DOT PIPELINE REGULATION OVERVIEW
GATHERING & TRANSMISSION
AGENDA

- DOT PHMSA OVERVIEW
- GATHERING LINE DETERMINATIONS AS PER PAST PHMSA UNDERSTANDINGS (PHMSA CHARTS)
  - GATHERING SYSTEM DEFINITION AS PER API-RP 80
  - REGULATED GATH & TRANSMISSION SYSTEM RULES AS PER PART 192 – TYPE “A” VERSES TYPE “B”
- HOW TO DETERMINE CLASS LOCATIONS AS PER PART 192
- “PROPOSED MEGA RULE”
- CODE REQUIREMENTS AS PER PART 192 OR 195
Who is PHMSA?

PHMSA is a U.S. Department of Transportation agency that develops and enforces regulations for the safe, reliable, and environmentally sound operation of the nation's pipeline transportation system and the nearly 1 million daily shipments of hazardous materials by land, sea, and air. PHMSA comprises two safety offices, the Office of Pipeline Safety and the Office of Hazardous Materials Safety.
Within each of the PHMSA Regions, you also have **State Programs**, that act as agents of PHMSA and some states also enforce State specific rules.
PART 192
TRANSPORTATION OF NATURAL AND OTHER GASES BY PIPELINE: MINIMUM FEDERAL SAFETY STANDARDS
(Current through Amendment 117, as of June 2011)

Published November 2012

PART 195
TRANSPORTATION OF HAZARDOUS LIQUIDS BY PIPELINE
MINIMUM FEDERAL SAFETY STANDARDS
(Current through Amendment 97)

July 2011
Guidelines for the Definition of Onshore Gas Gathering Lines

API RECOMMENDED PRACTICE 80
FIRST EDITION, APRIL 2000

American Petroleum Institute
Helping You Get The Job Done Right™
Example of lines
They do not enforce

Production Lines

Lines inside Homes and/or Businesses

And other Designated lines

Certain Gathering Lines
GATHERING LINE DETERMINATIONS AS PER PAST PHMSA UNDERSTANDINGS (PHMSA CHARTS)

GATHERING SYSTEM DEFINITION AS PER API- RP 80
Wells have separation, heater treaters and stock tanks.
Wells all flow to central tank battery (no equipment for separation on location). Tank battery has separation, heater treaters and stock tanks.
Guidelines for the Definition of Onshore Gas Gathering Lines

API RECOMMENDED PRACTICE 80
FIRST EDITION, APRIL 2000

American Petroleum Institute
Helping You Get The Job Done Right™
(a) means any pipeline or part of a connected series of pipelines used to transport gas from the **furthermost downstream point in a production operation** to the furthermost downstream of the **following endpoints**, which physically may have intermediate deliveries (to other production operations, pipeline facilities, farm taps, or residential/commercial/industrial end users) that are not necessarily part of the gathering line:
Jurisdictional Determinations

API = RP 80

If Gathering line is considered to be a Class, 2, 3 or 4 location = regulated.
If Class 1 = non-regulated
Jurisdictional Determinations
API = RP 80

Single Well

Transmission line

This line would be considered a Transmission line

Transmission Line

Sales point
Jurisdictional Determinations

Gathering Line

Gathering

Compressor

Sales point

This line would be considered a Gathering line. It would be regulated if in a class 2, 3 or 4 location.
This line would be considered a Transmission line.
This line would be considered Non-Regulated.
Jurisdictional Determinations

- Single Well
- Fence
- Transmission line
- Sales point

This 10 ft line from fence to sales point would be considered Regulated and a transmission.
### TYPE "B" REQUIREMENTS

1. **Must have CP according to subpart I.**
2. **Damage Prev Program**
3. **MAOP**
4. **Install & Maintain Markers**
5. **Public Awareness Program**
6. **Conduct Leakage survey in Class 3 areas**

