

# Maine Public Utilities Commission

2023 Jurisdictional LP  
Pipeline Safety Seminar



OFFICE OF THE

Maine Public  
Utilities Commission

STATE OF MAINE



What's new?

2021 – 2022 Standard Inspections

Some consolidation and some new faces



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STATE OF MAINE



# Nationwide focus on quality...



## Pipeline Safety Management Systems

The Plan-Do-Check-Act Cycle is central to every safety management system and a vital tool for continuous improvement of pipeline safety performance.



Introductions...

Questions parking lot

[onlinequestions.org](http://onlinequestions.org)

Event Number 433318







**Underground Facility  
Damage Prevention Training  
2023**

# Call Before You Dig



**The responsible parties  
involved with this  
process**

**Excavators**

**Dig Safe System**

**Facility Operators**

**MPUC**

## **K. Excavation.**

"Excavation" means any operation in which earth, rock or other material below the ground is moved or otherwise displaced, by means of power tools, power equipment or explosives and includes grading, trenching, digging, ditching, drilling, auguring, tunneling, scraping and cable or pipe driving, except tilling of soil and gardening or displacement of earth, rock or other material for agricultural purposes.

## **M. Mechanical Means of Excavation.**

“Mechanical means of excavation” means excavation using any device or tool powered by an engine except air vacuum methods of excavation.





## **T. Underground Facility or Facility.**

Sec. 1. 23 MRSA §3360-A, sub-§1, ¶E, as amended by PL 2011, c. 588, §2, "Underground facility" means any item of personal property buried or placed below ground for use in connection with the storage or conveyance of water, sewage, electronic, telephonic or telegraphic communications, electric energy, oil, gas or other substances and including, but not limited to, pipes, sewers, conduits, cables, valves, lines, wires, manholes, attachments, appurtenances and those parts of poles below ground.

Except for liquefied propane gas distribution systems that have underground pipes, "underground facility" does not include liquefied propane gas distribution systems that are not included within the scope of 49 Code of

APPROVED MARCH 17, 2020 BY  
GOVERNOR CHAPTER 592 PUBLIC LAW

Page 2 - 129LR2905(03)-1 Federal Regulations,  
Part 192 and. "Underground facility" does not include highway drainage culverts or under drains.







STATE OF MAINE  
PUBLIC UTILITIES COMMISSION

Philip L. Bartlett, II  
CHAIRMAN

R. Bruce Williamson  
Randall D. Davis  
COMMISSIONERS

Harry Lanphear  
ADMINISTRATIVE DIRECTOR

March 27, 2020

Jurisdictional Propane Operators (via e-mail)

**RE: THE REQUIREMENT FOR NON-JURISDICTIONAL LPG FACILITIES TO BE REGISTERED WITH THE DIG SAFE SYSTEM**

Dear Operator:

On Tuesday, March 17, 2020, Governor Janet Mills signed LD 1892. This legislation carried emergency status and is effective immediately. It amends 23 M.R.S.A. § 3360-A, Protection of Underground Facilities (the so-called Dig Safe Law) to include all underground propane facilities.<sup>1</sup> Previously, only propane systems under jurisdiction of 49 C.F.R., Part 192 were included in the law. LD 1892 also increased the minimum and maximum penalties from \$500 to \$1,000 and \$5,000 to \$10,000 respectively.

To comply with the new law, among other things, you must provide the location of all your underground propane facilities, including those considered as "non-jurisdictional," to Dig Safe, Inc., pursuant to Chapter 895, §6(1)(d) of the Maine Public Utilities Commission's (Commission) rules. Further, you will be obligated to mark these facilities pursuant to Chapter 895, §6(B) upon receipt of a notice of planned excavation made pursuant to Chapter 895, §4(B)(2) or §5.

The Commission will soon be opening the rulemaking process for Chapter 895, Underground Facility Damage Prevention Requirements, to reflect these changes. However, pending the rule revisions, the updated law is in effect and enforceable. Your participation in the rulemaking process is welcomed.

For your reference, below are links to the web pages for Dig Safe, 23 M.R.S.A. § 3360-A, and Chapter 895. If you would like to have representatives of your company attend an Underground Facilities Damage Prevention training session, by the Commission's Damage Prevention Investigation staff, please contact Hattie Trask, Damage Prevention Coordinator, at [hattie.trask@maine.gov](mailto:hattie.trask@maine.gov) or (207) 287-6075.

<http://www.digsafe.com/index.php>  
<http://www.mainelegislature.org/leqis/statutes/23/title23sec3360-a.html>  
<http://www.maine.gov/sos/cec/rules/65/407/407c895.doc>

If you have any questions, please feel free to contact me at [gary.kenny@maine.gov](mailto:gary.kenny@maine.gov) or (207) 287-1364.

Sincerely,

Gary A. Kenny, PE  
Gas Safety Manager

<sup>1</sup> Chapter 895 defines "underground facility" as any item of personal property buried or placed below ground for use in connection with the storage or conveyance of water, sewage, electronic, telephonic or telegraphic communications, cable television service, electric energy, oil, gas or other substances and including, but not limited to, pipes, sewers, conduits, cables, valves, lines, wires, manholes, attachments, appurtenances thereto and those parts of poles below ground. This definition shall not include highway drainage culverts or underdrains.

# The Process...

1. Excavator: Pre-marks the site
2. Excavator: Notify Dig Safe
3. Excavator: Notify Non-members
4. Facility Operator: Marks the Site
5. Excavator: Maintains the Marks
6. Excavator: 18" Safety Zone
7. Report violations to MPUC

# Step 1

## Pre-Marking the Excavation Site

# Pre-marking

**The excavator shall pre-mark the approximate boundary of a proposed excavation and include the excavator's initials in white, or as otherwise established by the Dig Safe System, prior to notifying the Dig Safe System, as required**

**Those pre-marks you're going to put on the ground show the facility operators approximately where the excavation will occur.**

**The facility operators will then mark out all of their facilities in the proposed excavation area.**

# Stay Inside Your Pre-Marks

**Original pre-marks define the approximate boundaries of your planned excavation per your original notifications to facility operators.**

**You should not excavate outside the original pre-marks without going through the notification process again.**

# Step 2

**Notifying  
Dig Safe**

**(Member Facility  
Operators)**



# **Dig Safe Notification**

## **Notification Guidelines (Handbook)**

### **Toll Free Telephone Notification**

**1-888-Dig-Safe**

**1-888-344-7233**

### **On line Quick Ticket Notification**

**[www.digsafe.com](http://www.digsafe.com)**

**Must pre-register for a password**



**DigSafe**  
MA·ME·NH·RI·VT

# **Dig Safe Notification**

## **Member Facility Operators**

**Notification MUST take  
place at least  
3 business days but  
not more than 30 days prior  
to excavating.**

# Step 3

**Notifying  
Non-Member  
Facility Operators**

# **Non-member Facility Operator Notification**

**The excavator must notify all  
underground facility  
operators who are not  
members of Dig Safe that  
have facilities within the  
excavation area.**

# Facility Operator Notification

## Dig Safe Members (mandatory)

**Electrical**

**Gas, Oil, Steam**

**Telephone, CATV, Fiber Optic**

## Non-members (voluntary)

**water, sewer, private property owners and some small utilities.**

# OKTODIG

## Municipal & Non-member Reference Database

[www.OKTODIG.com](http://www.OKTODIG.com)

1-866-OKTODIG

1-866-658-6344

Does not include

Private Property Owners



OKTODIG Home

Search by

MPUC Facility  
Damage Prevention



In Maine, anyone using power tools to penetrate the ground (including homeowners) is required to notify [DIGSAFE](#) at 1-888-DIGSAFE at least 3 business days prior to digging. [DIGSAFE](#) will then notify the owners of underground facilities that are members of that system. However, not all owners of underground facilities are required to be members of the [DIGSAFE](#) system.

This directory, the Maine Public Utilities Commission's "**OK-TO-DIG**" directory, provides contact information for the non-member, underground facility operators. You may also access this directory with a touch-tone phone at **1-866-OKTODIG (1-866-658-6344)**.

In most cases, you must still notify [DIGSAFE](#) at 1-888-DIG-SAFE three days prior to digging. For more information about Maine's Underground Facility Damage Prevention requirements, [click here](#).

Please note that while the Maine Public Utilities Commission (MPUC) has tried to make this directory as accurate as possible, it may contain errors and omissions. You should check this system prior to each excavation to ensure that you have the most accurate and up to date information. In addition, this directory does not include federally-owned underground facilities or underground facilities owned by individual land owners. You are also required to notify these entities.

**If you have any questions, please call the MPUC at (207) 287-3831 or toll free at (800) 452-4699.**



# **Subcontractors & Multiple Excavators**

**Is it OK to work under  
somebody else's  
Dig Safe ticket ?**

# Step 4

## B. Marking

- Purpose. An operator shall, upon receipt of the notice provided in Subsection 4(B)(2) or Section 5, advise the excavator of the location and size of the operator's underground facilities and all underground facilities used in furnishing electric or gas service that are connected to the operator's facilities, located in the public way and known to the operator within the area of the proposed excavation by marking the location of the facilities in accordance with this subsection

# Marking Requirements

Standard marking must be done within 72 business hours after receipt of excavation notice.

