Jurisdictional LP Basics

An Overview of Minimum Safety Requirements

Maine Public Utilities Commission

Gas Safety Staff

MPUC Gas Safety Staff

Gary Kenny – Gas Safety Manager

Tammy Chamberlain – Safety Programs Coordinator

Sean Watson – Gas Pipeline Safety Inspector

Nathan Dore – Gas Pipeline Safety Inspector

Barry Truman – Damage Prevention Inspector

Goals For Today

- Continue a Conversation
- Look like a MPUC Inspector
- Share Tools
- Discuss Current Issues
- Answer Your Questions

Agenda

- Field Inspections
- Regulation and Overpressure Protection
- Federal Requirements
- Current Issues
- Q (& Possibly A)

A Few Tips

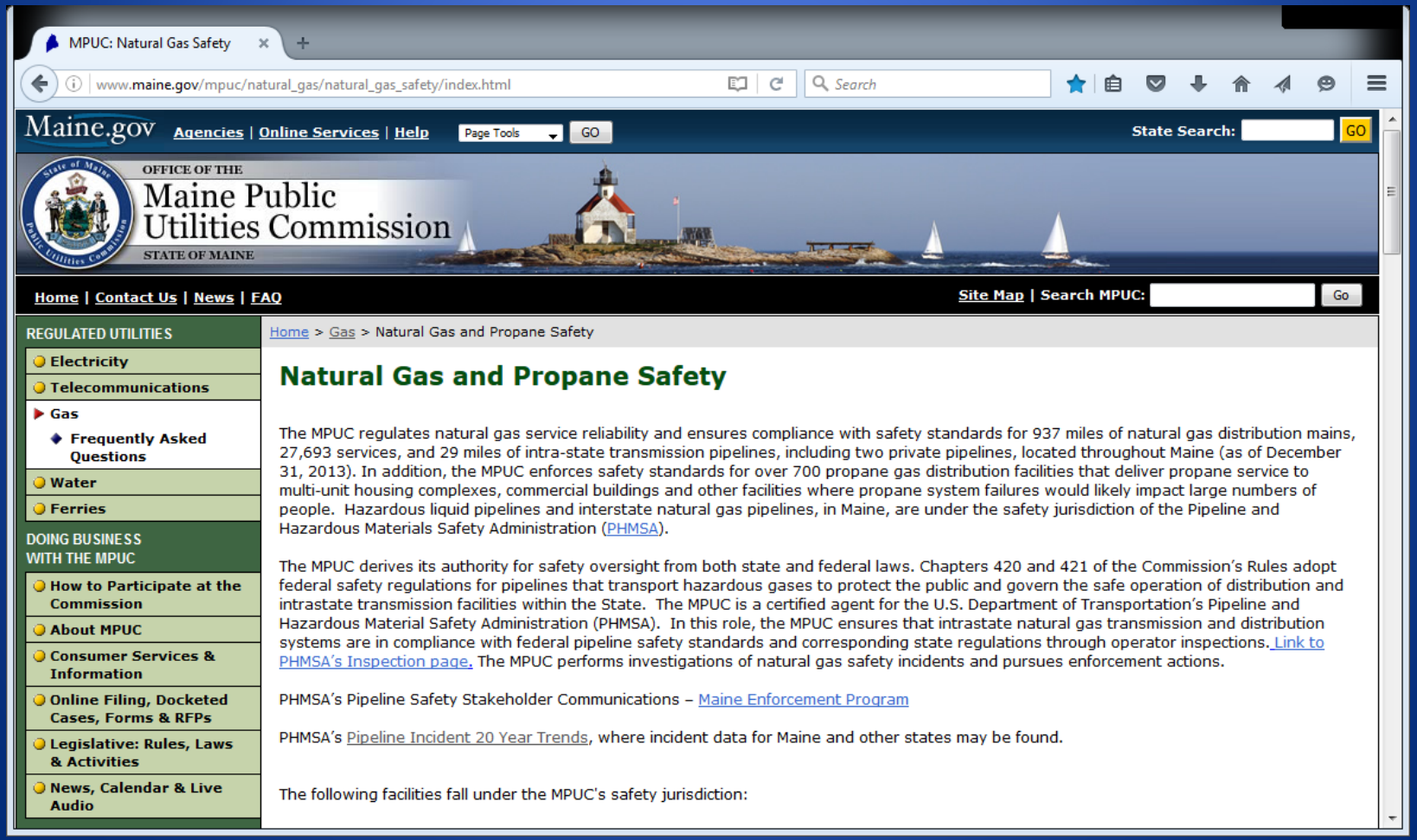
- Your best resource may already wear your uniform
- When in doubt, ask!
- Stay in touch

Applicable Regulations Include

- Maine Public Utilities Commission
  - Chapter 421
  - Chapter 895 (Damage Prevention)
- Code of Federal Regulations
  - 49 CFR 191-192
  - NFPA 58 (2004) - IBR

MPUC Gas Safety Website

http://www.maine.gov/mpuc/natural_gas/natural_gas_safety/index.html



What's on the website?

