

# **Pipeline Safety**

## ***Topics of Discussion***

### **2013**

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**[www.kcc.ks.gov](http://www.kcc.ks.gov)**

- **2010-2012 Presentations also available.**
- **Other presentations available from past years, but not on website.**

# Discussion of Current Topics Related to Pipeline Safety Regulations

## GOALS

- *Discuss questions derived from Staff field observations related to regulation.*
- *Receive input from operators.*
- *Official interpretations will be issued in writing.*
- *Vetted through operators and PHMSA.*

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# Definition of a Procedure

- ***192.605(a) Each operator shall prepare and follow a manual of written procedures for conducting operations and maintenance activities and for emergency response.***
- ***192.13(c) Each operator shall maintain, modify as appropriate, and follow the plans, procedures, and programs that it is required to establish under this part.***



# Definition of a Procedure

- ***Procedure means:***
  - ***a fixed, step-by-step sequence of activities or course of action.***
  - ***Has definite start and end points.***
  - ***Steps must be followed in the same order to correctly perform a task.***

# Definition of a Procedure

- *Procedures give steps on HOW to do something.*
  - *It's more than just a definition.*
- *Procedures must provide enough detail to be consistently applied by operating personnel.*
- *If there is no consistent application, the procedure may need to be rewritten.*
- *See [www.apgasif.org](http://www.apgasif.org) for O&M procedures*

# Definition of a Procedure

- **Does every task require a written procedure?**
  - *Depends on the complexity of the task.*
- *If the task is not done correctly, probably needs a procedure.*
- *If the task is complex –needs a procedure.*
  - *For example– tie-in and activation of pipelines.*
- **192.605(a) Each operator shall prepare and follow a manual of written procedures for conducting operations and maintenance activities and for emergency response.**

# Kansas Jurisdiction of Yard Lines

- K.S.A. 66-1,157a. **Gas pipelines, responsibility for maintenance..**
- (b) Except as provided by subsection (c), a public utility, municipal corporation or quasi-municipal corporation which renders gas utility service shall have full responsibility for maintenance of all pipelines that convey gas **from a gas main to the outside wall of *residential* premises which are *individually* metered ...**

# Kansas Jurisdiction of Yard Lines

- **66-1,157a. Gas pipelines, responsibility for maintenance.**
- (c) A city of the third class, or a city having a population of 2,000 or less, which renders gas utility service shall have ***responsibility for inspection of pipelines*** described in subsection (b) but shall ***not*** otherwise be responsible for maintenance of such pipelines.

# Kansas Jurisdiction of Yard Lines

- Kansas Yardline jurisdiction only applies to single family residential customers.
- Small towns must inspect yard lines but are not responsible for repair.

# Kansas Jurisdiction of Yard Lines

- K.A.R. 82-11-1 (u) "Yard line" means the buried, customer-owned piping between the outlet of the meter and the building wall.
- *Proposed Definition: "Yard line" means the buried, customer-owned piping between the outlet of the meter and the outside wall of a residential premise that is individually metered.*
- 192.16 Still requires notice given to all customers with buried customer piping.

# DIMP Considerations

*after implementation*

- **§192.1007 What are the required elements of an integrity management plan?**
- A written integrity management plan must contain **procedures** for developing and implementing the following elements:
- (a) *Knowledge. An operator must demonstrate an understanding of its gas distribution system developed from reasonably available information.*
  - (1) Identify the characteristics of the pipeline's design and operations and the environmental factors that are necessary to assess the applicable threats and risks to its gas distribution pipeline.
  - (2) Consider the information gained from past design, operations, and maintenance.



# DIMP: Know your System

## Bellhole Reports

- §192.459 External corrosion control: Examination of buried pipeline when exposed.
  - Whenever an operator has knowledge that any portion of a buried pipeline is exposed, the exposed portion must be examined for evidence of external corrosion if the pipe is bare, or if the coating is deteriorated.
- What about PE pipe where corrosion is not an issue?
  - DIMP requires identifying the pipeline's characteristics to assess for threats.