Re-marks must be done within 1 business day of the excavator's notice

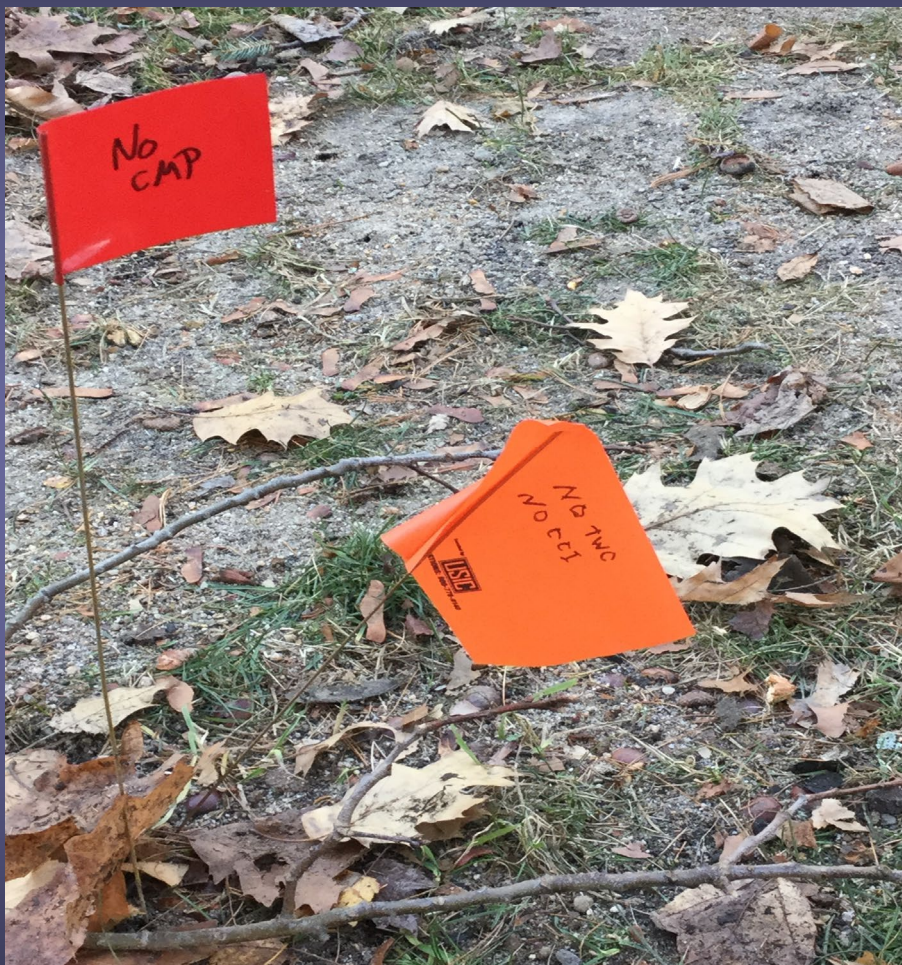
Emergency marks must be done as soon as reasonably possible.

# Positive Response by Facility Operators

**Facility Operators must confirm in writing to the excavator if no facilities exist inside the excavation area via:**

- 1. Marks on-site**
- 2. FAX**
- 3. email**
- 4. Text**



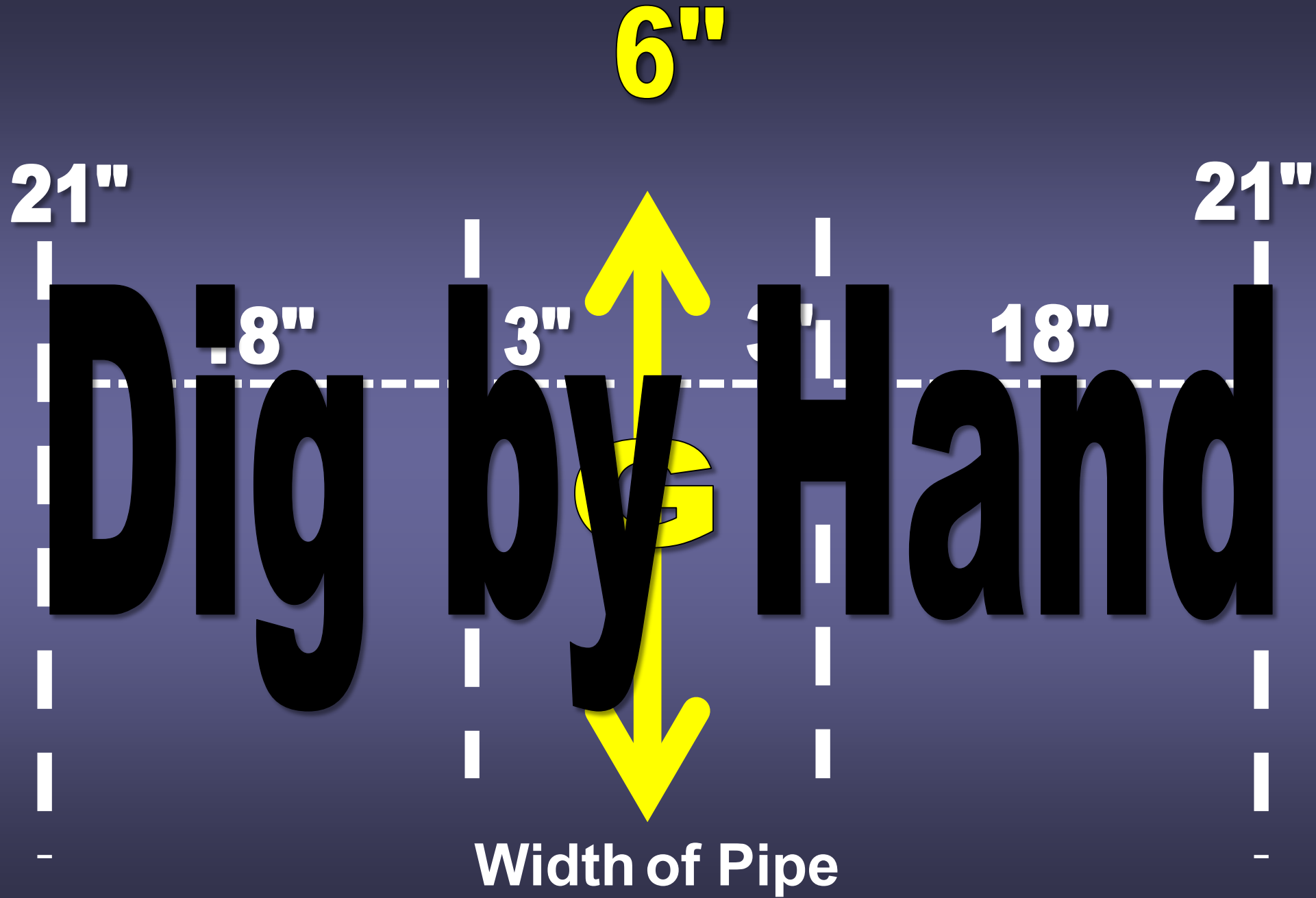












6"

21"

21"

18"

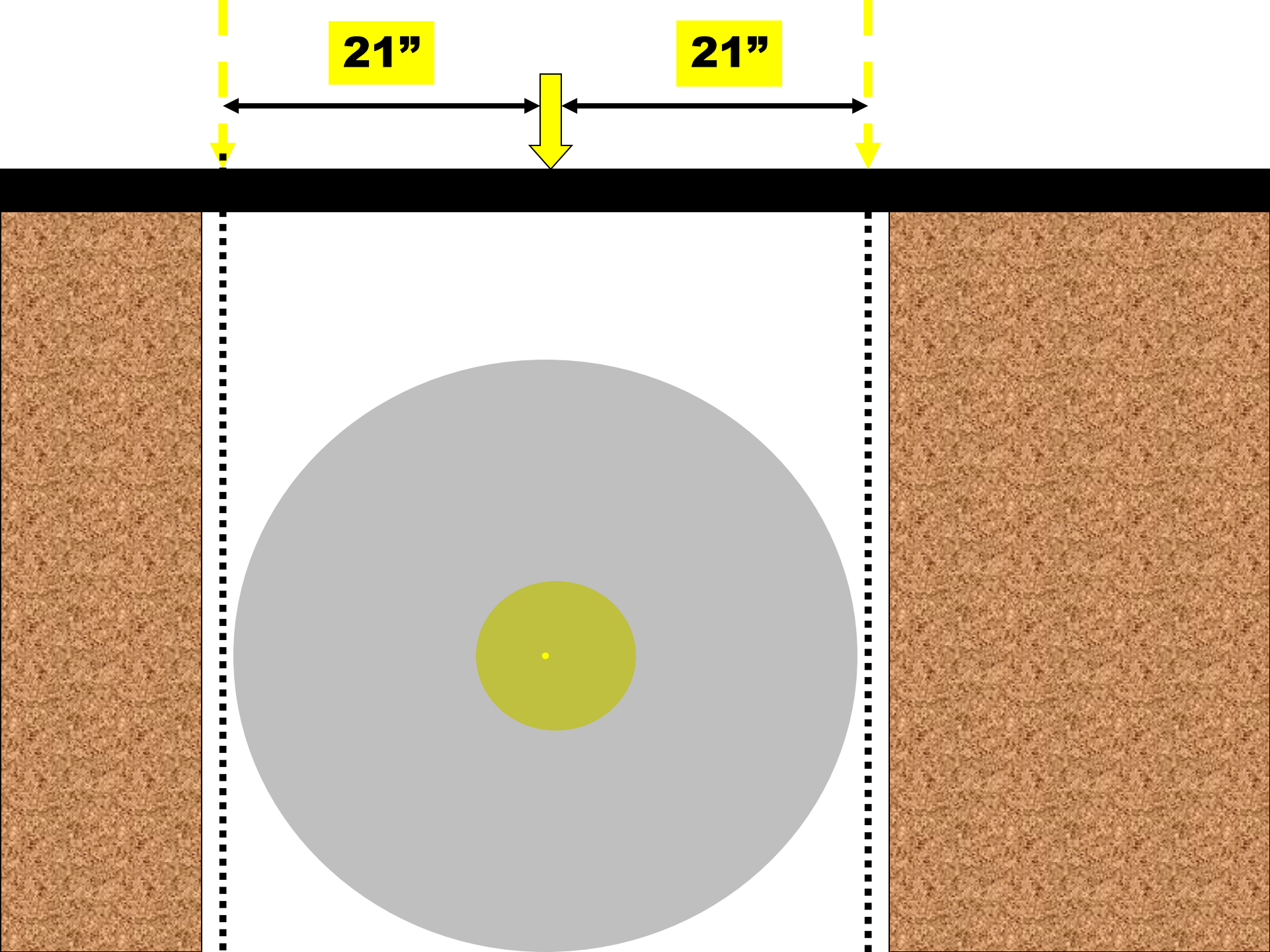
3"

18"

**Dig by Hand**

Width of Pipe





# **Working Inside The Safety Zone and the Tolerance Zone**

**Mechanical means may be used as  
necessary for:**

**Initial penetration of ground,  
removal of pavement, rock or  
other material, as necessary.**







Incident # \_\_\_\_\_

**Maine Public Utilities Commission**

Date of Report: \_\_\_\_\_

(For Office Use)