- Contact Information
- Links to State and Federal Regulations

…and also…

- Legacy Forms and Question Sets
- Legacy Guidance Documents

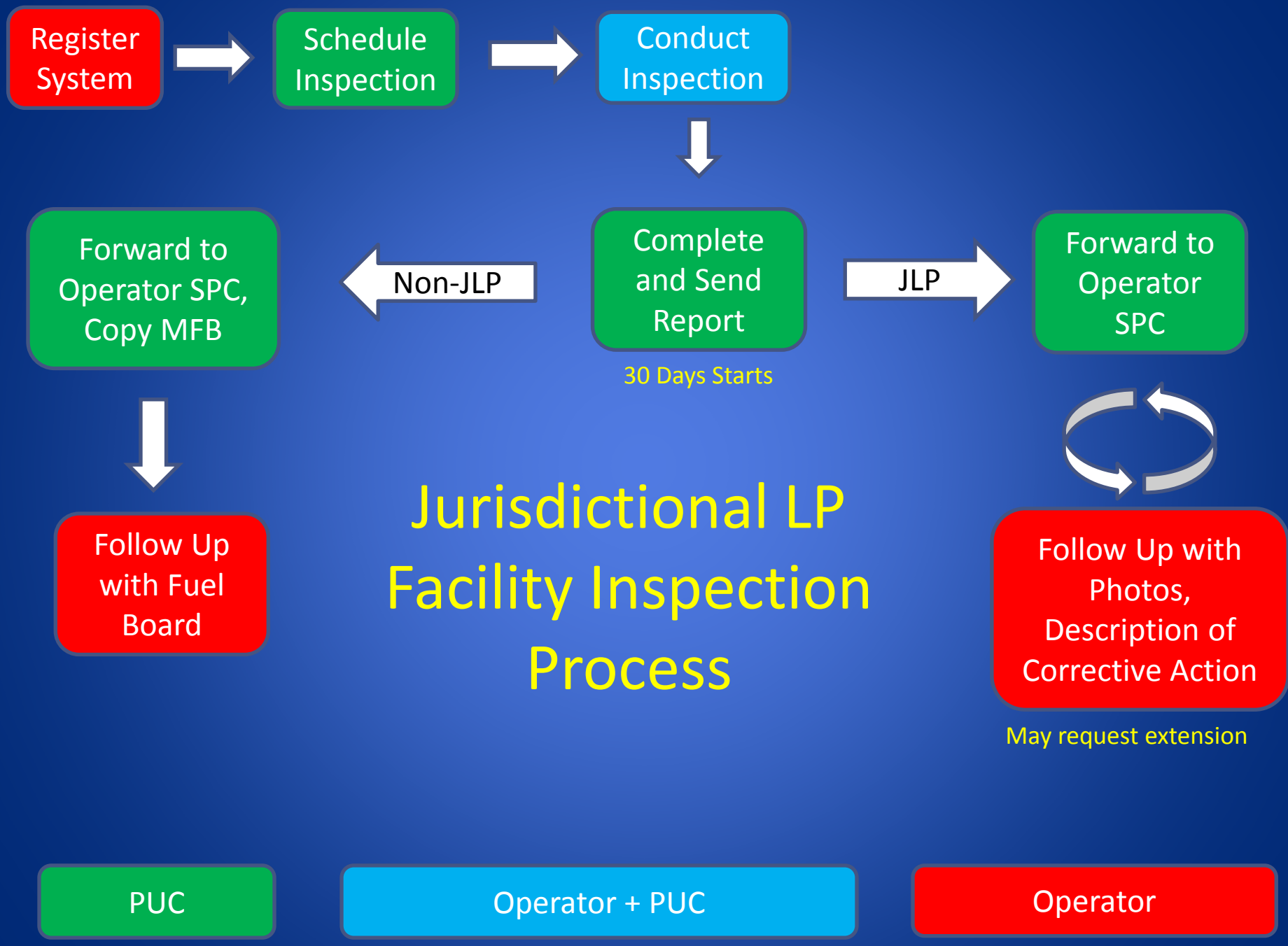
Jurisdictional LP 101

- New System (Constructed or Acquired)
  - Does it meet jurisdictional definition?
    - 10 or more customers
    - 2 or more customers in a public place
    - 1 or more customers, if any part of the system is not on the customer's premises
  - Any available records?
    - KNOW YOUR SYSTEMS
  - Registration
    - 30 Days from Start of Operations
    - Report Loss or Acquisition of System
    - Provide Records

Some Clarifications

- Public Place: A place generally open to all persons in a community (businesses, public properties).

- Customer: A person or entity that has direct influence over the use of the product.


Register System
Schedule Inspection
Conduct Inspection
Complete and Send Report
30 Days Starts
Non-JLP
JLP
Forward to Operator SPC, Copy MFB
Forward to Operator SPC
Follow Up with Fuel Board
Follow Up with Photos, Description of Corrective Action
May request extension
Jurisdictional LP Facility Inspection Process
PUC
Operator + PUC
Operator

Communications with MPUC

- Registrations, corrective action, requests for extension, program information: tammy.chamberlain@maine.gov
- Other questions: gary.kenny@maine.gov, sean.watson@maine.gov, nathan.dore@maine.gov
  - cc: Tammy

Facility Compliance

49 CFR 192.11:

a) *Each plant that supplies petroleum gas by pipeline to a natural gas distribution system must meet the requirements of this part and NFPA 58 and NFPA 59.*

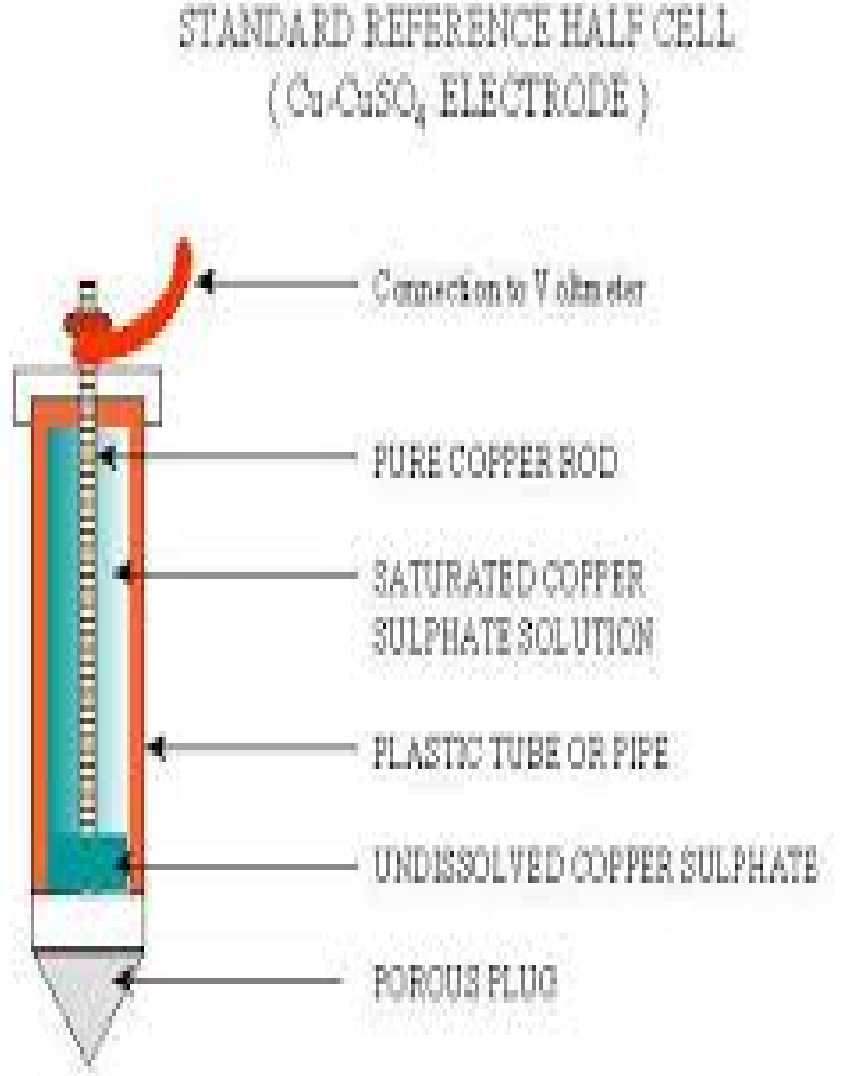
b) *Each pipeline system subject to this part that transports only petroleum gas or petroleum gas/air mixtures must mee the requirements of this part and of ANSI/NFPA 58 and 59.*

