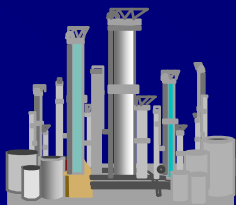


2009

Pipeline Safety Seminar

Part 195 Subpart F



Operation & Maintenance

195.402

"1969"

- (a) Each Carrier Shall Establish and Maintain Current Written Procedures:
 - (1) To ensure the safe operation and maintenance of its pipeline system in accordance with this Part during normal operations.
 - (2) To be followed during abnormal operations and emergencies.

195.402

Amdt.195-15; 1979

- (a) General Requirements
- (b) Amending Procedures
- (c) Maintenance and Normal Operations
- (d) Abnormal Operations
- (e) Emergencies
- (f) Safety Related Condition Reports**

195-39; 1988

General Requirements

195.402 (a)

- Prepare & Follow Written Procedures
- Each Pipeline System
- Once each calendar year NTE 15 months
- Revised as Necessary
- Before Initial Operation of a Pipeline
- Appropriate Parts Kept At Applicable Locations

195.402 Procedural manual for operations, maintenance, and emergencies.

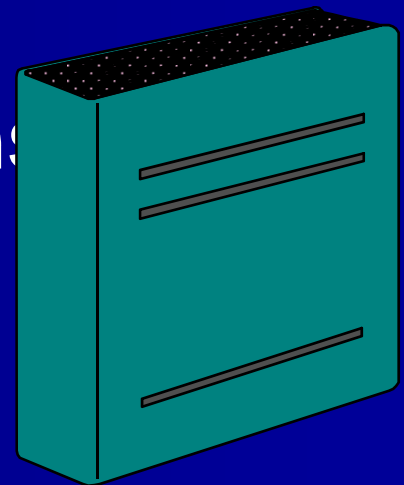
➤(a) Operator shall prepare and follow for each system a written manual for:

normal operations

handling abnormal operations

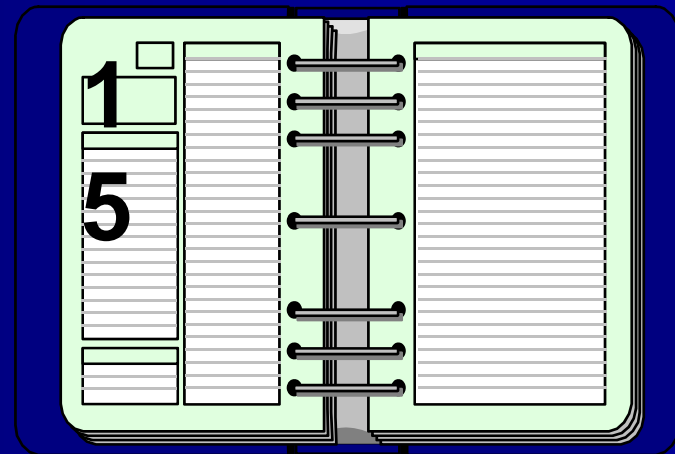
emergencies

- continued -



195.402 Procedural manual for operations, maintenance, and emergencies.

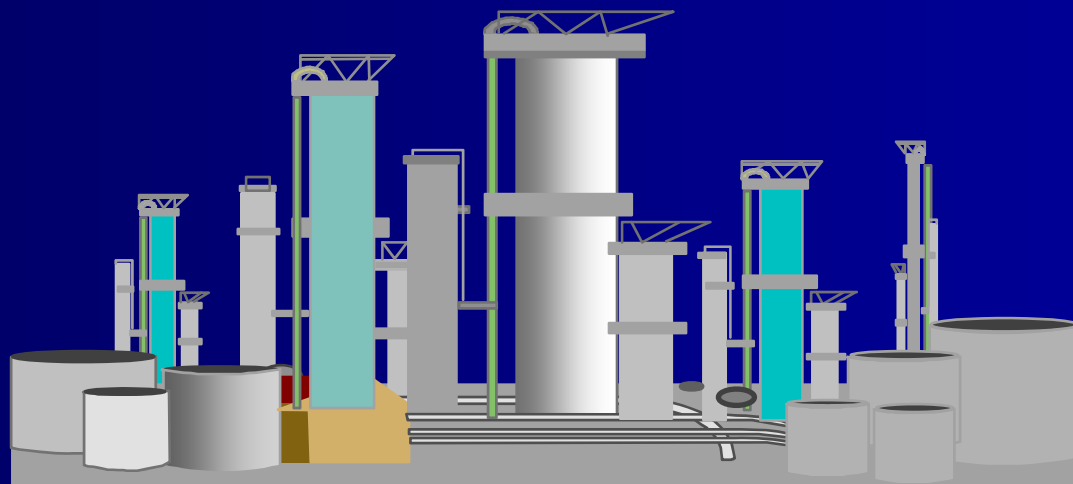
➤ **Manual shall be reviewed at intervals not exceeding 15 months, but at least once each calendar year.**



- continued -

195.402 Procedural manual for operations, maintenance, and emergencies.

Manual shall be prepared before initial operation of pipeline system and appropriate parts kept at locations where O&M activities are conducted.