---

### TYPE "B" REQUIREMENTS

<table>
<thead>
<tr>
<th>Type</th>
<th>Feature</th>
<th>Area</th>
<th>Safety buffer</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>— Metallic and the MAOP produces a hoop stress of 20 percent or more of SMYS. If the stress level is unknown, an operator must determine the stress level according to the applicable provisions in subpart C of this part. — Non-metallic and the MAOP is more than 125 psig (862 kPa).</td>
<td>Class 2, 3, or 4 location (see § 192.5).</td>
<td>None.</td>
</tr>
<tr>
<td>B</td>
<td>— Metallic and the MAOP produces a hoop stress of less than 20 percent of SMYS. If the stress level is unknown, an operator must determine the stress level according to the applicable provisions in subpart C of this part. — Non-metallic and the MAOP is 125 psig (862 kPa) or less.</td>
<td>Area 1. Class 3 or 4 location. Area 2. An area within a Class 2 location the operator determines by using any of the following three methods: (a) A Class 2 location. (b) An area extending 150 feet (45.7 m) on each side of the centerline of any continuous 1 mile (1.6 km) of pipeline and including more than 10 but fewer than 46 dwellings. (c) An area extending 150 feet (45.7 m) on each side of the centerline of any continuous 1000 feet (305 m) of pipeline and including 5 or more dwellings.</td>
<td>If the gathering line is in Area 2(b) or 2(c), the additional lengths of line extend upstream and downstream from the area to a point where the line is at least 150 feet (45.7 m) from the nearest dwelling in the area. However, if a cluster of dwellings in Area 2 (b) or 2(c) qualifies a line as Type B, the Type B classification ends 150 feet (45.7 m) from the nearest dwelling in the cluster.</td>
</tr>
</tbody>
</table>

---

Biggreenbox: You must treat as if it was a transmission line.
TYPE “A”
MAOP produces a hoop stress of 20% or more of SMYS

• $2 \times 42,000 = (\text{pipe grade}) \times 0.188 = (\text{wall thickness}) \div 6.625 = (\text{pipe O.D. size}) = 2383$ which = 100% SMYS

$2383 \times 20\% = 20\% \text{ of SMYS or 477 psi}$

MAOP = 480 psi More than 20% of SMYS) = Type “A”

If MAOP would have been 475 = Type “B”
“NEW PROPOSED MEGA RULE”
Primarily be based on pipe size
As per OCC, Feds wanted 8” Industry wanted 16”. Trying to meet in middle.

Note sure whether Class locations will still apply

Note sure what inspections will be required
The class location unit is an onshore area that extends 220 yards on either side of the centerline of any continuous 1-mile length of pipeline.

The class location is determined by the buildings in the class location unit. For the purposes of this section, each separate dwelling unit in a multiple dwelling building is counted as a separate building intended for human occupancy.
220 yd either side of centerline of pipeline
Class Location Determination

1 mile

Class 1

220 yards

220 yards

M.P. 0 M.P. 1 M.P. 2 M.P. 3

M.P. = Mile Post
Class Location Determination

M.P. = Mile Post

1 mile

220 yards

50

220 yards
Class Location Determination

M.P. 0  M.P. 1  M.P. 2  M.P. 3

Class 1  Class 3

50
Class Location Determination

Class 1

Class 3

Class 1

M.P. 0  M.P. 1  M.P. 2  M.P. 3
Continuous Sliding Mile
Continuous Sliding Mile
Continuous Sliding Mile

Class 1  Class 2  Class 3

Class 1  Class 2  Class 3

50
Class Location Unit

Class 1

10 or less buildings intended for human occupancy or an offshore area.
Class Location Unit

A Class 2

Greater than 10 but less than 46 buildings intended for human occupancy.
Class Location Unit

- Class 3
- 46 or more buildings intended for human occupancy; or

Each individual Apt counted as a separate dwelling
houses
Class 3 - where the pipeline lies within 100 yards of either a building or a small,

Well-defined Outside Area
- Playground
- Recreation Area
- Outdoor Theater

Occupied by 20 or more persons on at least 5 days a week for 10 weeks in any 12-month period
Convenient Store
Welcome
BACK TO SCHOOL
Class Location Unit

**Class 4** - where buildings with four or more stories aboveground are prevalent.

(Most states hold to the view that it has to be 2 or more 4 story buildings)
LEAK SURVEYS AND PATROLS REQUIRED AT LEAST 4 TIMES PER YEAR

4 STORY BLDGS

CLASS 4 LOCATION ENDS 220 YDS FROM NEAREST 4 STORY BLDG.
CODE REQUIREMENTS FOR REGULATED PIPELINE’S
GATHERING

TYPE “A”

- APPLY FOR OPID
- D & A PROGRAM
- MEMBER OF ONE CALL
- DAMAGE PREVENTION – LINE LOCATE
- CONSTRUCTION MANUAL/PROGRAM
- PERIODIC PIPELINE INSPECTIONS
  - LEAKAGE SURVEYS
  - CATHODIC PROTECTION
  - RECTIFIER INSPECTIONS
  - VALVE MAINTENANCE
  - ATMOSPHERIC CORROSION INSP
  - PIPELINE PATROLS
  - RELIEF VALE INSPECTIONS
  - MAOP
- DOT MANUALS
  - OM&E
  - OQ PLAN/PROGRAM
  - PUBLIC AWARENESS PLAN/PROGRAM

TYPE “B”

