Project Discussions

- PMO Leadership Team
- Hydrostatic/Pressure Testing
- PMO Operations Council
- Pipeline Replacement, Valve Automation, In Line Inspection (ILI)
- Cross Functional Leads
- Change and Risk Management Boards

cts

tional Groups

Environmental Management Project Support

Customer Outreach

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Overview and Key Responsibilities

- **Customer Impact works with customers to educate and provide information on pipeline projects impacting communities we serve.**

- Key metric: Minimize customer concerns by communicating honestly and often. In 2012 PG&E reached out to customers with:
  - 178,004 customer letters
  - 500,027 automated phone messages
  - 67 open houses

- Keys to success:
  - Keep Regional leads in the loop on project progression and possible issues
  - Local Customer Impact field specialists are assigned to work with customers on each project
  - Conduct customer surveys to measure effectiveness and make any necessary adjustments to messaging and approach

Customer Outreach Process

Example (StrengthTesting)

Two Weeks Prior to Mobilization
Pre-test letters are mailed to customers

One Week Prior to Mobilization
Sensitive customer outreach

One Day Prior to Venting
IVR calls are made

Between Mobilization and Venting
Local Open House event takes place

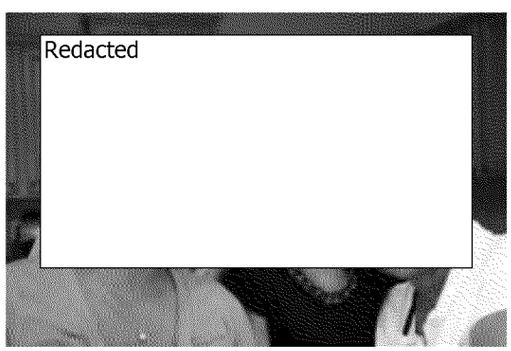
One Day Prior to Hydro Test
IVR calls are made

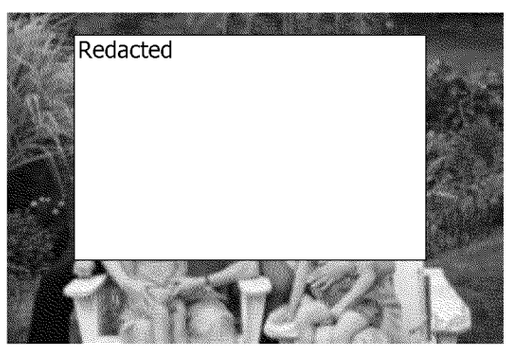
One Day Prior to Tie In Purge
IVR calls are made

Line Tie In Completed
Post-test letters are mailed to customers

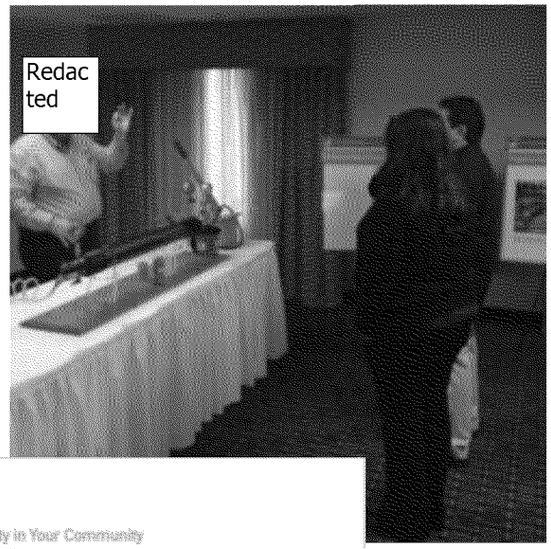
Pre-Mobilization | **Mobilization** | **Venting** | **Hydrostatic Test** | **Tie In**

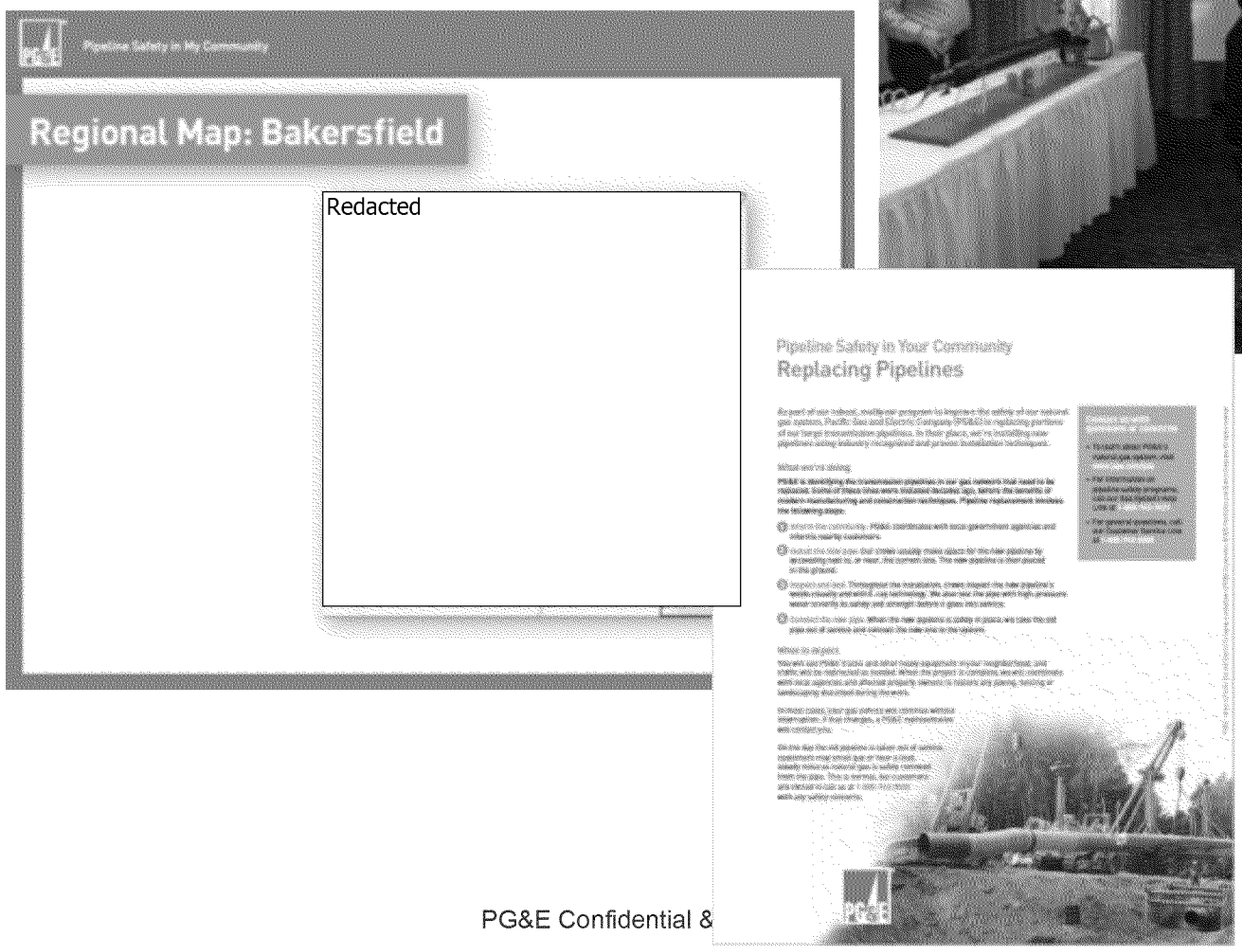
Between Venting and Testing
Canvass test area