Procedure Requirement Questions

- ☐ Is It In Writing?
- ☐ Is It Adequate?
- ☐ Are Employees Following It?
- ☐ Does IT Apply To EACH P/L System?
- ☐ Did IT Exist BEFORE Startup?
- ☐ Is IT Available to Employees?
- ☐ Is IT Reviewed (<15 MO./Yr..)?

Notice of Amendment

195.402 (b)

- OPS or Certified State Agency
- Opportunity for Hearing
(190.237)/Relevant State Procedures
- May Require Operators to Amend Procedures
- To Provide Reasonable Level of Safety

Amendment of Plans & Procedures 190.237

- Issue Notice
 - Provide for Opportunity for Hearing
 - Proposed Action

Amendment of Plans & Procedures 190.237

- Shall Consider
 - Relevant Available P/L Safety Data
 - Appropriateness of Plans/Procedures for P/L-Facility-Location
 - Reasonableness of Plans/Procedures
 - Extent to which Plans/Procedures Contribute to Public Safety

Amendment of Plans & Procedures 190.237

- Note: The amendment of an operator's Plans/Procedures
 - is in addition to, and may be used in conjunction with, the appropriate enforcement actions prescribed in this subpart.

Maintenance and Normal Operations

195.402 (c)

- (1) Construction Records, Maps and Operating History Available for Safe Operation
- (2) Gathering Accident Data for Reports
- (3) Operating, Maintaining and Repairing Pipeline in Accordance with Subpart
- (4) Determining Pipelines in Areas Requiring Immediate Response in the Event of Failure or Malfunction
- (5) Analyzing Pipeline Accidents
- (6) Minimizing Potential for Hazard (In Areas Requiring Immediate Response)
- (7) Starting Up and Shutting down P/L to Keep Within "Safe Limits"

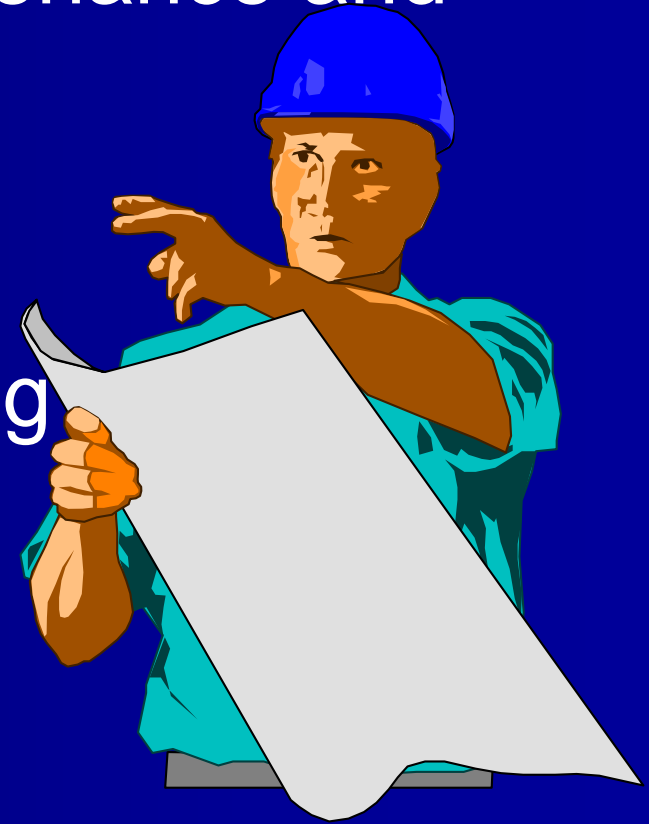
Maintenance and Normal Operations

195.402 (c)

- (8) Monitoring Pressure During Start-up and Delivery and During Shut-ins
- (9) Monitoring Pipeline Data From Facilities in Areas Requiring Immediate Response or Receipt and Delivery Points, If Not Equipped to Fail Safe
- (10) Abandoning Pipeline Facilities
- (11) Minimizing the Likelihood of Ignition
- (12) Establishing and Maintaining Liaison with Fire and Public Officials
- (13) Review of Personnel to Determine Effectiveness of Procedures
- (14) Trench Safety

(c) Maintenance and normal operations.
The manual required by (a) must include procedures for the following to provide safety during maintenance and normal operations.

