Arizona Corporation Commission Winter Preparedness Workshop: Pipeline Safety

October 28, 2010

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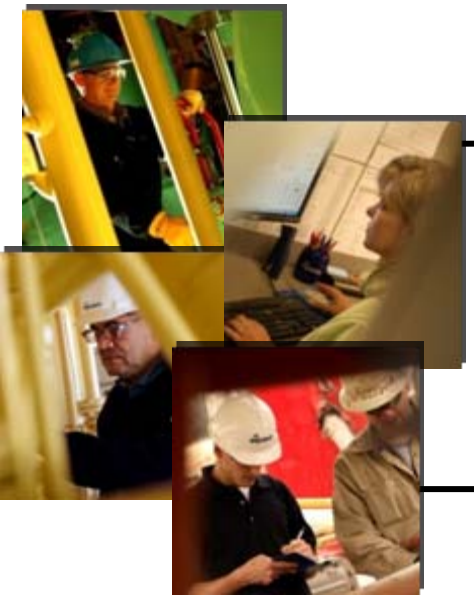

Safety as a Core Value

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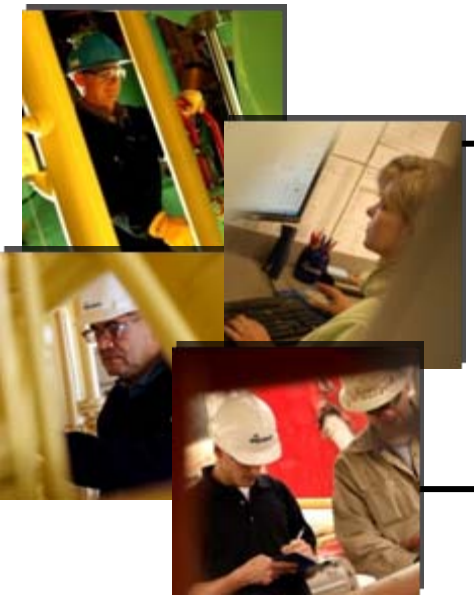
Safety as a Core Value

- Established a Board Level Health, Safety and Environmental ("HSE") Committee in 2004
  - Today, only 4 of 19 corporate peer companies have similar committees
- Appointed Senior Vice President of Pipeline Safety on August 1, 2010
- Actively involved in Industry organizations
  - Founding member of Common Ground Alliance
- Actively involved in and contribute annually to industry Research & Development for safety
- Culture of Continuous Improvement

Safety as a Core Value

- San Bruno incident
  - Terrible tragedy
  - Causes remain unknown
  - When we know, we will review findings to:
    - Learn lessons from the event
    - Assess whether EPNG has similar risks
    - Identify where practices can be improved
    - Participate in developing industry initiatives in response to incident



Pipeline Integrity in Arizona

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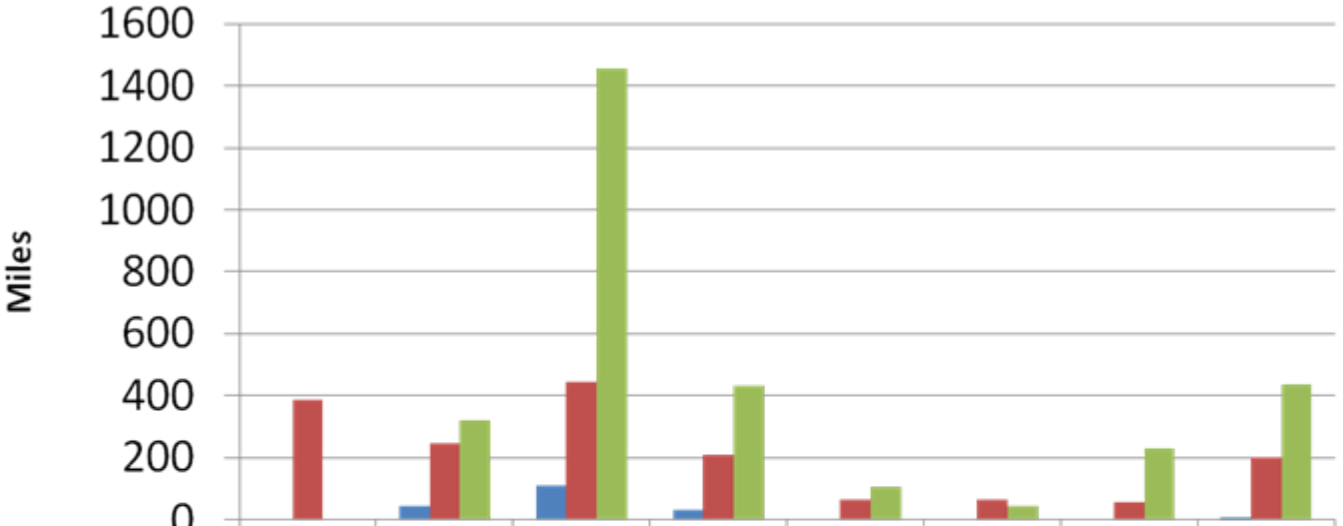
Age and Miles of Pipe in Arizona

