

# Distribution Integrity Management Plan Implementation

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# 192.1007(a)

## System knowledge

- Have you identified missing or incomplete system information, and do you have a plan to get that information?

## Examples – missing or incomplete information

- Make and model of valves, risers, regulators, etc.
- Missing users manuals or other technical documentation
- Unknown coating type
- Unknown seam type
- Missing information on leak survey documentation, maintenance records, etc.

# 192.1007(a) System knowledge

- Are you getting this missing or incomplete system information, using the procedures prescribed in your DIMP plan?

# 192.1007(a)

## System knowledge

- Are you incorporating into the DIMP plan any new or missing information identified or acquired during normal operations, maintenance, and inspections?

# 192.1007(a)

## System knowledge

- Are you capturing required data on any new pipeline installations? (pipe, fittings, valves, EFV's, risers, regulators, shutoffs, etc.)

## Examples – data and records to be collected

- Location
- Material type and size
- Wall thickness or SDR
- Manufacturer
- Lot or production number

# 192.1007(a)

## System knowledge

- Are your data collection forms being fully and accurately completed?

# 192.1007(a)

## System knowledge

- Is your Subject Matter Expert (SME) list current? Does your plan demonstrate the SMEs have the necessary knowledge and experience in their areas of expertise?

# 192.1007(a) System knowledge

- Do your people in the field understand their responsibilities under the DIMP plan?

## Examples – questions for field personnel

- What does DIMP mean?
- What instructions have you received to address the discovery of pipe or components not in the company records?
- If you find situations where what you see in the field is different from what the records indicate, what do you do?
- If you are repairing a leak and find that a fitting was improperly installed, what do you do?

# 192.1007(b)

## Identify threats

- Have any changes occurred that require a re-evaluation of threats to the pipeline system?

# Examples – reevaluation of threats

- Acquisition of new systems
- Completion of pipe replacement program
- New threats
- Increase in existing threats
- Organizational changes (downsizing, retirements, etc.)
- Applicable code revisions

## Reminder – the DIMP rule defines eight threats:

- Corrosion
- Natural Forces
- Excavation Damage
- Other outside force damage
- Material or Welds
- Equipment failure
- Incorrect operations
- “Other”

## 192.1007(c)

### Evaluate and rank risks

- A re-evaluation of threats also requires a re-evaluation of risks

# 192.1007(c)

## Evaluate and rank risks

- Risk = likelihood x consequence
- Likelihood is how often you think something may happen
- Consequence is how bad something is if it does happen
- Each threat for each subsystem has its own risk

# 192.1007(b,c) Threats and risks

- Have you identified information or data from external sources that may require a re-evaluation of threats and risks?

## Examples – information from external sources

- PHMSA studies or advisory bulletins
- Incident causes
- Manufacturers (product recalls, etc.)
- Trade associations (ex: OGA, AGA)
- Experience of other operators

# 192.1007(b,c) Threats and risks

- If threats and risks have been modified, were the revisions made in accordance with your DIMP plan?

# 192.1007(b,c)

## Threats and risks

- Does your current subdivision process (grouping of materials, geographic areas, etc.) account for differing threats and risks?

# 192.1007(b, c)

## Threats and risks

- If you have modified your system subdivisions, were changes made in accordance with your DIMP plan?
- Did the new system subdivisions result in modifying your risk evaluation and ranking?

# 192.1007(d)

## Measures to address risk

- Are you actually doing the things your DIMP plan said you were going to do to address risks?

# 192.1007(d)

## Measures to address risk

- Have you completed any measures to reduce risks that eliminate an identified threat? (ex: piping replacement program)
- If so, have you re-evaluated and ranked risks to your pipeline system?

## 192.1007(d)

### Measures to address risk

- Do risk reduction measures target a specific risk (or defined set of risks?)

## 192.1007(d)

### Measures to address risk

- Do you have an effective leak management program?

# Leak management program

- Locate leaks
- Evaluate hazards (leak grading)
- Act to remove the hazard
- Keep records
- Self-assess to determine if additional actions are necessary

## 192.1007(e)

### Measure and evaluate

- Do you have an effective leak management program?

# 192.1007(e)

## Measure and evaluate

- Are you collecting data for the required performance measures in 192.1007(e)?

