

# Regulatory Baseline and Goals

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**Part 192 – TRANSPORTATION OF NATURAL AND  
OTHER GAS BY PIPELINE: MINIMUM FEDERAL  
SAFETY STANDARDS**

**Subpart A – General**

**Subpart B – Materials**

**Subpart C – Pipe Design**

**Subpart D – Design of Pipeline Components**

**Subpart E – Welding of Steel in Pipelines**

**Subpart F – Joining of Materials Other Than  
by Welding**

**Subpart G – General Construction Requirements  
for Transmission Lines and Mains**

**Subpart H – Customer Meters, Service Regulators,  
and Service Lines**

**Subpart I – Requirements for Corrosion Control**

**Subpart J – Test Requirements**

**Subpart K – Upgrading**

**Subpart L – Operations**

**Subpart M – Maintenance**

**Subpart N – Qualification of Pipeline Personnel**

**Subpart O – Pipeline Integrity Management**

Pipeline and Hazardous Materials Safety Administration, DOT

- 192.225 Welding procedures.
- 192.227 Qualification of welders.
- 192.229 Limitations on welders.
- 192.231 Protection from weather.
- 192.233 Miter joints.
- 192.235 Preparation for welding.
- 192.241 Inspection and test of welds.
- 192.243 Nondestructive testing.
- 192.245 Repair or removal of defects.

**Subpart F—Joining of Materials Other Than by Welding**

- 192.271 Scope.
- 192.273 General.
- 192.275 Cast iron pipe.
- 192.277 Ductile iron pipe.
- 192.279 Copper pipe.
- 192.281 Plastic pipe.
- 192.283 Plastic pipe: Qualifying joining procedures.
- 192.285 Plastic pipe: Qualifying persons to make joints.
- 192.287 Plastic pipe: Inspection of joints.

**Subpart G—General Construction Requirements for Transmission Lines and Mains**

- 192.301 Scope.
- 192.303 Compliance with specifications or standards.
- 192.305 Inspection: General.
- 192.307 Inspection of materials.
- 192.309 Repair of steel pipe.
- 192.311 Repair of plastic pipe.
- 192.313 Bends and elbows.
- 192.315 Wrinkle bends in steel pipe.
- 192.317 Protection from hazards.
- 192.319 Installation of pipe in a ditch.
- 192.321 Installation of plastic pipe.
- 192.323 Casing.
- 192.325 Underground clearance.
- 192.327 Cover.

**Subpart H—Customer Meters, Service Regulators, and Service Lines**

- 192.351 Scope.
- 192.353 Customer meters and regulators: Location.
- 192.355 Customer meters and regulators: Protection from damage.
- 192.357 Customer meters and regulators: Installation.
- 192.359 Customer meter installations: Operating pressure.
- 192.361 Service lines: Installation.
- 192.363 Service lines: Location of valves.
- 192.365 Service lines: General requirements.
- 192.367 Service lines: Connections to cast iron or ductile iron mains.
- 192.369 Service lines: Connections to cast iron or ductile iron mains.
- 192.371 Service lines: Steel.
- 192.373 Service lines: Cast iron and ductile iron.
- 192.375 Service lines: Plastic.

- 192.377 Service lines: Copper.
- 192.379 New service lines not in use.
- 192.381 Service lines: Excess flow valve performance standards.
- 192.383 Excess flow valve customer notification.