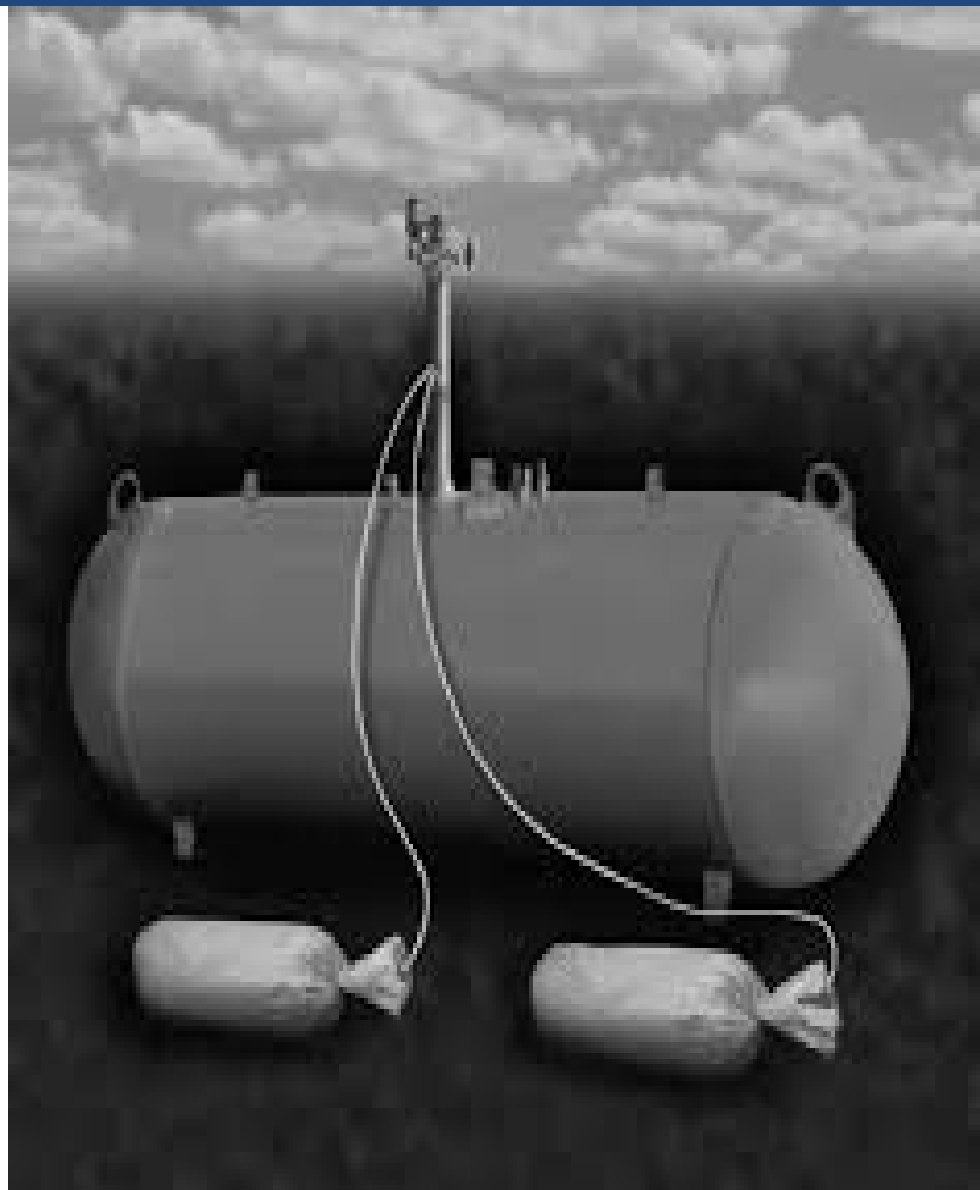
c) *In the event of a conflict between this part and NFPA 58 and NFPA 59, NFPA 58 and NFPA 59 prevail.*

NFPA 58 (2004)

Field Inspection Question Set

Is Your Cathodic Protection Adequate ?





49 CFR Part 192.455 External Corrosion Control: Buried or Submerged pipelines installed after July 31,1971

I don’t smell any propane?


