

# New Hampshire Public Utilities Commission CFR 49 Part 192 Regulations

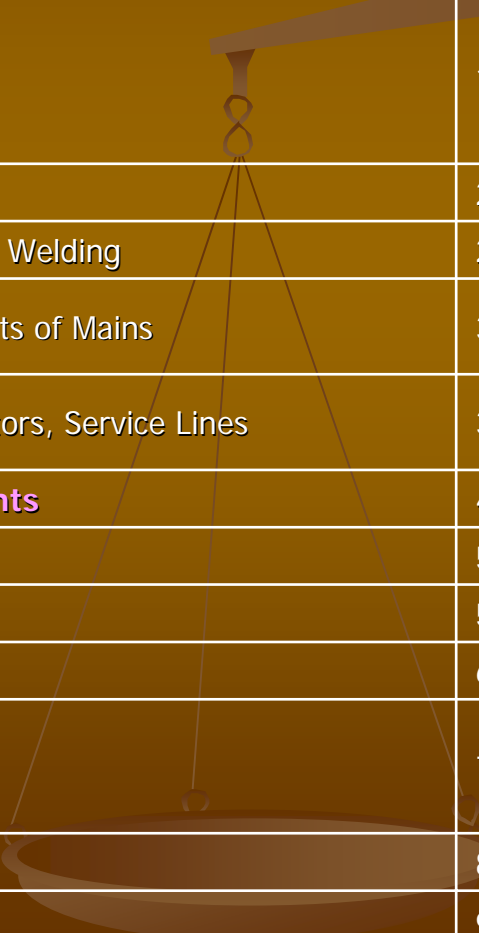
MINIMUM Pipeline Safety Regulations  
Application for Jurisdictional LPG Operators

# Pipeline Safety Regulations 49 CFR Part 192

(**NOTE:** Subparts and Sections covered in this presentation are highlighted in **Pink** and **Green**)

Designation	Subpart Title	Section Ranges	Applicable Sections to LP Operators
<b>Subpart A</b>	<b>General</b>	1-16	<b>1,3,7,11,13,15,16</b>
Subpart B	Materials	51-65	51,53,55,59,63
Subpart C	Pipe Design	101-125	101,103,123,125
Subpart D	Design of Pipeline Components	141-203	141,143,144,159,181,195,197,199,201,
Subpart E	Welding of Steel Pipe	221-245	221,225,235,241,245
Subpart F	Joining of Materials other than by Welding	271-287	271,273,281,283,285,287
Subpart G	General Construction Requirements of Mains	301-327	301,303,305,309,311
Subpart H	Customer Meters, Service Regulators, Service Lines	351-383	351,353,355,357,365,375,379
<b>Subpart I</b>	<b>Corrosion Control Requirements</b>	451-491	<b>451,453,455,459,461,463,465,467,469,471,473,479,481,483,487,491</b>
Subpart J	Testing Requirements	501-517	501,503,515,517
Subpart K	Upgrading	551-557	None
<b>Subpart L</b>	<b>Operations</b>	601-629	<b>601,603,605,613,614,615,616,617,619,625,627,629</b>
<b>Subpart M</b>	<b>Maintenance</b>	701-761	<b>701,703,707,721,723,725,727,739,743,747,751</b>
<b>Subpart N</b>	<b>Qualification of Personnel</b>	801-809	<b>801,803,805,807,809</b>
Subpart O	Integrity Management	901-951	None

# Pipeline Safety Regulations 49 CFR Part 192



Designation	Subpart Titles	Sections Ranges	Non Applicable Sections to LP Operators
<b>Subpart A</b>	<b>General</b>	1-16	5,9,10,14
Subpart B	Materials	51-65	65
Subpart C	Pipe Design	101-125	107,109,111,113,115
Subpart D	Design of Pipeline Components	141-203	145,147,149,150,151,155,157,163,165,167,169,171,173,175,177,179,183,185,187,189,191,193,203
Subpart E	Welding of Steel Pipe	221-245	227,229,231,233,243
Subpart F	Joining of Materials other than by Welding	272-287	275,277,279
Subpart G	General Construction Requirements of Mains	301-327	313,315,317,319,321,323,325,327
Subpart H	Customer Meters, Service Regulators, Service Lines	351-383	359,361,363,367,369,371,373,377,381,383
<b>Subpart I</b>	<b>Corrosion Control Requirements</b>	451-491	452,457,475,477,485,489
Subpart J	Testing Requirements	501-517	505,507,509,511,513
Subpart K	Upgrading	551-557	ALL
<b>Subpart L</b>	<b>Operations</b>	601-629	609,611,612,621,673
<b>Subpart M</b>	<b>Maintenance</b>	701-761	705,706,709,713,715,717,719,731,735,736,741,745,749,753,755,761
<b>Subpart N</b>	<b>Qualification of Personnel</b>	801-809	NONE
Subpart O	Integrity Management	901-951	ALL

# CFR 49 Part 192 Cross-reference to NFPA 58

Designation	Subpart Titles	Section Range	Applicable Sections of NFPA 58,2004 excludes tank information
Subpart A	General	1-16	
Subpart B	Materials	51-65	5.7.3,5.7.5,5.7.7.1,5.8.3.1,5.8.4, 5.8.5,5.8.6,5.10,5.11,5.15.5,5.19
Subpart C	Pipe Design	101-125	5.8.3.1,5.8.3.2,5.8.4, Table 5.8.4.1
Subpart D	Design of Pipeline Components	141-203	5.7.3,5.7.4,5.10.1,5.15.1.3,5.19, 6.8.1,6.8.3.9,Table 5.15.1.2
Subpart E	Welding of Steel Pipe	221-245	6.8.3.2
Subpart F	Joining of Materials other than by Welding	271-287	5.8.5,6.8.3.2,6.8.3.5
Subpart G	General Construction Requirements of Mains	301-327	6.7.2,6.7.3,6.7.4,6.8.1,6.8.2,6.8.3, 6.8.4,6.8.5,6.8.7,6.9,6.10,6.13,6.19, 6.20,6.23
Subpart H	Customer Meters, Service Regulators, Service Lines	351-383	6.7.4.4,6.7.4.8,6.15.5
Subpart I	Corrosion Control Requirements	451-491	6.14
Subpart J	Testing Requirements	501-517	6.12
Subpart K	Upgrading	551-557	Silent
Subpart L	Operations	601-629	Silent
Subpart M	Maintenance	701-761	Silent
Subpart N	Qualification of Personnel	801-809	Silent
Subpart O	Integrity Management	901-951	Silent

# Subpart A General

## 192.1 Scope of Part

- This part prescribes minimum safety requirements for pipeline facilities and the transportation of gas.
- This part applies to
  1. 10 or more customers from a single source
  2. 2 or more with any portion of the system in a public place



