PHMSA Public Workshop on Pipeline Risk Assessments and Recordkeeping

July 21, 2011

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Transmission Background Information

- ≈ 45,000 miles of transmission pipe operated by Local Distribution Companies (LDCs)
- ≈ 8,000 miles of transmission in HCAs, operated by LDCs
- ≈ 62% of the pipeline system is considered to be "unpiggable" by the operator
- LDCs rely heavily on the use of Direct Assessment to perform integrity inspections, in comparison to the interstate pipeline operators

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- Top 50% of baseline assessments were required by December 17, 2007
- Remainder required by December 17, 2012

Distribution Background Information

- ≈ 2.1 million miles of piping
- Includes 1,140,000 miles of mains
- 61 million services
- Transmission pipe integrated into the system
- Steel, cast iron, plastic and other materials
- DIMP requires evaluation of the risks associated with all pipelines

All elements of DIMP plans must have begun to be implemented by August 2, 2011

Pipeline Threats

Threat Category	Time Based Behavior
Corrosion: - External - Internal - Stress Corrosion Cracking	**Time Dependent**
Defects: - Manufacturing Defects - Fabrication & Construction Defects - Equipment Defects	**Stable unless activated by a change in service conditions**
Excavation Damage: Incorrect Operation Natural Force Damage Other Outside Force Damage All Other Causes	**Time Independent or Random**

Improvements in IMP Assessments

Corrosion:

- ECDA improves on historical close interval surveys
- ILI performance improved and frequency increased
- New technology is on the horizon

Construction Defects

- ILI performance improved with new technology

Excavation Damage

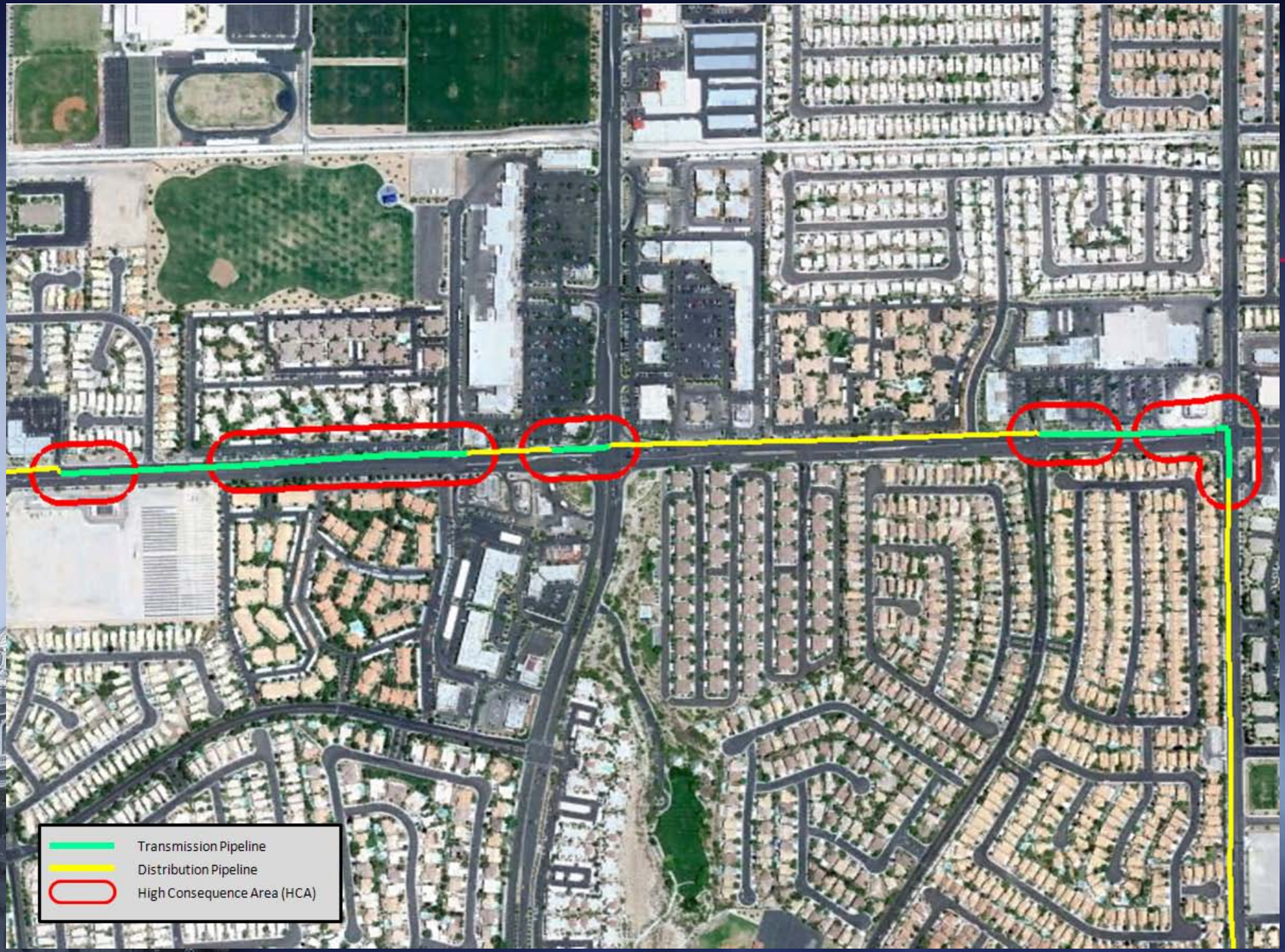
- Prevention programs improved
- PHMSA encouraging better enforcement/fewer exemptions