MAOP 5 PSI
ANSI-CLASS
TEMP. COMP.
AMERICAN
METER COMPANY
6

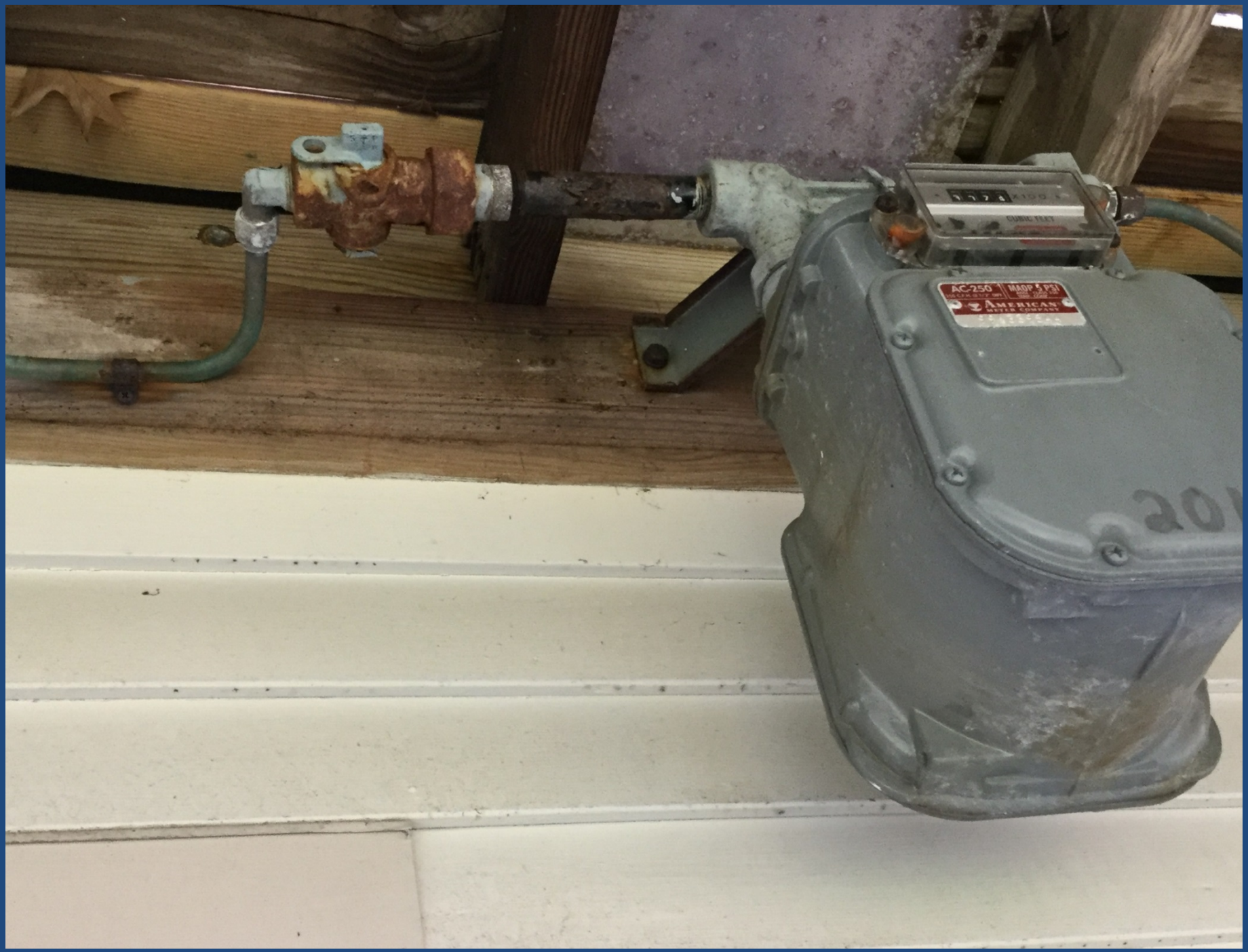

04.19.2016 08:39

ECII
PRESSURE RELIEF
DO NOT
REMOVE


OPPD
IMPROPERLY
INSTALLED
High Pressure
Side Leaks

Are Atmospheric Corrosion inspections Effective?


Perfectio
Corporati
P/N 79209
3/4IPS-11


AC-250
AMERICAN
METER COMPANY
CUBIC FEET

Do I need additional venting 5’&3’?


DANGER
PELIGRO
SIEMENS
Apollo
AMERICAN METER COMPANY

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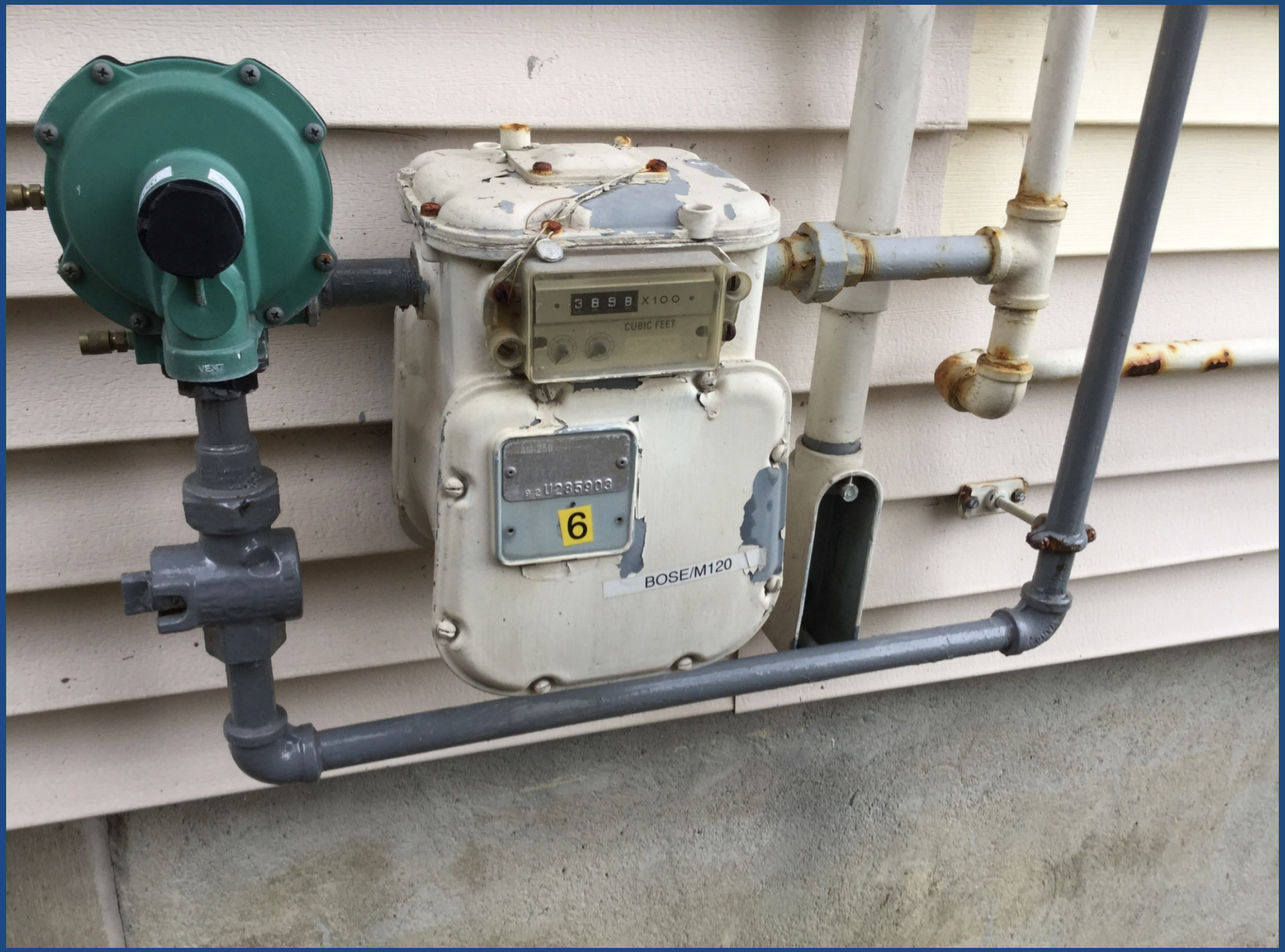

