

APGA Security and Integrity Foundation
making systems safer

Distribution Integrity Management Programs (DIMP) Rule

APGA Webinar

December 16, 2009



Distribution Integrity Management Programs (DIMP) History & Future

- 2001 – Liquid Integrity Management Rule
- 2003 – Transmission IMP Rule
- 2004 – DOT Inspector General Testifies
- 2005 – PHMSA Issues Phase 1 Report
- 2006 – Gas Piping Technology Committee (GPTC) Prepares Guidance
- 2008 – Notice of Proposed Rule (June 25, 2008)
- 2009 – Final Rule December 4, 2009
- **August 2, 2011** – Must have written DIMP Plan in place

Phase 1: 7 Elements of a DIMP Plan

1. Develop a written integrity management plan
2. Know your infrastructure
3. Identify threats (existing and potential)
4. Assess and prioritize risk
5. Identify and implement measures to reduce risks (“Additional/Accelerated Actions”)
6. Measure and monitor performance, and
7. Report results

Additional Provisions in Final Rule

- Must consider compression coupling failures in the material and weld threat analysis
- Excess Flow Valves
- Must have a leak management program
- Compression coupling failure reporting
- Allows alternate time intervals for certain inspection requirements currently in Part 192
- Integrity Management “Program”

New Concept – IM “Program”

- “An integrity management program is an overall approach by an operator to ensure the integrity of its distribution system. The program includes an integrity management plan, which is revised periodically. The program also encompasses compliance with other relevant regulations. For some operators, the program may involve the selection of certain materials or adherence to professional standards that are not mandated by Federal regulation.”

Leak Management

- Repair all leaks when discovered, or
- Adopt a policy to grade leaks and take appropriate action according to the severity of the leak
 - Could adopt GPTC leak management criteria, or
 - Adopt another leak management system, or
 - Use a leak grading and management system specific to your utility

Reporting

- All reporting via additions to the Distribution Annual Report Form
- Hazardous leaks reported separately, classified by cause
- Excavation damages and locate tickets
- # of excess flow valves installed
- Compression coupling failures (hazardous leaks only)

“Hazardous Leak”

- “a leak that represents an existing or probable hazard to persons or property and requires immediate repair or continuous action until the conditions are no longer hazardous.”
- From GPTC Guide for Grade 1 leak:
 - Escaping gas that has ignited
 - Gas which has migrated into or under a building, or into a tunnel

GPTC Guide cont'd

- Any reading at the outside wall of a building, or where gas would likely migrate to an outside wall
- Any reading of 80% LEL, or greater, in a confined space
- Any reading of 80% LEL, or greater in small substructures (other than gas associated substructures) from which gas would likely migrate to the outside wall of a building
- Any leak that can be seen, heard, or felt, and which is in a location that may endanger the general public or property.

“Excavation Damage”

- Much more than just leaks repaired
- “any impact that results in the need to repair or replace an underground facility due to a weakening, or the partial or complete destruction, of the facility, including, but not limited to, the protective coating, lateral support, cathodic protection or the housing for the line device or facility.”

Compression coupling failure

- Must report the following, at minimum:
 - location of the failure in the system,
 - nominal pipe size,
 - material type,
 - nature of failure including any contribution of local pipeline environment,
 - coupling manufacturer,
 - lot number and date of manufacture, and
 - other information that can be found in markings on the failed coupling

Excavation damage reporting

- Number of excavation damages; and
- Number of excavation (locate) tickets
- PHMSA will calculate the national average damages per locate ticket to determine if excavation damage is being reduced
- Factoring in locate tickets compensates for changes in construction activity

Records

- Keep for 10 years:
 - Copies of written DIM Plans (current and past)
 - Other records necessary to show that DIM Plan has been followed
 - If pipe replacement is selected – records of pipe replacement
 - If CP upgrade is selected – records of CP upgrades
 - Records of coupling failures, excavation damages, locate tickets, etc.

Periodic Review

- At least once every 5 years
- More often if factors affecting the DIMP Plan change

Threat Assessment Example -- Corrosion

- Do you have metal pipe?
- Is it coated and/or cathodically protected?
- Are CP levels adequate?
- Have you had corrosion-caused leaks?
- Have exposed pipe inspections found metal loss due to corrosion?
- Are there stray currents in the area?

Additional/Accelerated Action Examples -- Corrosion

- Increase frequency of leak surveys.
- Replace, insert or rehab.
- Provide hot spot protection (e.g., install anodes at anodic locations).
- Correct cathodic protection deficiencies.

Performance Measures Example -- Corrosion

- # of leaks due to corrosion.
- # of exposed pipe condition reports that found corrosion or coating damage.
- # of repairs required due to non-leaking pitting or coating damage (above and below ground).
- # of cathodic protection zones found with low protection levels.
- # of areas of active corrosion found.

