2022 DIMP & Recordkeeping

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Overview of Agenda Topics

- Agenda
- Chapter 1 – History & Definitions
- Chapter 2 – LPG operator requirements
- Chapter 3 – LPG Elements
- Chapter 4 – Recordkeeping
- Chapter 5 – Summary

Chapter 1

History & Definitions

Chapter 1 – What is IMP?

- What is DIMP?
  - Distribution Integrity Management Program
- Regulatory Milestones
  - Pipeline Safety Improvement Act (2002)
  - Distribution Integrity Management Programs (DIMP) Rule (2009)
  - Pipeline Safety: Gas Pipeline Regulatory Reform (2021)

Chapter 1 – What are possible threats?

- Threats are sources of pipeline integrity risk that can cause an unintended release of gas from a distribution system:

Chapter 1 – What is risk?

Risk = Likelihood x Consequence

- The likelihood (probability) of a main driver event for risk on small LPG systems are low
  - Smaller service territory
  - Semi-restricted access

Chapter 1 – What is risk?

Risk = Likelihood x Consequence

- HOWEVER, the CONSEQUENCES of a failure on small LPG systems are GREATER than average

Chapter 1 – What is risk?

Risk = Likelihood x Consequence

- Consequence multipliers
  - Larger diameter/higher pressure than most
  - Pipelines in an area (i.e., a business district) under wall-to-wall pavement
  - The significance of the facility, and/or
  - The response time to get crews to it should it fail

Chapter 1 – Additional/Accelerated Actions

- Actions above and beyond Part 192 requirements or current utility practices intended to reduce one or more threats to distribution integrity

- Also known as preventative and mitigative (P&M) measures

Chapter 1 – Larger Pipeline Systems

- The DIMP rule allows:
  - *"An operator may subdivide its pipeline into regions with similar characteristics (e.g., contiguous areas within a distribution pipeline consisting of mains, services and other appurtenances; areas with common materials or environmental factors), and for which similar actions likely would be effective in reducing risk." (§192.1007(c))*
- This could be helpful in limiting the application of Additional/Accelerated Actions to problem areas
- For most small operators, subdividing is most likely not necessary
- Example diagrams in Appendix

Chapter 1 – Regulations & References

- Title 49 CFR Part 192 Subpart P
- General Order 112-F
- PUC 4451 – 4465
- PHMSA FAQs & Interpretations

Chapter 2

LPG Requirements

Chapter 2 – LPG Requirements

- No later than 8/2/2011, a small LPG operator must develop and implement an IM program
- Including a written IM plan
  - addressing, at a minimum, elements per §192.1015(b)

Chapter 2 - Plan development

- What can Master-Meter and Small Propane Operators use to obtain or develop DIMP Plans?
  - Vendor- prepared DIMP plan
  - SHRIMP tool by APGA SIF
  - Develop your own using the PHMSA template as guidance

Chapter 2 - PHMSA DIMP Guidance Template

- PHMSA has not developed a generic DIMP plan; however…
- PHMSA has developed a template that can be used by Master Meter and small LPG operators subject to the requirements of §192.1015. That template can be found on the DIMP Resources page of the DIMP website
- Again, any DIMP tool will need to be customized for each specific operator.

Chapter 2 - PHMSA Guidance for LPG

- *"This document provides guidance to help master meter operators and small LPG operators (i.e., those serving fewer than 100 customers from a single source) implement the requirements of subpart P of Part 192. Operators of larger distribution pipelines should refer to the Gas Piping Technology Committee (GPTC) guidelines."*

- *"...Master meter and small LPG distribution operators should complete the actions described in the following paragraphs. Retain this document and any records generated through actions suggested in this document. This collection of documents will become your integrity management plan."*