Condominium Association

**NON  
JURISDICTIONAL SYSTEM**

Fewer than 10 customers  
and non-public place

Propane

Example #1



## JURISDICTIONAL SYSTEM

10 or more customers

Location does not matter



Propane

Example #2

**CAFE**

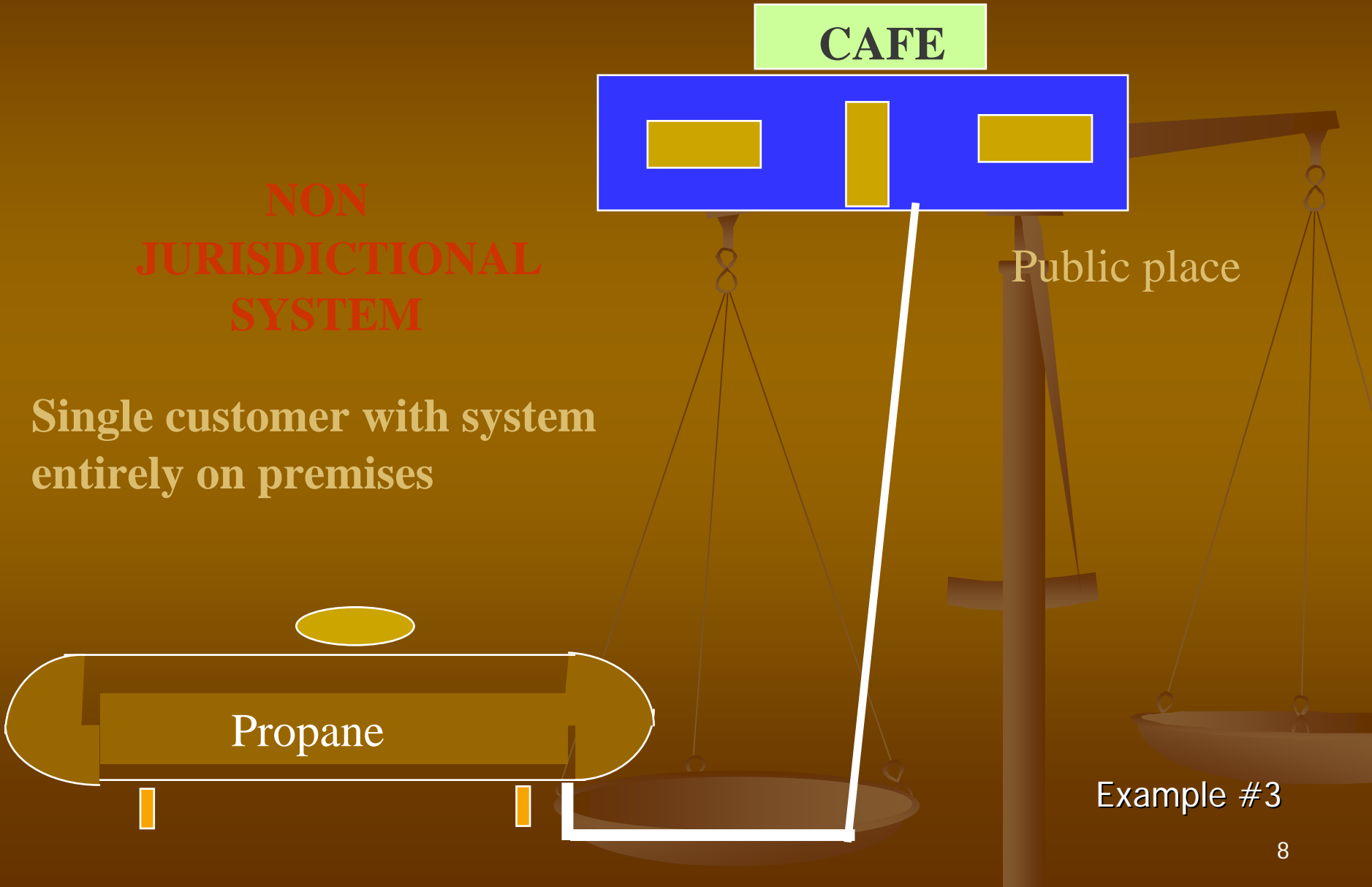
**NON  
JURISDICTIONAL  
SYSTEM**

Single customer with system  
entirely on premises

Public place

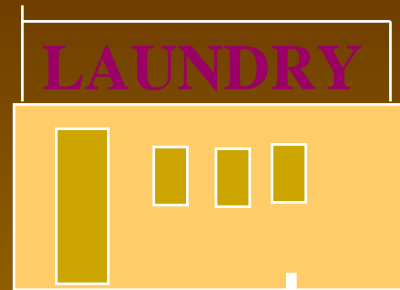
Propane

Example #3



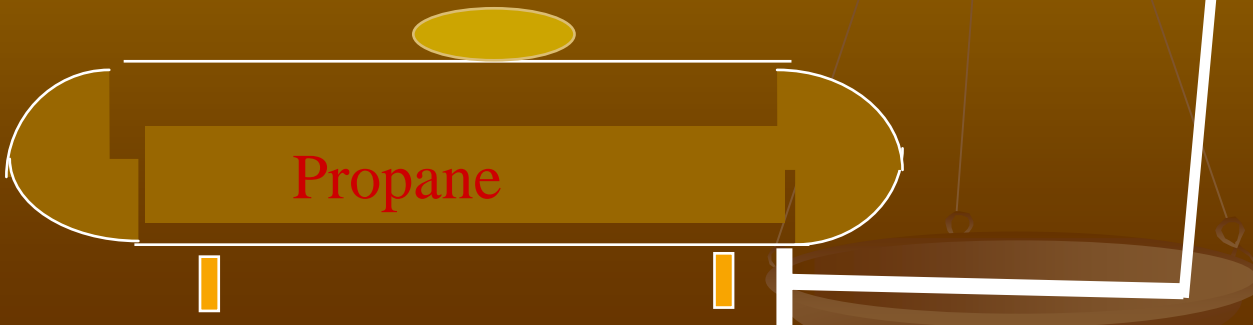


# JURISDICTIONAL SYSTEM

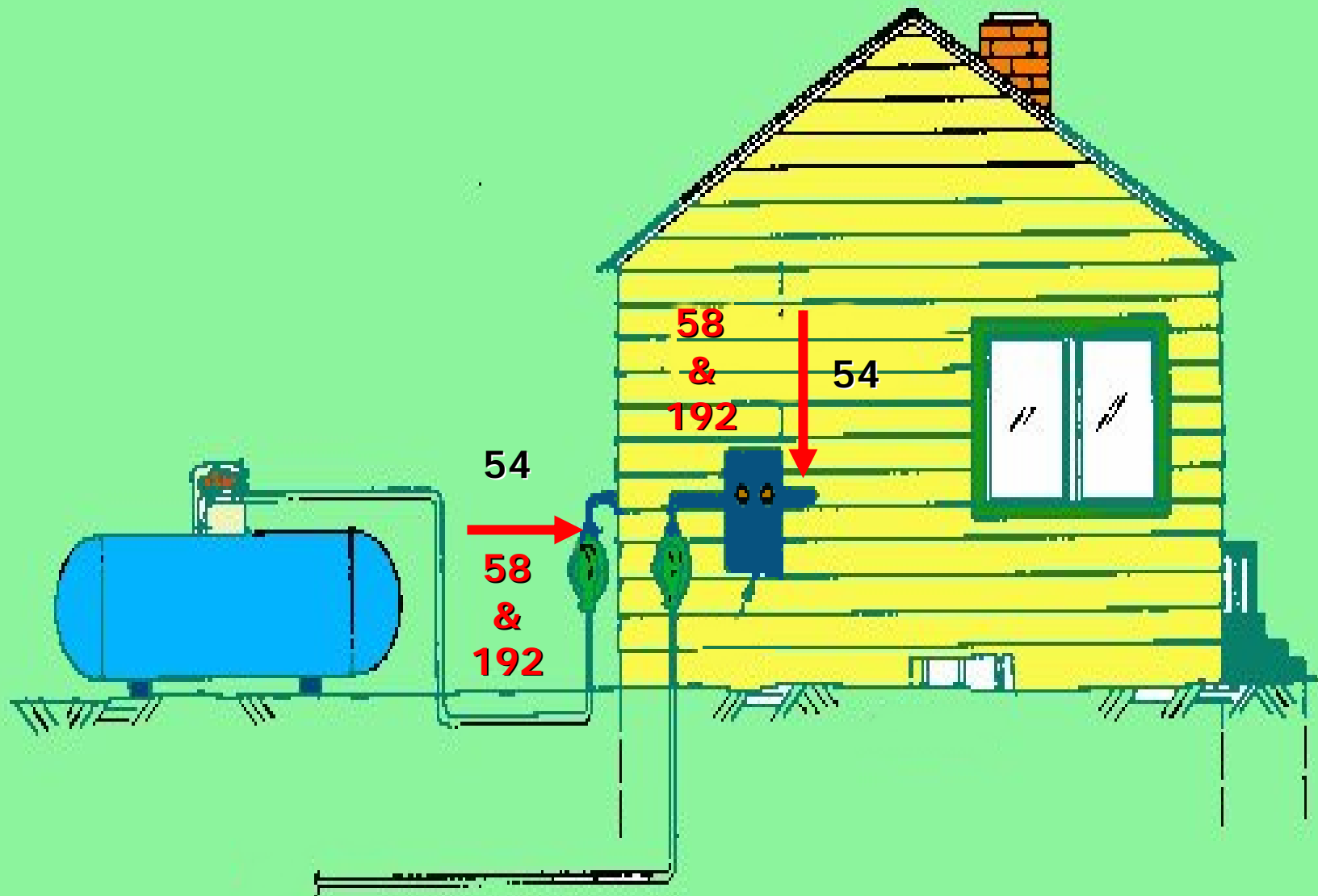


More than one  
customer with a  
portion of the  
system in a public  
place

Parking area

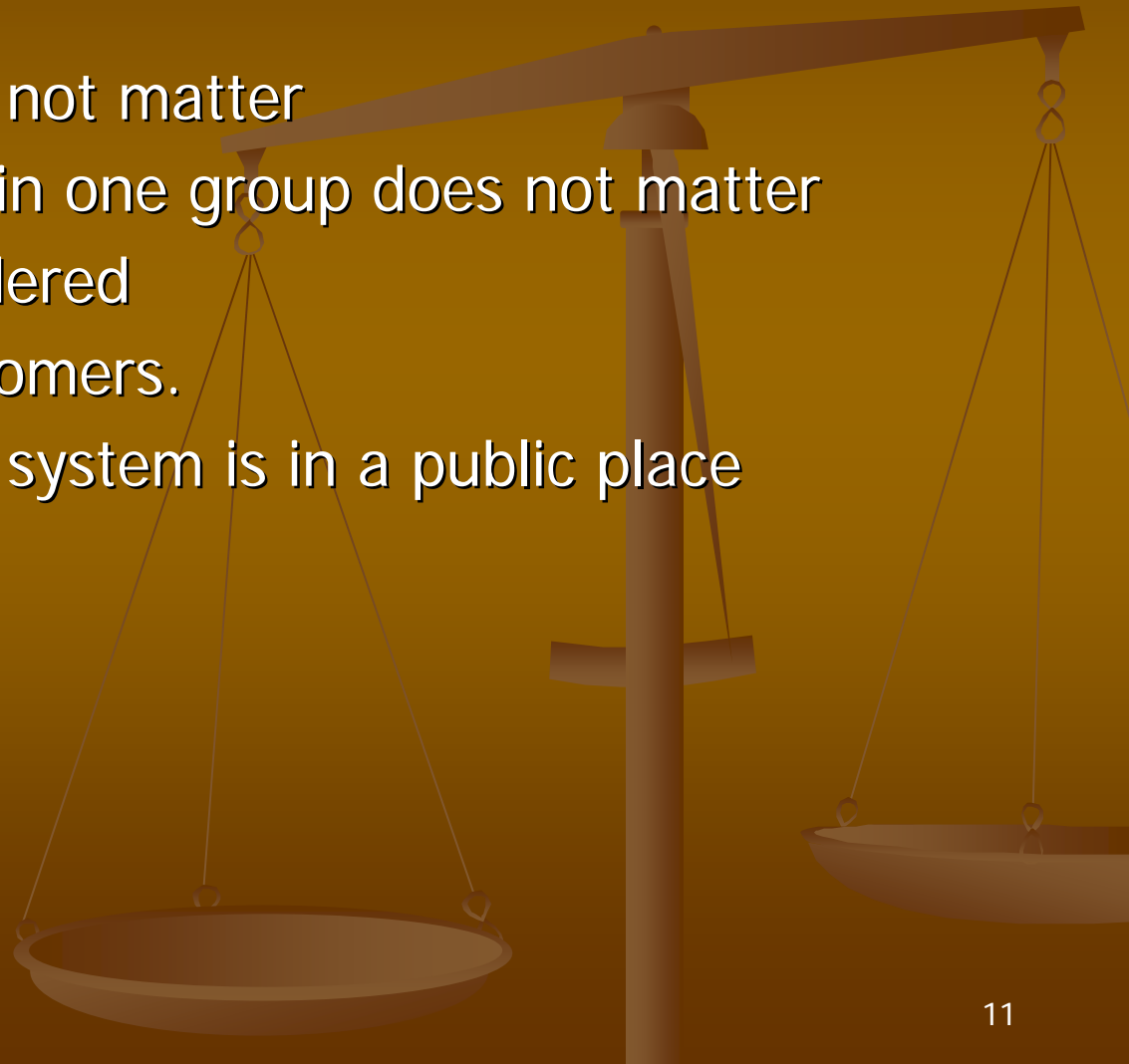


Example #4



# Considerations of Jurisdictional Systems

- Size of container does not matter
- Number of containers in one group does not matter
- What should be considered
  1. Number of customers.
  2. Whether or not system is in a public place



# Subpart A General

## 192.3 Definitions

- Main means a distribution line that serves as a common source of supply for more than one service line
- Operator means a person who engages in the transportation of gas (LP Company)
- "Maximum allowable operating pressure (MAOP)" means the maximum pressure at which a pipeline or segment of a pipeline may be operated under this part.