**Underground Facility Incident Report**

Report Submitted by:  Excavator;  Facility Operator;  Other Party

Date of Incident	_____	Time of Incident	_____ AM / PM
Date Facility Operator Notified	_____	Time Facility Operator Notified	_____ AM / PM
Date Made Safe	_____	Time Made Safe	_____ AM / PM
Dig Safe Notified	___ Yes ___ No	Service Fully Restored	_____ AM / PM
Dig Safe Ticket #	_____	GPS Coordinates	_____ Long. _____ Lat.
Incident Location	_____ / _____ / _____ Street Town Tie Descriptions		
Type of Facility	___ Telephone ___ Electric ___ Gas ___ CATV ___ Water ___ Sewer ___ Other (____)		
Damage To	___ Service line ___ Distribution line ___ Transmission line ___ Other ___ No damage		
Photos held by	___ Excavator Operator ___ Other Party	Excavator Billed for Damage	___ Yes ___ No
Property Ownership	___ Public Right of Way ___ Easement ___ Private		
Property Owner/Address	_____ / _____ / _____ Owner Street Town		
Describe Facility (Type, Size, Material, Pressure, etc.) _____			
Describe the Activity causing damage or safety concern, citing any lack of precaution _____			
Describe Damage _____			
Number of Injuries	_____	Number of Fatalities	_____
		Estimate of Property Damage	\$ _____

Please furnish information for both Excavator Data and Facility Operator Data

**Excavator Data**

Excavation Company \_\_\_\_\_

Address \_\_\_\_\_  
Street \_\_\_\_\_

Town \_\_\_\_\_ Zip \_\_\_\_\_

Telephone (\_\_\_\_) \_\_\_\_\_

Name of Supervisor \_\_\_\_\_

Equipment Operator \_\_\_\_\_

Equipment Description \_\_\_\_\_

**Facility Operator Data**

Facility Operator (Utility) \_\_\_\_\_

Address \_\_\_\_\_  
Street \_\_\_\_\_

Town \_\_\_\_\_ Zip \_\_\_\_\_

Telephone (\_\_\_\_) \_\_\_\_\_

Number of Outages \_\_\_\_\_

Excavations \_\_\_\_\_

**Probable Cause:**

<input type="checkbox"/> Excavator failed to notify Dig Safe	<input type="checkbox"/> Operator failed to mark in a timely manner
<input type="checkbox"/> Excavator failed to notify Nonmember operator	<input type="checkbox"/> Operator failed to re-mark in a timely manner
<input type="checkbox"/> Excavator failed to premark	<input type="checkbox"/> Operator's markings were Incorrect due to:
<input type="checkbox"/> Excavator failed to maintain markings	___ locator error ___ incorrect record ___ no record
<input type="checkbox"/> Excavator failed to notify of damage to operator	<input type="checkbox"/> Designer failed to provide location on plans
<input type="checkbox"/> Excavator failed to observe 18-in. safety zone	<input type="checkbox"/> Other _____
<input type="checkbox"/> Excavator was reckless and/or negligent	

Comments \_\_\_\_\_

I declare that to the best of my knowledge and belief, the information I provided is true, correct, and complete.

Report Prepared By \_\_\_\_\_ For \_\_\_\_\_  
Print Name Company

Signature \_\_\_\_\_ Telephone (\_\_\_\_) \_\_\_\_\_

Submit to: Damage Prevention Administrator, Maine Public Utilities Commission, 18 State House Station, Augusta, ME 04333 or fax to (207) 287-1039

# Recent Law/ Rule changes

**Page 1 - 129LR2297(03)-1  
STATE OF MAINE**

**IN THE YEAR OF OUR LORD  
TWO THOUSAND NINETEEN**

**S.P. 569 - L.D. 1720**

**An Act To Amend the So-called Dig Safe Law**

**Be it enacted by the People of the State of Maine as follows:**

**Sec. 1. 23 MRSA §3360-A, sub-§10-B is enacted to read:**

**10-B. Calling 9-1-1. If contact with or damage to an underground pipe or another underground facility results in the escape of any natural gas or other hazardous substance or material regulated by the United States Department of Transportation, Pipeline and Hazardous Materials Safety Administration, the excavator shall immediately report the contact or damage by calling 9-1-1.**

**APPROVED  
JUNE 17, 2019  
BY GOVERNOR  
CHAPTER  
322  
PUBLIC LAW**

## Provisionally adopted rule(895) changes

**During its 2020 session, the Legislature enacted An Act to Make Changes to the So-called Dig Safe Law. P.L. 2019, c. 592 (Act).**

The Act makes liquefied propane gas (LPG) distribution systems that have underground pipes subject to the Dig Safe Law and **increases the administrative penalties** for violations of the law.

During its 2019 session, the Legislature enacted An Act to Amend the So-called Dig Safe Law which requires excavators to immediately report by **calling 9-1-1** if contact with, or damage to, an underground pipe or another underground facility results in the escape of any natural gas or other hazardous substance or material regulated by the United States Department of Transportation, Pipeline and Hazardous Materials Safety Administration (U.S. DOT, PHMSA). P.L. 2019, c. 322.

**The Commission opened this narrow rulemaking proceeding, which is major substantive pursuant to 5 M.R.S. § 8071(2)(B), to implement these statutory changes and make a couple additional housekeeping changes to the rule.**

**A. Responsibilities of the Excavator, Reporting (Section 4(D))**

**The NOR noted that when an excavator has reason to believe that one or more damage prevention incidents have occurred in association with an excavation, the rule requires the excavator to submit a written incident report to the Commission within 10 days. Section 4(D)(2) of the proposed amended rule also required that the excavator notify the Commission of this by calling the Commission **as soon as possible** after an incident occurs.**



**D. Responsibilities of the Operator, Marking (Section 6(B)(1))**

**The NOR noted that Section 6(B)(1) of the rule provides that if the operator determines that there are no facilities in the proposed excavation area that it is obligated to mark, it shall inform the excavator in writing, prior to the expiration of the excavator's waiting period, either by electronic facsimile or e-mail or by placing marks at the excavation site that so indicate. Given the increased use of text messaging, the amended proposed rule also proposed allowing the operator to use **text** messaging to notify the excavator in addition to facsimile or e-mail.**

## **E. Responsibilities of the Operator, Reporting (Section 6(C)(1))**

**The NOR noted that when an operator has reason to believe that one or more damage prevention incidents have occurred in association with an excavation, the current rule requires the operator to submit a written incident report to the Commission within 10 days. after an incident occurs. Section 6(C)(1) of the proposed amended rule proposed requiring the operator to notify the Commission as **soon as possible****

# **Administrative Penalties**

**1<sup>st</sup> Violation: Waiver of \$1000 Penalty  
w/ Certified Training**

**Next Violations: \$1000 Penalty up to  
\$10,000 Maximum per  
violation**

Remember –  
Dig Safe is Free and it is the Law!



# Questions ?

**Richard C. LeClair**  
**Program Manager**  
**Damage Prevention Team**  
**Tel: 207-287-1369**  
**Cell: 207-592-1098**  
**[richard.c.leclair@maine.gov](mailto:richard.c.leclair@maine.gov)**

**Barry Truman**  
**Damage Prevention Investigator**  
**Damage Prevention Team**  
**Tel: 207-287-5494**  
**Cell: 207-592-3789**  
**[barry.e.truman@maine.gov](mailto:barry.e.truman@maine.gov)**

**Hattie Trask**  
**Safety Programs Coordinator**  
**Damage Prevention Team**  
**Tel: 287-6075**  
**[Hattie.Trask@maine.gov](mailto:Hattie.Trask@maine.gov)**

Break (15 mins)



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STATE OF MAINE





# Records Workshop

- 2021 – 2022 Standard Inspections
- Multiple records concerns
- “A plan to prevent recurrence of recordkeeping issues”





# Records Workshop

- Group Exercise
- Work as a team to find records issues
- Cathodic Protection, Regulator Inspection, Leakage Survey (3 Each)
- O&M Procedures behind forms



# Records Workshop

- Debrief
- What did you find?
- Questions?



# Records Workshop

- Could a “plan to prevent recurrence” be a Quality Assurance Program?
- 49 C.F.R. 192.605(b)(8) Periodic Review



# Records Workshop

Operations and Maintenance Procedure  
Template and Blank Forms at

<https://www.maine.gov/mpuc/safety/natural-gas-safety>

Break (15 mins)



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# Quality Assurance

- 2021 – 2022 Standard Inspections
- “A plan to prevent recurrence of recordkeeping issues *through implementation of a quality assurance program*”

# Plan Should Include

- Regular inspections of work
- Records review
- When deficiencies are found
  - *Process for changing procedures and practices*
  - *Provide training*



# 2023 MPUC Jurisdictional LP Safety Seminar

## Quality Assurance and Quality Control (QA/QC)

# What is QA/QC & Why is it Required?

## What is Quality Assurance?

It is defined as: The maintenance of a desired level of quality in a service or product, especially by means of attention to every stage of the process of delivery or production.

The most popular tool used to determine quality assurance is the Cycle, developed by Dr. W. Edwards Deming. The cycle for quality assurance consists of four steps: **Plan, Do, Check, and Act.**

## Why is QA/QC Required?

49 CFR 192.605(a) Establishes that we (the operator) must have an O&M Manual containing written procedures for O&M activities.

*Each operator shall prepare and follow for each pipeline, a manual of written procedures for conducting operation and maintenance activities and for emergency response.*

# What is QA/QC & Why is it Required?

49 CFR 192.605(b) Dictates what at a minimum must be included in the O&M Manual required by 192.605(a).

*The manual required by paragraph (a) if this section must include procedures for the following, if applicable, to provide safety during maintenance and operations.*

49 CFR 192.605(b)(8) is where we find the QA/QC requirement. The regulation says the operator must have a procedure for the following,

*Periodically reviewing the work done by operator personnel to determine the effectiveness, and the adequacy of the procedures used in normal operation and maintenance and modifying the procedures when deficiencies are found.*

# Develop a Procedure for QA/QC

## Consider the following

- How often will the QA/QC reviews be conducted?
- Who will perform the reviews?
- Where will reviews take place if you have multiple operating locations?
- Whose work will be reviewed?
- Which procedures will be reviewed?
- As an operator how can I get the most out of these reviews?