➤ (1) making construction records, maps and operating history available



195.402(C)(1)

Construction Records & Maps

195.266 & 195.310

- Construction Records
 - Welding Records, Pipe Specs, Depth of Cover, Pressure Test Records
- Maps
 - Location of P/L Crossings, Utility Crossings, Overhead Crossings, Valve & CP Test Stations
- Operating History
 - Pressure Test Records / Historical Pressures

- (2) gathering of data for reporting accidents under Subpart B in a timely and effective manner
- (3) operating, maintaining, & repairing the pipeline system in accordance with this subpart and subpart H



- (2) gathering of data for reporting accidents under Subpart B in a timely and effective manner
- (3) operating, maintaining, & repairing the pipeline system in accordance with this subpart and subpart H



195.(402) (C) (2)

Gathering Accident Data for Reports

■ (2)

- Who is Responsible For Making Telephone Call / Written Report
- Criteria For Completing Each Report
- The Time Limit On Reporting
- Data To Be Reported (195.50 , .52 & .54)
- Telephone Number
- Address For Written Reports

195.402 (c) (3)

Operating, Maintaining & Repairing Pipeline

- Training
- Maps & Records
- Floating Roofs
- MOPs
- Communications
- Line Markers
- ROW Inspections
- Valve Maintenance
- Corrosion Control Records
- Pipeline Repairs
- Pipe Movement
- Scraper & Sphere Facilities
- Overpressure Safety Devices
- Fire Fighting Equipment
- Breakout Tanks
- Signs
- Security of Facilities
- Smoking or Open Flames
- Public Education
- Damage Prevention
- CPM Leak Detection

- (4) determine which pipelines are located in an area requiring immediate response if the facilities failed or malfunctioned



- (5) analyzing pipeline accidents to determine cause

195.402 (c) (4)

Areas Requiring Immediate Response

- What are Areas Requiring Immediate Response ?
 - Check HCA's / Pipeline Facility Response Plan (49 CFR Part 194)
- Where are They?
 - Proximity to: Residential, Commercial, Industrial
 - HVLs must consider Topography
- Does an Operator have to Claim some?

195.402 (c) (5)

Analyzing P/L Accidents

- Consideration Should Be Given To:
 - Data Examination
 - Responsible Personnel
 - Metallurgical Examination
 - Material Analysis

➤(6) minimizing potential for hazards identified under (c)(4) and possibility of recurrence of accidents analyzed under (c)(5)

➤(7) starting up & shutting down pipeline in a manner to assure operation within limits of 195.406, considering system parameters

195.402 (c)

Monitoring Operational Information

- (6) Minimizing the Potential for Hazards & Reoccurrence of Accidents
- (7) Start Up / Shut Down of P/L
To Keep Within "Safe Limits"

Monitoring Operational Information

- (8) Monitoring Pressure
 - During Start up /Delivery /Shut-Ins
 - Fail Safe means to incorporate in a pipeline system or facilities, a system that automatically counteracts the effect of operational or mechanical failure by some method :
 - Shut-down or Other Action To Prevent Exceeding the Operational Limits
- (9) Monitoring P/L Data From Facilities in:
 - Areas Requiring Immediate Response
 - Receipt and Delivery Points
 - If Not Equipped to Fail Safe

195.402 (c)

Other Requirements

- (10) Abandoning Pipeline Facilitates
 - Offshore & Navigable Waterways Report to NPMS
- (11) Minimizing Likelihood of Accidental Ignition of Vapors
 - *Portable Flares for HVLs, Protection from Electrical Sparking (i.e. Vehicles, Switches, Welding)*
- (12) Establishing & Maintaining Liaison w/ Emergency Response Officials
 - *Define Role ; ICS ; Means of Communication*
- (13) Periodic Review
- (14) Trench Safety

➤(8) for pipelines not equipped to fail safe, monitoring from an attended location, pressure during startup until steady state and during shut-in to assure operation within 195.406



➤ (9) for facilities not equipped to fail safe that are identified under (c)(4) or that control receipt and delivery, detecting abnormal conditions and transmitting the same to an attended location



➤(10) abandoning pipeline facilities,
including --

- Safe disconnection from operating pipeline system
- purging of combustibles
- Sealing abandoned facilities left in place
- Filing reports on applicable facilities

- For each abandoned offshore pipeline facility
- or each abandoned onshore pipeline facility that crosses over, under or through commercially navigable waterways. . .
- the last operator of that facility must file a report upon abandonment of that facility in accordance with §195.59 of this part.