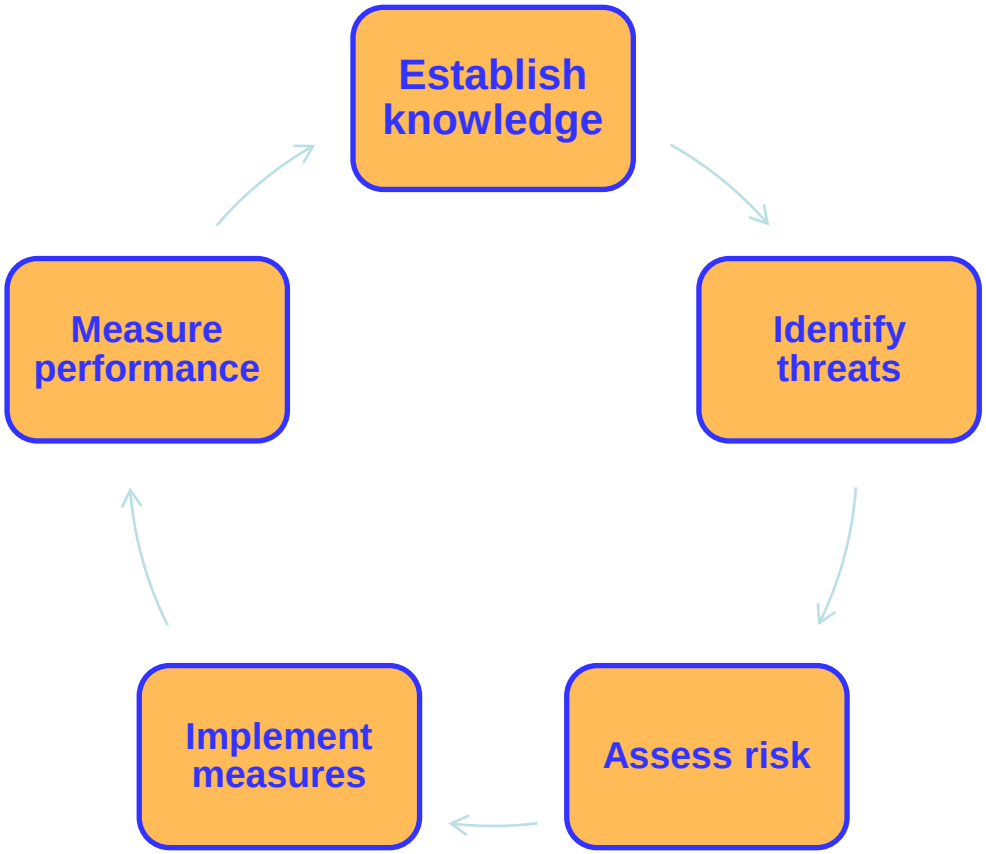
Chapter 2 – Plan Development Resources

- Link to SHRIMP: http://www.apgasif.org/i4a/pages/index.cfm?pageid=3290
- Link to PHMSA's DIMP website: http://primis.phmsa.dot.gov/dimp/
- Link to PHMSA DIMP Guidance Template: http://primis.phmsa.dot.gov/dimp/docs/GuidanceForMasterMeterAndSmallLiquefiedPetroleumGasPipelineOperators_11_0 9.pdf
- Link to DIMP Inspection Form: http://primis.phmsa.dot.gov/dimp/docs/DIMP_InspectionForm192.1015Operators_04.11.2011.pdf

Chapter 3

LPG Elements

Chapter 3


Establish knowledge
Identify threats
Assess risk
Implement measures
Measure performance

Chapter 3 – Elements between Large vs Small

Element	"Commercial" Operators	Small LPG Distribution
Written Program	Required	Simple (checklist)
Know system	Relevant factors	Location/material
Identify threats	Thorough analysis	Checklist approach
Analyze risk	Required	Required
Mitigate risk	Required	Required
Performance measures	7 plus threat-specific	Leaks by cause
Review/revision	Required	Required
Report performance measures	4 measures	Not required

Chapter 3 – Threat Assessment Example – External 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?

Chapter 3 – Additional/Accelerated Action Examples – External Corrosion

- Increase frequency of leak surveys.
- Replace, insert or rehabilitate the pipe.
- Provide hot spot protection (e.g., install anodes at anodic locations).
- Correct cathodic protection deficiencies (i.e., coating).
- Decrease time to correct findings from monitoring or other deficiencies.

Chapter 3 – Threat Assessment Example – Materials, Welds, Joints, or Construction

- Do you have materials that tend to leak due to poor toughness?
  - PVC
  - Dupont Aldyl-A (installations prior to 1983)
  - Cast Iron
- Do you have gas pipelines underneath mobilehome units or other occupied dwellings?
- Are CP levels adequate?