3898 X100
CUBIC FEET
AM-250
6
BOSE/M120


M.
ANAGEMENT


Milwaukee
35FT

MAOP


TEMP. COMP.
19 METER 59
60° F BASE
L119626
6

Operations and Maintenance of Jurisdictional Facilities

Highlights and discussion points

WHERE DOES JURISDICTION END?

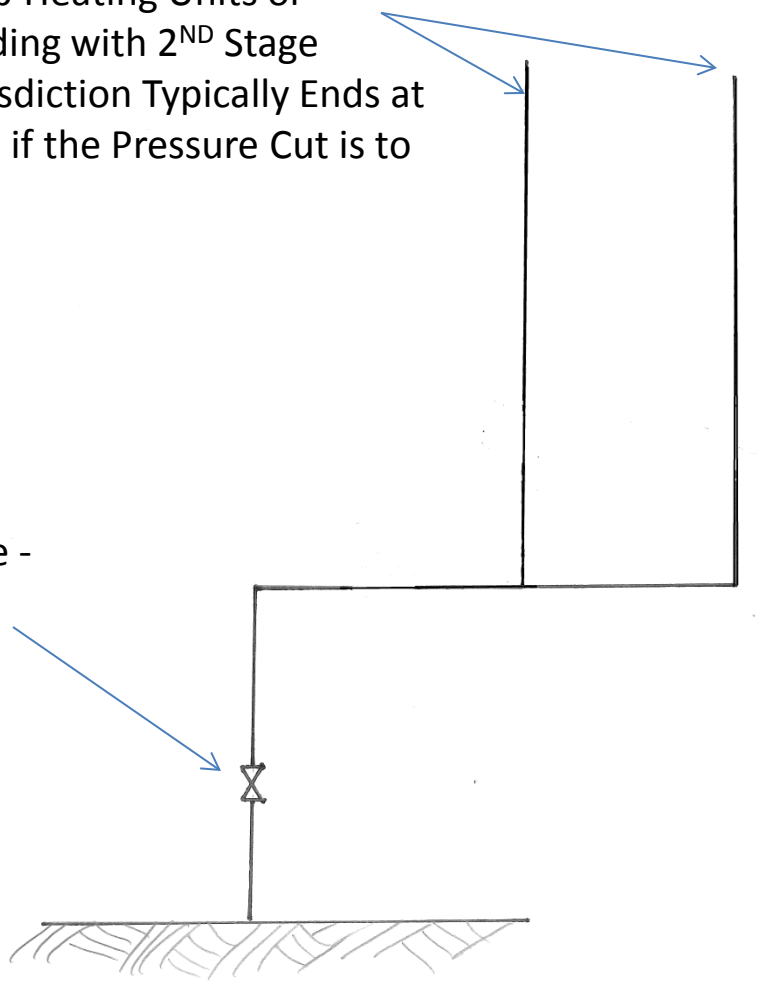
§192.3 Service Line: A service line ends at the outlet of the customer meter or the connection to a customer's piping, whichever is further downstream, or at the connection to customer piping if there is no meter.

Can a Second Stage Regulator be Added to Reduce the Amount of Jurisdictional Piping?

It Depends on the Configuration and Pressure Outlet of the Second stage Regulators!

Piping to Rooftop Heating Units or Entrance to Building with 2ND Stage Regulators – Jurisdiction Typically Ends at these Regulators if the Pressure Cut is to 2psi or Less

Service Riser with Valve - 10 psi from First Stage Regulator at Tank(s)



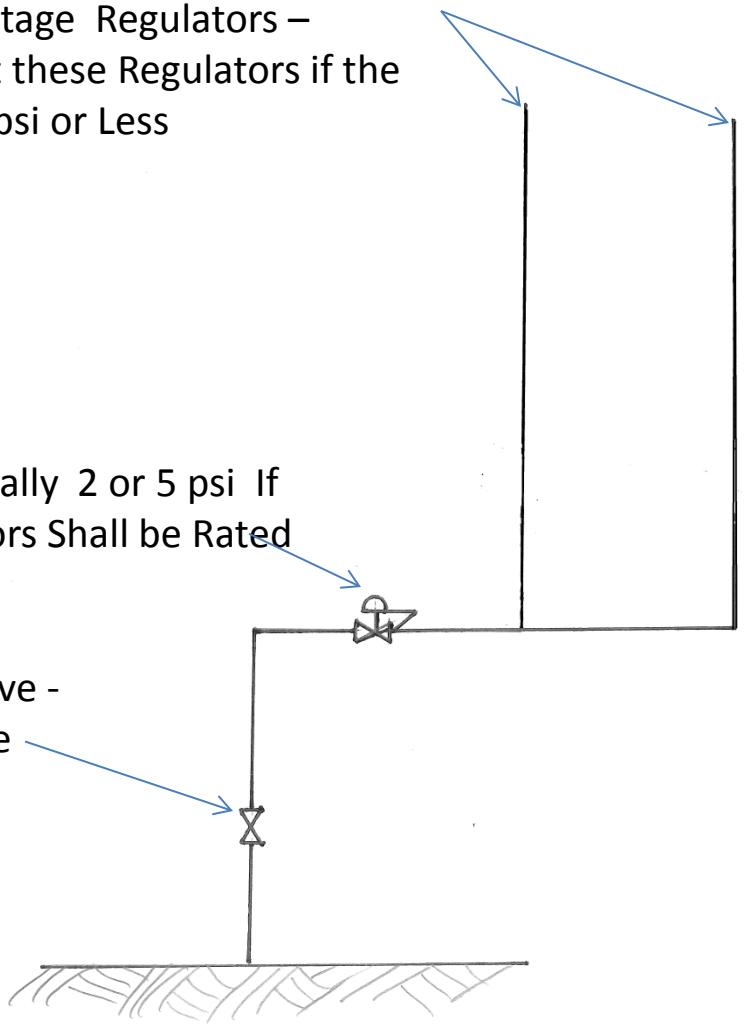
Sketch One

Second Stage Regulators on Rooftop or Entrance to Building

Piping to Rooftop Heating Units or Entrance to Building with 2ND Stage Regulators – Jurisdiction Ends at these Regulators if the Pressure Cut is to 2psi or Less