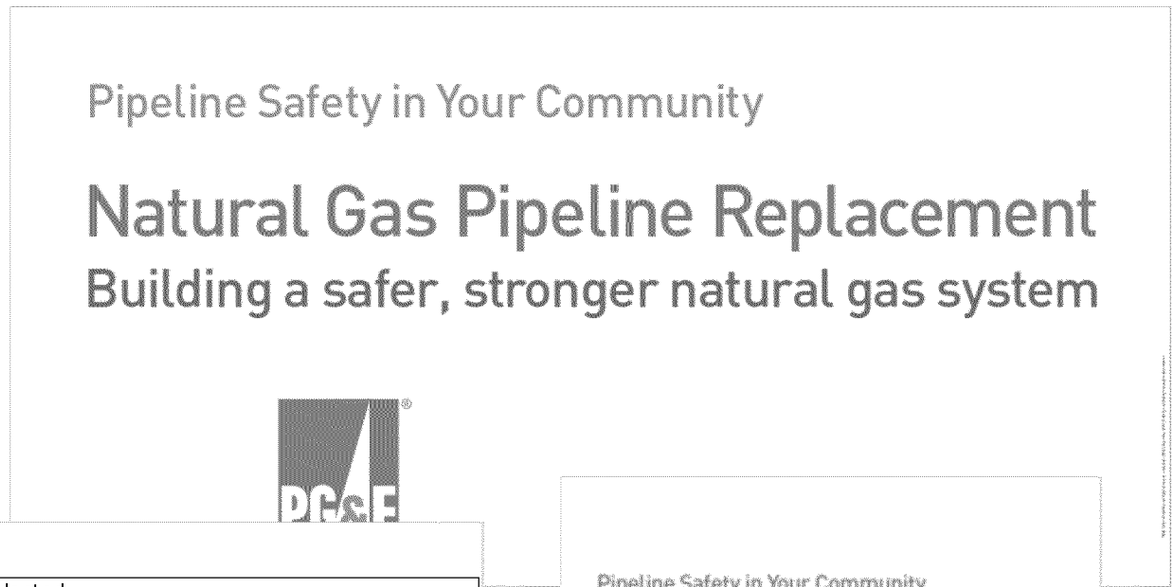
- Exhibit boards
- Fact sheets



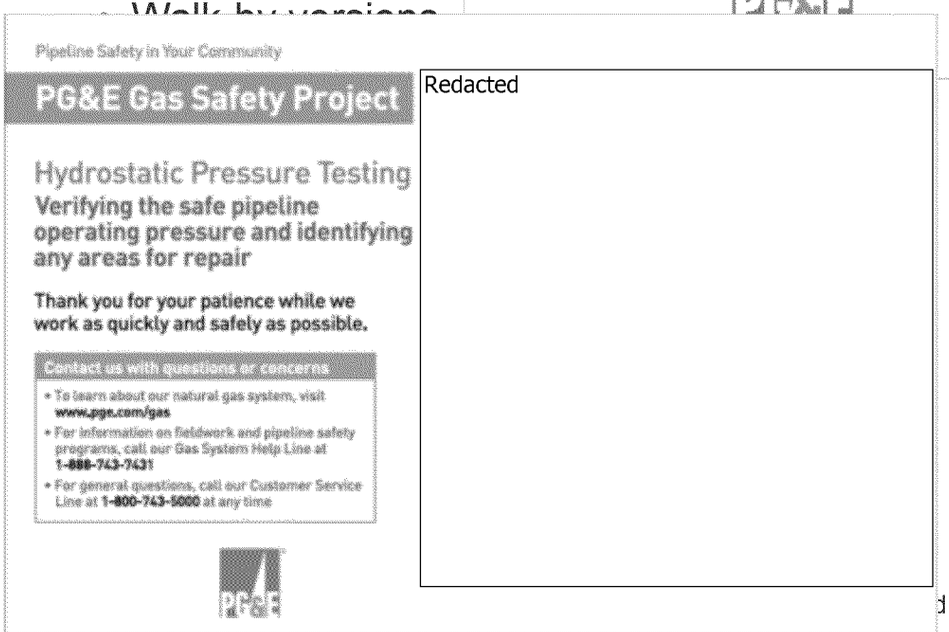


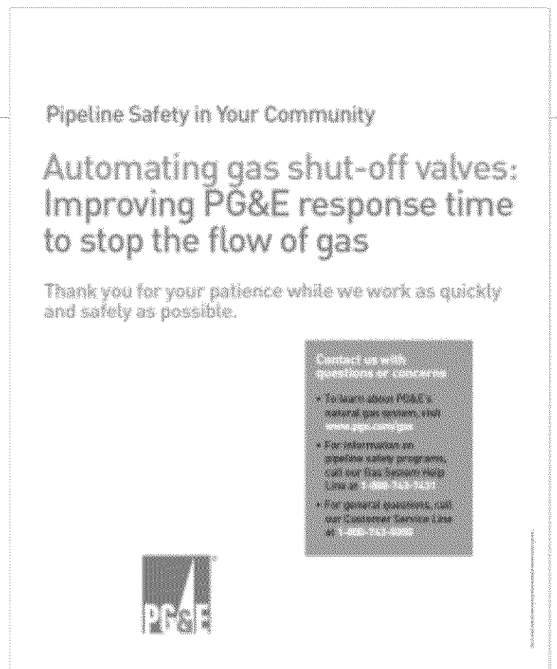
Construction Site Signs

- Drive-by version



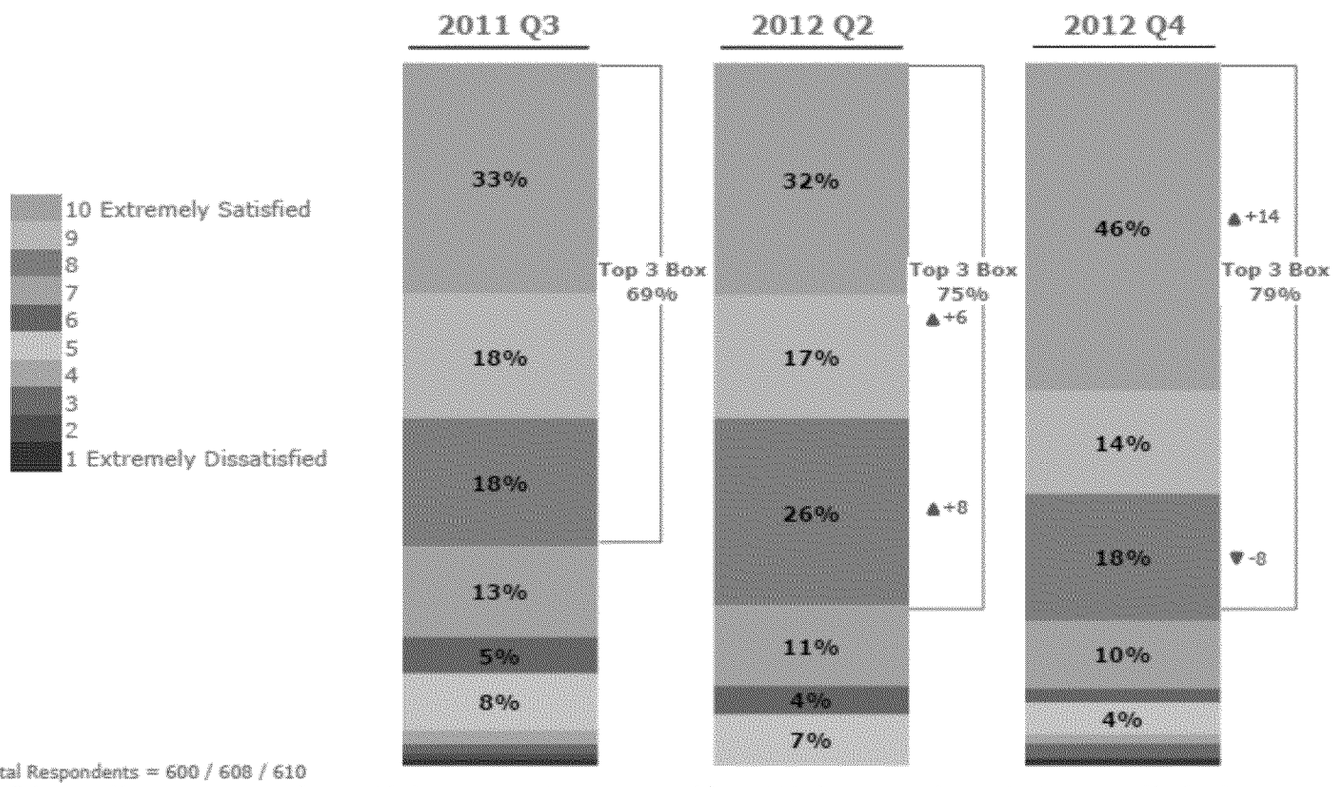
- Walk-by versions





Overall Satisfaction with PG&E Communication

- Satisfaction with the communication is consistently high. In fact, satisfaction was significantly higher in 2012 Q4 than it was for either of the two previous waves.

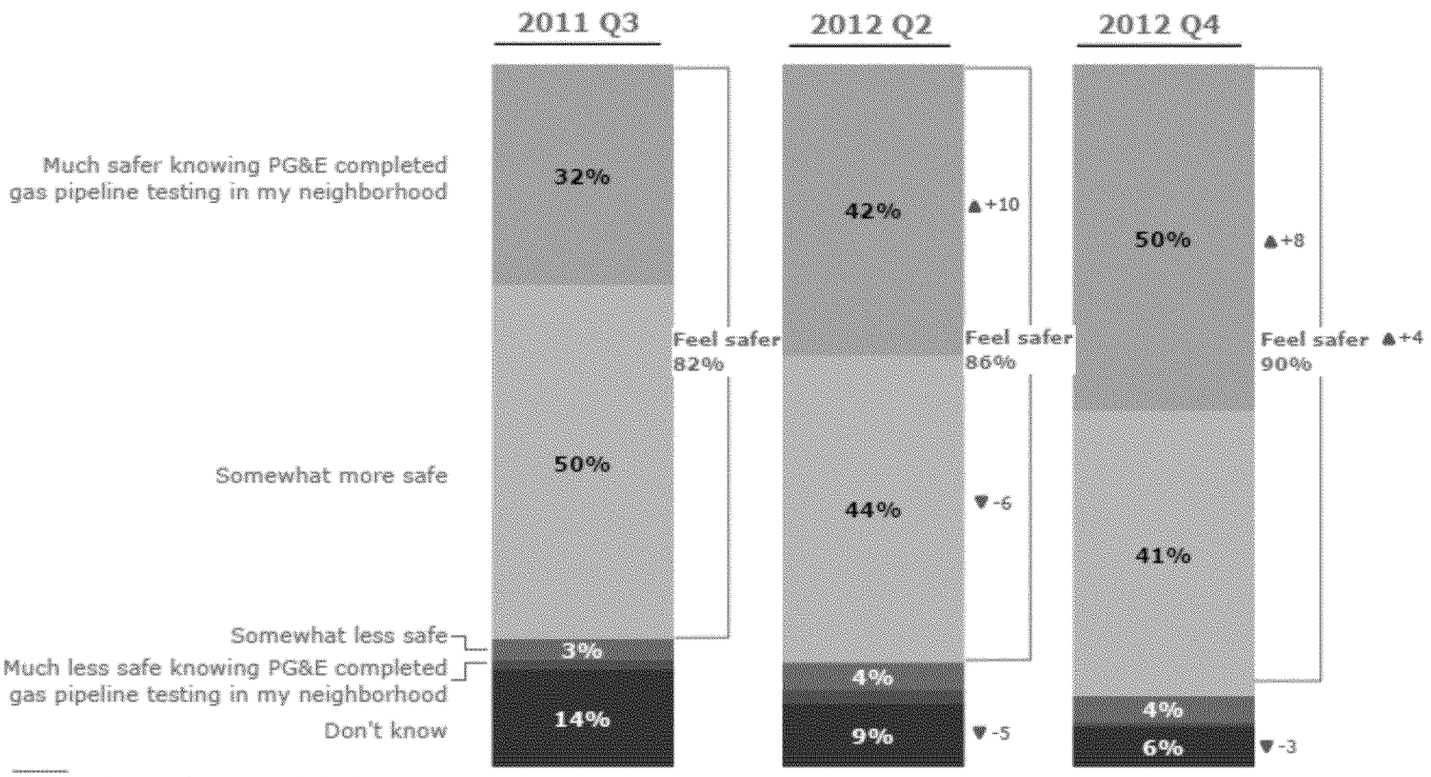


Base: Total Respondents = 600 / 608 / 610

Q.5 Overall, how would you rate your satisfaction with the communications you received from PG&E about gas pipeline testing in your neighborhood?

Impact on Safety and Assurance

- The percentage of customers who said they feel safer as a result of PG&E gas pipeline testing is at an all-time high, with nine in ten saying they feel safer as a result, compared to four in five in 2011.



Base: Total Respondents = 600 / 608 / 610
Q.19 Would you say you feel...?