Resources

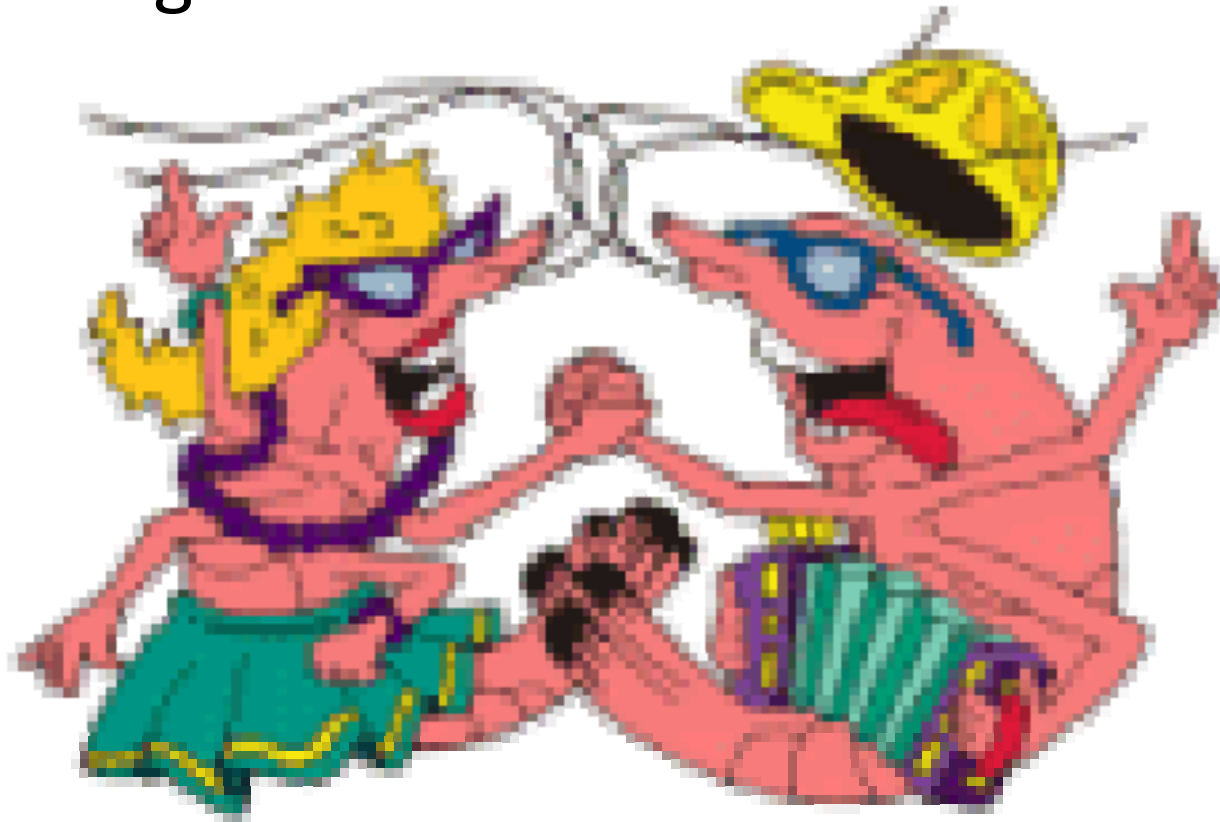
- APGA Operations and Safety Message Board
 - <http://apgasif.getforum.org/board/index.html>
- APGA Security and Integrity Foundation (SIF)
 - SHRIMP DIM Plan development tool
- Gas Piping Technology Committee DIMP Appendix
 - Can be purchased at: <http://www.aga.org> (\$49)
- SGA/NGA Template
- Other

For small operators ...

- First there was LIMP (Liquid Integrity Management Program)
- Then there was TIMP (Transmission Integrity Management Program)
- Next came DIMP (Distribution Integrity Management Program)
- Finally for small systems, comes

Introducing SHRIMP!

- Simple, Handy, Risk-based Integrity Management Plan



SHRIMP

- Software product similar to tax preparation software (TurboTax)
- SHRIMP asks the user a series of questions about the system and its inspection and maintenance history
- Questions change based on answers
- Output will be a complete DIM Plan

SHRIMP Creates a Written DIM Plan

- Documents significant decisions made during plan development
- Addresses all seven required elements
- Includes required provisions on LEAKS, EFVs and compression coupling failure reporting

SHRIMP Timing

- Due 6 months after final rule (August 2, 2010)
- GOAL: Have SHRIMP trial version available by Groundhog Day (February 2, 2010)
- That way utilities can decide whether to use SHRIMP or other means to develop DIMP
- <http://shrimp.gas-distribution.com>

Pricing (Tentative)

System size (# of services)	
1-1000	Free
1001-5000	\$ 100
5001-20K	\$ 250
20K-35K	\$ 500
35K-50K	\$ 750
50K - 75K	\$ 1,500
> 75K	\$ 5,000

What Can I Do To Prepare?

- Review your construction records:
 - Particularly material of construction
- Review your inspection records
 - Can you sort locate tickets and excavation damages to identify higher areas?
 - Can you identify areas with poor pipe condition reports
- Review your repair records
 - Can you sort leak repairs by cause to identify areas with higher corrosion leak rates?

QUESTIONS?