Typically:

10 or 15 psi of LP

10", 40, 60, 100, 1000 psi of Natural Gas

## Subpart A General

### 192.3 Definitions (cont'd)

- "Service line" means a distribution line that transports gas from a common source of supply to an individual customer, to two adjacent or adjoining residential or small commercial customers, or to multiple residential or small commercial customers served through a meter header or manifold. A service line ends at the outlet of the customer meter or at the connection to a customer's piping, whichever is further downstream, or at the connection to customer piping if there is no meter.
- Petroleum gas means **propane**, propylene, butane, (normal butane or isobutanes), and butylene (including isomers), or mixtures composed predominantly of these gases, having a vapor pressure not exceeding 1434 kPa 208 psi (1434 kPa) gage at 100F (38C).

# Subpart A General

## 192.11 Petroleum Gas System

- Each pipeline system that transports petroleum gas must meet the requirements of this part and of ANSI/NFPA 58 and 59.
- In the event of a conflict between this part and ANSI/NFPA 58 and 59, ANSI/NFPA 58 and 59 prevail.  
If 58 is silent or nonspecific then 192 prevails

### Examples:

- |                     |                                   |              |
|---------------------|-----------------------------------|--------------|
| ■ Corrosion Control | 192 Subpart I, NFPA 58 Silent,    | 192 prevails |
| ■ Maintenance       | 192 Subpart M, NFPA 58 Silent,    | 192 prevails |
| ■ Pipe Design       | 192 Subpart C, NFPA 58 Chapter 5, | 58 prevails  |

# Subpart A General

## 192.13 General

- No person may operate a segment of pipeline that is readied for service after March 12, 1971 unless
  1. Installed and constructed according to this part
  2. Repairs, replacements, relocations basically any changes make all of 192 applicable.
  3. Each operator shall maintain and follow all plans and procedures required under this part

# Subpart L Operations

## 192.601 Scope

- This subpart prescribes minimum requirements for the operation of pipeline facilities.





# Subpart L Operations

## 192.603 General Provisions

- No person may operate a segment of pipeline unless it is operated in accordance with this subpart.
- Each operator shall keep records necessary to administer the procedures established under §192.605.
- The state (NHPUC) may require the operator to amend its plans and procedures as necessary to provide a reasonable level of safety.



## **New Hampshire Public Utilities Commission Model Propane Operating & Maintenance and Emergency Plans**

The New Hampshire Public Utilities Commission, courtesy of the Maine Public Utilities Commission, is providing these Model LPG Operation & Maintenance and Emergency Plans to assist jurisdictional propane facilities operators in complying with state statutes and regulations within the Commission's jurisdiction. The Commission's regulations specifically adopt 49 Code of Federal regulations, Parts 192.605 and 192.615, however, this model plan is only intended to assist in compliance with state, not federal laws.

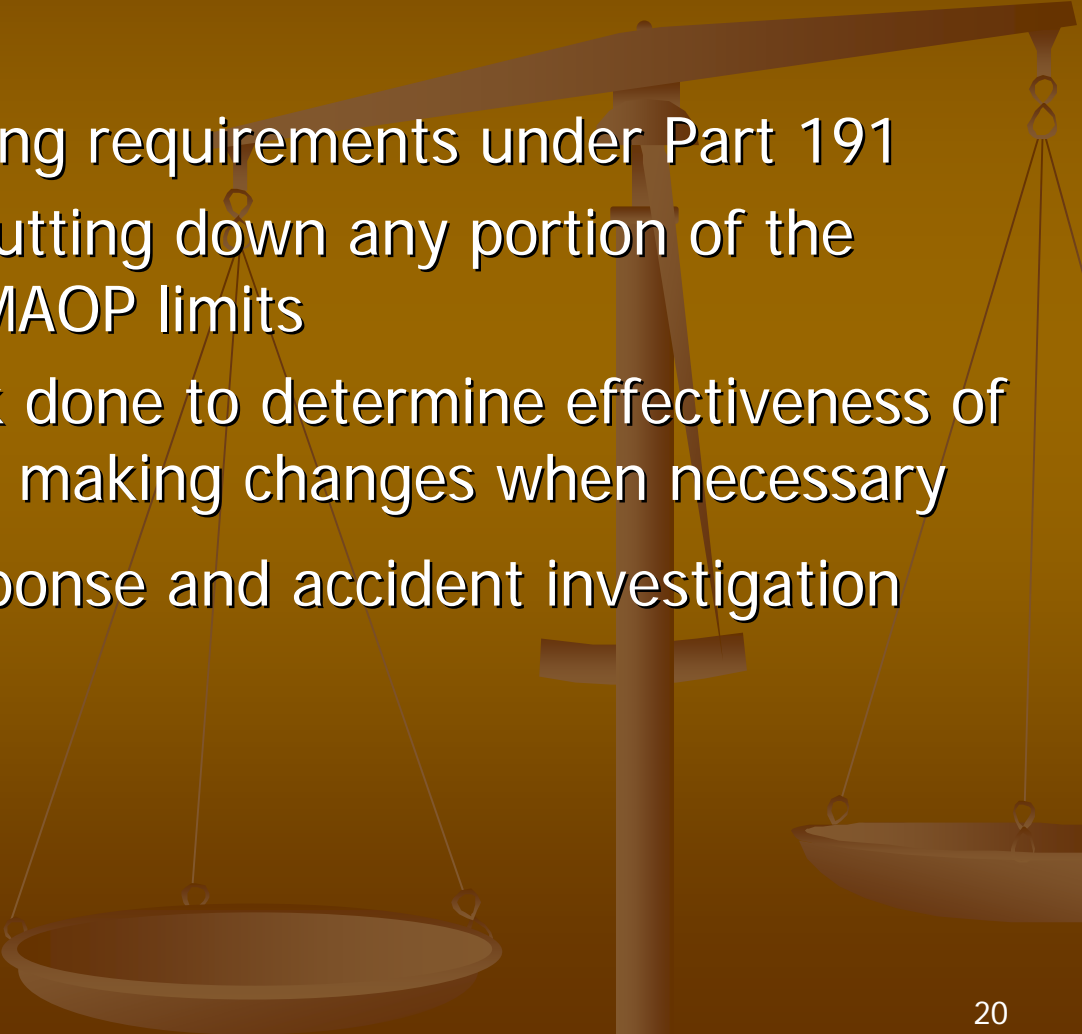
## Subpart L Operations

### 192.605 Procedural Manual for Operations, Maintenance, and Emergencies

- Each operator shall prepare and follow written manual of procedures for operations, maintenance and emergency response
- These procedures must be reviewed and updated once each year not to exceed 15 months
- The manual must be kept where operations and maintenance is conducted
- The manual must include the following:
  1. All requirements of this subpart and subpart M
  2. Corrosion control according to subpart I
  3. Making system history available to appropriate personnel

## Subpart L Operations

### 192.605 Procedural Manual for Operations, Maintenance, and Emergencies (cont'd)

- 
4. Incident reporting requirements under Part 191
  5. Starting and shutting down any portion of the system within MAOP limits
  6. Reviewing work done to determine effectiveness of procedures and making changes when necessary
  7. Emergency response and accident investigation

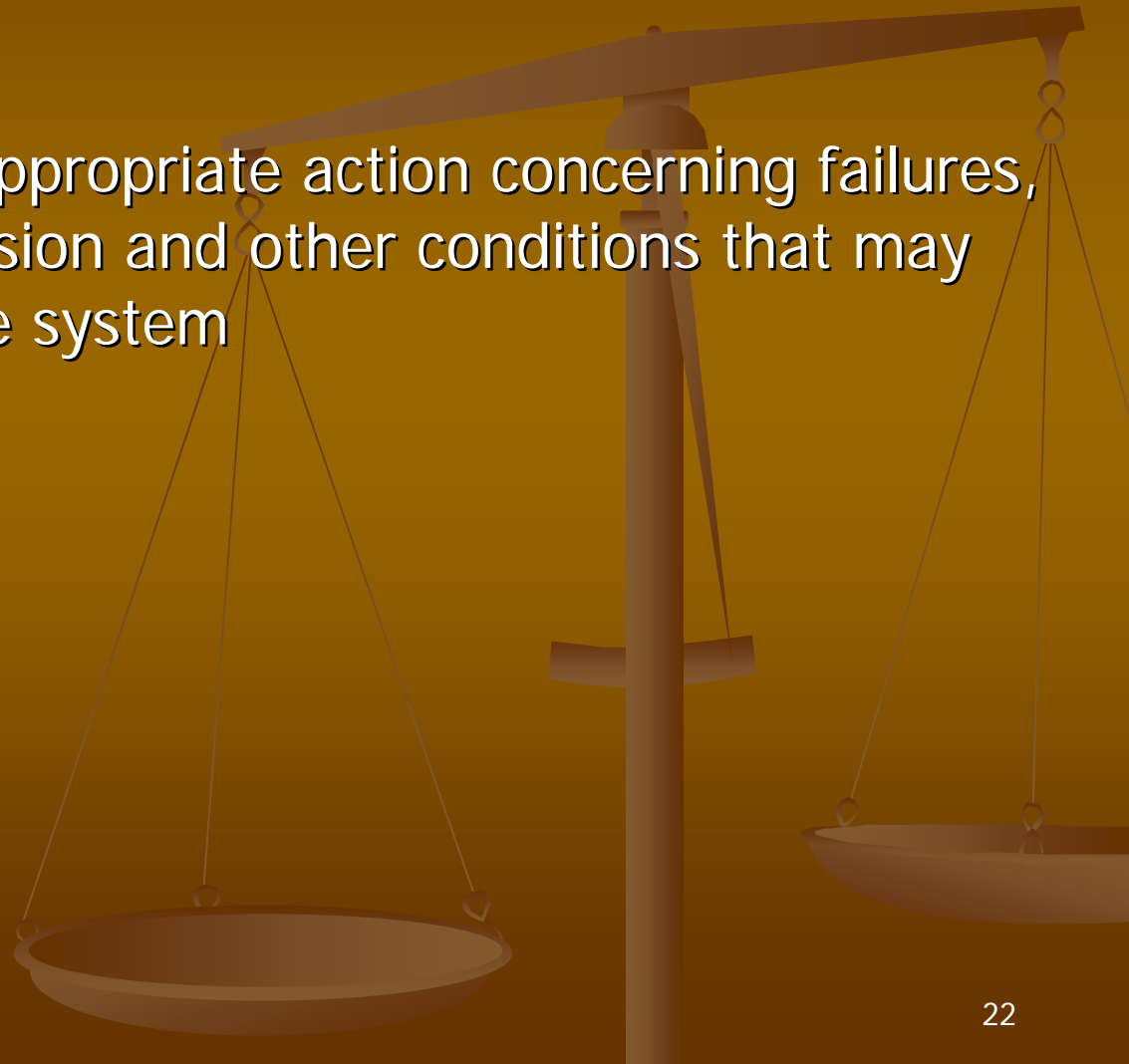




# Subpart L Operations

## 192.613 Continuing Surveillance

- Determine and take appropriate action concerning failures, leakage history, corrosion and other conditions that may effect operation of the system