Planning

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Strength Test (ST) Planning – Key Responsibilities

Key Responsibilities

- **Decide which Pipeline Segments will be Tested**
  - PSEP Filing
  - Data Validation, MAOP Records & development of Pipeline Feature Lists (PFL's)
  - Integrity Management
  - Class Location Changes
  - Pressure Reductions
- **Develop Annual Schedule of Tests**
  - Balance of multiple constraints
- **Approve any Schedule or Scope Changes**
  - Coordinate clearance date changes with Gas control
- **Track Program Progress and Document Changes**

Strength Test (ST) Planning - Goals

Planning Goals

- Safe and Reliable Gas Transmission System
- Meet Critical Deadlines and Complete Mileage Goal
- Balance schedule needs of all stakeholders
- Communicate effectively with Gas Control and serve all customers

Schedule Constraints Considered

- Customer – critical load periods avoided if shutdown required, choose summer period for extensive digging work around schools
- Operations – avoid taking parallel or back-up systems out at the same time, avoid winter load period from Nov – Mar, summer outage for strained systems
- Resources – spread strength tests i.e. no more than 15 in a month, and avoid Monday clearances and back-to-back clearances or tie-ins in same Division, availability of CNG/LNG equipment
- Environmental – avoid bird nesting season for known bird areas, schedule tests near wetlands in dry season (August, September)

Current Status

PSEP Goal of 204 miles either strength tested or records verified in 2013

- Have about 50 miles with possible records verified
- Have about 170 miles with approved scope for strength testing
- About 63 tests currently planned for 2013
  - About 24 tests from 2012 PSEP Plan
  - About 32 tests from 2013 PSEP Plan
  - About 7 tests from 2014 PSEP Plan
  - About 30 miles of current 2013 ST program is being deferred
- Working to identify additional strength tests

PSEP Goal of 158 miles either strength tested or records verified in 2014

- Validating data to determine if segments meet CPUC criteria
- May propose additional segments

Expectations

- **All Strength Tests will include a Spike Test**
  - Each strength test will have a test plan prepared by ST Engineering
  - On rare occasions when a spike test can't be done, ST Engineering will inform the CPUC

- **RCP will determine whether each test has passed based on their computer model**

- **The Mercury Assessment and Cleaning (MAC)Team will provide guidance and advice if high levels of mercury are found**

- **PG&E expects ST Engineering to be notified for further direction if:**
  - Something unusual is uncovered
  - Construction needs to differ from the drawings

Pipeline Replacement, Valve Automation, In-line Inspection, (PVI) Planning – Overview and Scope

Overview and Key Workstreams

- Pipeline Replacement
- Pipeline In Line Inspection (ILI) Retrofits
- Valve Automation, Automatic & Remote Control Valves (ACV + RCV)
- Pipeline Pressure Tests

Defining Program Scope (Who, What, Where, When, How)

Who

- PSEP Program Witnesses/Leads (Engineering, Hogenson, Campbell, Stracke, Crosby)

What

- Finalize project scope for engineering based on Pipeline Attributes (age of install, seam type, girth welds, Class Location, HCA, pressure test history/records, PIR, mainline valve spacing (miles))
- Pressure test or replace untested pipe located within Class 4, Class 3 and Class 1 & 2 HCA's
- Automate valves on P/L's located within Class 3 with PIR > 200', plus major fault crossings
- Validation of pipeline segment data using pipeline features list.
- Pipeline Modernization Decision Tree
- Valve Automation Decision Tree

Defining Program Scope (Who, What, Where, When, How)

Where (Pipeline)

- The project scopes have defined lengths based on pipeline attributes and the CPUC Decision
- While it may be more efficient to test/replace an entire P/L or between stations this is typically not an option (not Phase 1 priority).
- Automate or replace existing Main Line Valves (MLV's)
    - Valve, Stations and Pipeline future pigability
- Pipeline Routing Considerations
    - Easement vs. Franchise
    - City, County, land-owner input
    - Environmental Impacts (streams, rivers, threatened and endangered plants & species)
    - Constructability

Where (ILI)

- Project scope defined by review of the Pipeline Features List (to determine pipeline features that must be cut-out/replaced.

Where (Valve Auto)

- Project scope defined by detailed engineering design review of the automation plan for each station identified it he filing.

Defining Program Scope (Who, What, Where, When, How)

When

- Program construction work was spread out over 3.5 years 2011 - 2014
- Focused on high risk – high priority pipeline segments in urban areas (PIR-potential Impact Radius)
- Construction/project execution metrics, increases every year.
- Project permitting can take 1 to 2 years (EIR, CEQA)
- Permitting Agencies
    - USF&WL, CAF&G, BLM, SLC, Army Corp, Flood Protection Districts
    - City and Counties, Caltrans, 3rd party utilities
- Permitting Requirements & Conditions
    - Environmental
    - Local (permits, work hour restrictions, lane closures traffic control plans, 3rd parties)
- PG&E Gas Operations
    - System and resource limitations (clearances, lng, cng, personnel),
    - Customer Impacts

Defining Program Scope (Who, What, Where, When, How)

How

- PSEP PMO
- Multiple Organizations & Contractors working towards the same goals
- PG&E Work Groups
  - Land Survey, Land Rights, Permitting, Environmental Management, Law
  - Safety, Engineering, Estimating, Project, Contract & Construction Management, QA/QC
  - Sourcing, Materials, Inspection, General Construction, Gas M&C Districts & Divisions
  - Business Finance, Governmental Relations, Regulatory Relations, Gas Control
- Contractor Support
  - Land Survey, Permitting, Environmental Management
  - Safety, Engineering, Estimating, Project, Contract & Construction Management
  - Materials, Inspection, Construction

Questions?

Engineering

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Overview and Key Responsibilities

- Engineering confirms the test section minimum requirements for scope of work; test pressure and duration, test section isolation, piggability impediments and upgrades and confirm PFL (existing) data
- Contractor input for proposed endpoints, laydown areas, test procedures, logistics.
- Achieving the scheduled milestones and providing rapid response for identified field changes.

Key Documents Developed by Engineering

- Construction Drawings
  - Includes hydrotest work and capital installations needed for piggability
- Strength Test Pressure Reports
- Site Specific Test Procedure

Overview of the Design Drawings and Test Procedures, Detail Review:

Select a simple As Built example and review the key details

General Drawing Layout

- Key Drawing details
- New enhancements for 2013

General Test Procedure Layout

- Key site specific details
- New enhancements for 2013

Approach to Engineering Hydrostatic Tests

- Engineer safe hydrostatic test
- Isolate test section
- Evaluate valves and fittings
- Minimize impacts to Operations, Public & Environment

Incorporation of Spike Tests (if required)

- Spike Testing will identify a critical flaw during the spike period , which is scheduled to occur in the first 30 minutes of the test

Adherence to Site Specific Test Procedures

- Procedures include cleaning, filling, patrolling, spill response, testing, de-water and drying sequences
- Hold points are strictly enforced
- Revisions must be approved by the appropriate discipline