➤(11) minimizing the likelihood of accidental ignition of vapors in areas identified under (c)(4) where potential exists for presence of flammable liquids or gases



➤(12) Establish & maintain liaison with --

➤fire

➤police

➤other appropriate public officials

to learn the responsibility & resources of agencies that may respond to an emergency ...



... and acquaint them
with the operator's
ability in responding
to pipeline
emergencies and
means of
communications



- (13) periodic review the work done by operator personnel to determine the effectiveness of the procedures in normal operation and maintenance and take corrective action where deficiencies are found

■ (14) take adequate precautions in excavated trenches from unsafe accumulations of vapor or gas, and make available WHEN NEEDED ...

- emergency rescue equipment
- breathing apparatus
- rescue harness & line

Abnormal Operations

Abnormal Operations

195. 402 (d)

Abnormal Operation Manual

- Purpose:
 - Provide Safety When Operating Design Limits Have Been Exceeded

Operating Design Limits

- “...those limits or ranges of pressure, flow, or temperature etc., that a carrier imposes on it's pipeline system to define normal operations”
- “Operations outside these limits indicate an abnormal condition which should be corrected to avoid approaching the strength limit of the system and the potential for failure”

Amnd.

195 -16

No 236/Th 12/6/79

70166 FR Vol. 44,

195.402 (d) abnormal operation

The manual required by (a) must include procedures for the following when operating design limits have been exceeded:

195.402 (d)

Abnormal Procedures Must Include:

- (1) Responding/Investigating/Correcting
- (2) Determining Integrity of System
- (3) Correcting Variations
- (4) Notifying Operating Personnel
- (5) Periodically Reviewing Response

Causes of Abnormal Operations

195.402 (d) (1)

- Unintended Closure of Valves / Pump Shutdowns
- Pressure or Flow - Increase/Decrease
- Loss of Communication
- Operation of Any Safety Device
- Other Malfunction / Hazards to Persons or Property
 - Component
 - Deviation from Normal Operation
 - Personnel Error

☐ (1) *responding to, investigating
& correcting the cause of;*

➤ (i) *unintended closure of
valves or shutdowns;*

- continued -

➤ *(ii) increase or decrease in pressure or flow rate outside normal limits;*


- continued -

- *(iii) loss of communications;*
- *(iv) operation of any safety device;*

➤ *(v) any malfunction of a component, deviation from normal operation, or personnel error which could cause a hazard to people or property*

■ (2) *check variations from normal operations after abnormal operation has ended at critical locations to ensure system integrity and safe operation;*

■ (3) *correcting variations from normal operation of pressure and flow and control;*



(4) notify responsible operator personnel when notice of abnormal operation is received;

■ *(5) periodic review of the response of personnel to determine effectiveness of procedures controlling abnormal operations and make corrections of deficiencies.*



195.402 (e) Emergencies

195.402 (e)


Emergency Procedures Must Include

1. Receiving notices of Events
2. Prompt and Effective Response
3. Available Resources
4. Necessary Actions
5. Control of Released Hazardous Liquid/CO₂
6. Minimizing Public Exposure

195.402 (e)


Emergency Procedures Must Include

7. Notifying and Coordinating with Emergency Officials
8. Use of Instruments for HVL Failure
9. Provisions for Post Accident Review