Intermediate Regulator – Typically 2 or 5 psi If 5 psi, All Downstream Regulators Shall be Rated for 5 psi Inlet

Service Riser with Valve - 10 psi from First Stage Regulator at Tank(s)



Sketch Two

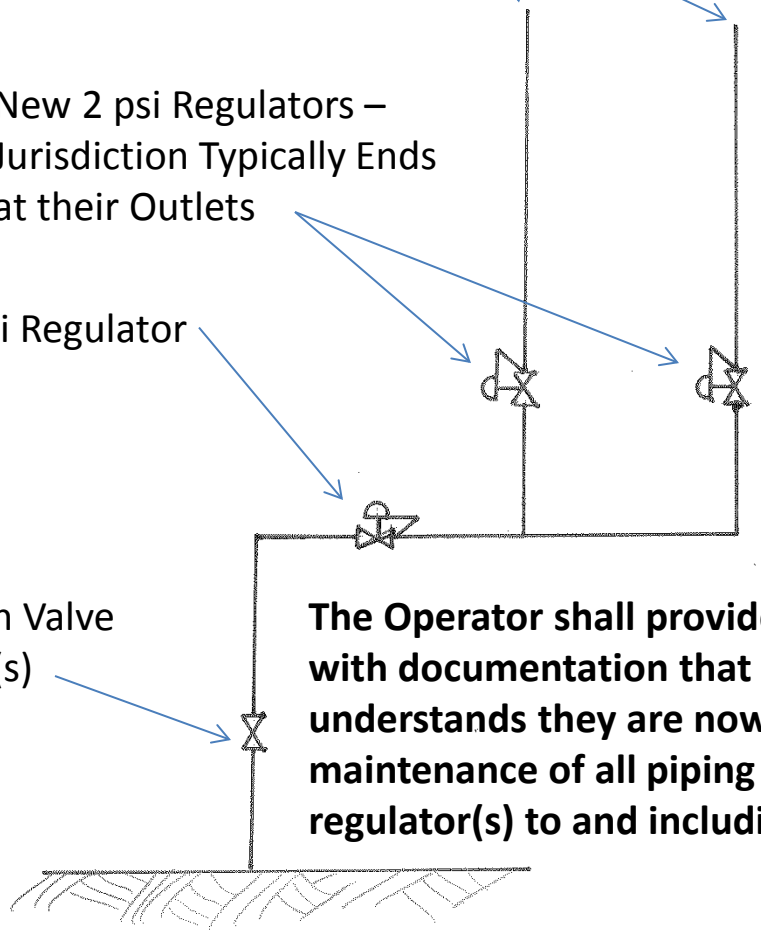
New Second Stage Regulator as an Attempt to Reduce Jurisdictional Piping

Piping to Rooftop Heating Units or Entrance to Building
Line Pressure Regulators – Typically Non-Jurisdictional,
However their Rating may be Verified

New 2 psi Regulators –
Jurisdiction Typically Ends
at their Outlets

5 psi Regulator

Service Riser with Valve
10 psi from Tank(s)



The Operator shall provide the MPUC Gas Safety Staff with documentation that verifies the customer understands they are now responsible for the maintenance of all piping from the outlet of the 2 psi regulator(s) to and including the appliance regulators.

Sketch Three

Addition of 2 psi Regulators to Reduce Jurisdictional Piping

Questions?

Odorization of Gas

49 CFR Part 192.625

(a). A combustible gas in a distribution line must contain odorant with a concentration in air of one-fifth the lower explosive limit, the gas is readily detectable by a person with a normal sense of smell.

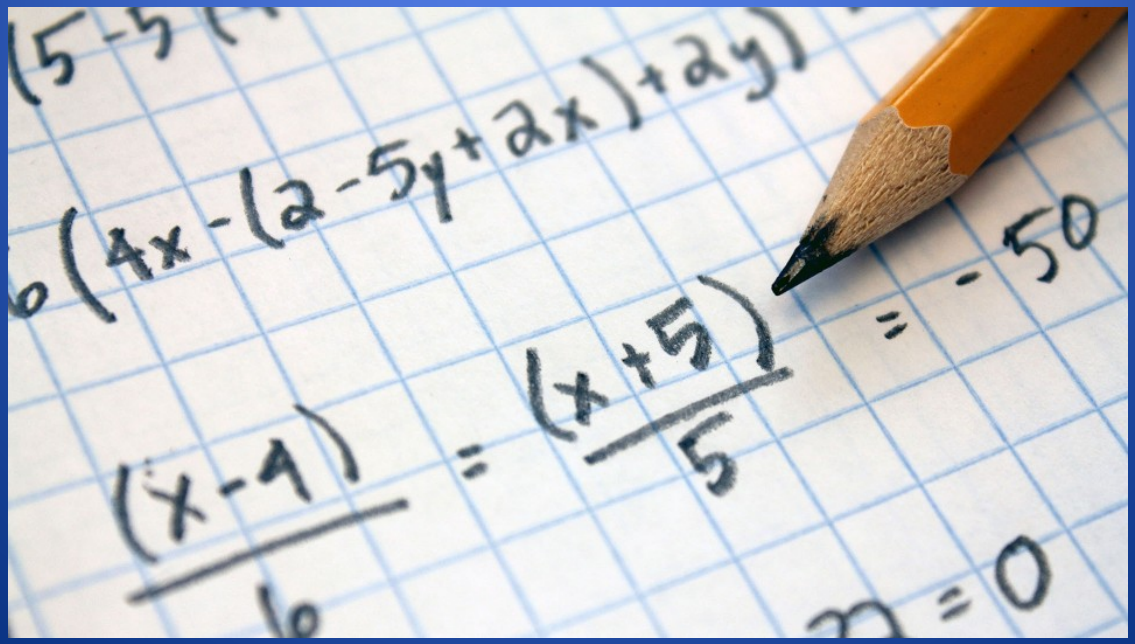
(f). To assure the proper concentration of odorant sampling must use an instrument capable of determining the percentage of gas in air at which the odor becomes readily detectable.