# Develop a Procedure for QA/QC

## Consider the following

- How will you document the review?
- Will the results be reviewed with others within your organization?
- If deficiencies are identified how will they be corrected?
- If a deficiency was identified that was related to the individual performing the procedure and not the procedure itself consider whether or not 192.805(e) is applicable.

*192.805(e) - Evaluate an individual if the operator has reason to believe that the individual is no longer qualified to perform a covered task*



# Determining Effectiveness & Adequacy

Did the procedure match what occurred in the field and was the desired outcome achieved?:

If Yes, was there room for improvement? Could the procedure be more clear or should/could it allow for the utilization of new technology or industry practices? Your procedure may be adequate but still benefit from update or modification.

If No, was this because the technician simply did not follow the procedure (possible training issue?) or did the procedure lack detail, not include important steps, have steps out of order, reference incorrect material or equipment? These are all examples that would indicate that the procedure is not adequate and therefore must be modified.

# Example Procedure

## Quality Assurance Program

To ensure that tasks related to jurisdictional propane facilities are performed in accordance with company policies, practices, procedures, specifications, and applicable codes, the Suburban Propane Safety Department will conduct evaluations through regular inspections of the work performed by Company personnel. These evaluations will.

- Be conducted at least once each calendar year at intervals not exceeding 15 months for each of the Maine OPS operating locations (Portland, Fryeburg, and Fairfield).
- Include the review of completed work, as well as the review of work as it is being performed. OQ personnel from each location will be selected at random for this review.
- Include the review of recordkeeping for accuracy and completeness.

# Example Procedure

Where deficient or noncompliant workmanship is observed that is the result of workmanship or administrative issues

- The individual or individuals responsible for administering and/or overseeing the task will be subject to disciplinary action.
- The individual or individuals responsible for administering and/or overseeing the task will be retrained in each task that a deficiency was identified.
- If the deficiency is determined to be a result of inadequate or ineffective Company procedure, practice, or specification, the company will review and amend the plan to correct the inadequacy. Best practice should be considered when modifications are made to the plan.

Results of the Quality Assurance Program will be reviewed by Regional Management, CSC Management, and the Safety Department at least once each calendar year at intervals not exceeding 15 months. Management Personnel are required to participate in the review of program results, approval of procedure and practice modifications, and implementation of other actions items arising from the evaluations conducted through the program, as well as in the execution of the program inspections, sampling and/or audits.

# Example Inspection Report



## Jurisdictional Quality Assurance Program Inspection Report

Date: 11-09-2021 CSC: Example

Employee Evaluated: Example System Name: Example

### Task Specific Review

Check the appropriate box to indicate the outcome of each task specific review. If the task is not applicable to the system being reviewed indicate this with "n/a" in the Adequate column. If the task is applicable but not completed indicate this with "n/c" in the Adequate column and state the reason for the non-completion in the comments section. If any of the Task Specific Reviews were completed on a date other than the one indicated at the top of the form, note in the comments section which task, and the date which the review took place.

	Adequate	Inadequate		Adequate	Inadequate
Patrolling	✓		Regulator Insp.	✓	
Odorization	n/c		Relief Insp.	✓	
Key Valve	✓		Corrosion Insp.	n/c	
Leakage Survey	✓		Cathodic Protection	✓	
			Rectifier (if app.)	✓	

Comments: Odorant tester was out for calibration and therefore this task could not be reviewed. Corrosion inspection was not due and therefore this task was not reviewed. Discussed leakage survey methods with the technician who has been using the barhole method for all UG piping runs. Discussed options for conducting a pressure drop leak test on this segment in the future.

### Documentation Review

Were any concerns identified?  Yes  No

If Yes, Explain: While no concerns were identified with the tasks which were performed some documentation was lacking completeness. The 10/15/21 leakage survey was missing a check box for the AG section and the 10/25/21 regulator inspection was missing some information.

### Follow-up/Corrective Action

Corrective Action Required?  Yes  No

If Yes, Explain: Reviewed each of the completed forms with the Technician and provided guidance where concerns were identified. Management should ensure that all documentation is reviewed for completeness prior to the document being added to the system binder.

Inspector Name: Grant Folsom Signature:

Date of Review: 11/11/2021

Mgmt. Review Completed with: Management - Example

# Example Inspection Report



## Jurisdictional Quality Assurance Program Inspection Report

Date: 11-09-2021 CSC: Example

Employee Evaluated: Example System Name: Example

### Task Specific Review

Check the appropriate box to indicate the outcome of each task specific review. If the task is not applicable to the system being reviewed indicate this with "n/a" in the Adequate column. If the task is applicable but not completed indicate this with "n/c" in the Adequate column and state the reason for the non-completion in the comments section. If any of the Task Specific Reviews were completed on a date other than the one indicated at the top of the form, note in the comments section which task, and the date which the review took place.

	Adequate	Inadequate		Adequate	Inadequate
Patrolling	✓		Regulator Insp.	✓	
Odorization	n/c		Relief Insp.	✓	
Key Valve	✓		Corrosion Insp.	n/c	
Leakage Survey	✓		Cathodic Protection	✓	
			Rectifier (if app.)	✓	

Comments: Odorant tester was out for calibration and therefore this task could not be reviewed. Corrosion inspection was not due and therefore this task was not reviewed. Discussed leakage survey methods with the technician who has been using the barhole method for all UG piping runs. Discussed options for conducting a pressure drop leak test on this segment in the future.





# What have we learned or Implemented?

- An Additional review process to ensure documentation is complete and done within the require timeframes.
- Form updates
- Abnormal Operation Condition (AOC) quick reference cards
- Monthly meetings to review compliance issues, testing and/or maintenance updates, etc.

# Final Conclusions

Avoid making QA/QC a checkbox exercise

- Excellent opportunity to interact with the technicians and listen to their suggestions and concerns. Remember they have the hands on experience.
- Consider how can this be most beneficial to my overall program? Can other areas of compliance be incorporated into QA/QC to improve overall compliance and safety?

# Final Conclusions

Include others in the process. To achieve results the group must work collaboratively and understand the what the goals are.

The process can take time. Continue to evaluate and refine the process to fit your operation.

Remember the four steps: **Plan, Do, Check, and Act.**

# QUESTIONS?

# Lunch! (1 hour)



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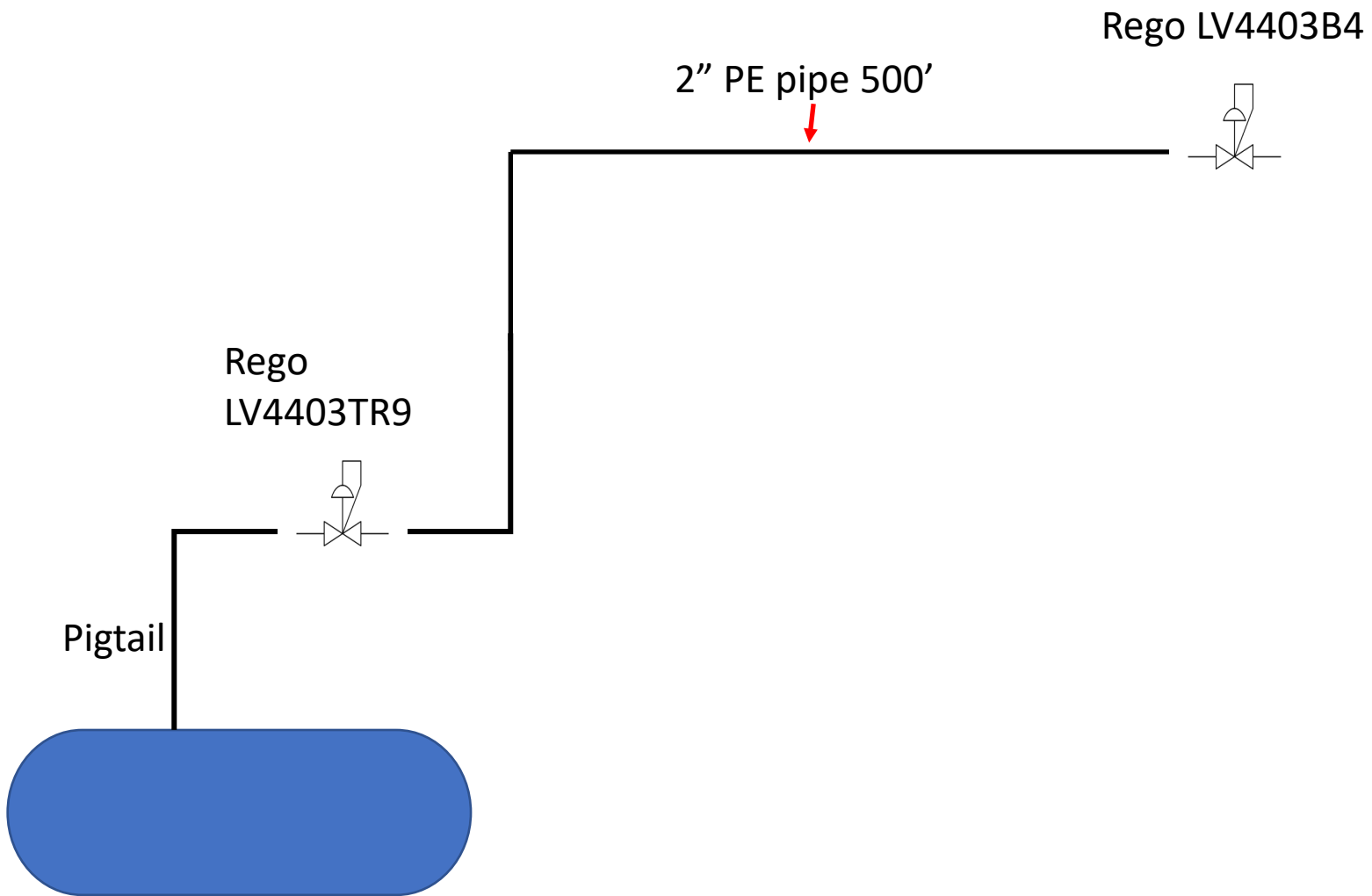