Chapter 3 – Additional/Accelerated Action Examples – Materials, Welds, Joints, or Construction

- Increase frequency of leak surveys to annual or even more frequently.
- Replace, insert or rehabilitate the pipe before repairs become necessary.
- In the case of any line under a coach that does leak, HCD and GO 112-F regulations require the new gas line to be re-routed around the unit.

Chapter 3 – Examples of Performance Measures

Threat	Additional/Accelerated Action	Performance Measure
Corrosion on bare steel in business district	Replace 5% per year	Corrosion leaks repaired/mile and /service
Excavation near the feeder main	Inspect at least once per day	# of excavation damages
Excavation on the Northeast side	Increased public awareness	# of excavation damages
Corrosion on bare steel outside the business district	Increase leak surveys to once per year	Corrosion leaks repaired/mile and /service
Natural forces on two creek crossings	Inspect after heavy rains	# of natural force damage leaks repaired

Chapter 3 – LPG Performance Measures

§ 192.1015 (b)(5), *Measure performance, monitor results, and evaluate effectiveness, states:*

- "The operator must monitor, as a performance measure, the number of leaks eliminated or repaired on its pipeline and their causes."

Chapter 4

Recordkeeping

Chapter 4 - § 192.1011

What records must an operator keep?

- *Records demonstrating compliance to Subpart requirements*
  - *For at least 10 years*
- *Copies of superseded integrity management plans developed under this subpart*

Chapter 4 - § 192.1011

What records must an operator keep?

- *Documents supporting threat identification; and*
- *Documents showing the location and material of all piping and appurtenances that are installed after the effective date of the operator's IM program and, to the extent known, the location and material of all pipe and appurtenances that were existing on the effective date of the operator's program.*

Chapter 5

Summary

Chapter 5 - Summary

- Knowledge is power
  - The power to ensure safe pipeline integrity
- Know your system to take action and modify processes
- Execute remediation and modifications
- Monitor, assess, and evaluate
- Review and repeat
- Document all steps, basis, rationale

Questions?

Thank you!
For Additional Information:

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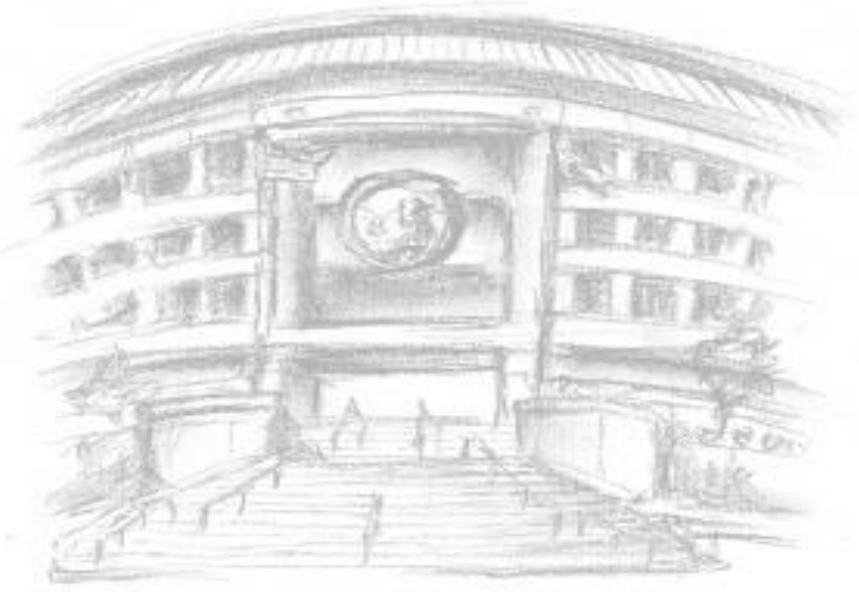
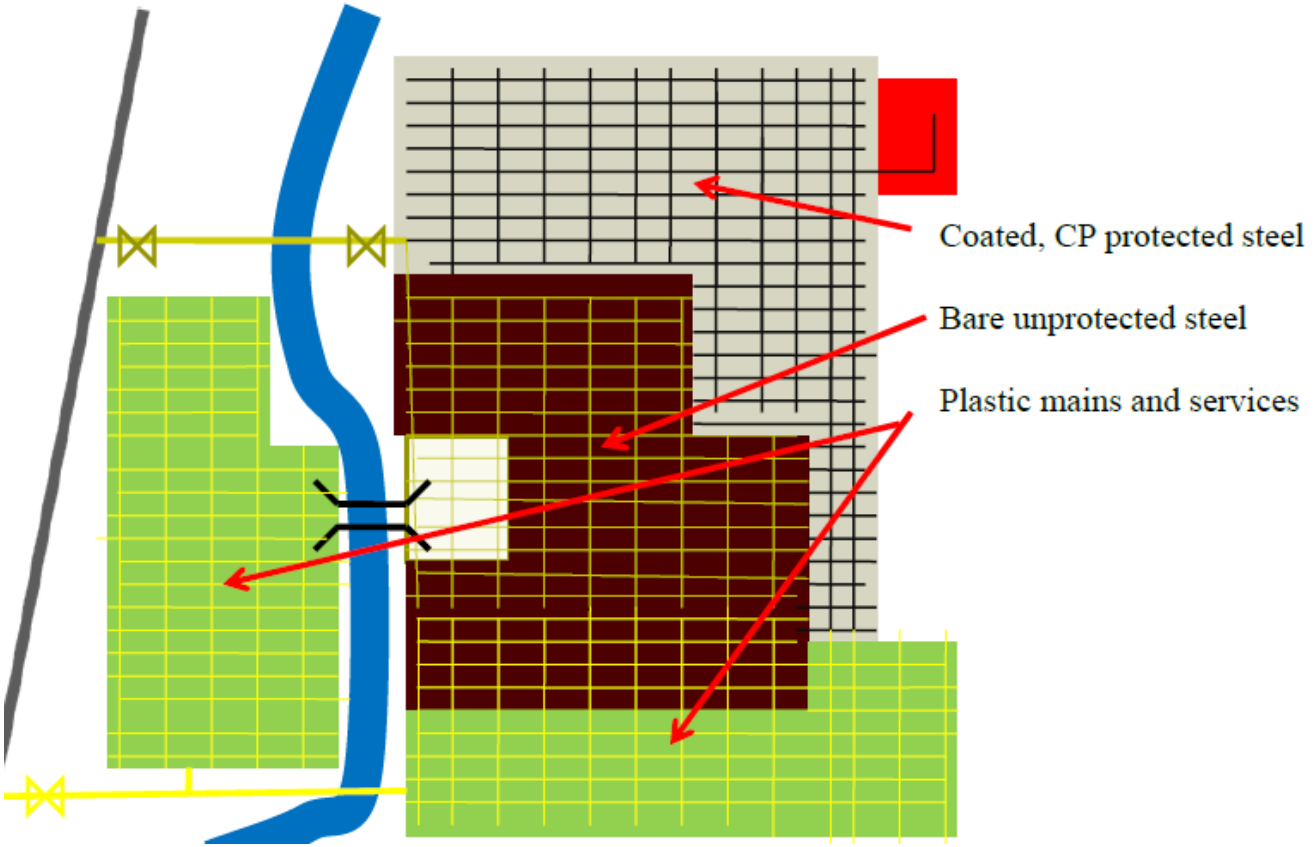