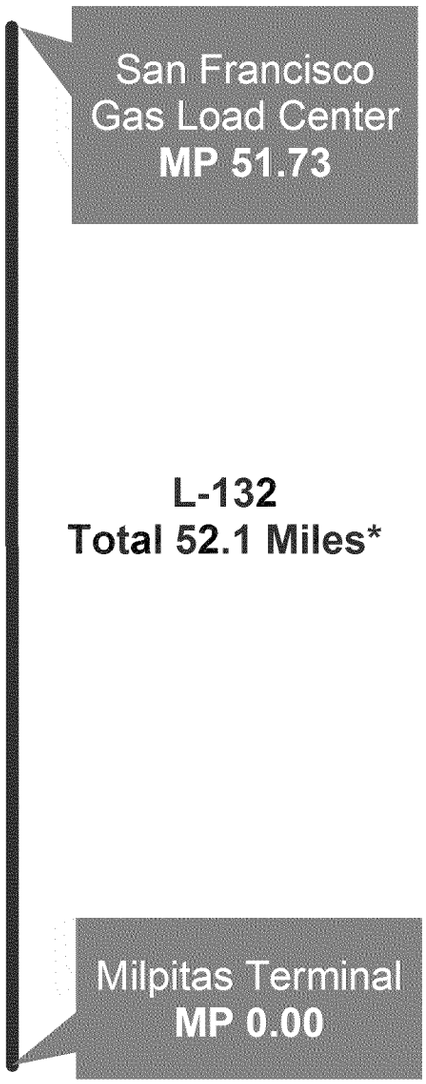
Communications to Engineering

- Construction Coordinator Supervisor ➔ Engineering ➔ Lead Engineer
- Leverage information provided on drawings

Hydrostatic Test Results Through December 31, 2012

	2011 MILES Complete	2012 MILES Complete	Total Miles Complete since 2011
Total Miles Hydrostatically Tested	163.6	174.6	338.2
Total Mileage with Records Verified	50.9	27.8	78.7
Total Miles Addressed	**214.5**	**202.4**	**416.9**
Total Miles Proposed in PSEP	**236.0**	**185.0**	**421.0**

Line 132 Hydrostatic Test Status



LINE 132	MILEAGE
Strength Tested in 2011	37.0
Strength Tested in 2012	12.6
Previously Strength Tested	2.5
TOTAL MILEAGE	**52.1**

Remaining Sections to be Strength Tested

- Short segment at Martin Station – Planned replacement in March 2013 with station rebuild
- 3 feet at San Francisco Gas Load Center – Replacement not yet planned

Results of Testing

- One rupture due to Mechanical Damage
- One leak from a corrosion pit

** This does not include 1.6 Miles of out-of-service pipe section Involved in San Bruno Incident*

Summary of Test Failures in 2012

- Leak on DFM 2405-01, 4.5 inch diameter, 595 psi MAOP, 0.156 wt, Grade B ERW, Test PR-002, Fremont
  - Cause: Corrosion at damage point from third party strike
  - Repair: Section of pipe cut out and replaced

- Leak on Line 210B, 16 inch diameter, 650 psi MAOP, 0.281 wt, X-42, SSAW, Joint Factor of 0.80, Test T-90-12, Suisun City
  - Cause: Crack in Gear Casing on 12-inch diameter blowdown valve installed in 2009
  - Repair: Valve was replaced

- Leak on DFM 1614-01, 6.625 inch diameter, 300 psi MAOP, 0.188 wt, 30,000 psi SMYS, Seamless, Test TIM-136-12, Lodi
  - Cause: Pinhole in Girth Weld
  - Repair: Section of pipe cut out and replaced