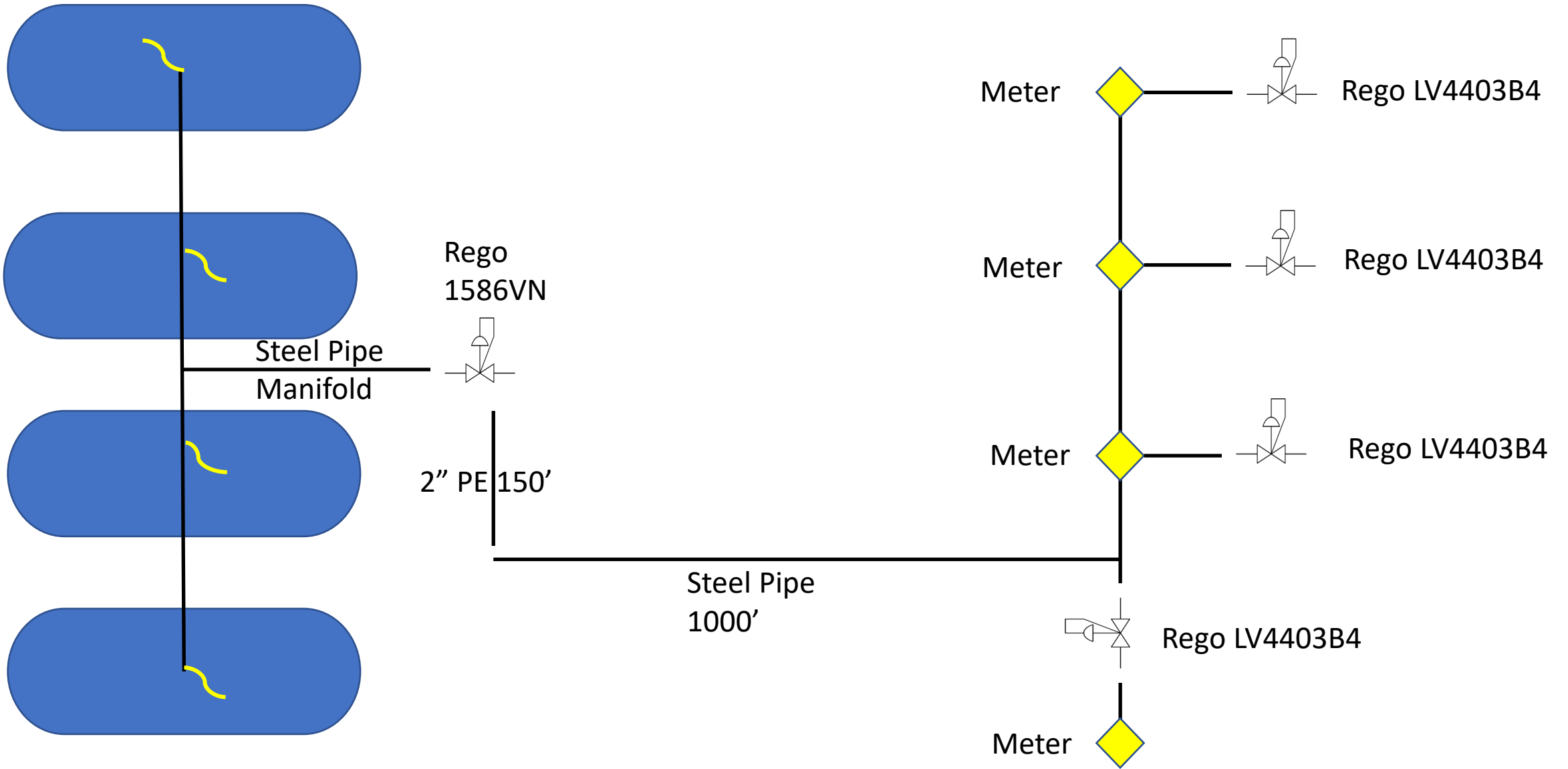


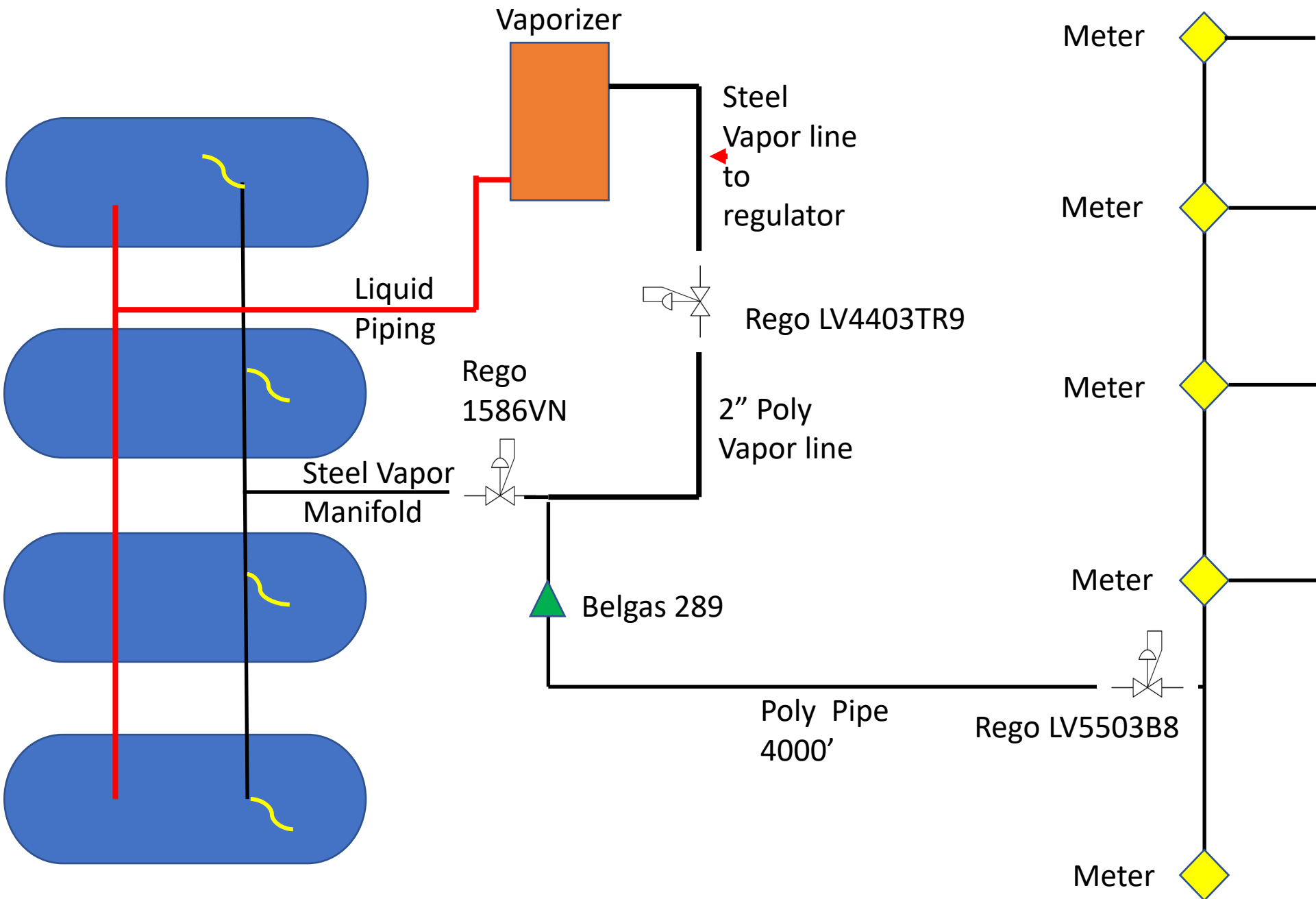
# MAOP Workshop

- 2021 – 2022 Standard Inspections
- Requested by Operators
- Various system configurations
- Work as a group (30 minutes) – use MAOP and Pressure Testing Procedures
- MPUC Regulatory Quiz









## Maximum Allowable Operating Pressure 192.619, 621, 623

On LP liquid line piping, the MAOP must be established at or above 350 psig.

Container piping upstream of the 1<sup>st</sup> stage regulators must be established at or above an MAOP of 250 psig.

For plastic pipelines the MAOP must not be established at a pressure higher than 30 psig as required by NFPA 6.8.1.1(3).

The lines downstream of the high pressure or 1<sup>st</sup> stage cut shall be established at an MAOP of 10 psig, or at a pressure that will maintain the required pressure and flow in the distribution lines, but may not operate at pressures that could cause re-liquefying in the lines or exceed the pressure limitations of any downstream piping or components.

Regulators and overpressure protection devices must be installed to ensure the system maintains a safe MAOP operating pressure.

**Records showing MAOP calculations, material verification, and qualifying pressure testing for each system segment must be maintained. Example documentation for recording this information is located in Appendix C.**

## **Pressure Test 192.503, 507, 511, 513**

Except for single components stamped and rated for operation at a specified pressure by the manufacturer, the company must not operate a new segment or return to service a segment of pipeline that was replaced or relocated until it has been tested to substantiate MAOP. All potentially hazardous leaks must be located and eliminated during pressure testing. Testing must be conducted in accordance with Part 192 requirements. The test medium used may be air, liquid, inert gas, and must be compatible with the pipeline material.

[Except for service lines and plastic pipelines, piping with an MAOP above 100 psig must be pressure tested to 1.5 MAOP and maintained at or above the test pressure for 1 hour. The test must be conducted in a manner that will ensure discovery of all potentially hazardous leaks in the segment being tested.

Except for service lines and plastic pipelines, piping with an MAOP below 100 psig must be leak tested to 90 psig and held for 15 minutes to ensure that there are no leaks.

For service lines other than plastic, lines operating up to 40 psig MAOP must be pressure tested to 50 psig and held for 15 minutes to ensure that there are no leaks.

For service lines other than plastic, lines operating above 40 psig MAOP must be tested to 90 psig and held for 15 minutes to ensure that there are no leaks.

Plastic pipelines must be tested to 50 psig and held for 15 minutes to ensure that there are no leaks.