# Subpart L Operations

## 192.614 Damage Prevention Program

- Compliance with this section may be accomplished by being a member of a one call system ( Dig Safe )
  1. Record all notifications of planned excavations
  2. Mark all buried underground facilities
  3. Inspect more frequently when possibility of damage to facility may exist

Dig Safe 888-Dig Safe or [www.digsafe.com](http://www.digsafe.com)



# Subpart L Operations

## 192.615 Emergency Plans

- Emergency Plans shall include at a minimum the following:
  1. Receive, identify and classify events
  2. Have adequate communication with emergency responders
  3. Prompt response to each type of emergency including leaks, fires, explosions and natural disasters
  4. Availability of resources needed of emergency
  5. Actions directed towards protecting people first
  6. Making safe any potential hazard to life and property
  7. Notify appropriate officials and coordinate actions
  8. Safely restore any service outage





# Subpart L Operations

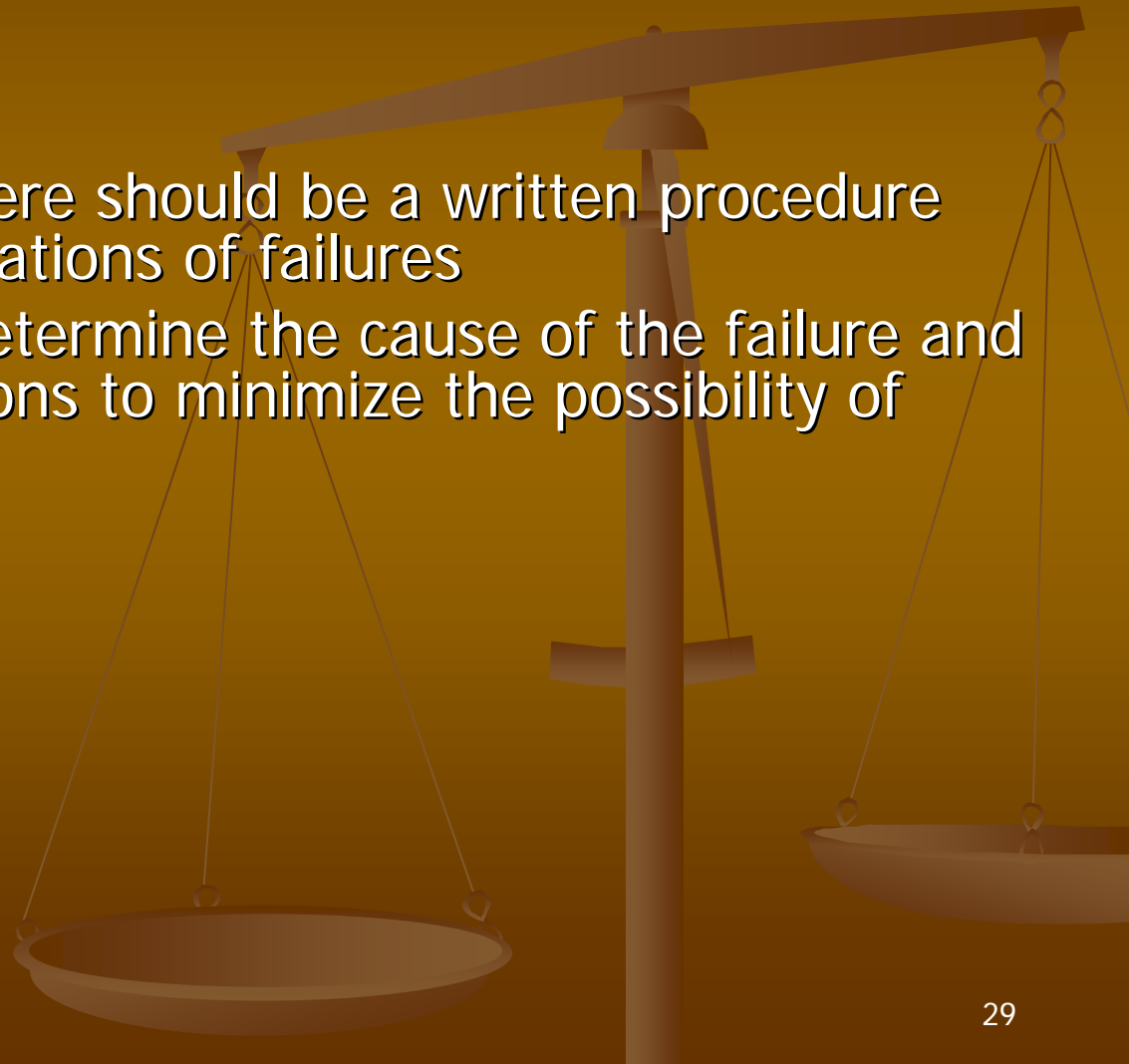
## 192.615 Emergency Plans (cont'd)

- Operator must also train and furnish the plan to appropriate personnel and verify that the training is effective
- Review procedures after each emergency
- Establish a liaison with appropriate public officials
  1. Learn what each responders responsibility is
  2. Explain what your capabilities are
  3. Inform them when they will be notified
  4. Work together to minimize hazards to life and property

# Subpart L Operations

## 192.617 Investigation of Failures

- As part of the O&M there should be a written procedure that describes investigations of failures
- This procedure is to determine the cause of the failure and describe remedial actions to minimize the possibility of reoccurrence.

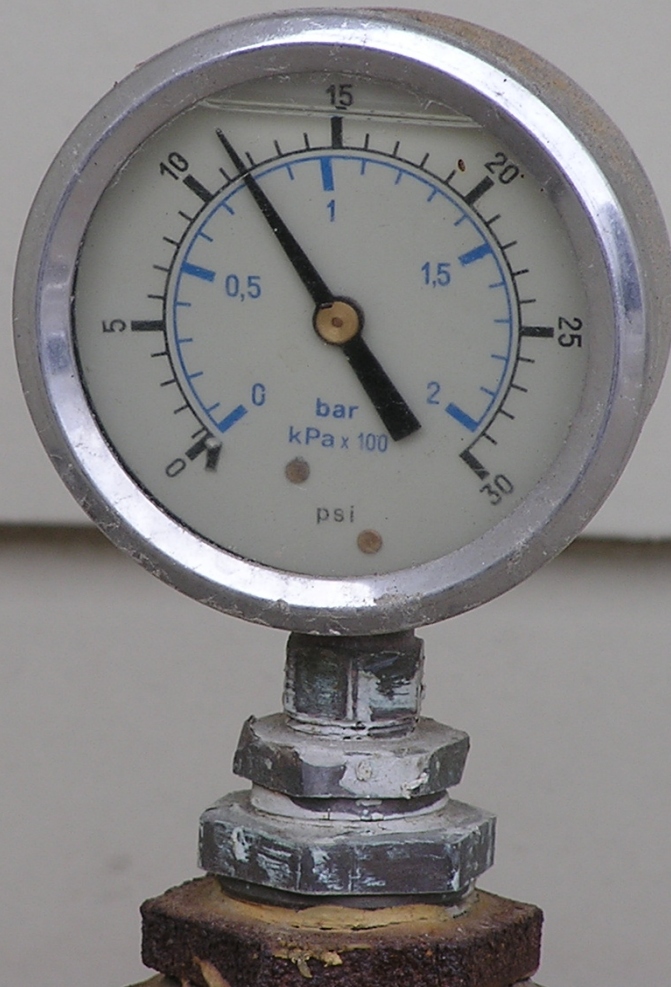


## Subpart L Operations

### 192.619 Maximum Allowable Operating Pressure: Steel and Plastic Lines

- No person may operate a segment of steel or plastic pipe that exceeds the lowest of the following:
  1. The design pressure of the weakest link
  2. The test pressure divided by 1.5
  3. The highest actual operating pressure for systems install before July 1970