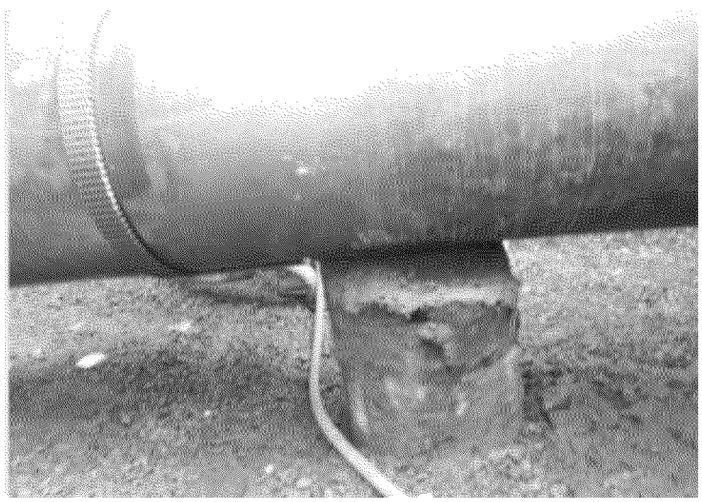
Leak on Line 210B in 2012

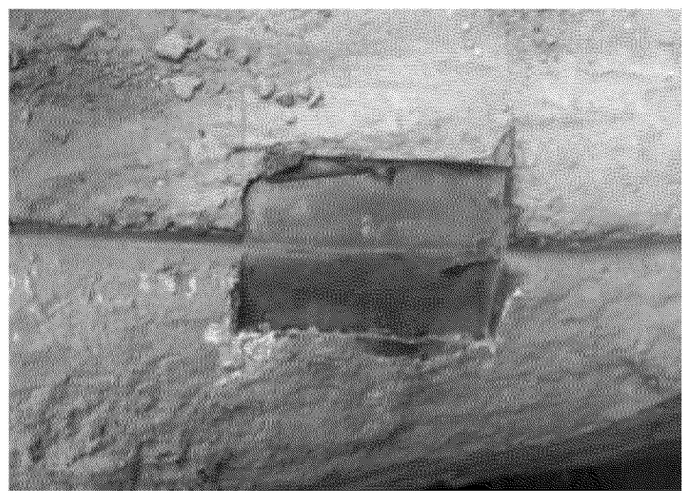
Leak on Line 210B in 2012

Leak on DFM 1604-01 in San Jose in 2012

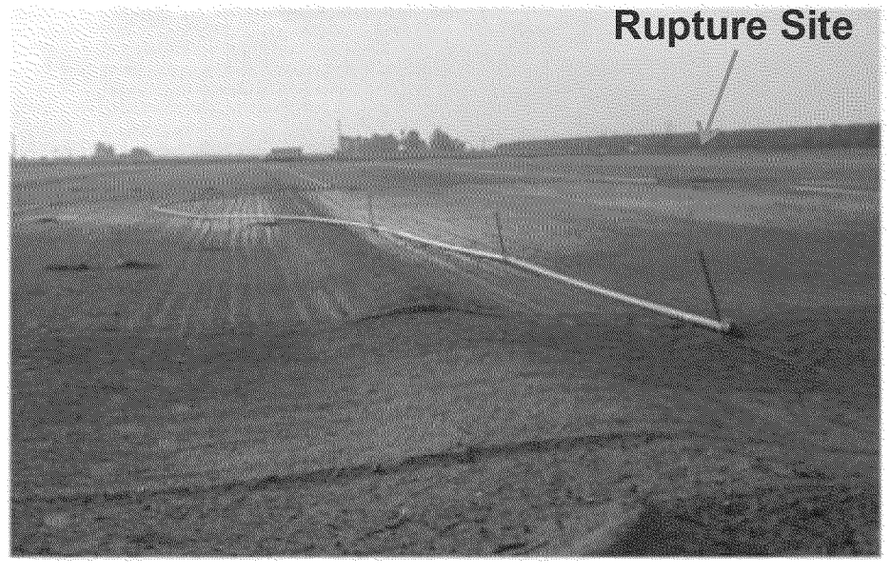
Laminations on DFM 1814-05 in 2012

Line 153 Findings in Oakland in 2012



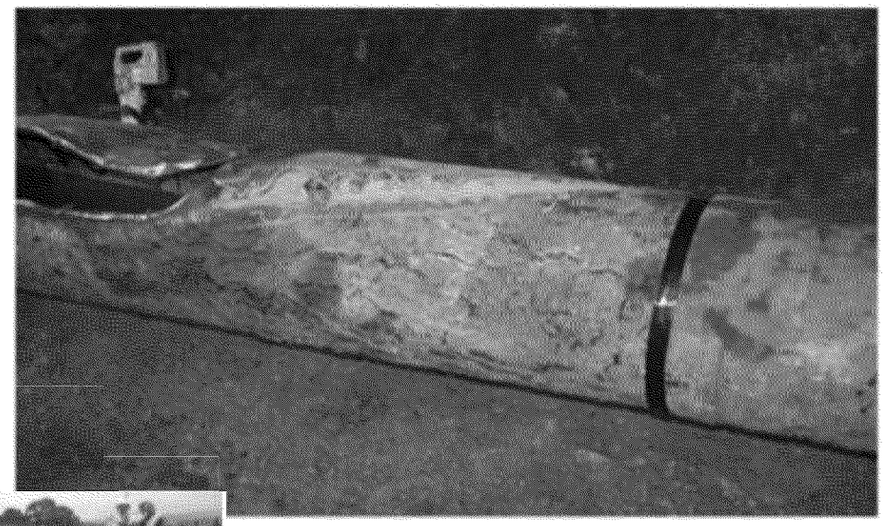


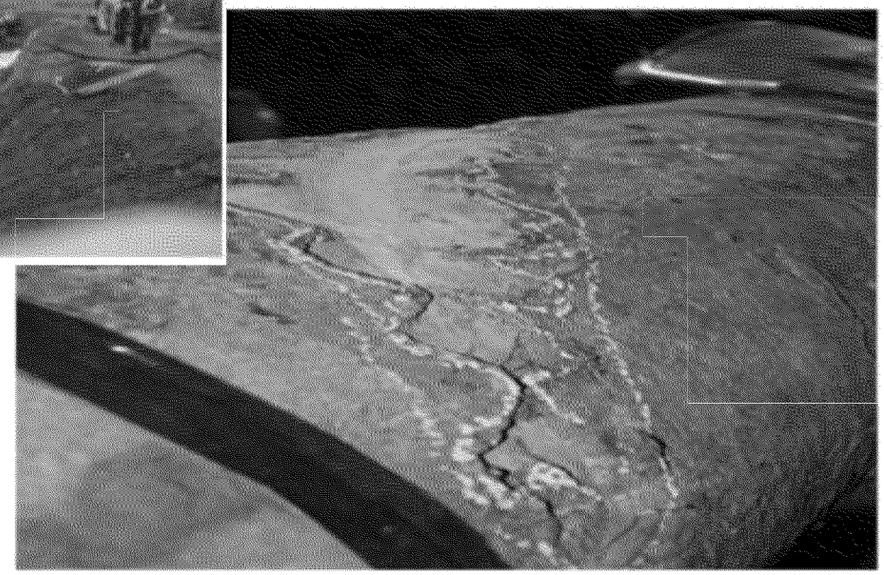
Line 300B Rupture in Bakersfield in 2011



- 998 psig at rupture (757 MAOP)
- Rupture at 95% SMYS
- Seam Failure - Hot Crack and Incomplete Seam weld
- Replaced with 84' of new pipe
- Passed new hydrostatic test

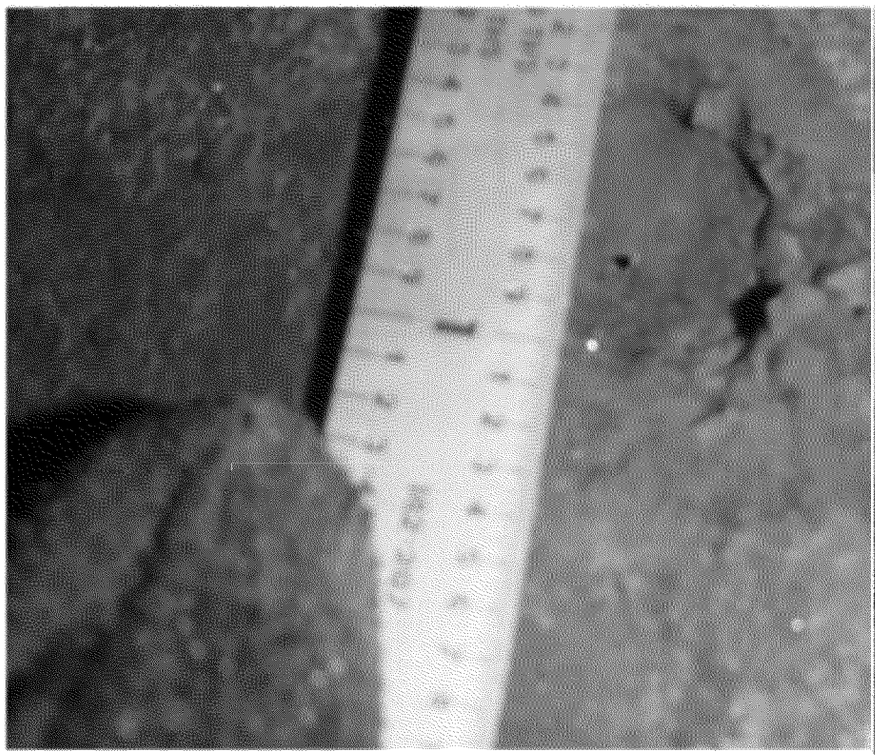
Line 132 Rupture in Woodside in 2011





- 550 psig at rupture (400 MAOP)
- Mechanical damage from equipment
- Replaced with 60’ of new pipe
- Passed new hydrostatic test

Line 132 Leak in Palo Alto in 2011



- 525 psig at leak (400 MAOP)
- Leak caused by corrosion pit
- Repaired by welding full encirclement sleeve on pipe
- Passed new hydrostatic test

Overview and Key Responsibilities

- What we do: Engineering identifies "required" scope of projects based on data validation and oversees project engineering. Project Engineering includes routing, pipeline design, permitting, land acquisition, construction methods, drawing preparation, Bill of Materials (and ordering long lead-time items).
- Key metrics : Complete project engineering on time to meet construction schedules and coordinate with other projects planned in area/system. Completeness and Accuracy of Engineering Drawings.
- Keys to success: Communication with and involvement of construction, operations and transmission engineering, distribution engineering and all support organizations involved in making the project happen.