MPUC Chapter 421 § 5 (B.2)

The presence of odorant shall be determined by sniff-testing or other means and the results documented upon delivery to the distribution system storage containers or when LPG is loaded into the containers of delivery vehicles at a bulk facility.

Propane LEL 2.2 one-fifth =0.44 detectable

Calculation of MAOP



MAOP

192.619 (a) – No person may operate a segment of steel or plastic pipeline at a pressure that exceeds a maximum allowable operating pressure determined (by) the lowest of:

(1) Design pressure of the weakest element in the segment

(2) The pressure obtained by dividing the test pressure by 1.5 (for plastic pipelines)

(4) The pressure determined to be the maximum safe pressure after considering the history of the segment, particularly corrosion and the actual operating pressure

MAOP

Example

- Tank to first stage regulator – typically 250 psi MAOP
- First stage to second stage regulator – typically 10 psi
- Downstream of second stage regulator – typically 2 psi or less.

Joining Qualification

49 Part CFR 192.283

Plastic Pipe: Qualifying Joining Procedures.

Heat fusion, solvent cement, adhesion, and mechanical joints. You must have written and qualified procedures before making any joints.

49 CFR Part 192.285 Plastic Pipe: Qualifying Persons to make joints

No person may make a plastic pipe joint unless that person has been qualified under the applicable joining procedure.

1. Appropriate training or experience in the use of the procedure

2. Making a specimen joint from pipe section joined IAW procedures that passes inspection and testing.

3. A person MUST be Re-qualified under an applicable procedure once each calendar year not to exceed 15 months or after any production joint is found unacceptable by testing under § 192.513

Damage Prevention

MPUC Damage Prevention Investigators

Barry Truman, North – 592-3789

Rick LeClair, South – 592-1098

MPUC Chapter 895 Rule

Includes Requirements for Jurisdictional LP Operators

Damage Prevention

- Chapter 895 requirements include positive response to the excavator for all Dig Safe notifications received
- It is not sufficient to have personnel on site “in case the line is hit”
- Locators must be OQ qualified

Atmospheric Corrosion

Atmospheric Corrosion

192.479: Atmospheric corrosion control: General

(a) Each operator must clean and coat each pipeline or portion of pipeline that is exposed to the atmosphere

(b) Coating material must be suitable for the prevention of atmospheric corrosion

Atmospheric Corrosion

(c) Need not protect any pipeline for which the operator demonstrates by test, investigation, or experience appropriate to the environment that the corrosion will

(1) Only be a light surface oxide; or

(2) Not affect the safe operation of the pipeline before the next scheduled inspection

Atmospheric Corrosion

192.481 Atmospheric corrosion control: Monitoring

(a) Each operator must inspect each pipeline or portion of pipeline that is exposed to the atmosphere for evidence of atmospheric corrosion at least once every 3 calendar years, NTE 39 months

(b) During inspections, the operator must give particular attention to pipe at *soil-to-air interfaces, under thermal insulation, under disbonded coatings, at pipe supports*

Atmospheric Corrosion

(c) If atmospheric corrosion is found during an inspection, the operator must provide protection against the corrosion.

Chapter 421 Requirements

- Containers must be marked in a legible manner with the name and telephone number of the owner
- Plastic piping must be installed with a tracer wire
- Trenchless installation location

Records Retention

- It's generally a good idea to retain records for the life of the system (especially to verify MAOP).

192.603(b) Each operator shall keep records necessary to administer the procedures established under 192.605

DIMP Records: 10 YEARS

Corrosion Records: Maps showing CP measures – life of service, all others 5 YEARS

Pressure Testing Records: Over 100 psi: life of service, all others 5 YEARS

OQ Records: (Prior Qualifications) 5 Years

Records Retention

- Chapter 421 requires records for all state requirements to be kept for life of system *plus one year*
- Size and location of each line must be recorded
- GPS coordinate identifiers must be maintained for all systems.

Field Inspections – Common Findings

A review of some of the more recent, more frequent issues found during JLP field inspections

Break

Operator Qualifications

- Performance based specification
  - Vs. “prescriptive O&M requirements

192.801-809

Sets out a required program that operators use to demonstrate employees are *trained* and *qualified*, and can *recognize and react to abnormal operating conditions*.

Operator Qualifications

- Covered Tasks
  - 4-Part Test
    - O&M Task
    - Requirement of Part 192
    - Performed on the Facility
    - Affects Integrity of the System
- Abnormal Operating Condition means a possible malfunction or deviation from normal operations that may result in exceeding design limits or result in a hazard to persons, property, or the environment.

Operator Qualifications

- Identify Covered Tasks
- Evaluation Methods
- Provide Training
- Re-evaluation Intervals
- Span of Control
- Communication of Changes

Operator Qualifications

- Inspections of Operator Programs by PUC possible in 2016-2017.

Distribution Integrity Management Program (DIMP)