# Subpart L Operations

## 192.625 Odorization of Gas

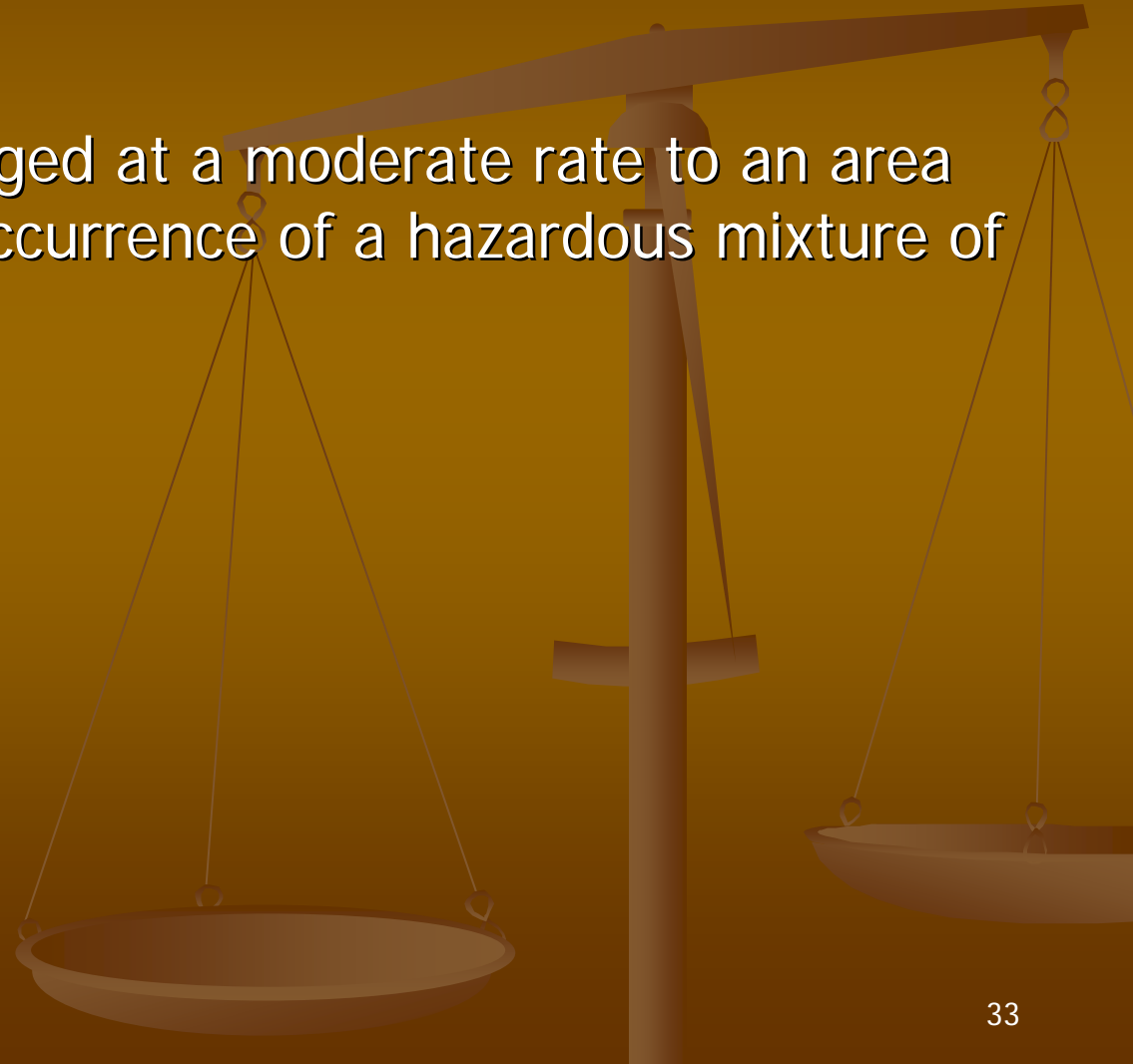
- Each operator shall provide documentation of odorization of gas at the 1/5 lower explosive limit and conduct periodic sniff tests to confirm odorant.
- Most O&M Plans require sniff tests each time work is done on the system



# Subpart L Operations

## 192.629 Purging of Pipelines

- Pipelines must be purged at a moderate rate to an area that will prevent an occurrence of a hazardous mixture of gas and air.



# Subpart M Maintenance

## 192.701 Scope

- This subpart prescribes minimum requirements for maintenance of pipeline facilities.



# Subpart M Maintenance

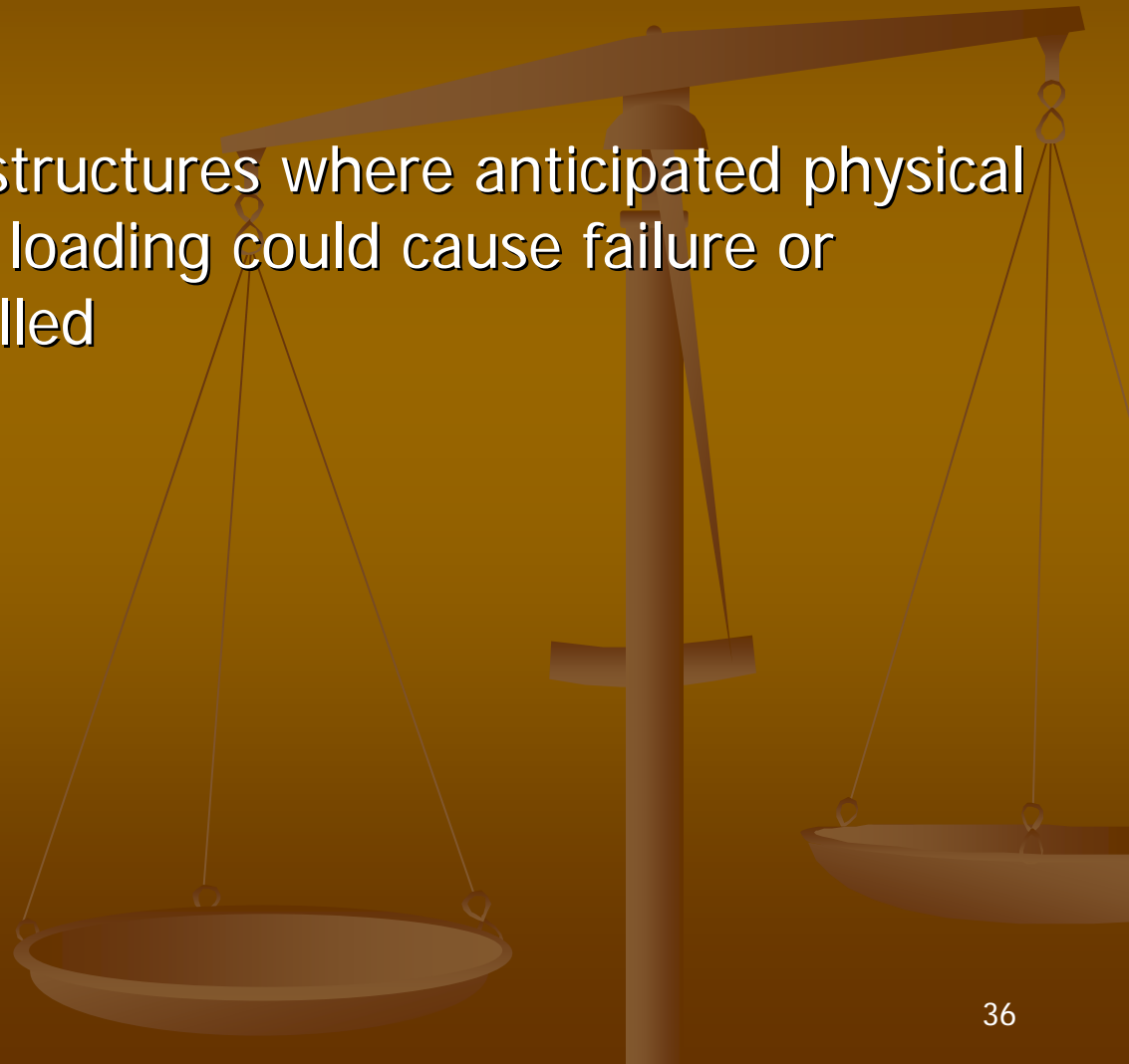
## 192.703 General

- No person may operate a segment of pipeline, unless it is maintained in accordance with this subpart.
- Each segment of pipeline that becomes unsafe must be replaced, repaired, or removed from service.
- Hazardous leaks must be repaired promptly.

# Subpart M Maintenance

## 192.721 Distribution System: Patrolling

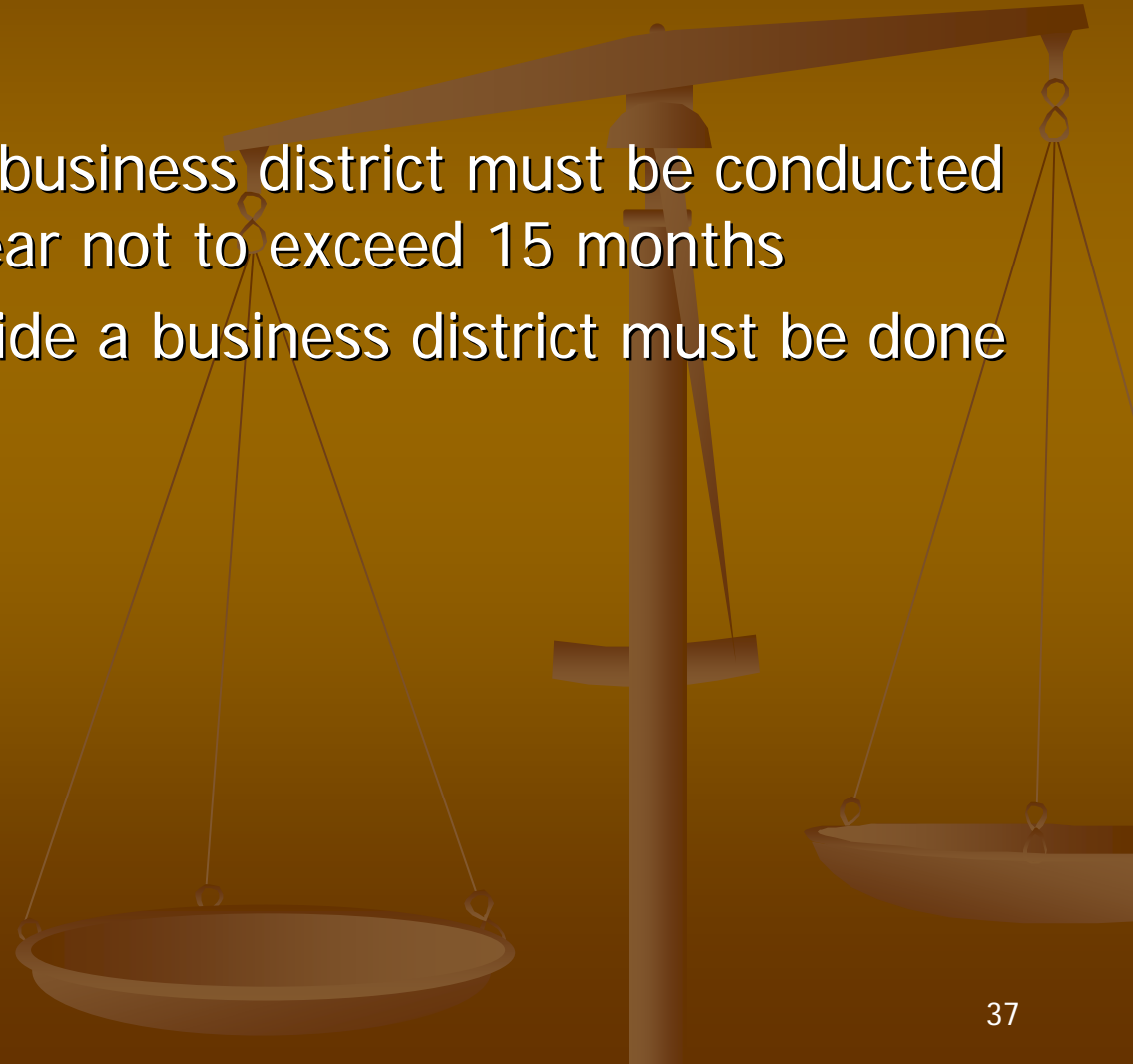
- Mains in places or on structures where anticipated physical movement or external loading could cause failure or leakage must be patrolled