Lessons Learned

- Early project scoping
- Expedite land and environmental survey work
- Expanded Pothole and third party delineation work
- Meet with cities during routing as necessary
- Involve alliance construction contractors in project design
- Overplan work
- Communicate/Coordinate continuously

Review Pipeline Drawing Template

- Job estimate
- **IFC Drawings**
- Strength Test Pressure Reports (STPRs)
- Welding Procedures
- Operating Maps and Diagrams

Overview and Key Responsibilities

- What we do: Engineering identifies “required” scope of projects based on Valve Automation Decision Tree and Gas Operation needs, oversees project engineering.
- Utilizing two Contract Engineering Firms; EN Engineering and AECOM, plus PG&E Engineering
- Key metrics : Complete project engineering, material procurement on time to meet construction schedule. Completeness and Accuracy of Engineering Drawings.
- Keys to success: Communication with and involvement of support Organizations

Construction

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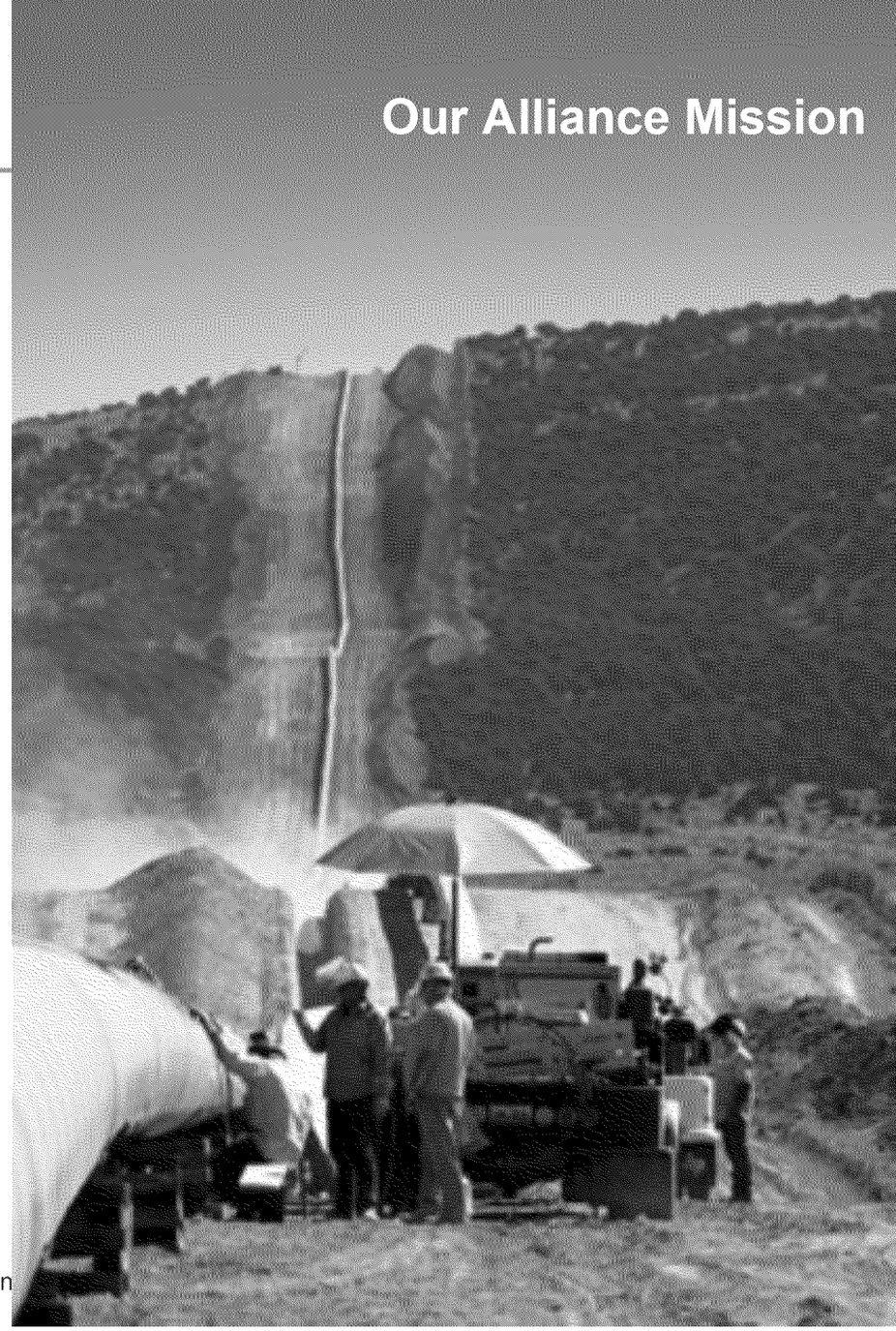
Our Alliance Mission

Collaboratively deliver projects

- Safely
- In a Quality manner
- On Time
- Within Budget
- In an Environmental & Permit Compliant manner
- With minimum impacts to our Customers and Communities

We need collaboration from all stakeholders and players to succeed.



Nothing is more important than public and employee safety

- Everyone on site not only has the right to stop unsafe work but the obligation to do so
- Maximum 6 – 10 Work Schedule - Mondays to Saturdays – No Sunday work. Any work beyond these hours will require prior authorization from PG&E. There should be no guarantees of 60 hours per week to any staff or craft
- Improved contractual communication through Unifier
- Joint Job walks with consultants & Auditors (BV/ CPUC) during construction including – Superintendent, Lead Inspector & Consultant. Pls no wandering site alone without being accompanied by our Lead Inspector. Pls do not ask crafts inspectors for copies of materials. Pls ask for copies of any materials through the established channels.

Construction Team Role

- Oversee all aspects of Construction Activities
- Assist PG&E and Contractor Safety Team
- DOT Documentation Management and Collection
- Work directly with safety, PMs, PCs, engineering, environmental, municipalities, government relations, etc.
- Verify PG&E procedures & project requirements are followed.
- Direct interface between PG&E & Contractor via RFIs, Change Orders, etc.
- Manage inspection resources by project.
- Participate in constructability reviews.