Appendix

Subdividing

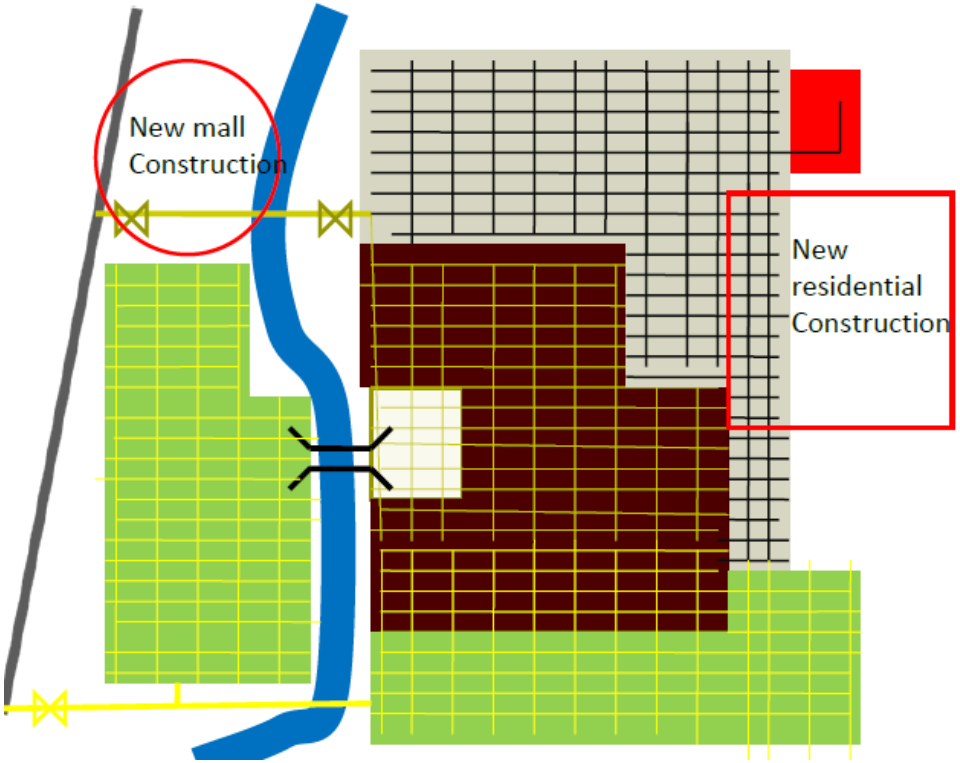
Appendix: Subdividing

What subdividing can look like for the External Corrosion Threat Groups…



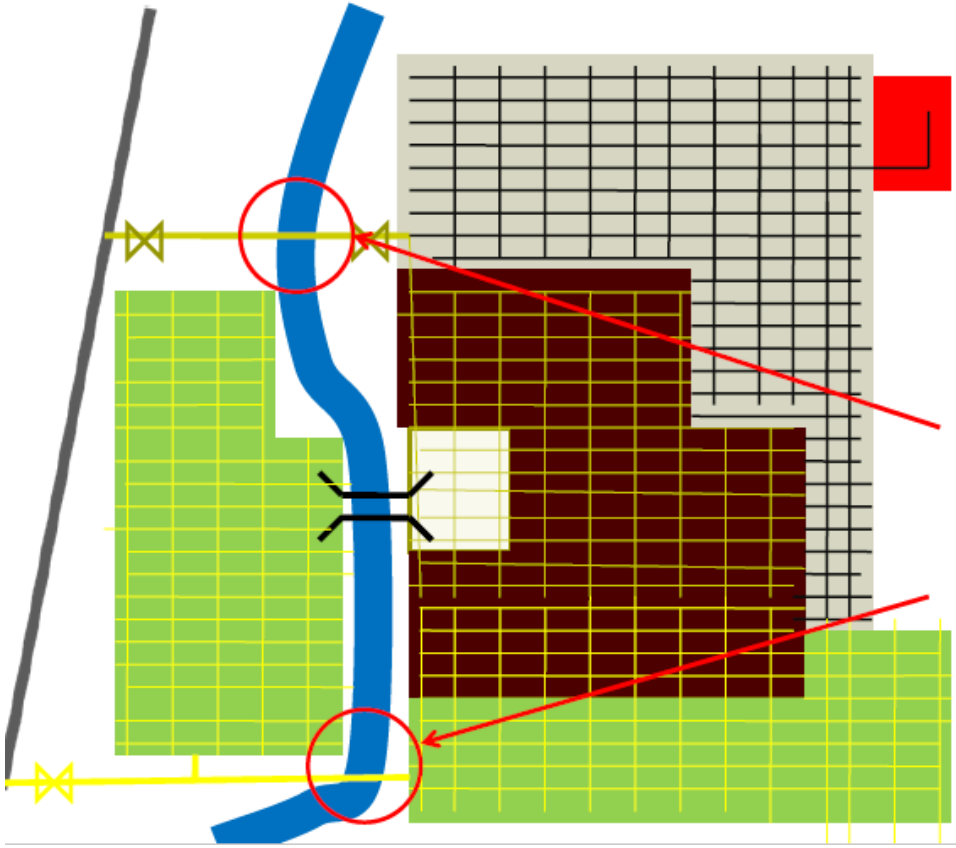
Appendix: Subdividing

What subdividing can look like for the
Excavation Threat Groups



Appendix: Subdividing

What subdividing can look like for the
Natural Forces Threat groups



Creek crossings

1950 feeder main installed by trenching and is vulnerable to erosion

New crossing installed By boring and is too deep to be vulnerable to erosion