## Subpart M Maintenance

### 192.723 Distribution System: Leakage Surveys

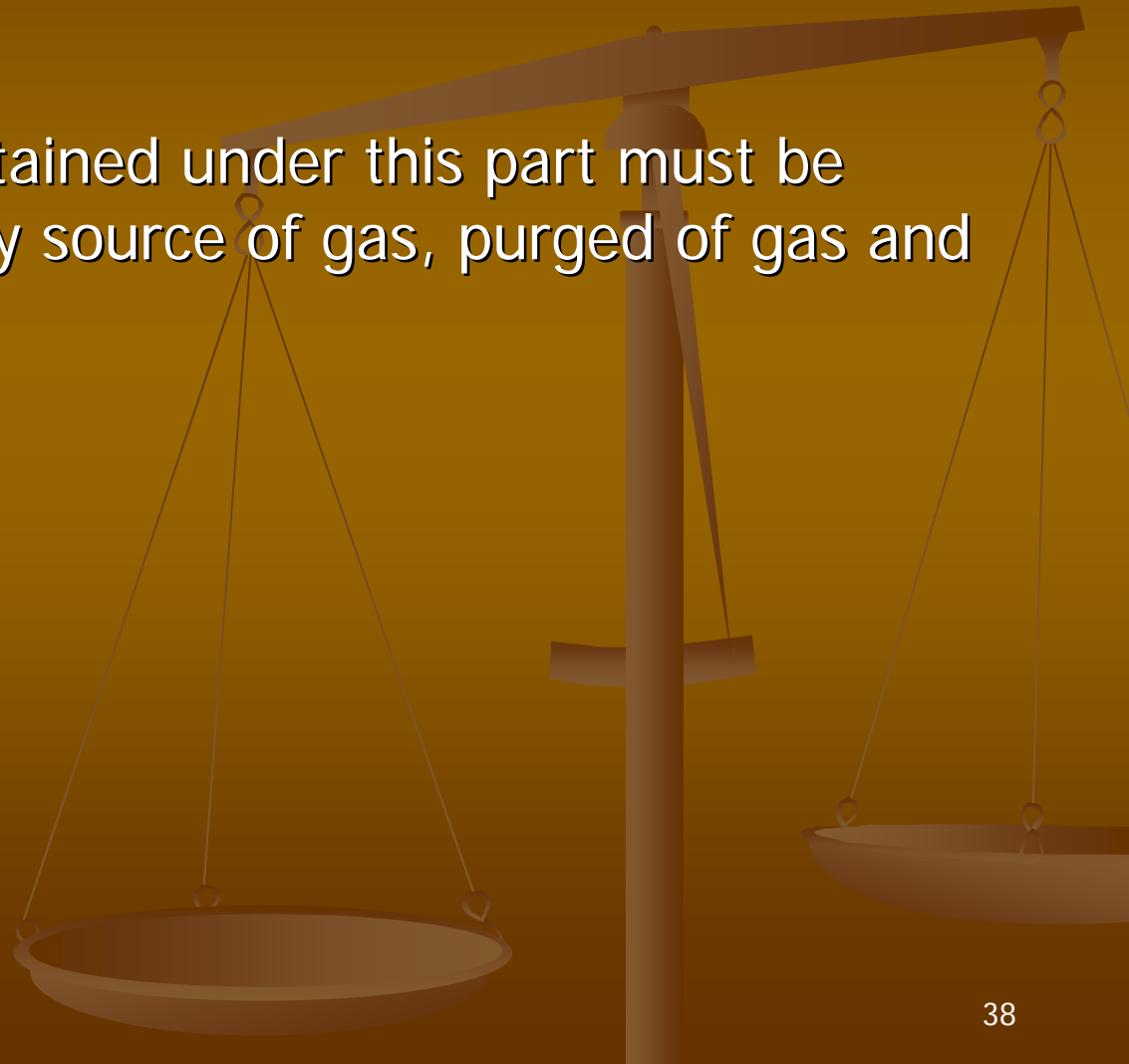
- A leakage survey in a business district must be conducted once each calendar year not to exceed 15 months
- A leakage survey outside a business district must be done once every five years



## Subpart M Maintenance

### 192.727 Abandonment or Deactivation of Facilities

- Mains not being maintained under this part must be disconnected from any source of gas, purged of gas and sealed at both ends.



## Subpart M Maintenance

### 192.739 Pressure Limiting and Regulator Stations: Inspection and Testing

- Each high pressure regulator (s) (1<sup>st</sup> stage) must be inspected and tested once each calendar year not to exceed 15 months, these will determine that it is:
  1. In good mechanical condition
  2. Properly sized
  3. Set at the correct pressure
  4. Properly installed (including protection from freezing)







## Subpart M Maintenance

### 192.743 Pressure Limiting and Regulator Stations Testing of Relief Devices

- Relief devices must be tested once each calendar year not to exceed 15 months to determine they are the proper capacity to limit pressure to MAOP.
- If a test is not feasible a review and calculation of required capacity of the relieving device. Once initial calculations are made subsequent calculations are not required if system remains unchanged.



# Subpart M Maintenance

## 192.747 Valve Maintenance: Distribution Systems

- (Key Valves) valves which may be necessary to make the system or portion safe must be checked and serviced once each calendar year not to exceed 15 months.



## Subpart M Maintenance

### 192.751 Prevention of Accidental Ignition

- An operator must take precautions to prevent accidental ignition of gas
  1. When venting gas into the air
  2. To prevent welding or cutting in unauthorized areas
  3. Post warning signs where appropriate

# Subpart I Corrosion Control Requirements

## 192.451 Scope

- This subpart prescribes minimum requirements for the protection of metallic pipelines from external, internal, and atmosphere corrosion.



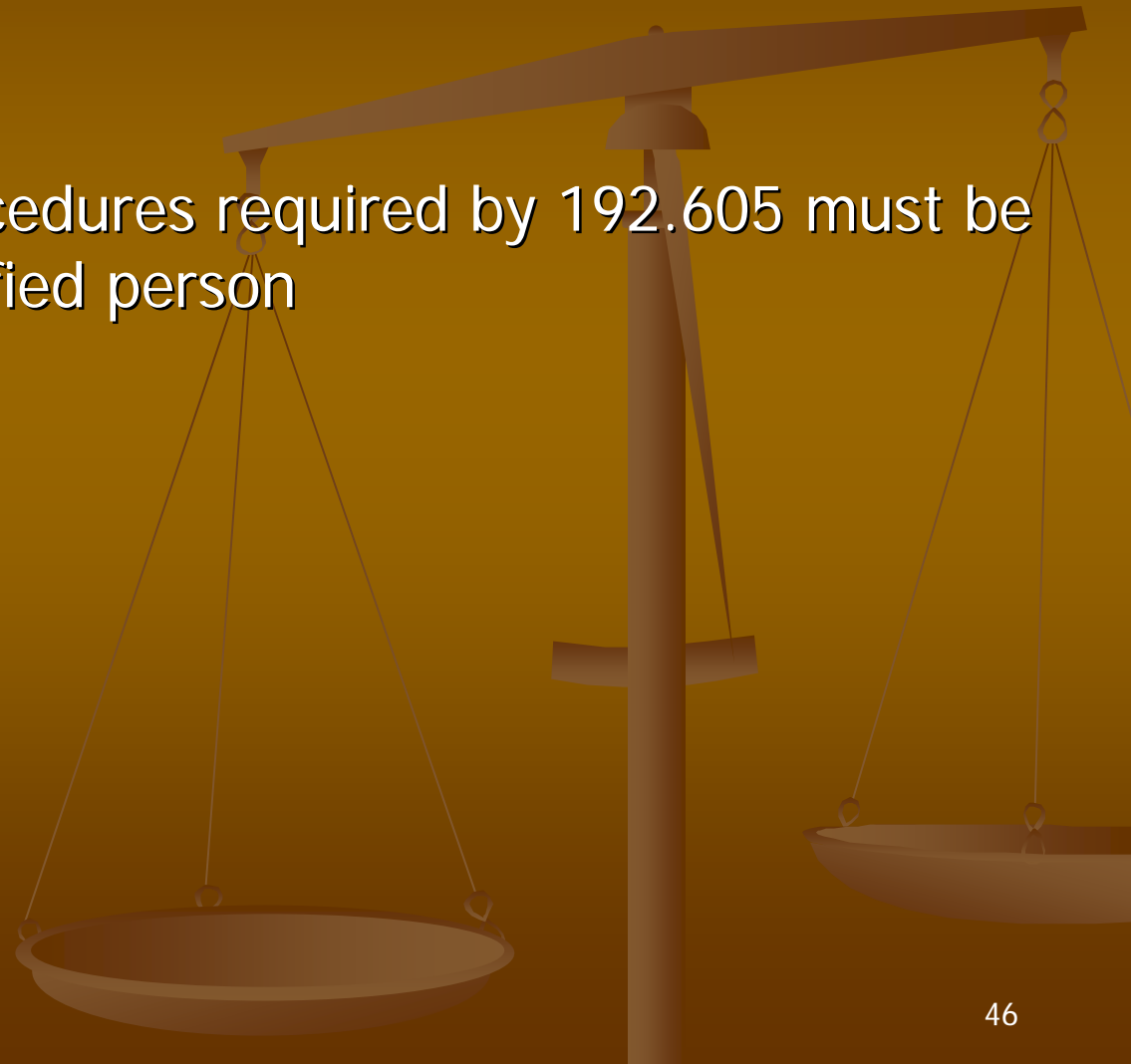




# Subpart I Corrosion Control Requirements

## 192.453 General

- Corrosion control procedures required by 192.605 must be carried out by a qualified person