- APPLY FOR OPID
- D & A PROGRAM
- MEMBER OF ONE CALL
- DAMAGE PREVENTION – LINE LOCATE
- CONSTRUCTION MANUAL/PROGRAM
- PERIODIC PIPELINE INSPECTIONS
  - LEAKAGE SURVEYS – Class-3 areas
  - CATHODIC PROTECTION
  - RECTIFIER INSPECTIONS
  - LINE MARKERS
  - MAOP
- DOT MANUALS
  - OM&E
  - OQ PLAN/PROGRAM
  - PUBLIC AWARENESS PLAN/PROGRAM
GAS TRANSMISSION

- APPLY FOR OPID
- D & A PROGRAM
- MEMBER OF ONE CALL
- DAMAGE PREVENTION – LINE LOCATE
- CONSTRUCTION MANUAL/PROGRAM
- PERIODIC PIPELINE INSPECTIONS
  - LEAKAGE SURVEYS
  - CATHODIC PROTECTION
  - ATMOSPHERIC CORROSION INSPECTIONS
  - RECTIFIER INSPECTIONS
  - VALVE MAINTENANCE
  - PIPELINE PATROLS
  - RELIEF VALE INSPECTIONS
- DOT MANUALS
  - OM&E
  - OQ PLAN/PROGRAM
  - PUBLIC AWARENESS PLAN/PROGRAM
  - GAS IMP PLAN (IF APPLICABLE)
  - CONTROL ROOM MANAGEMENT PLAN (IF APPLICABLE)
REGULATED HAZARDOUS LIQUID PIPELINES

- *Hazardous liquid means petroleum, petroleum products, or anhydrous ammonia*

- Most Popular – Crude Oil, Amhydrous Liquid, Propane, Carbon Dioxide, etc.
Note: Rural Gathering System piping that reaches a pipe diameter > 8 5/8 becomes a fully regulated transmission pipeline. If piping downstream of a transmission pipeline decreases in size to 8 5/8 or less, it remains a transmission pipeline.

Rural Gathering lines must come from production (not truck or rail), are 6 5/8” to 8 5/8” in diameter, operate at more than 20% SMYS, and are within ¼ mile of a USA.
USA’s & HCA’s = Unusually sensitive areas & HCA’s = High Consequence Area

- **USA** = *Unusually sensitive area – Bird habitats, Water regions, navigable waterways, Endangered species, Populated areas, etc*

- **HCA’s** = High Consequence Areas – You now have to assess pipeline periodically to determine its integrity
ENDANGERED SPECIES - ANIMAL

Operator: 
System Name: Cureton Midstream 
MAOP: 
Line Size: 
Class Location: 
Class Location Buffer 
Additional Buffer Added 
Total Buffer 

Legend 
PSE-NGL PIPELINE 
Species Occurrence 
SOMNAME 
Meadow Jumping Mouse Subsp

T&E Species Occurrence 
y: Pipeline Regulatory Consultants, Inc. 
Pipeline Compliance Service 
Author: R. Jones 
Date of Study: 5/6/18
ENDANGERED PLANT SPECIES

Legend
- P66-NGL PIPELINE
- Colorado T&E Species Range
- Ute ladies'-tresses

T&E Species Range
by: Pipeline Regulatory Consultants, Inc.
Pipeline Compliance Service

Author: R Jones Date of Study: 5/6/18
CRUDE OIL SPILL PATHWAY

Operator:
- System Name: (Terrebonne Pa.)
- MAOP:
- Line Size: 12"
- Class Location:
- Spill Dispersion Buffer = feet
- Additional Buffer Added = 0 Feet
- Total Buffer = feet

Legend:
- 1mBuffer
- 5mBuffer
- 10mBuffer
- Pipeline
- Commercially Navigable Waterway

Spill Risk Study by: Pipeline Regulatory Consultants, Inc.
- Pipeline Compliance Service
- Sheet Name: Flood Map
- Drawn By: R. Jones
- Date of Study: 6/22/18

HCA Pipeline ≈ 500 feet from commercially navigable waterway
PROPANE FLARE JET BUFFER

System Name: (Grady Co.)
MAOP: 1200 psi
Line Size: 3" steel
Class Location:
Spill Dispersion Buffer = 5,827 Feet
Additional Buffer Added = 0 Feet
Total Buffer = 5,827 Feet

LEGEND
NGL Line
Section
Township
Drinking Water
Stream
Spill Dispersion Buffer

HB_points
Type
Slow down
CP Feet
Exposure
Tie in
Valves
Structures
Type
Apartment
Business
Church
Facilitation
House
School

Tuttle City Boundary
by Pipeline Regulatory Consultants, Inc.
Pipeline Compliance Service

Sheet Name: Tuttle City Boundary
Drawn By: R. Jones
Revision: 0
Revision Date: 6/6/14
Sheet #1 of 1
Date of Study: 6/8/14
Any Questions