## Required performance measures

- Number of hazardous leaks eliminated or repaired, categorized by cause and material
- Total number of leaks eliminated or repaired, categorized by cause
- Number of excavation damages
- Number of excavation tickets
- Any additional measures you have determined are needed to evaluate the effectiveness of your DIMP plan

# Official leak causes

- Corrosion
- Natural Forces
- Excavation  
Damage
- Other outside  
force damage
- Material or  
Welds
- Equipment
- Incorrect  
operations
- “Other”

## 192.1007(e)

### Measure and evaluate

- Are you monitoring each performance measure from an established baseline?
- Established baseline = how things were when you started
- You can't see if risks are getting better or worse unless you can compare things to how they were when you started

# 192.1007(e)

## Measure and evaluate

- Is each performance measure linked to a specific risk reduction measure or group of measures?
- What does this mean? – does your plan spell out how you can use the performance measures to see if the things you are doing for risk reduction are working or not?

# 192.1007(f)

## Measure and evaluate

- Have you performed a periodic evaluation of your plan according to the schedule you specified in the plan?
- Did the periodic evaluation include the following:

## Periodic evaluation steps:

- Verification of general system information
- Review of new information acquired since the last evaluation
- Review of threats and risks, and adjust your risk model if necessary
- Review of performance measures
- Evaluate the effectiveness of measures to reduce risks, and change the measures if necessary

# 192.1007(f)

## Measure and evaluate

- If any established performance measures show an increase in risk beyond an acceptable level (as established in the DIMP plan) did you change your risk reduction strategy?
- Were the performance measures reviewed to ensure you were measuring the right things?

# 192.1007(g)

## Report results

- Did you accurately complete your PHMSA Distribution annual report (Form 7100.1-1)?
- Did you also send it in to the PUCO?
- Did you accurately complete mechanical fitting failure reports (Form 7100.1-2) and submit them to PHMSA and the PUCO?

## 192.1009 - Mechanical fitting failure reports

- Must be submitted for mechanical fitting failures leading to a hazardous leak (only)
- Must be submitted no later than March 15<sup>th</sup> of the following calendar year, or as failures occur
- Must also submit a copy to PUCO
- Master Meters, LPG's exempt

# 192.1009

## MFFR data entry

- Fill it out as completely as possible. Some companies may have very old pipe for which installation records do not exist. Make a best effort at quantifying data.
- Avoid entering “unknown” if possible
- Specify the mechanical fitting involved