# DIMP: Know your system

## *PE Examination*

- Verify type of pipe; (color print line)
- Condition of pipe; (old squeeze-off; gouges; cracks)
- Condition of tracer wire;
- Depth of burial
- Ppdc\_data\_collection\_instructions
  - *On USB drive*

# DIMP: Know Your System-

## *Pressure Regulators/Relief Valves/Odorizers*

- (a) *Knowledge. ...**demonstrate** an understanding of its gas distribution system developed from reasonably available information.*
- Requires documentation in order to demonstrate.
- Document As Found and As Left Conditions:
  - For maintenance tasks, knowledge is demonstrated by keeping records of conditions of facility before working on it (**as found**), what work was done, and conditions of facility when work was complete (**as left**)

# DIMP: Identify Threats

- DIMP plan must contain procedures for..threats from outside forces...that could threaten the integrity of its pipeline.
  - Above Ground Pipelines and Mowing;
  - Pipelines exposed to vehicle traffic.

# Above Ground Pipelines



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# 3 " steel aboveground pipeline



# Typical KDOT Highway mower







# Assess the Threat,

*implement measures to reduce risk*

- Vegetation control program
- Additional signage
- Public Awareness

# DIMP: Identify the Threat

*Business District Service line under pavement*



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# Assess the Threat,

*implement measures to reduce risk*

- Commercial Excess Flow Valve?
- Barricades?

# DIMP: Identify the Threat

## effectiveness of leak surveys

- *The operator must consider* reasonably available information to identify potential threats or other concerns that could threaten the integrity of its pipeline...
- 192.723(b) (b) The type and scope of the leakage control program shall be determined by the nature of the operations and the local conditions.

# DIMP: Identify the Threat

## effectiveness of leak surveys

- *If a high percentage of leaks are found from odor complaints and not from leak surveys, are more frequent surveys necessary?*
- *If a high percentage of leaks are found from subsidence, more frequent patrols may be necessary*
- *What is patrolling frequency where AMR is used and subsidence is prevalent?*

# Emergency Response Concerns

- 192.615(a)(5) Procedures must provide for:
  - protecting people first and then property;
  - Emergency shutdown and pressure reduction as necessary to minimize hazards to life or property;
  - Making safe any actual or potential hazard to life or property.
- When blowing gas leak reported, dispatch first responder and repair crew at same time.
- Focus on safety (public and crew) before focusing on the source and extent of the leak.
- Have person taking the call remind an excavator to call 9-1-1.
- Operator initiates call to 9-1-1 (Advisory bulletin 2012-09)

# Emergency Response

## downgrading Class 1 leaks to Class 2

- 192.703(c)(1) (K.A.R. 82-11-4 bb): A class 1 leak requires immediate repair or continuous action until the conditions are no longer hazardous. After conditions are no longer hazardous, a class 1 leak shall be ***replaced, repaired, or removed from service within five days*** of the operator being notified of its existence.
- Regulation does not contemplate Class 1 leak being made no longer hazardous but remaining as a leak.

# Emergency Response




downgrading Class 1 leaks to Class 2

- What about temporary repairs?
  - “hydraulic hose”;
  - Section of PE tubing laid on top of ground.
- Temporary repair is no longer a leak so the condition is no longer hazardous and arguably could exist for more than 5 days.
- **But** does a temporary repair meet code?



# Emergency Response

## downgrading Class 1 leaks to Class 2

- Does a “hydraulic hose” meet code?
- 192.53 Materials for pipe and components must be:
  - (a) Able to maintain the structural integrity of the pipeline under temperature and other environmental conditions that may be anticipated; 
  - (b) Chemically compatible with any gas that they transport and with any other material in the pipeline with which they are in contact; and 
  - (c) Qualified in accordance with the applicable requirements of this subpart. 
- (*There are no applicable requirements for hydraulic hose?*)

# Emergency Response

## downgrading Class 1 leaks to Class 2

- Does a PE pipe on top of ground meet code?
- 192.53 Materials for pipe and components must be:
  - (a) Able to maintain the structural integrity of the pipeline under temperature and other environmental conditions that may be anticipated; MAYBE
  - (b) Chemically compatible with any gas that they transport and with any other material in the pipeline with which they are in contact; and
  - (c) Qualified in accordance with the applicable requirements of this subpart.