Quality

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Quality Definitions

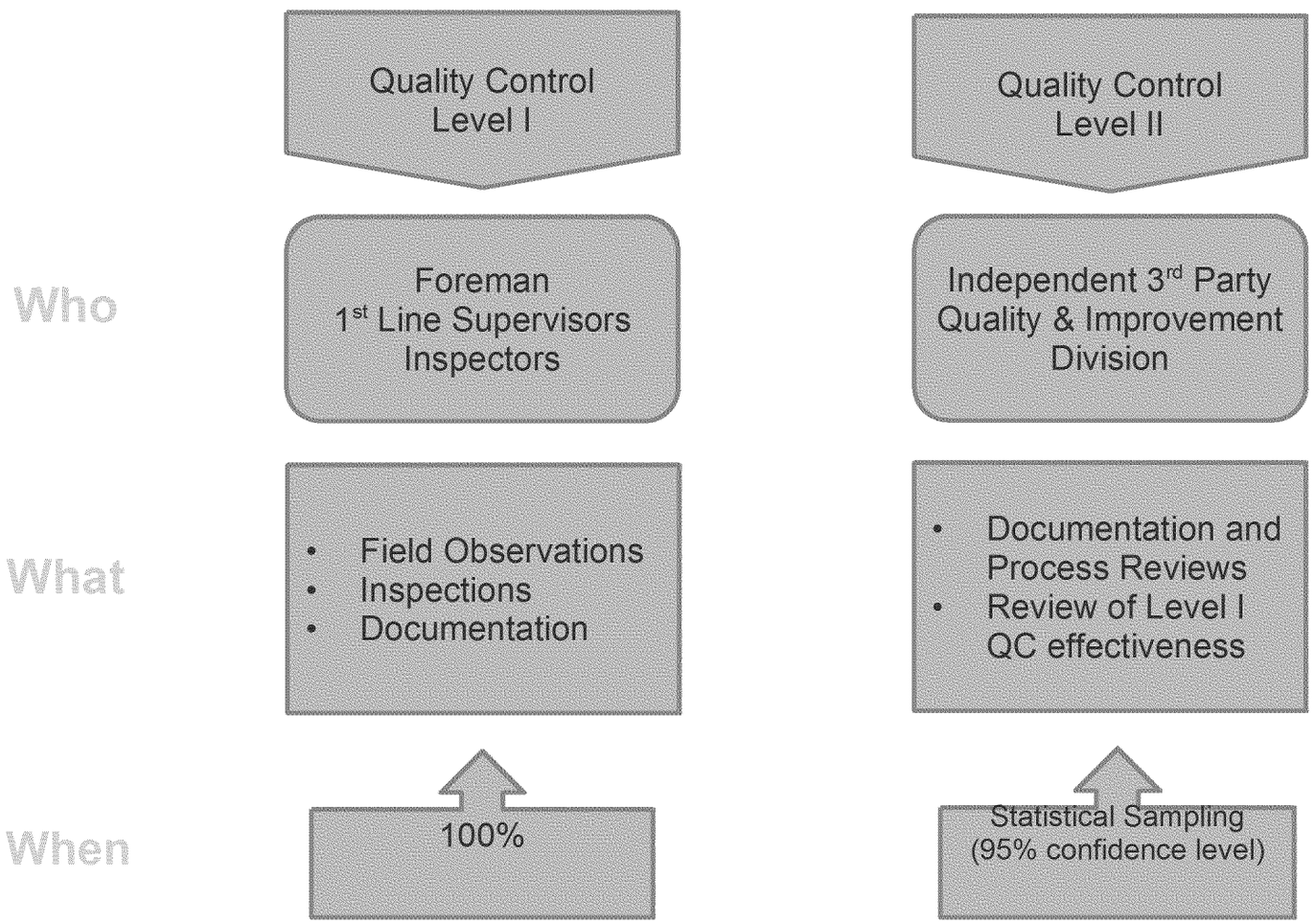
Quality Control (Level I)

Quality Control refers to the operational activities designed to control the quality of a product or service. These activities or processes must be consistently monitored, and if followed, should ensure that the work is done correctly the first time.

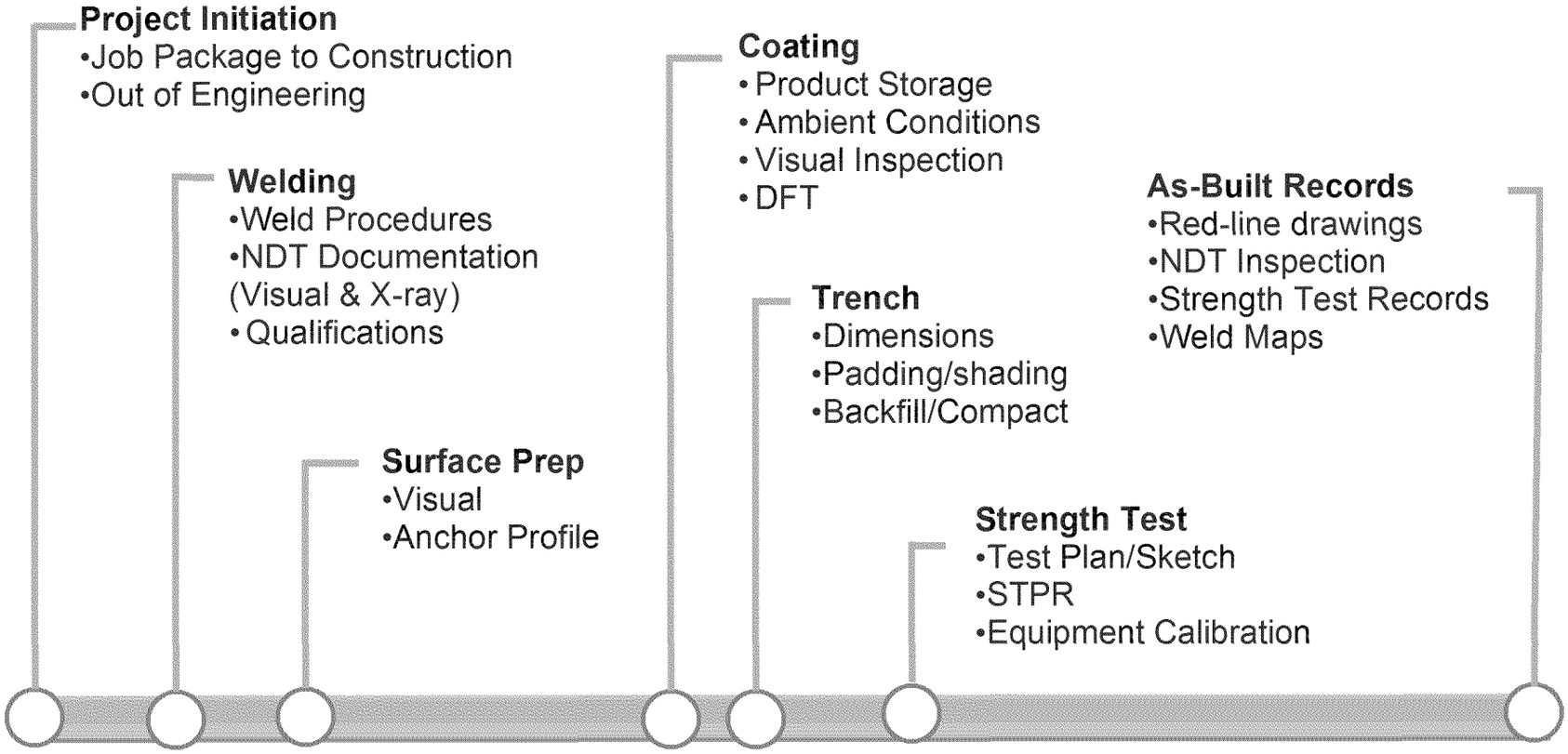
Quality Assurance (Level II)

Quality Assurance is a performance feedback loop for the QC process. Quality Assurance activities should include the regular analysis of QC results - with prompt communication to QC when results are out of range.

Quality Definitions



Key Areas of Focus



THANK YOU

END OF DOCUMENT