Stab Type



Nut Follower



Bolt Type

## MFFR data

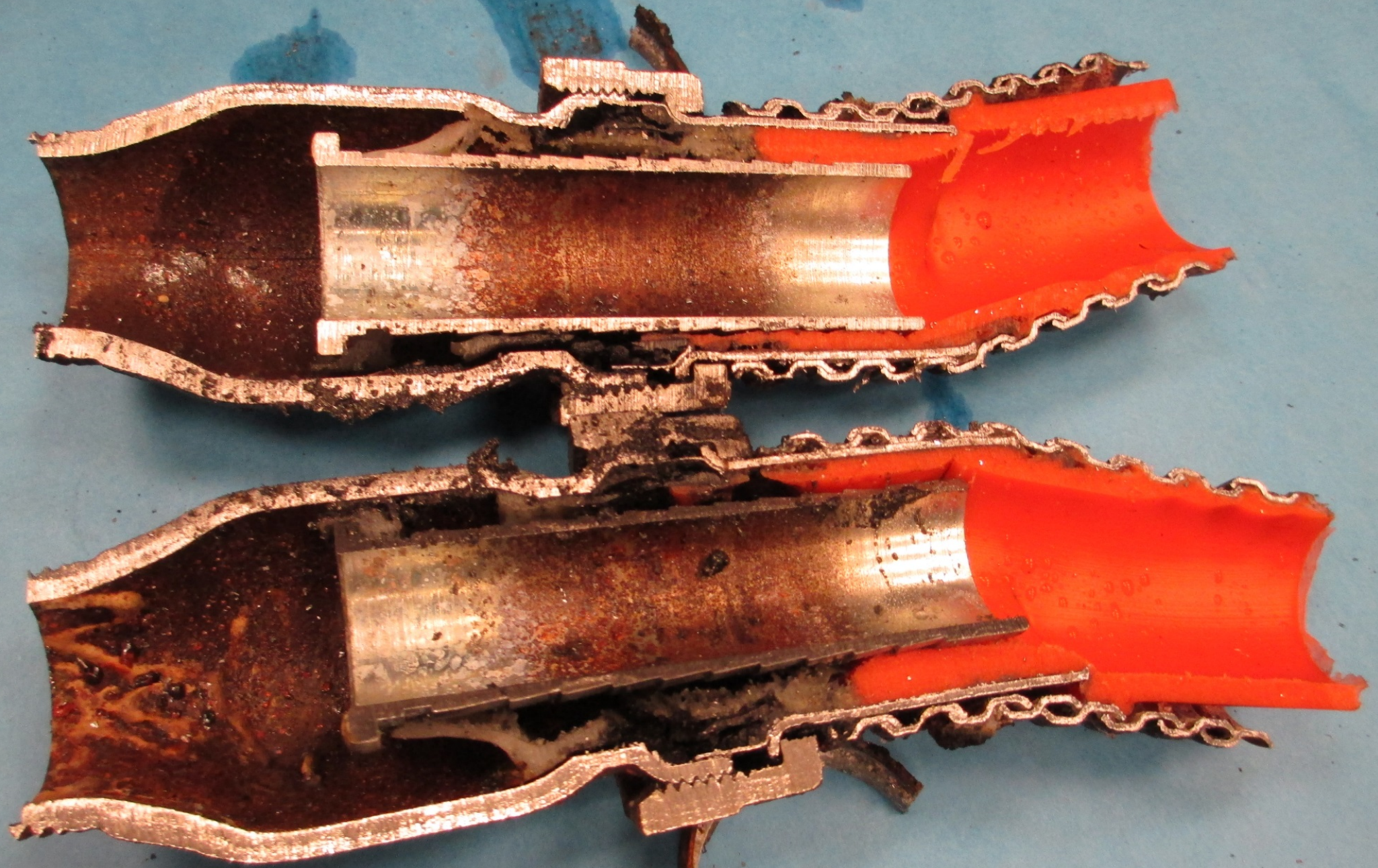
- MFFR data may be viewed at: [http://  
primis.phmsa.dot.gov/dimp/  
perfmeasures.htm](http://primis.phmsa.dot.gov/dimp/perfmeasures.htm)
- MFFRs submitted in 2011 – 8356
- MFFRs submitted in 2012 – 7572
- MFFRs submitted in 2013 – 9431
- MFFRs submitted in 2014 – 9078

## MFFR data

- Mechanical fitting failures are identified in many DIMPs as a significant threat requiring risk mitigation measures.
- The majority of mechanical fitting failures resulting in a hazardous leak involve nut-follower, coupling type fittings.



Nut Follower



## MFFR data

- Steel fittings (61%) are involved the majority of reports, and plastic fittings are second (26%)
- The majority of leaks occur outside (98%), below ground (87%) involving service-to-service connections (60%)

## MFFR data

- Equipment failure is the leading reported cause of leaks (41%), and Natural forces is second (17%).
- Valves are involved in 14% of reported failures.

# 192.1011 Records

- Are you maintaining records demonstrating compliance with DIMP for at least 10 years?

## What records have to be kept for 10 years?

- Current and previous DIMP plans
- Documents related to the development of the DIMP plan (system knowledge, threat identification, risk assessment, development of performance measures, baseline measures, etc.)

# What records have to be kept for 10 years?

- Performance measures used to evaluate DIMP plan effectiveness (including annual reports and the documents used to develop the annual reports)
- Correspondence with PHMSA and the PUCO related to your DIMP plan

## 192.1013 – Alternative inspection intervals

- Requires Commission approval
- Allows for alternative (less than code) inspection intervals
- Must be able to show compliance with conditions, and that a greater overall level of safety is achieved

# What makes a good safety culture?

- Embraces safety (personnel, public assets) as a core value
- Ensures everyone understands the organization's safety culture goals
- Allocates adequate resources to ensure individuals can accomplish their safety management system responsibilities

# What makes a good safety culture?

- Encourages employee engagement and ownership
- Open and honest communication
- Promotes a questioning and learning environment
- Reinforces positive behaviors and why they are important
- Encourages non-punitive reporting and ensures timely response to reported issues

## DIMP resources

PHMSA has a DIMP resources page including frequently asked questions, copies of inspection forms, links to national performance measures, and contacts.

<http://primis.phmsa.dot.gov/dimp/resources.htm>

**Questions?**