- EPNG has 4,894 miles of pipeline in Arizona



	1931 - 1939	1940 - 1949	1950 - 1959	1960 - 1969	1970 - 1979	1980 - 1989	1990 - 1999	2000 - 2010
< 6"	3	45	110	33	0	0	1	4
6" - 20"	387	248	445	209	64	66	56	201
24" - 36"	0	320	1456	432	107	43	228	437

Pipeline Operating Life

- Public concern with “Aging Infrastructure”
  - Pipelines have no fixed operating life
  - Long life is enabled by:
    - Effective use of mitigation measures
      - Preventive maintenance, inspections, assessments, and repairs
      - Standards for design, construction, operations and maintenance
    - All tailored for condition, environment and strength

Pipeline Integrity Considerations

- Main threat to pipeline integrity is Third Party damage
  - Excavators, farmers, vehicles, homeowners, others
  - Out of sight = out of mind for many people

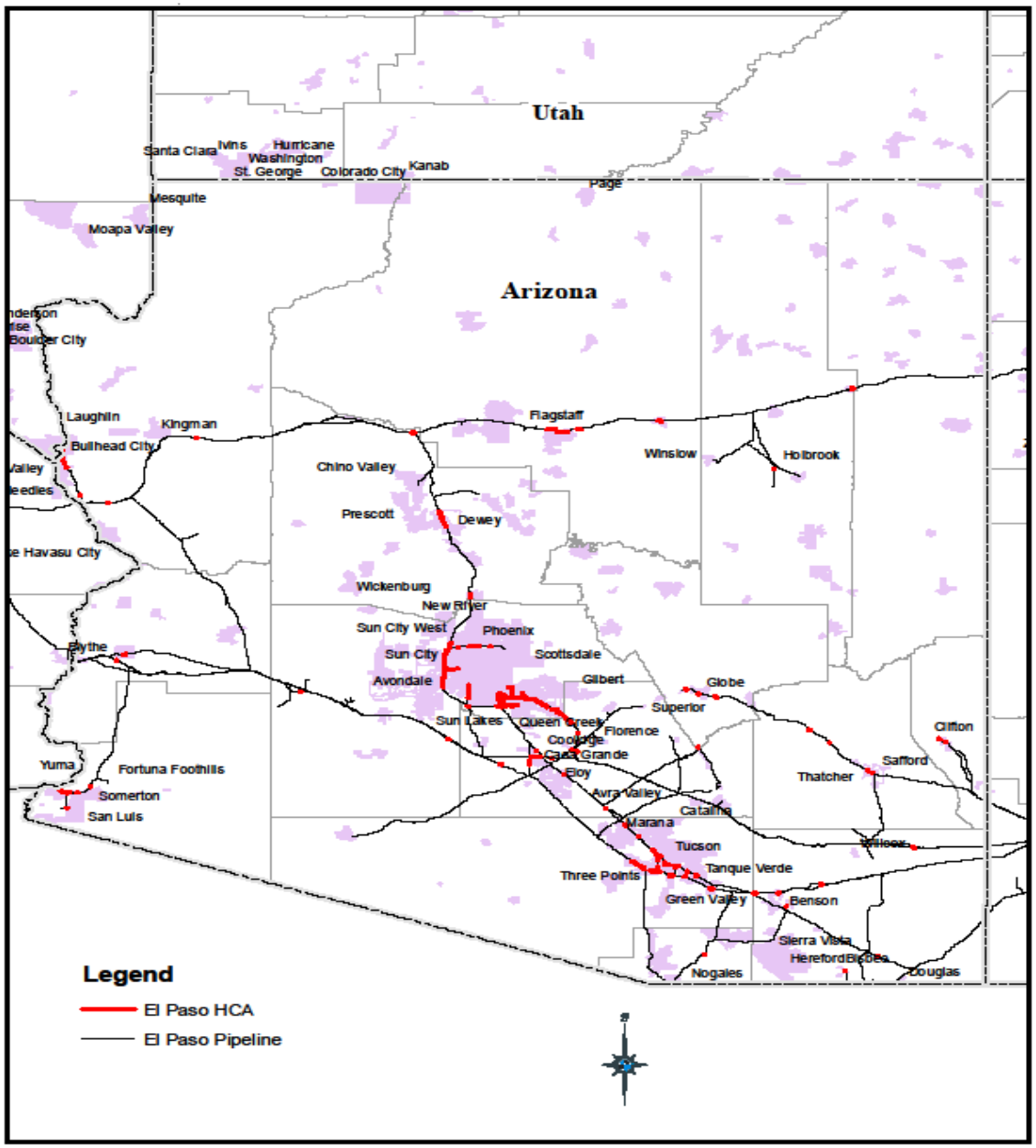
- The quality of a pipeline's integrity is also determined by many other factors including:
  - Coating type and condition
  - Pipe wall thickness
  - Operating history
  - Gas quality
  - Manufacturing process
  - Date placed into service
  - Depth of cover
  - Location
  - Construction practices
  - Maintenance history
- EPNG determines the need for pipeline replacement by assessing the above factors
- El Paso takes a comprehensive, integrated approach to safety and pipeline integrity that significantly exceeds DOT's requirements