Incorrect Operation

- OQ program improvements
- More operators applying OQ to New Construction

Typical Distribution Operators Implement Both TIMP and DIMP

- Some program elements are identical
- Both are risk-based, but the approaches are different
- Both programs require much of the same data
- Transmission in distribution network is different from interstate operations


Transmission Pipeline
Distribution Pipeline
High Consequence Area (HCA)


Transmission Pipeline
Distribution Pipeline
High Consequence Area (HCA)

Improving the Integrity Management Process

The typical regulatory process seeks to identify gaps to make regulations more stringent or expands regulations to increase the coverage.

Closing gaps and broadening coverage does not necessarily improve safety performance.

Important to consider the effectiveness and efficiency the existing and new regulations.

Efficient and Effective?

- Requiring pressure testing for pre-1970 pipe (with no previous test records)
  - Affect on currently stable defects
  - Single feed systems
  - Embedded transmission is challenging
  - De-watering issues in urban settings
  - Unintended consequences such as internal corrosion

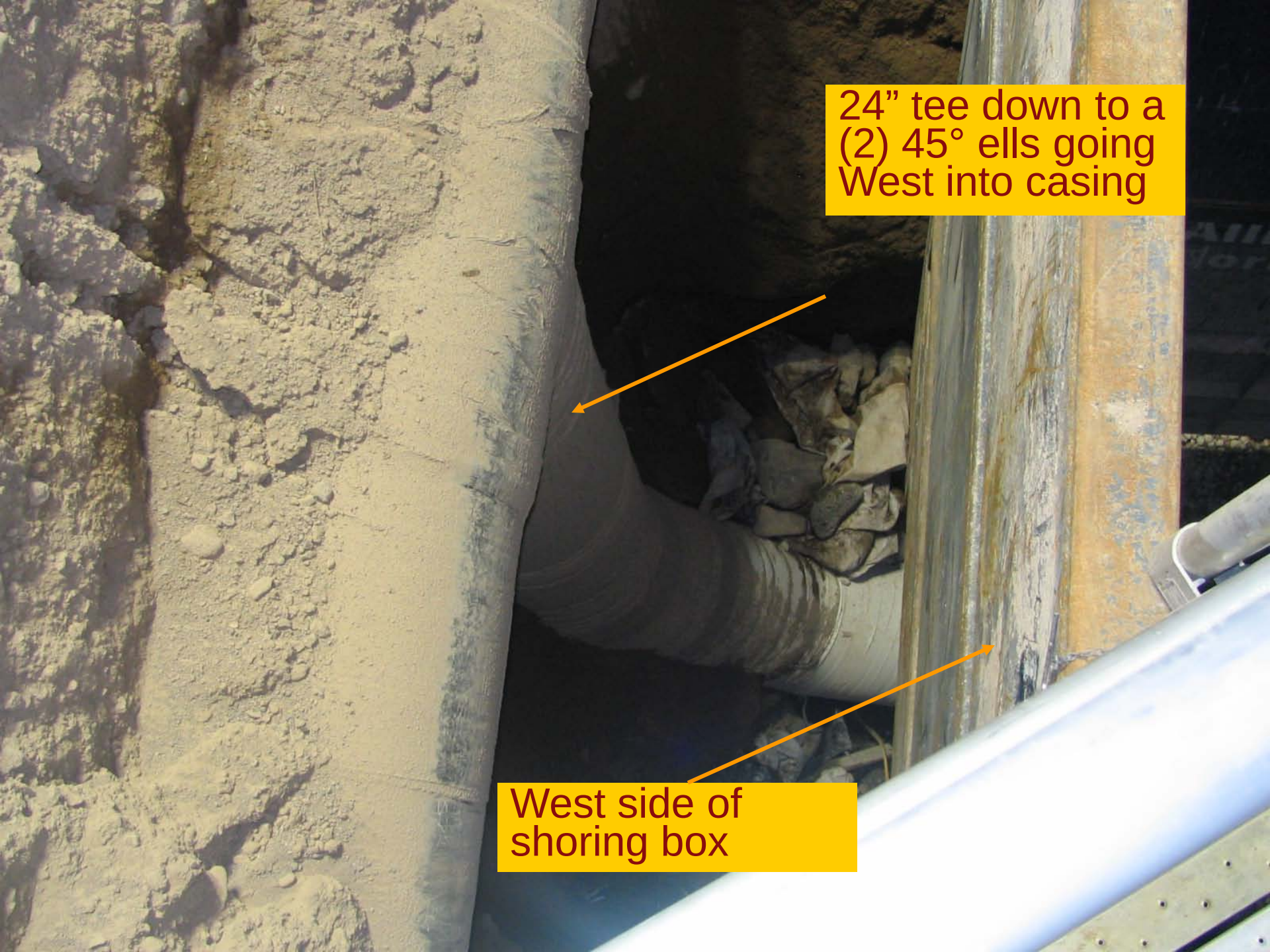
Efficient and Effective?

- Application of IMP beyond HCAs
  - Broadens the Regulation
  - Does not improve safety for densely populated or environmentally sensitive areas.
  - Pulls resources from higher risk areas where consequences from a pipeline failure are the greatest.

Efficient and Effective?