During plastic pipeline testing, the pipe temperature may not exceed 100°F]

## Rego Regulators used

1586VN 3-30 psi Outlet Delivery 7,500,000 BTU

4403B4 11"wc Outlet Delivery 935,000 BTU

4403TR9 10psi Outlet Delivery 2,500,000 BTU

5503B8 11"wc Outlet Delivery 1,600,000 BTU



# MAOP Workshop

Debrief after Public Liaison and Emergency Response Presentation

Questions

MPUC Regulatory Quiz Packet





# Dead River Company

## *Propane Emergency Response*

Delivering on A promise.™





# Physical Properties of Propane

- Tasteless
- Colorless
- Odorless in its original form
  - A commercial odorant – Ethyl Mercaptan – is added so you can detect its presence
  - 1 pound per 10,000 gallons
- Mixed with the proper amount of air, it will burn
- It's capable of being burned as either liquid or gas (vapor)
- At ambient temperatures, it will expand rapidly
  - *One cubic foot of propane liquid will expand to 270 cubic feet of propane gas! (vapor)*



# Specific Gravity of Propane

---

- The Specific Gravity of a Liquid Is the Comparison of the Weight of a Given Volume of One Liquid at a Certain Temperature With the Weight of the Same Volume of Water at the Same Temperature.
- Commercial Propane
  - **Specific Gravity of Liquid at 60°F is 0.504 (Water = 1)**



# Propane Vapor Density

---

- Vapor Density Is the Comparison of the Weight of a Given Volume of a Gas at a Certain Temperature With the Same Volume of Air at the Same Temperature.
- Propane Vapor Has a Vapor Density of 1.50 at 60° F
- Propane Vapor Is About 1.5 Times Heavier Than Air (Air=1.00)
- **Since PROPANE is heavier than air disbursement takes longer than with other gases.**

# Propane Vapor Density





# Flammability Limits

---

- ▶ The Upper Limit Is the Percentage of Gas in the Richest (Most Gas) Mixture That Will Support Combustion.
  - ▶ 9.6%
- ▶ The Lower Limit Is the Percentage of Gas in the Leanest (Least Gas) Mixture That Will Support Combustion.
  - ▶ 2.15%





# Flammable Range Comparisons

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- Butane = 1.8% – 8.4%
- Propane = 2.1% – 9.6%
- Natural Gas = 5% - 15%

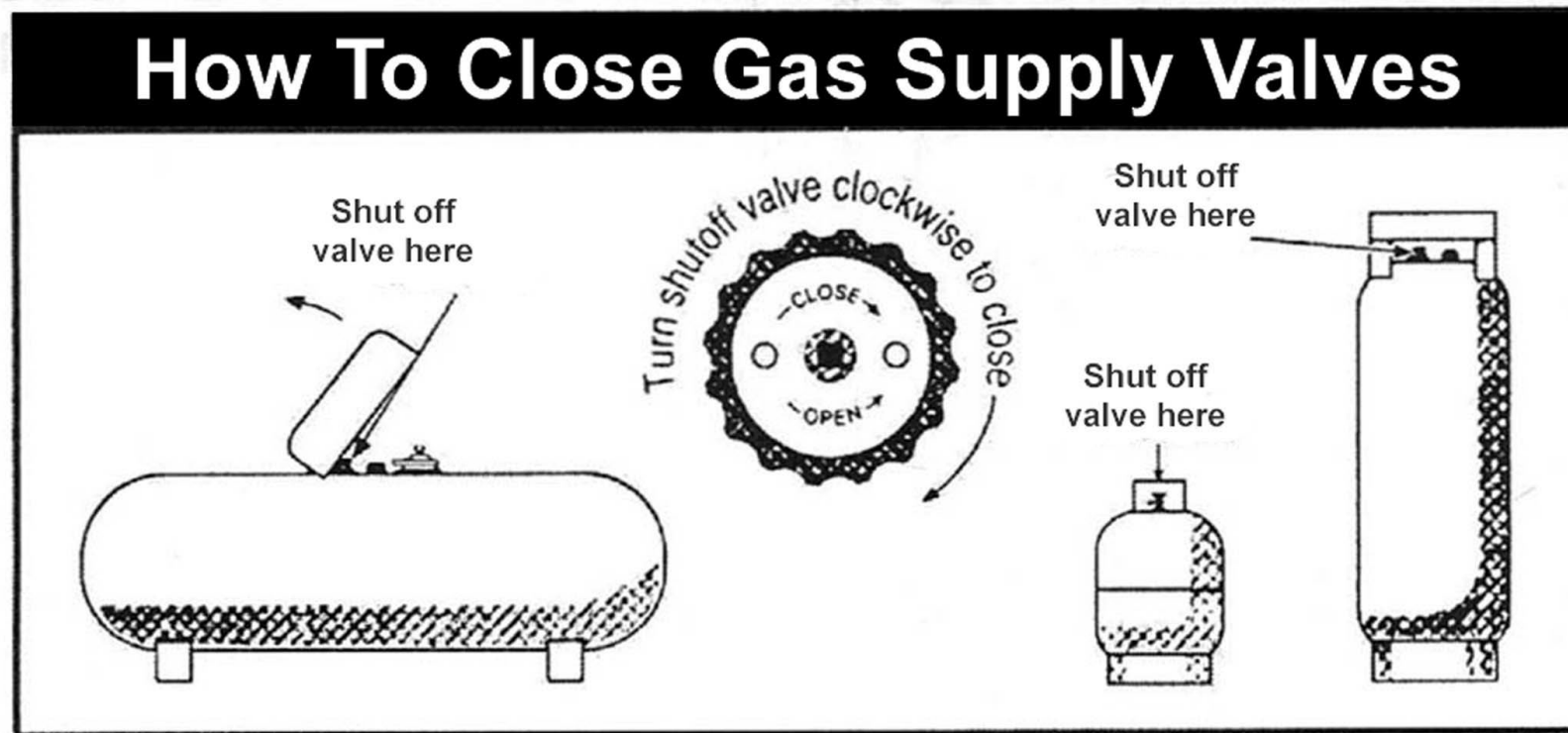


# Ignition Temperature

---

- The minimum temperature needed for propane and air to ignite
- The ignition temperature for propane is between 920 degrees F and 1,120 degrees F
- Common ignition sources:
  - Pilot light
  - Match
  - Lit Cigarette
  - Catalytic convertor
  - Static electricity

# Shutting Off the Propane Supply



# Tank shutoffs





# Underground Tanks





# Emergency Plan 192.615

---

- Uncontrolled leaks considered hazardous.
- Fire or Explosion
- Failure or danger to major segments of the system
- Natural disasters (Floods, tornadoes, hurricanes, earthquakes, heavy snowfall, etc.)
- Interruption of gas service
- Civil disturbances (Riots, etc.)





# JLP Odor Call Emergency Response

- Assume there is a leak
- Advise caller to call 911 and leave area immediately upwind to 300'
- Dispatch qualified technician to scene immediately
- Once on-scene, technician may serve as advisor to Incident Commander



# When to Call 911

- There is an audible or visual leak
- An explosion
- A Fire
- Potentially dangerous levels of propane are confirmed
- Technician concludes situation is unsafe and requires Emergency Responders



## Immediate Notice Chapter 130< Section 3(1)

- Any serious accident involving loss of human life
- Any event that requires evacuation of the general public
- Results in, or likely results in disruption of utility service to more than 500 or 1% of the utilities' customers (whichever is greater) or critical facilities for a period of more than 30 minutes



# Who should respond?

---

- Preferably on OQ technician
- What can a non-OQ tech do?
- Communication is key



## What steps should be taken once in on site?

---

- Assess life safety threats
- Assess property threats
- Is this a simple find and fix?
- Communicate with 1<sup>st</sup> responders



## What steps should be taken once in on site?

---

- Assess life safety threats
- Assess property threats
- Is this a simple find and fix?
- Communicate with 1<sup>st</sup> responders



# Public Outreach

---

- Reach out to your local Fire Service
- Knowledge is power
- A face to the name makes a difference
- Discuss command and control



# Public Outreach





# Public Outreach







# Public Outreach







# Public Outreach







# Public Outreach







# Public Outreach





# Public Outreach





# Most Common Release Scenarios



# Most Common Release Scenarios







# Most Common Release Scenarios





# Incident Response





# Incident Response





Thank you!



Break (15 mins)



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# MAOP and Regulatory Quiz Debrief