Federal Requirements for Integrity Management Plans

- A High Consequence Area (HCA)
  - Defined by Federal Pipeline Integrity Management Rule
  - Segment of the pipeline that passes through a populated area where a potential incident may place a significant number of people at risk
  - Includes, for example, schools, motels, day care centers, hospitals
- Regulations Require Assessment
  - Of pipelines located in HCAs by end of 2012
  - Using In-Line Inspection ("ILI"), Pressure Tests, or Direct Assessment

- In Arizona, EPNG has 177.8 miles within DOT-defined HCAs

Diameter < 6" (miles)	Diameter ≥ 6" to 20" (miles)	Diameter 24" to 36" (miles)
2.3	90.3	85.2



EPNG has 177.8 miles within HCAs

Pipeline Integrity Program
What El Paso is Doing

- **EPNG System**
  - EPNG completed its Make Piggable Work in June 2010 to be able to perform In-Line Inspections
    - Ten Year Program
    - Cost approximately $422 million
  - As of today, 93% of piggable miles across the EPNG system have been inspected
- **In Arizona**
  - 4,155 miles of lines made piggable
    - Exceeds DOT requirements
    - 738 miles not piggable
      - Protected by other assessment methods to manage integrity
  - As of today, 99% of AZ piggable miles have been inspected
  - And, 17% of AZ piggable miles have had a second inspection

Other Integrity Tools Utilized by El Paso

- To identify/address the third party damage risks:
  - Blue Stake/one calls: over 20,000 tickets handled in 2009
  - Public Awareness / Damage prevention programs
  - Aerial and ground patrols
  - Erosion controls and cover surveys

- To identify/address the corrosion risks:
  - Cathodic Protection
  - Close Interval Surveys
  - Direct Assessment and Internal Corrosion Site Specific Plans
  - Operational Pigging
  - Coupon Monitoring
  - Controlling Discharge Temperatures
  - Pipeline Inspections (bell hole)

Other Integrity Tools Utilized by El Paso

- To identify/address manufacturing or construction risks:
  - Scientifically based Pipe and Coating Specifications
  - Rigorous pipe and coating inspections during manufacture
  - Pressure tests
  - Aerial and Ground patrol
  - Field Inspections
  - Leak Surveys

- To address operations and maintenance risks:
  - Experienced-based policies and procedures
  - Training, training, training
  - Operator qualifications
  - Audits (internal and external)
  - Experienced personnel

Other Integrity Tools Utilized by El Paso

- EPNG's System is Monitored Continuously
  - 24 hours/ day, 7 days a week, 365 days /year
  - SCADA provides data to Gas Control every 4 minutes
  - Gas Control receives various alarms
    - E.g., rise or drop of pressure, gas quality outside of Tariff specifications
  - Technicians on-call throughout system

- Gas Quality is Monitored Continuously
  - 100% of EPNG's receipt points have on-line monitoring
    - Points are equipped with quality assurance valves that close to control potentially corrosive constituents
  - EPNG has a robust gas quality database
    - Used to monitor quality, and
    - Track trends