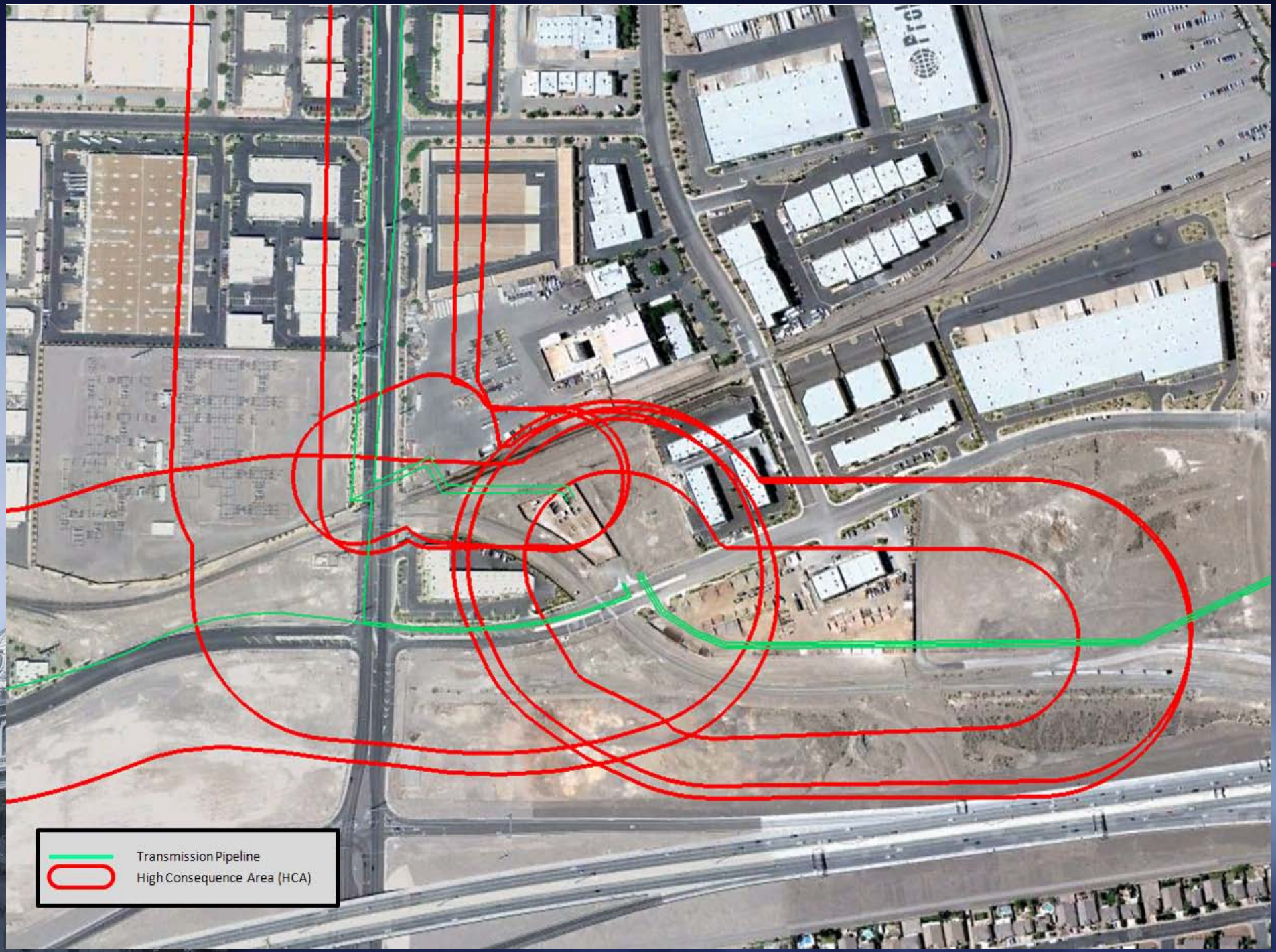
- Requiring ILI for all transmission pipe
  - ILI isn't always appropriate
  - LDCs are working to make their non-piggable lines piggable
    - The transition takes time
  - Many of the transmission pipelines embedded in distribution systems are not piggable


24” pipeline
45° ell down
90° ell into shoring box


24” tee down to a (2) 45° ells going West into casing
West side of shoring box

One Size Fits All?

- Smallest transmission line
  - 2-inch diameter
- Shortest High Consequence area
  - 7-feet long
- Lowest transmission operating pressure
  - 175 psig
- Most congested area
  - 8 overlapping HCAs


Transmission Pipeline
High Consequence Area (HCA)

Improving Integrity Management

- Keep assessments focused on densely populated and environmentally sensitive areas.
- Address LDC transmission overlap between DIMP and TIMP.
  - Some transmission pipelines are more like distribution mains than interstate pipelines.
  - Different approaches are needed.

