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\textsuperscript{th} 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
MFFR data

- MFFR data may be viewed at: 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.
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?