# Subpart I Corrosion Control Requirements

## 192.455 External Corrosion Control

### Buried or Submerged Pipelines

- Each buried pipeline installed after July 1971 must be protected against external corrosion including the following
  1. Must external coating meeting section 192.461
  2. Must have a cathodic protection system installed within one year of installation
- Exceptions
  1. Copper tubing
  2. Temporary pipelines for a period of service of less than 5 years





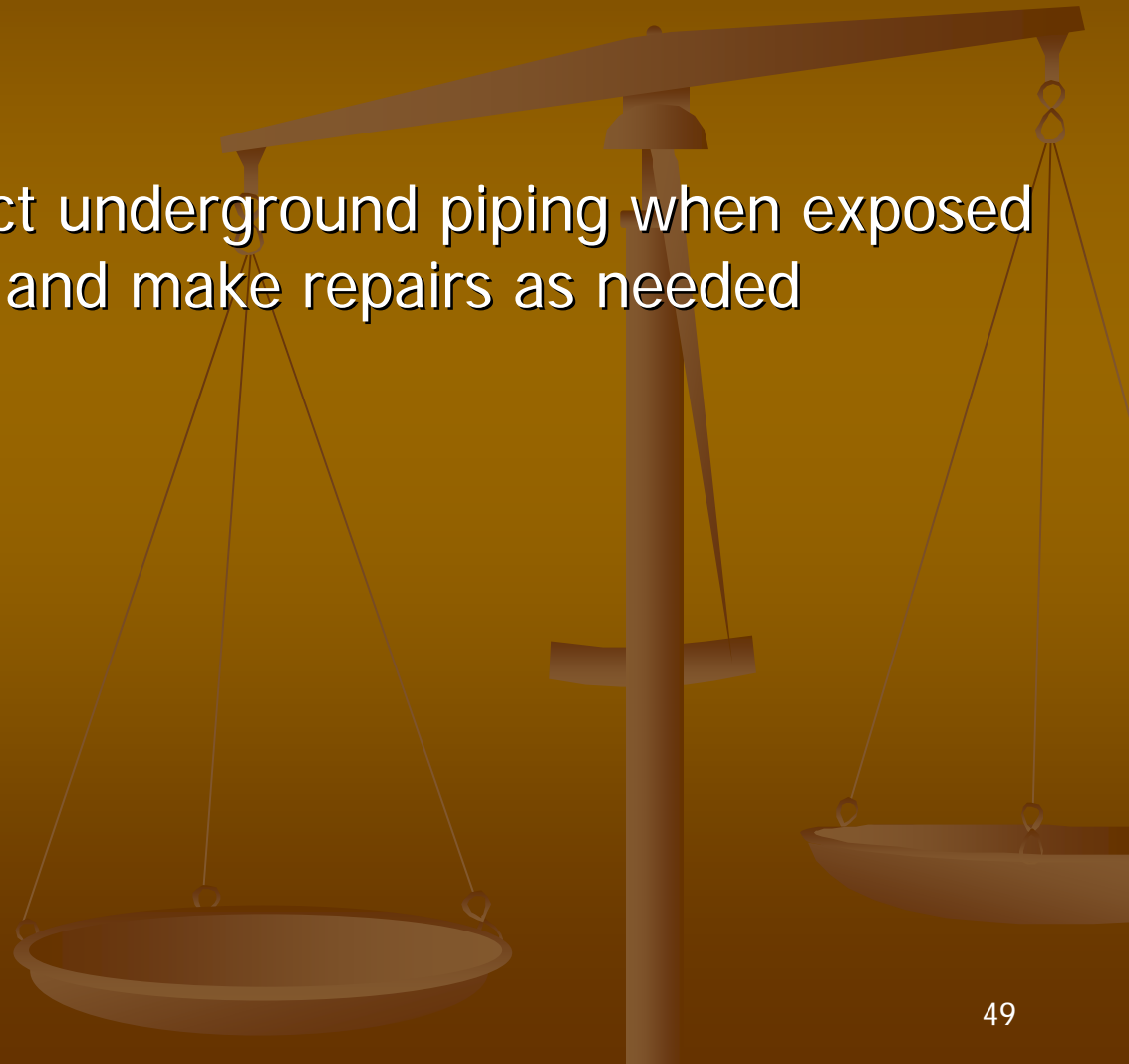


# Subpart I Corrosion Control Requirements

## 192.459 External Corrosion Control

### Examination of Buried Pipeline When Exposed

- Operators must inspect underground piping when exposed for external corrosion and make repairs as needed



# Subpart I Corrosion Control Requirements

## 192.461 External Corrosion Control Protective Coating

- External protective coating must:
  1. Be applied on a properly prepared surface
  2. Have sufficient adhesion to resist moisture
  3. Resist cracking
  4. Resist damage due to handling
  5. Be inspected for holidays before backfilling





# Subpart I Corrosion Control Requirements

## 192.463 External Corrosion Control

### Cathodic Protection

- Each cathodic protection system must meet the minimum criteria of the method that is used.
  - Most propane operators use the -850mv
- Atmospheric metals must be electrically isolated from the cathodic protection

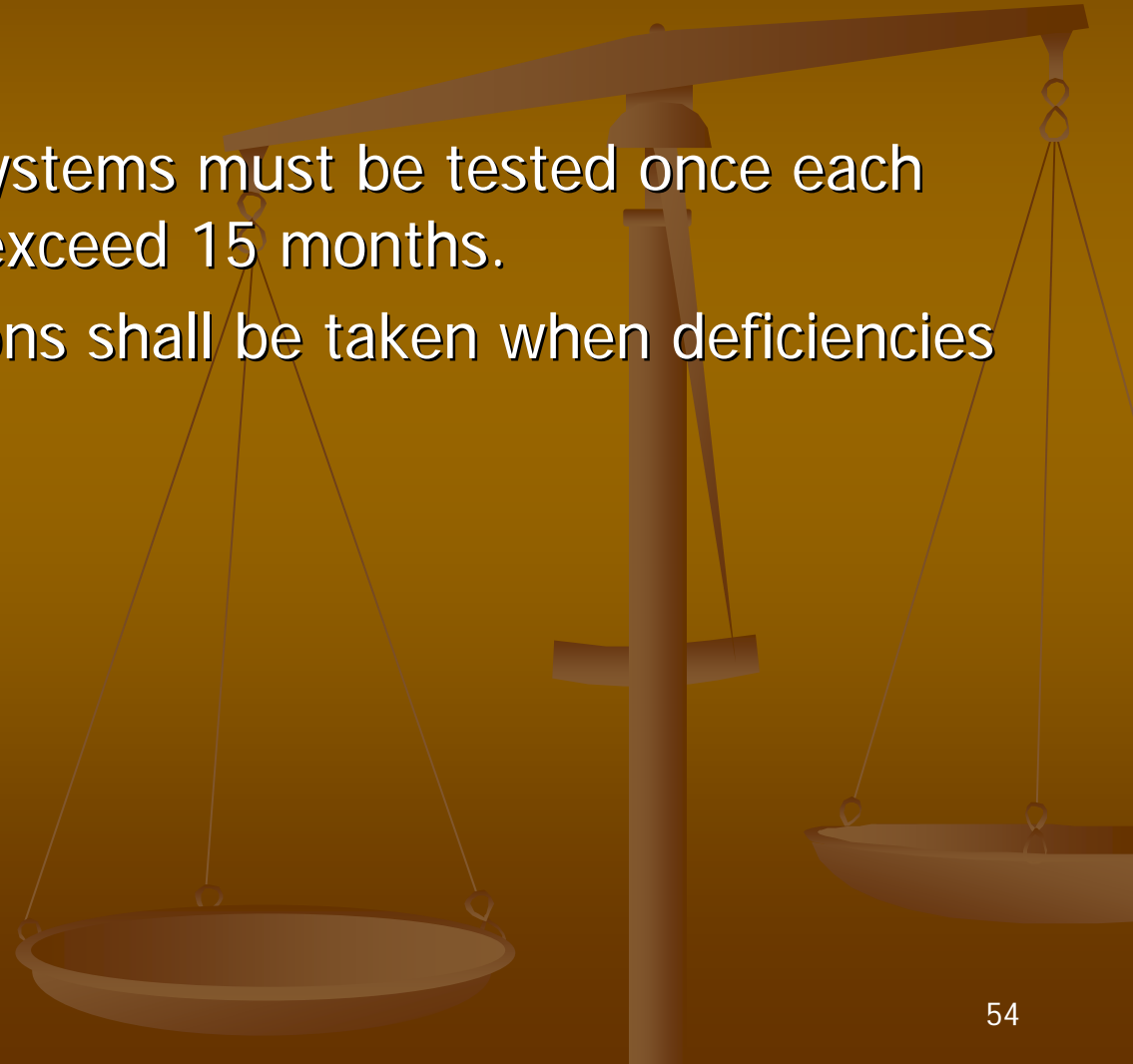




# Subpart I Corrosion Control Requirements

## 192.465 External Corrosion Control Monitoring

- Cathodic protection systems must be tested once each calendar year not to exceed 15 months.
- Prompt remedial actions shall be taken when deficiencies are found