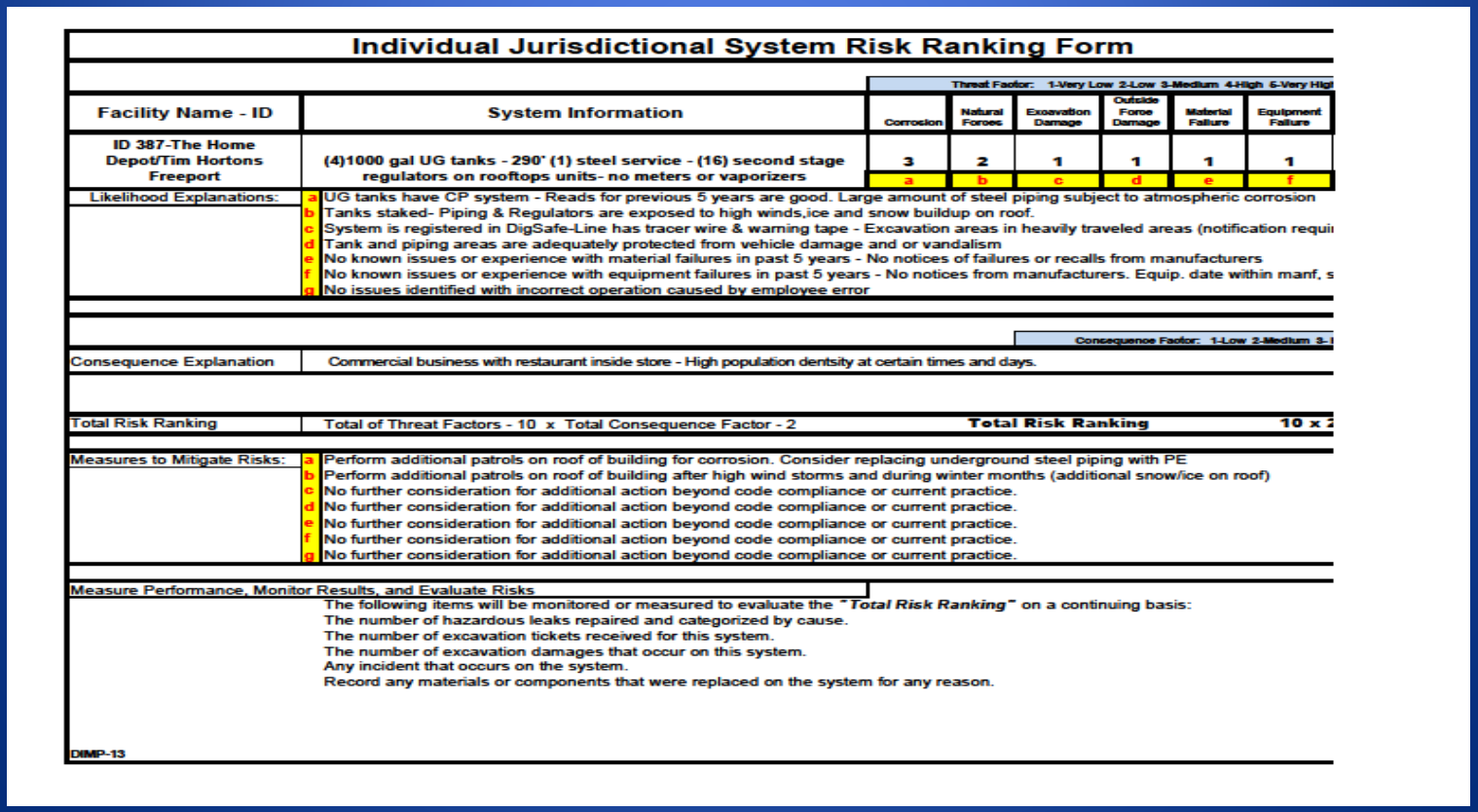
- Another Performance Based Specification
- Initial Inspections Performed in 2013-2014
- Most Operators have established plan, inspections made suggestions for improvement
- Operator training sessions held c. 2012

DIMP

- 192.1015 for small LPG operators
- A process to demonstrate knowledge of the system, evaluate and rank risks, and provide for the deployment of risk mitigation measures.
- Requires tracking of performance metrics
- Good reason to keep and review records on a regular basis
- A number of template plans available.

DIMP

- Operators can choose method to rank risk and apply mitigative measures.



Individual Jurisdictional System Risk Ranking Form

Threat Factor: 1-Very Low 2-Low 3-Medium 4-High 6-Very High

Facility Name - ID	System Information	Corrosion	Natural Forces	Excavation Damage	Outside Force Damage	Material Failure	Equipment Failure
ID 387-The Home Depot/Tim Hortons Freeport	(4)1000 gal UG tanks - 290' (1) steel service - (16) second stage regulators on rooftops units- no meters or vaporizers	3	2	1	1	1	1
		a	b	c	d	e	f

Likelihood Explanations:	a	UG tanks have CP system - Reads for previous 5 years are good. Large amount of steel piping subject to atmospheric corrosion
	b	Tanks staked- Piping & Regulators are exposed to high winds,ice and snow buildup on roof.
	c	System is registered in DigSafe-Line has tracer wire & warning tape - Excavation areas in heavily traveled areas (notification requi
	d	Tank and piping areas are adequately protected from vehicle damage and or vandalism
	e	No known issues or experience with material failures in past 5 years - No notices of failures or recalls from manufacturers
	f	No known issues or experience with equipment failures in past 5 years - No notices from manufacturers. Equip. date within manf, s
	g	No issues identified with incorrect operation caused by employee error

Consequence Factor: 1-Low 2-Medium 3-

Consequence Explanation		Commercial business with restaurant inside store - High population dentsity at certain times and days.
Total Risk Ranking	Total of Threat Factors - 10 x Total Consequence Factor - 2	**Total Risk Ranking** 10 x 2

Measures to Mitigate Risks:	a	Perform additional patrols on roof of building for corrosion. Consider replacing underground steel piping with PE
	b	Perform additional patrols on roof of building after high wind storms and during winter months (additional snow/ice on roof)
	c	No further consideration for additional action beyond code compliance or current practice.
	d	No further consideration for additional action beyond code compliance or current practice.
	e	No further consideration for additional action beyond code compliance or current practice.
	f	No further consideration for additional action beyond code compliance or current practice.
	g	No further consideration for additional action beyond code compliance or current practice.

Measure Performance, Monitor Results, and Evaluate Risks

The following items will be monitored or measured to evaluate the ***"Total Risk Ranking"*** on a continuing basis:
The number of hazardous leaks repaired and categorized by cause.
The number of excavation tickets received for this system.
The number of excavation damages that occur on this system.
Any incident that occurs on the system.
Record any materials or components that were replaced on the system for any reason.

DIMP-13

Other Resources from PHMSA / Fed

- Enforcement Guidance:

http://www.phmsa.dot.gov/pipeline/enforcement

- Legacy Manuals (Including LP Guide):

http://www.phmsa.dot.gov/pipeline/tq/manuals

- 49 CFR 192

http://www.ecfr.gov

Seeking Your Assistance

- MPUC is submitting for PHMSA clarification and/or interpretation on:
  - Extent of jurisdictional applicability
  - Overpressure protection vs. code requirements
  - Interior piping accessibility for atmospheric corrosion patrols

Questions?