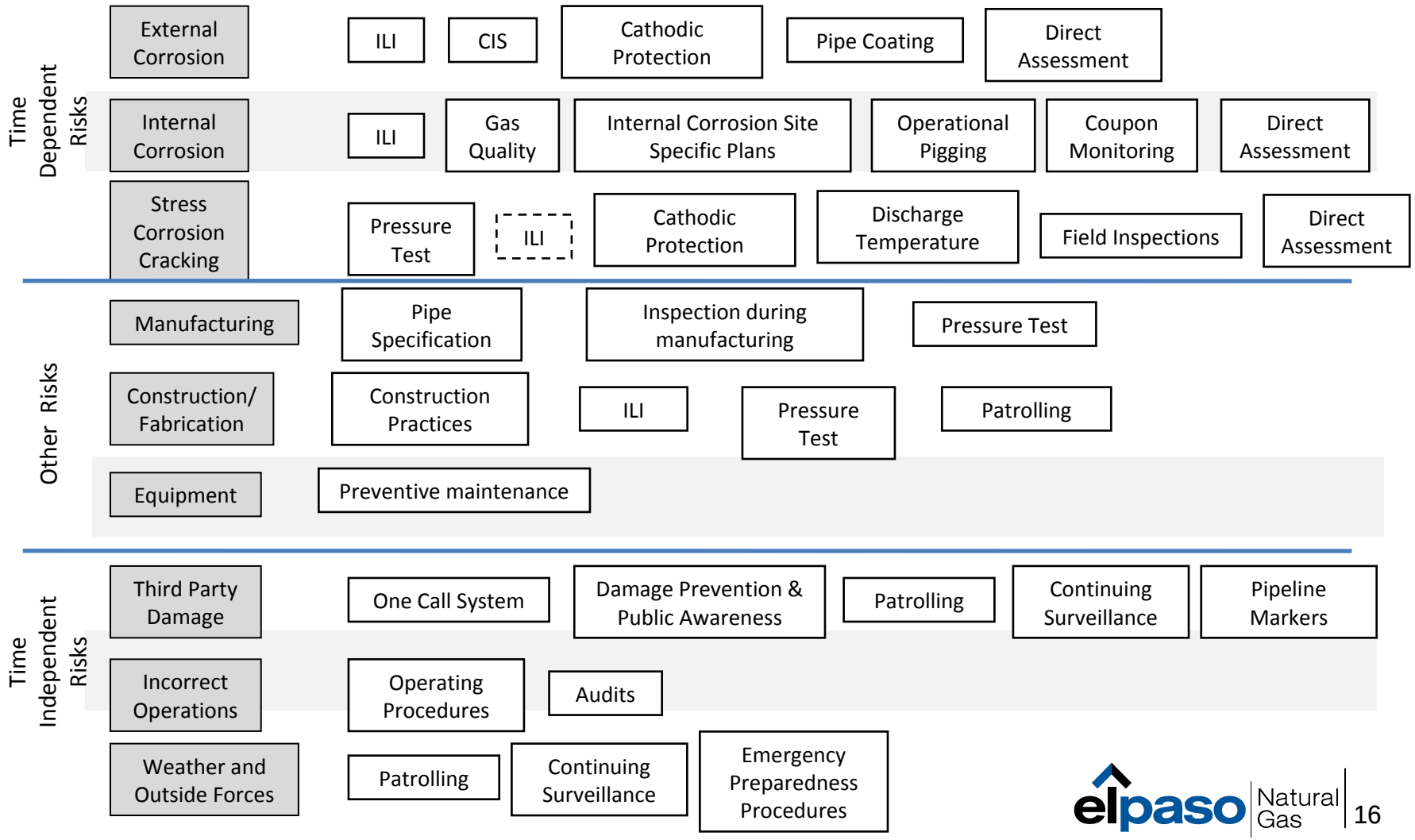
Other Integrity Tools Utilized by El Paso

- Emergency Response
  - Comprehensive policies and procedures
  - Experienced crisis response team
  - Practice through Mock Drills
    - One each year in each operating area
    - One each year at headquarters
    - In conjunction with local emergency responders
    - Lessons learned fed back into the process of continuous improvement

- Organization Structure Enhances Safety Focus
  - Subject Matter Experts support operations in several ways
    - Corrosion, ILI, Pipeline, Metallurgy, Gas Quality, Public Awareness
    - DOT Compliance Team

Pipeline Integrity Program

Summary of Risks & Mitigation Measures



Discussion

- Questions?