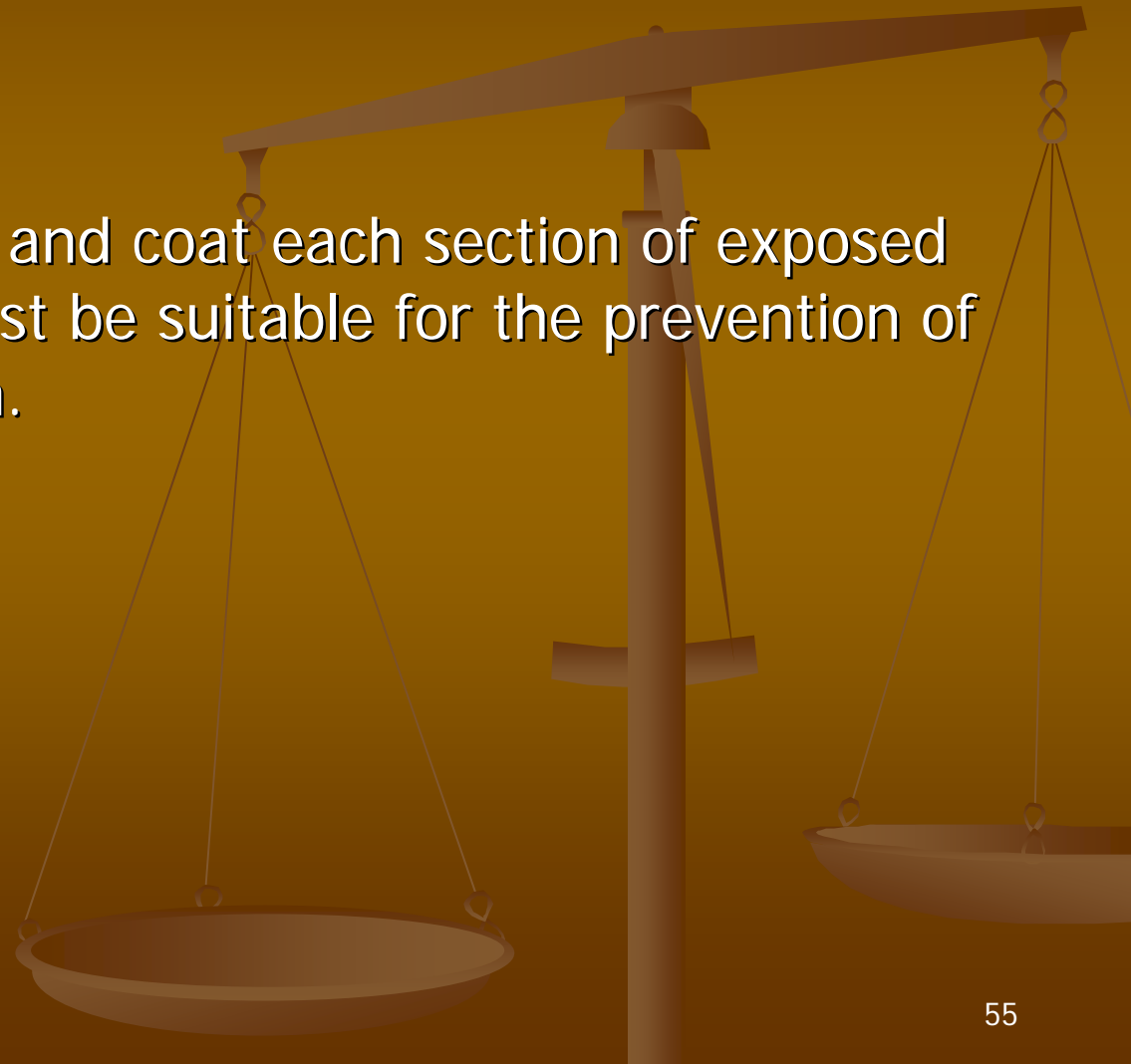


# Subpart I Corrosion Control Requirements

## 192.479 Atmospheric Corrosion Control

### General

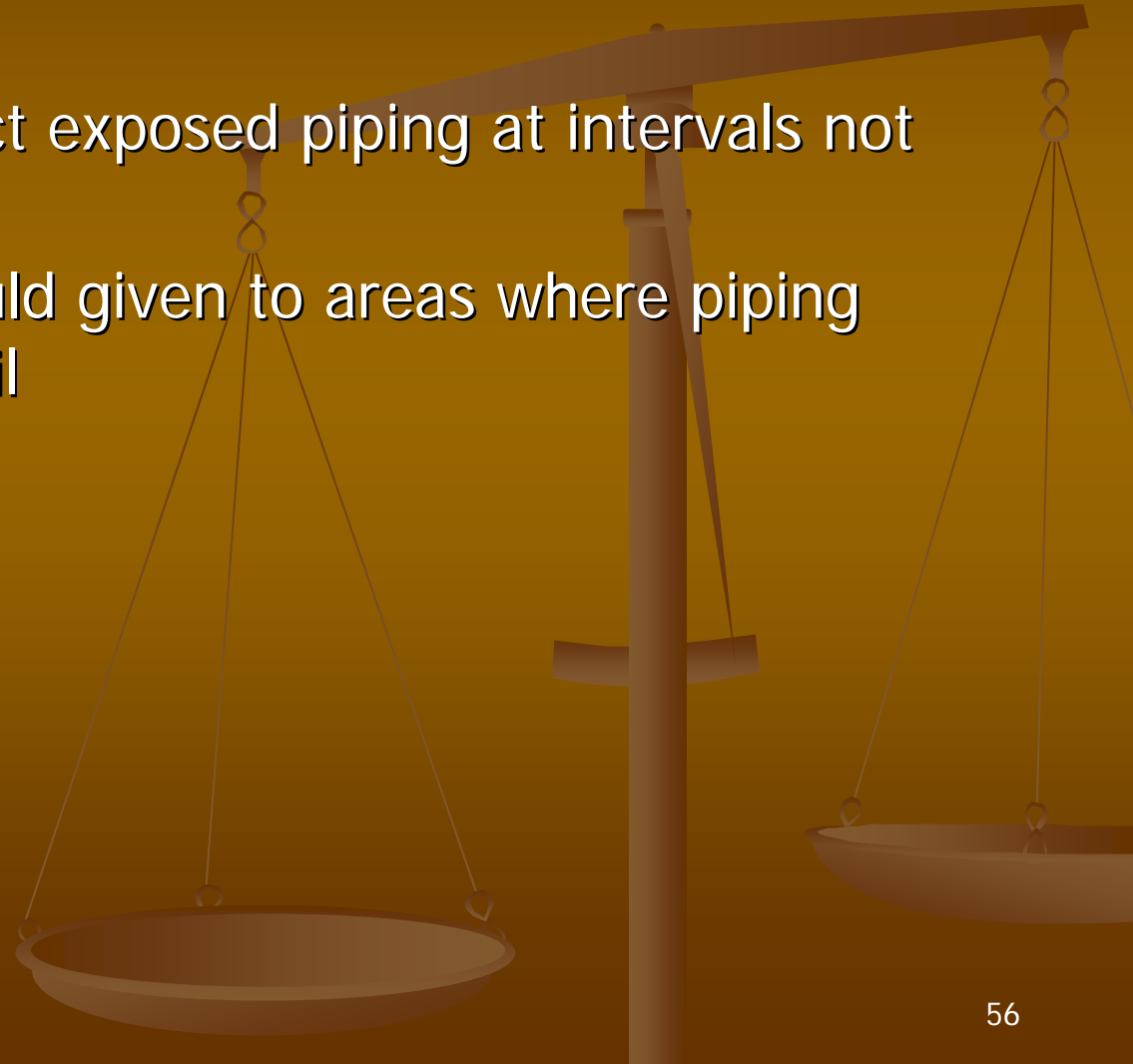
- Operators must clean and coat each section of exposed piping the coating must be suitable for the prevention of atmospheric corrosion.



# Subpart I Corrosion Control Requirements

## 192.481 Atmospheric Corrosion Control Monitoring

- Operators shall inspect exposed piping at intervals not exceeding 3 years
- Special attention should given to areas where piping interfaces with the soil





# Subpart I Corrosion Control Requirements

## 192.487 Remedial Measures: Distribution Lines

- Corroded lines with less than 30% remaining wall thickness must be replaced
- Piping with localized pitting that could cause leaks must be replaced



# Subpart I Corrosion Control Requirements

## 192.491 Corrosion Control Records

- Each operator shall maintain maps of cathodically protected piping, these maps shall be retained for the life of the piping.
- Records of all tests and inspection shall be maintained for 5 years

# Subpart N Qualification of Pipeline Personnel

## 192.801 Scope

- This subpart prescribes the minimum requirements for operator qualification of individuals performing covered tasks on a pipeline facility.
- For the purpose of this subpart, a covered task is an activity, identified by the operator, that:
  - (1) Is performed on a pipeline facility
  - (2) Is an operations or maintenance task
  - (3) Is performed as a requirement of this part; and
  - (4) Affects the operation or integrity of the pipeline.

# Subpart N Qualification of Pipeline Personnel

## 192.803 Definitions

- Abnormal Operating Condition
  - Malfunction of a component or a deviation from normal operation that may indicate a condition exceeding design limits
  - Result in a hazard to persons
- Evaluation
  - A process, established and documented by the operator, to determine an individual's ability to perform a covered task
- Qualified
  - An individual has been evaluated and can:
    - Perform assigned covered tasks; and
    - Recognize and react to abnormal operating conditions.

# Subpart N Qualification of Pipeline Personnel

## 192.805 Qualification Program

- Each operator shall have and follow a written qualification program. The program shall include provisions to:
  - Identify covered tasks;
  - Ensure through evaluation that individuals performing covered tasks are qualified;
  - Allow individuals that are not qualified pursuant to this subpart to perform a covered task if directed and observed by an individual that is qualified;
  - Evaluate an individual if the operator has reason to believe that the individual's performance of a covered task contributed to an incident as defined in Part 191;
  - Evaluate an individual if the operator has reason to believe that the individual is no longer qualified to perform a covered task;
  - Communicate changes that affect covered tasks to individuals performing those covered tasks; and
  - Identify those covered tasks and the intervals at which evaluation of the individual's qualifications is needed.
  - After Dec.16,2004 notify state agency if the operator significantly modifies the program

# Subpart N Qualification of Pipeline Personnel

## 192.807 Recordkeeping

- Operator shall maintain records that include
  1. Identification of qualified individuals
  2. Identification of covered tasks
  3. Date of current qualification
  4. Qualification method
- Records must kept for 5 years after individual is no longer performing covered task



# Subpart N Qualification of Pipeline Personnel

## 192.809 General

- Operators must have a written qualification program by April 27, 2001.
- Operators must complete the qualification of individuals performing covered tasks by October 28, 2002.
- Work performance history review may be used as a sole evaluation method for individuals who were performing a covered task prior to October 26, 1999.
- After October 28, 2002, work performance history may not be used as a sole evaluation method.