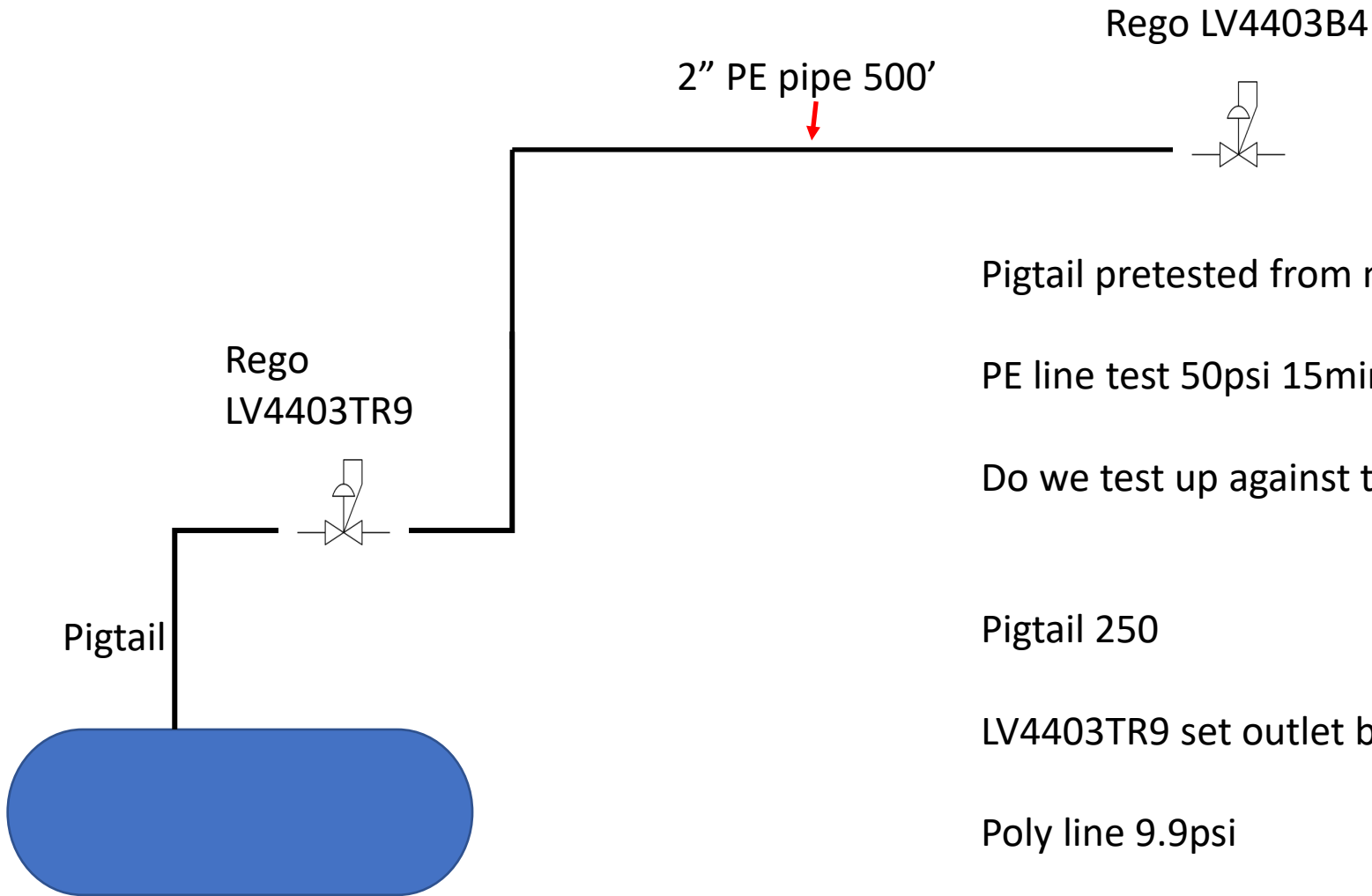


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**Test Pressures**

Pigtail pretested from manufacture just perform leak check.

PE line test 50psi 15minutes minimum

Do we test up against the Rego LV4403B4?

**MAOP**

Pigtail 250

LV4403TR9 set outlet below 10psi (remember EFV)

Poly line 9.9psi

2<sup>nd</sup> stage after 11"wc

# Test Pressures

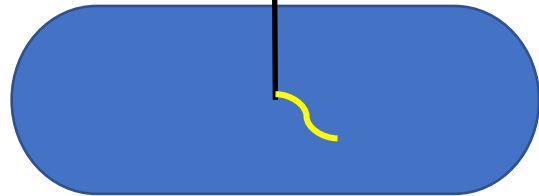
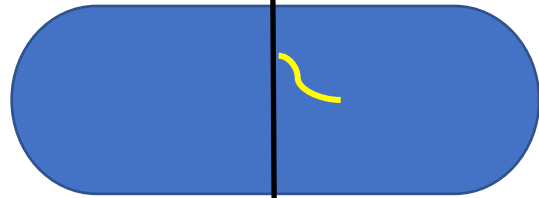
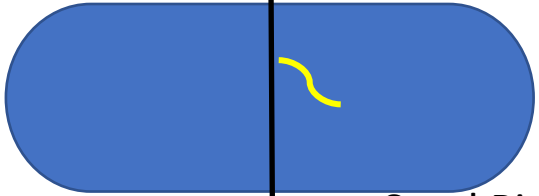
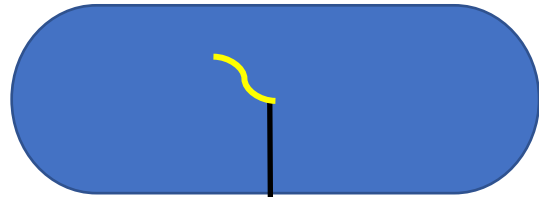
Steel manifold tested to 375psi 1 hour.

PE line 50 psi for 15 min.

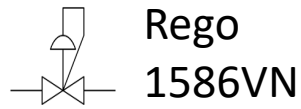
1000' Steel Main Line 90 psi for 15min up to meters.

Piping after Meters 50psi for 15min.

Don't test up against meters or regulators remember they maximum inlet pressure.



Steel Pipe  
Manifold



2" PE 150'

Steel Main  
1000'