# Emergency Response

downgrading Class 1 leaks to Class 2

- Does a PE pipe on top of ground meet code?
- 192.321(g) Uncased plastic pipe may be ***temporarily installed above ground level*** under the following conditions:
  - (1) cumulative aboveground exposure does not exceed 2 years;
  - (2) The pipe is located ***where damage by external forces is unlikely*** or is protected.

# PE Pipe aboveground

*external force unlikely?*



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# PE Pipe aboveground *external force unlikely?*



# PE Pipe aboveground *external force unlikely?*



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# Emergency Response

downgrading Class 1 leaks to Class 2

- If temporary repairs do not meet code requirements protecting from damage from external forces;
- Then KAR 82-11-4 is applicable that leak must be repaired within 5 days.
- If not a Class 1 leak, what does your procedure under 192.613 say to do if you find an unsatisfactory condition?
  - Is there a time limit in that procedure?

# Patrolling Considerations

- 192.721(a) The frequency with which mains are patrolled shall be determined by the severity of the conditions which could cause failure and...hazards to public safety.
- 192.613(a) Each operator shall have a **procedure** for continuing surveillance of its facilities to determine and take appropriate action concerning ...failures, leakage, corrosion, substantial changes in cathodic protection requirements, and other unusual operating and maintenance conditions.
- (b) If a segment of pipeline is determined to be in **unsatisfactory condition** but no immediate hazard exists, the operator shall initiate a program to recondition or phase out the segment involved



# Unsatisfactory Conditions

- (b) If a segment of pipeline is determined to be in ***unsatisfactory condition*** but no immediate hazard exists, the operator shall initiate a program to recondition or phase out the segment involved
- “Initiating a program to phase out” requires timelines to be established and documented

# [www.kcc.ks.gov](http://www.kcc.ks.gov)

- **Click on Pipeline Safety tab**
- **2012 Presentations**
  - Transforming the Nation's Transportation Sector – Kathryn Clay, ANGA-AGA
  - Kansas Incidents: Investigation Techniques and Lessons Learned – Leo Haynos, KCC
  - What's New in Gas Industry Safety- Skip Blake, SKW
  - Pressure Regulator Station Maintenance- Mike DeRossett, DeRossett Company
  - Crossbore Findings through Sewer Investigation: Ron Thomann, Trekk Design

# **[www.kcc.ks.gov](http://www.kcc.ks.gov)**

- **2011 and 2010 Presentations also available.**
- **Other presentations available from past years, but not on website.**

# PHMSA Explanation of Concepts: Staff Manuals and Instructions Enforcement Guidance

- <http://phmsa.dot.gov/foia/e-reading-room>
  - [O-M Enforcement Guidance Part 192 \(12 7 2011\)](#)
  - [Corrosion Enforcement Guidance Part 192 \(12 9 2011\)](#)
  - [Public Awareness Enforcement Guidance Part 195 \(7 27 2011\)](#)
  - [Gas IMP Protocols with Guidance](#)
  - [OQ Enforcement Guidance \(7 6 2011\)](#)
  - And more....

# Enforcement Guidance Examples

- <http://phmsa.dot.gov/foia/e-reading-room>
  - [O-M Enforcement Guidance Part 192 \(12 7 2011\)](#)
  - Includes interpretation summaries by code section.
- A 'business district' is an area marked by a distinguishing characteristic of being used in the conducting of buying and selling commodities and service, and related transactions. A 'business district' would normally be associated with the assembly of people in shops, offices and the like in the conduct of such business.

# PHMSA Explanation of Concepts: Policy Statements Pipeline Interpretations

- <http://phmsa.dot.gov/foia/e-reading-room> or
- <http://phmsa.dot.gov/pipeline/regs/interps>
- Allows searching by topic
- All interpretations prior to 2011
- Interesting searches:
  - Large volume customer; definition of transmission.
  - Wide variations; odorization (192.625(e))

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