Improving Integrity Management

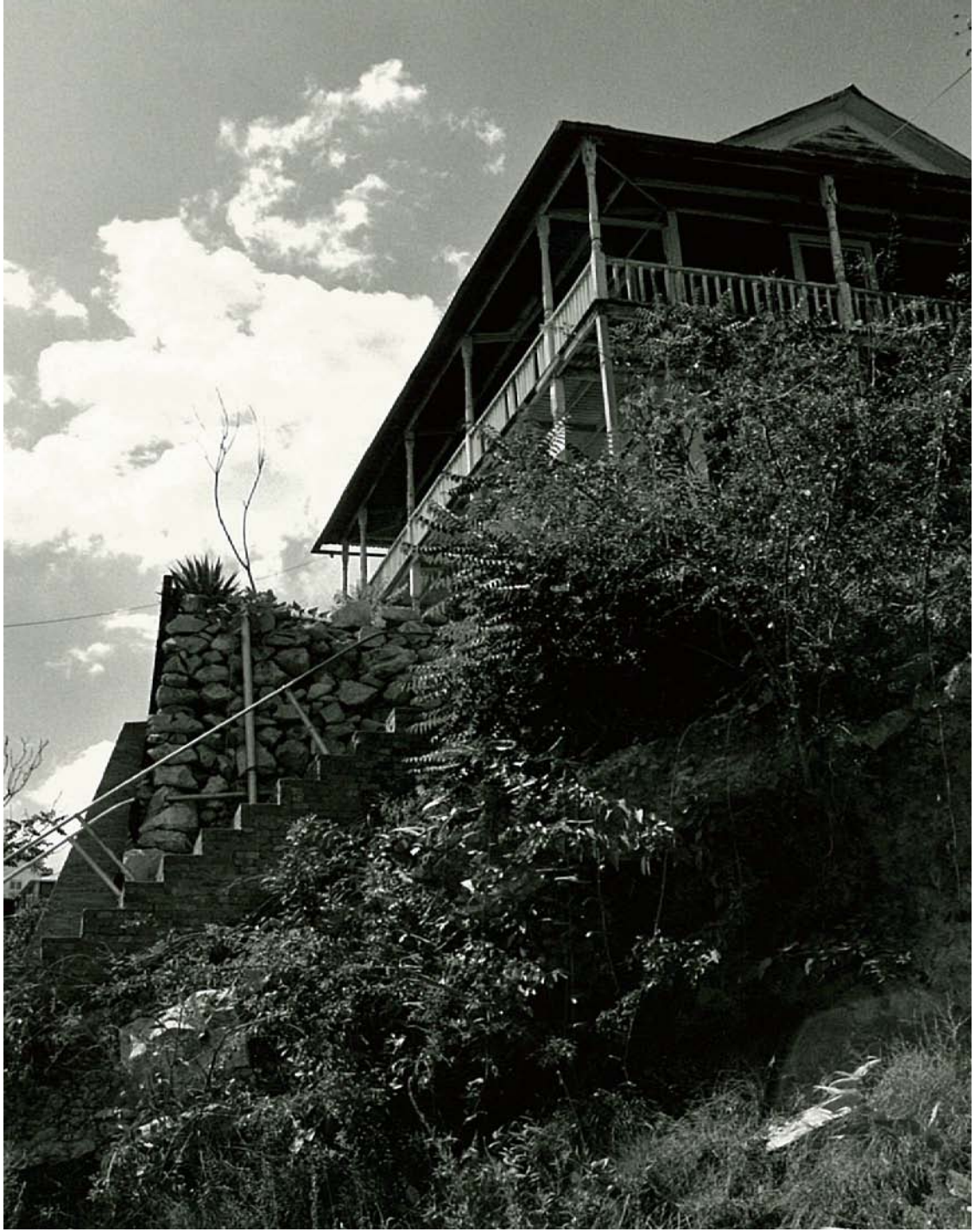
- Operators and regulators should weigh the risks and benefits of pressure testing pre-1970 transmission pipelines
  - Technical studies on the stability of defects should support the decision to pressure test
  - Evaluate alternatives
- Regulatory amendments should be technically feasible, known to be effective, and operationally efficient
  - Consider the affect on transmission embedded in distribution systems

Improving Integrity Management

- Consider collaborating on Guidance instead of additional regulation
  - Consensus process
  - Doesn't go outside of the existing regulations
  - Supported by current practices

- Form a stakeholder data analysis team
  - Analyze the effectiveness of existing regulations
  - Evaluate pipeline materials and components
  - Supports risk-based and data driven process


Rags
IN A BOX
Hertz
Hertz



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