***The manual required by 195.402(a)
must include
procedures for these
previous items . . .***

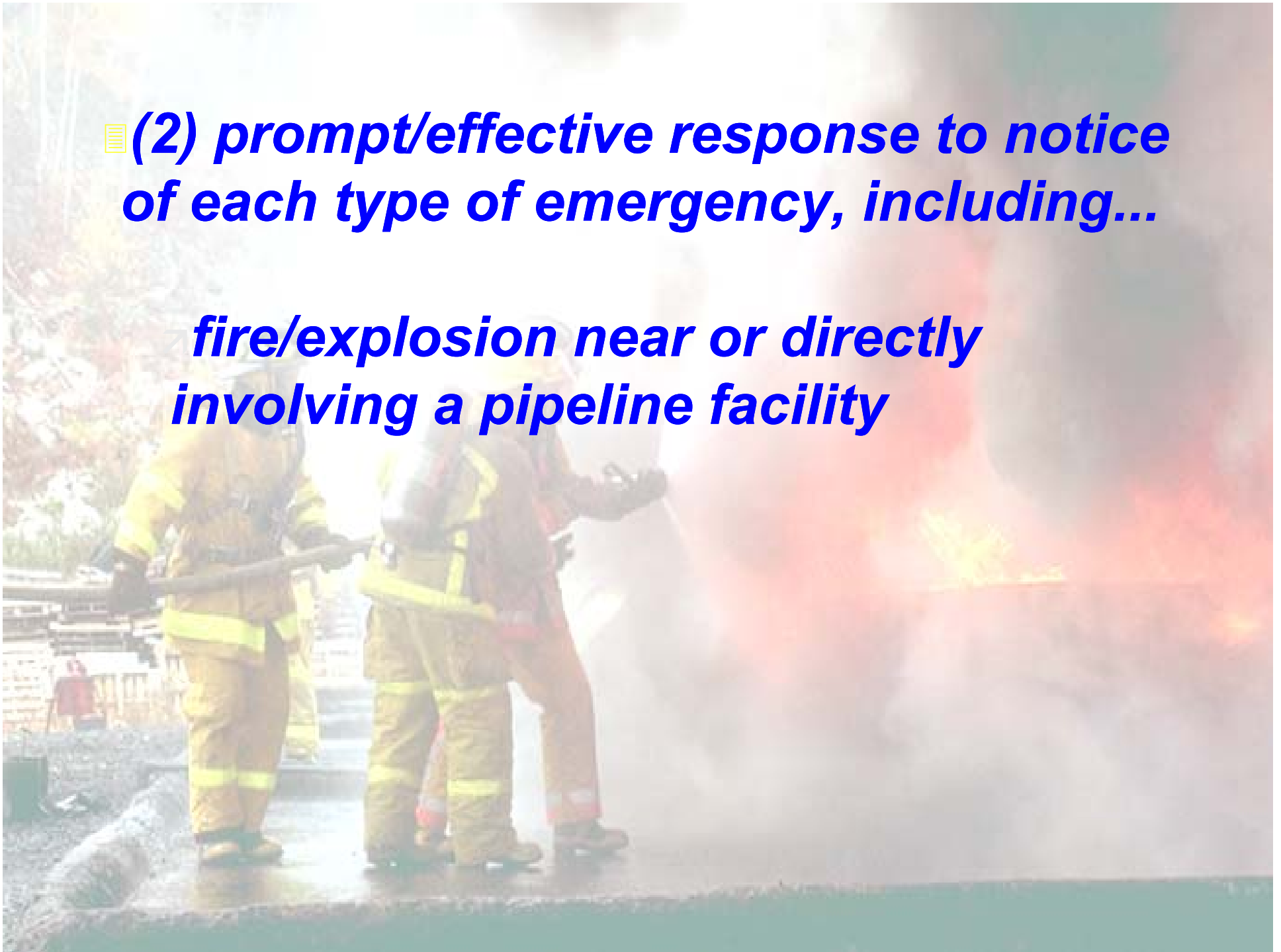
***Let's take a closer look
at each one of these
procedural
requirements—***



☐ (1) receive, identify & classify notices which need immediate response or notice to fire, police or other appropriate public officials and communicate this information to appropriate operator personnel

■ ***(2) prompt/effective response to notice of each type of emergency, including...***

➤ ***fire/explosion near or directly involving a pipeline facility***



- *accidental release of liquid or CO₂*
- *operational failure causing hazardous condition*
- *natural disaster*

☐ ***(3) having ...***

- personnel***
- equipment***
- instruments***
- tools, and***
- materials available as needed at scene***




☐ (4) taking necessary action, such as ...