MAOP

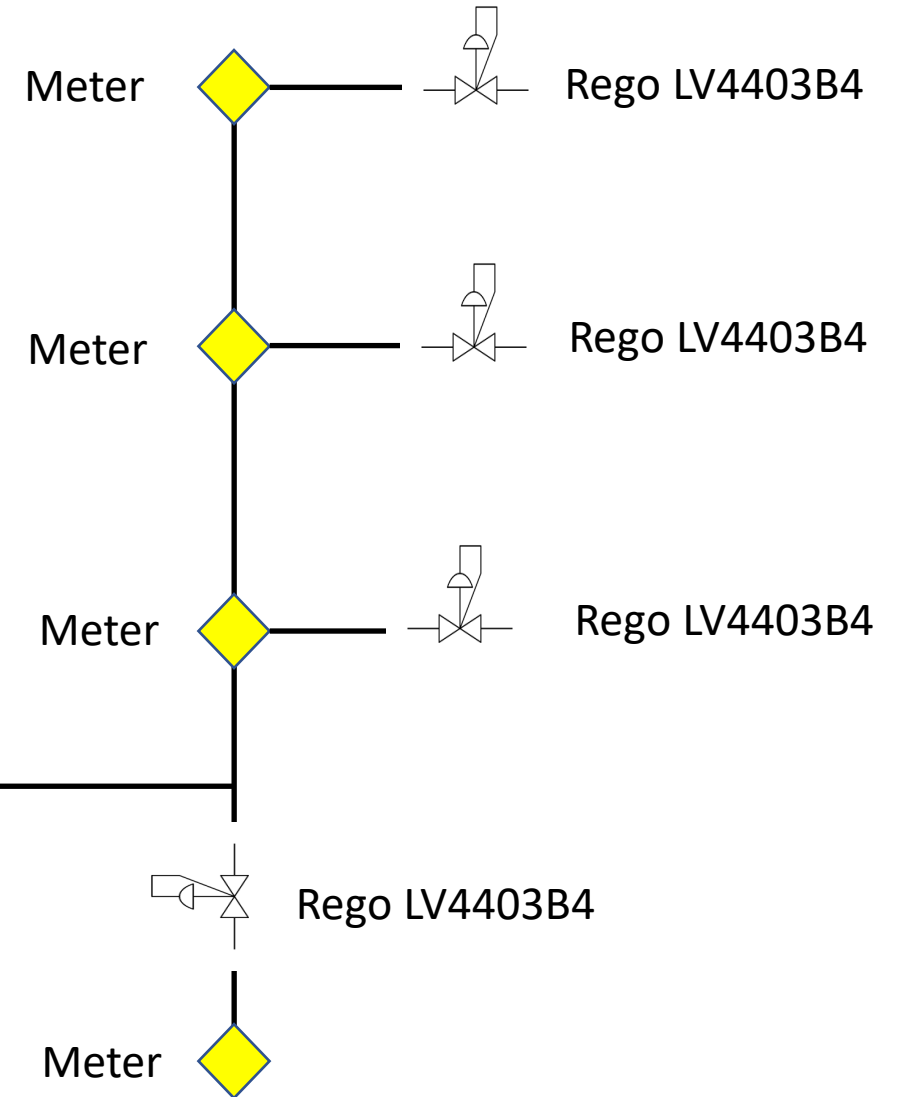
Tank Manifold 250psi

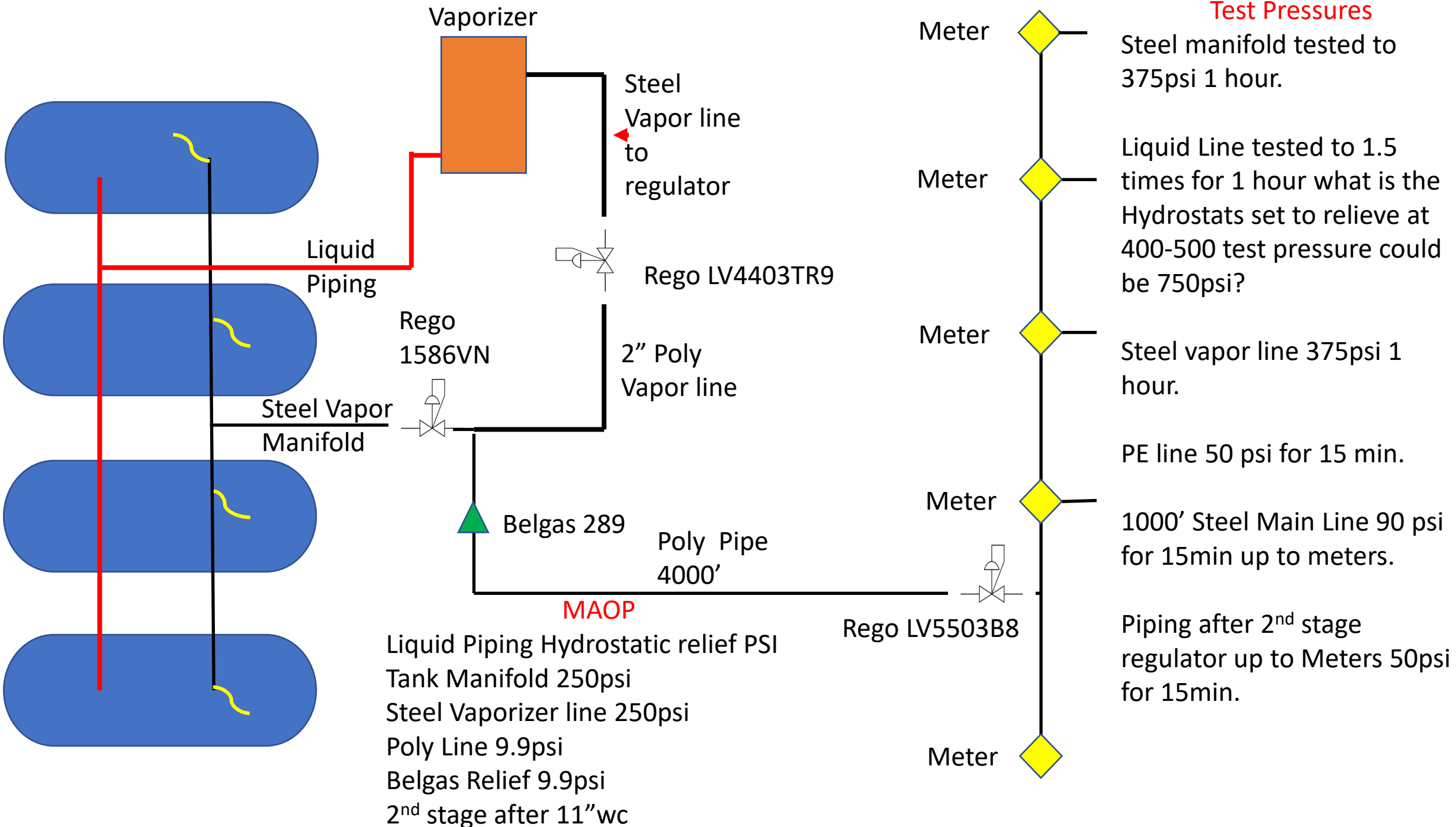
Poly Line 9.9psi

Steel Main 9.9psi, **Oops what is the inlet of the Meters 5psi or 10psi?**

2<sup>nd</sup> stage after 11"wc

**Where is or relief at after 1586VN**





**Test Pressures**

Steel manifold tested to 375psi 1 hour.

Liquid Line tested to 1.5 times for 1 hour what is the Hydrostats set to relieve at 400-500 test pressure could be 750psi?

Steel vapor line 375psi 1 hour.

PE line 50 psi for 15 min.

1000' Steel Main Line 90 psi for 15min up to meters.

Piping after 2<sup>nd</sup> stage regulator up to Meters 50psi for 15min.

- Liquid Piping Hydrostatic relief PSI
- Tank Manifold 250psi
- Steel Vaporizer line 250psi
- Poly Line 9.9psi
- Belgas Relief 9.9psi
- 2<sup>nd</sup> stage after 11"wc

# Regulatory Quiz

How long does an operator have to register a JLP system with the MPUC?

- 30 Days (Chapter 421.1(C)(1))
- Failure to register may result in \$5K penalty (421.1(C)(4))
- **NATURAL GAS – ALL FACILITIES ARE JURISDICTIONAL**



# Regulatory Quiz

What exceptions would make a LP system non-jurisdictional?

- Fewer than 10 customers, not in public place
- A single customer, if the system is located entirely on the customer's premises (421.2(D))

# Regulatory Quiz

What are the minimum distances regulators can be installed from a source of ignition or openings?

- 5' circumference to source of ignition from regulator point of discharge (NFPA 58 6.7.4.6)
- 3' horizontally from openings *below* point of discharge (NFPA 58 6.7.4.5)
  - (Also Chapter 421.4.(A)(2))

# Regulatory Quiz

What kind of protection is typically found on buried steel? What level of protection is required?

- Cathodic Protection
- -850 mV (steel)
- 100 mV shift (copper only)
- Levels monitored annually not to exceed 15 months
- 192.463(a) (Appendix D)
- NFPA 58 (6.8.1.1(3))

# Regulatory Quiz

What is the maximum service pressure for PE piping?

- 30 psi (NFPA 58 (6.8.1.1.(3)))

# Regulatory Quiz

What are the depth requirements for an LP service?

- Minimum of 12” of cover and minimum of 18” of cover if external damage to the pipe or tubing is likely to result (NFPA 58 (6.8.3.12), (6.8.4.2)), (192.361)
- NATURAL GAS – (Chapter 420) 24” mains, 24” services (may have additional requirements in O&M)

# Regulatory Quiz

At what service line pressure are excess flow valves required?

- Service lines operating at over 10 psi (192.383)
- NATURAL GAS – All residential services typically have EFV, some also include valves depending on load.



# Regulatory Quiz

At what intervals is a company required to patrol mains and/or tanks (a) inside of a business district and (b) outside of a business district?

- Inside of a business district – four times per year not to exceed 4 ½ months.
- Outside of a business district – twice per year not to exceed 7 ½ months (192.721).

# Regulatory Quiz

At what intervals is a company required to conduct leakage surveys inside of a business district and outside of a business district?

- Inside of a business district – once per calendar year  
NTE 15 months
- Outside of a business district – once every 5 calendar years NTE 63 months (192.723)



# Regulatory Quiz

How often should odorization be checked at bulk plants during each calendar year?

- Quarterly, adjusted for reasonable frequency

# Regulatory Quiz

How many times per year does public awareness information need to be given to jurisdictional customers, property owners where jurisdictional LP facilities are located, and other appropriate officials?

- Twice annually (192.616)

# LPG Operator Qualification Paths to Compliance

2023 Jurisdictional LP  
Pipeline Safety Seminar  
Maine Public Utilities Commission



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# Discussion Topics

- OQ Regulations
- Standard Inspection Findings
- Compliance Options
- Tips and Considerations



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# Operator Qualification Program

- 49 CFR192.805 Qualification Program
  
- Each Operator shall have and follow a written program including:
  - Identify covered tasks.
  
  - Evaluations to verify individuals performing covered task are qualified (including recognizing / reacting to Abnormal Operating Conditions)



# 2021-2022 Standard Inspections

- No qualification process
- Covered tasks did not cover all activity
- No evaluation process
  - Training only
  - “Checkbox and date” (no evaluation record)
  - Template plan not followed
- Covered tasks did not match Company procedures



# 2021-2022 Standard Inspections

Majority of operators not in compliance

“A plan to adequately and fully implement a compliant OQ plan, including a determination of how adequate and fully documented personnel evaluations are to be conducted, by 2023”

# 2021-2022 Standard Inspections

- Third-Party OQ Vendors – *Potential Pros*
  - Less time developing program
  - Subject matter experts lead training
  - May provide evaluation infrastructure



# 2021-2022 Standard Inspections

- Third-Party OQ Vendors – *Potential Cons*
  - May not match Company covered tasks
  - May not line up with Company procedures
  - May not provide adequate evaluation documentation
  - Task-specific AOC
  - Resource cost
  - Is the program compliant

# Considerations

- 49 CFR192.801 Scope of OQ Program
  - Personnel must be qualified for covered task when performed on a Pipeline facility
  - Is an Operations or Maintenance task
  - Is performed as a requirement of this part
  - Affects the operation or integrity of the pipeline







# Considerations

(These must be in the procedures)

- Allow individuals not qualified to perform certain tasks while under direct supervision
- Evaluate an individual if you believe the individual's performance of a covered task contributed to an incident
- Evaluate an individual if you believe they are no longer qualified to perform covered tasks
- Communicate changes, that effect covered, tasks to individual's performing those tasks
- Establish re-evaluation intervals for tasks
- Describe how appropriate training will be performed using knowledge and skills

# Considerations

- 49 CFR192.807 Recordkeeping
  
- Operators must maintain records to show compliance and at a minimum shall include:
  - Identification of qualified individual
  - Identification of covered tasks each individual is qualified to perform
  - Date of current qualification
  - Methods used for qualification
  - Records supporting an individual's qualification

# Compliance Options

## Evaluations

- *Evaluation* means a process, established and documented by the operator, to determine an individual's ability to perform a covered task by any of the following:
  - (a) Written examination;
  - (b) Oral examination;
  - (c) Work performance history review;
  - (d) Observation during:
    - (1) Performance on the job,
    - (2) On the job training, or
    - (3) Simulations; or
  - (e) Other forms of *assessment*



# Compliance Options

- Third Party Vendor
  - Consider options
  - Use compliance tools (inspection questions)
  - Ensure adequate evaluation
  - Covered Tasks
  - Company Procedures



# Compliance Options

- In-House Program
  - Determine covered tasks
  - Develop evaluation process
  - Provide training as appropriate
  - Develop procedures
  - Flexible program
  - Tie-in to licensing





# Benefits

- Tie-in to Quality Assurance program
  - Adequate procedures
  - Performance consistency and quality
  - Information sharing
- Workforce Development and Retention
  - Engaged and valued workforce
  - Skill flexibility
  - OJT/mentoring



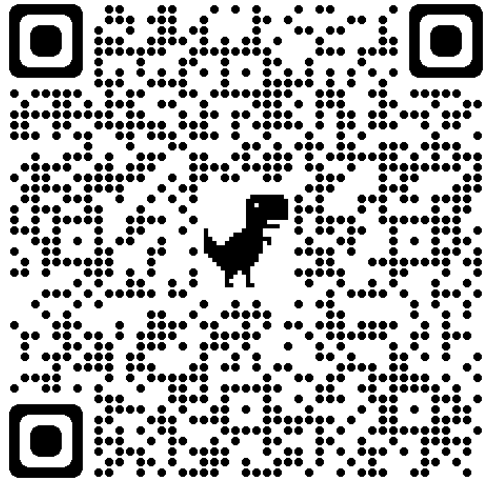


# Benefits

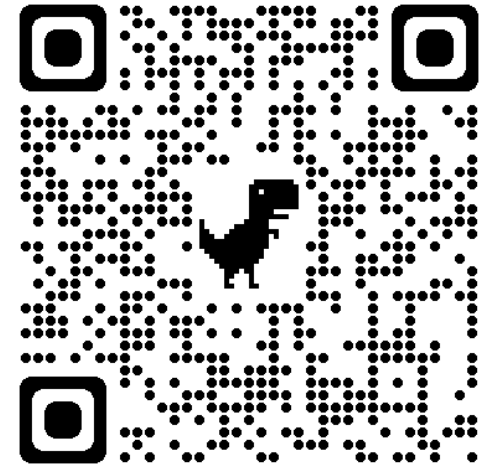
Can an OQ program only be used for JLP technicians?



# Questions / Comments



PHMSA Small LPG Operator OQ Guide



MPUC Gas Safety

# Maine Public Utilities Commission

## Thank you for coming!

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