➤ emergency shutdown

➤ pressure reduction

to minimize the volume of release

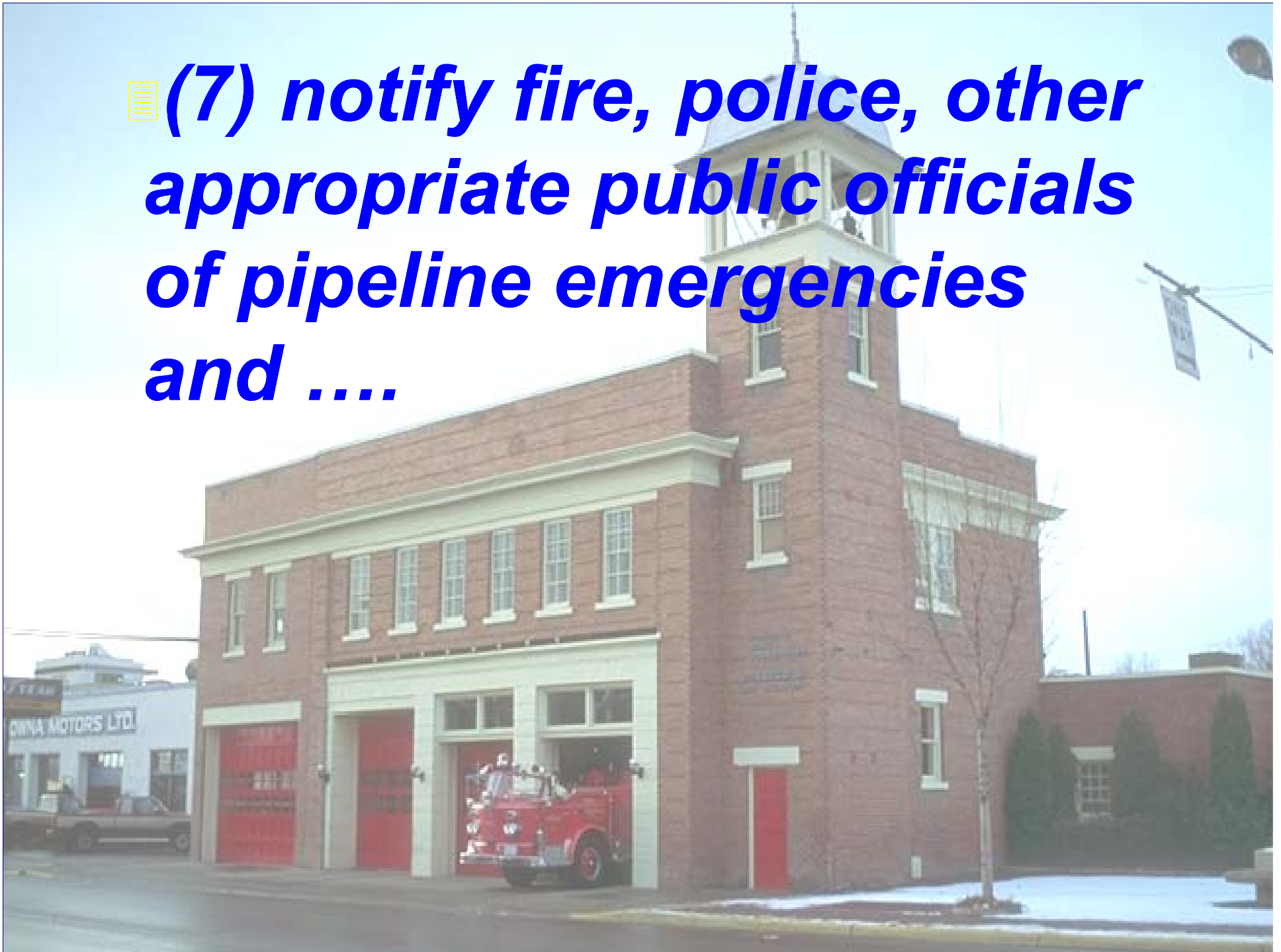



(5) control of released liquid or CO² at accident scene to minimize hazard, including possible ignition in cases of HVL




■ (6) *minimize public exposure to injury or probability of accidental ignition by assisting with evacuation, assisting with halting traffic on roads or railroads, or taking other appropriate action*

☐ ***(7) notify fire, police, other appropriate public officials of pipeline emergencies and***



The background of the slide features a photograph of a building's dome, likely a mosque or a similar religious structure, set against a clear blue sky. The dome is white with a small spire on top. The image is partially obscured by a dark blue rectangular area that contains the text.

 ***.....coordinate with them
preplanned and actual
emergency responses,
including additional
precautions for
emergencies involving HVL***



☐ (8) *in case of failure of HVL pipeline system use of appropriate instruments to assess the extent and coverage of vapor cloud*

■ ***(9) providing post accident review of employee activities to determine whether procedures were effective and take corrective action if deficiencies are found***

195.402 (f) Safety Related Conditions

The manual required by (a) must include instructions enabling personnel who perform O&M activities to recognize conditions that potentially may be safety-related conditions that are subject to reporting under 195.55