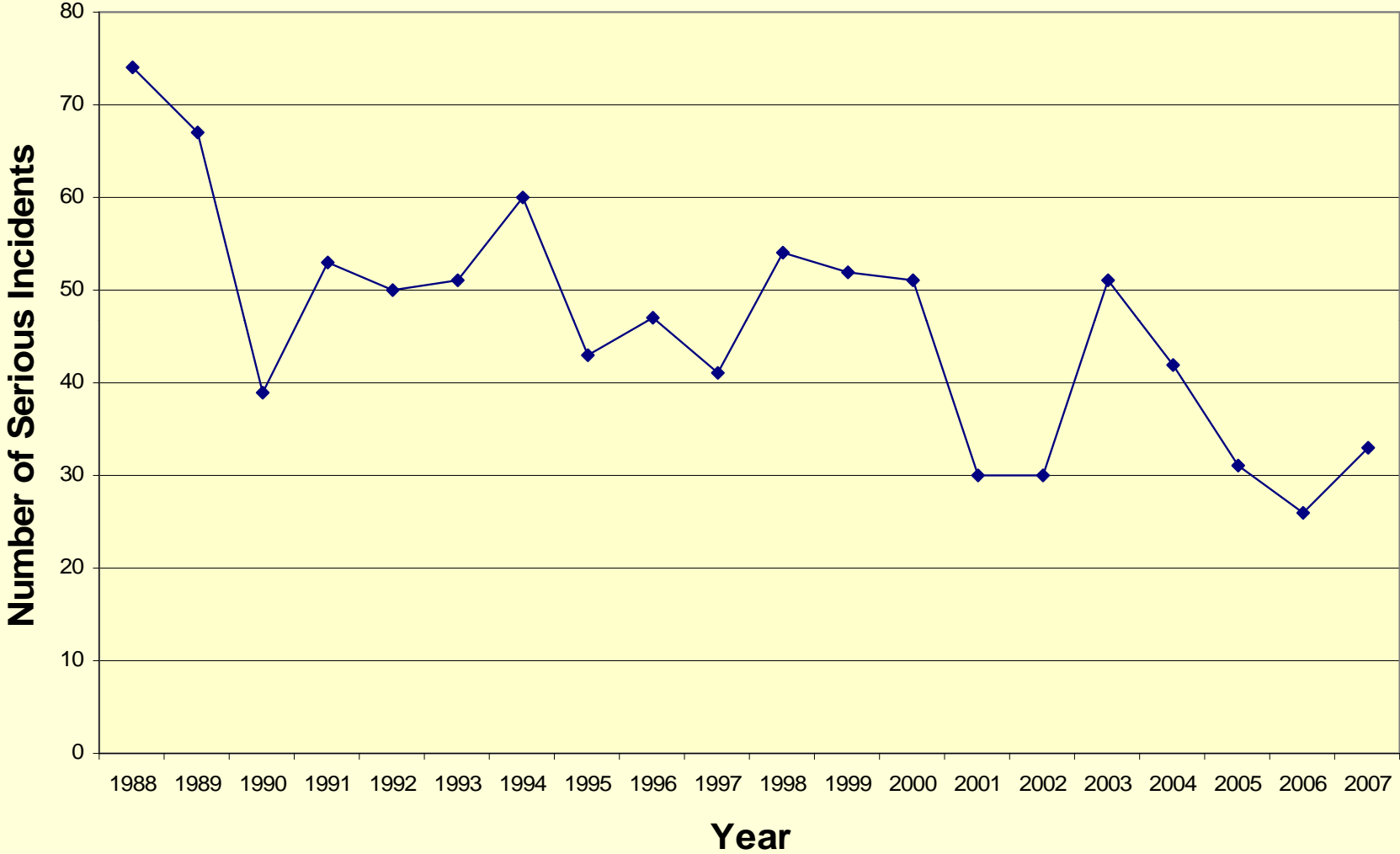
**Subpart I—Requirements for Corrosion Control**

- 192.451 Scope.
- 192.453 Applicability to converted pipelines.
- 192.455 General.
- 192.457 External corrosion control: Buried or submerged pipelines installed after July 31, 1971.
- 192.459 External corrosion control: Buried or submerged pipelines installed before August 1, 1971.
- 192.459 External corrosion control: Examination of buried pipelines when exposed.
- 192.461 External corrosion control: Protective coating.
- 192.463 External corrosion control: Cathodic protection.
- 192.465 External corrosion control: Monitoring.
- 192.467 External corrosion control: Electrical isolation.
- 192.469 External corrosion control: Test stations.
- 192.471 External corrosion control: Test leads.
- 192.473 External corrosion control: Interference currents.
- 192.475 Internal corrosion control: General.
- 192.477 Internal corrosion control: Monitoring.
- 192.479 Atmospheric corrosion control: General.
- 192.481 Atmospheric corrosion control: Monitoring.
- 192.483 Remedial measures: Transmission lines.
- 192.485 Remedial measures: Distribution lines.
- 192.487 Remedial measures: Cast iron and lines other than cast iron or ductile iron lines.
- 192.489 Remedial measures: Ductile iron pipelines.
- 192.491 Corrosion control records.

**Subpart J—Test Requirements**

- 192.501 Scope.
- 192.503 General requirements.
- 192.505 Strength test requirements for steel pipelines to operate at a hoop stress of 30 percent or more of SMYS.
- 192.507 Test requirements for pipelines to operate at a hoop stress less than 30 percent of SMYS and at or above 100 p.s.i. (689 kPa) gage.
- 192.509 Test requirements for pipelines to operate below 100 p.s.i. (689 kPa) gage.
- 192.511 Test requirements for service lines.

# Serious Incidents – Gas Distribution



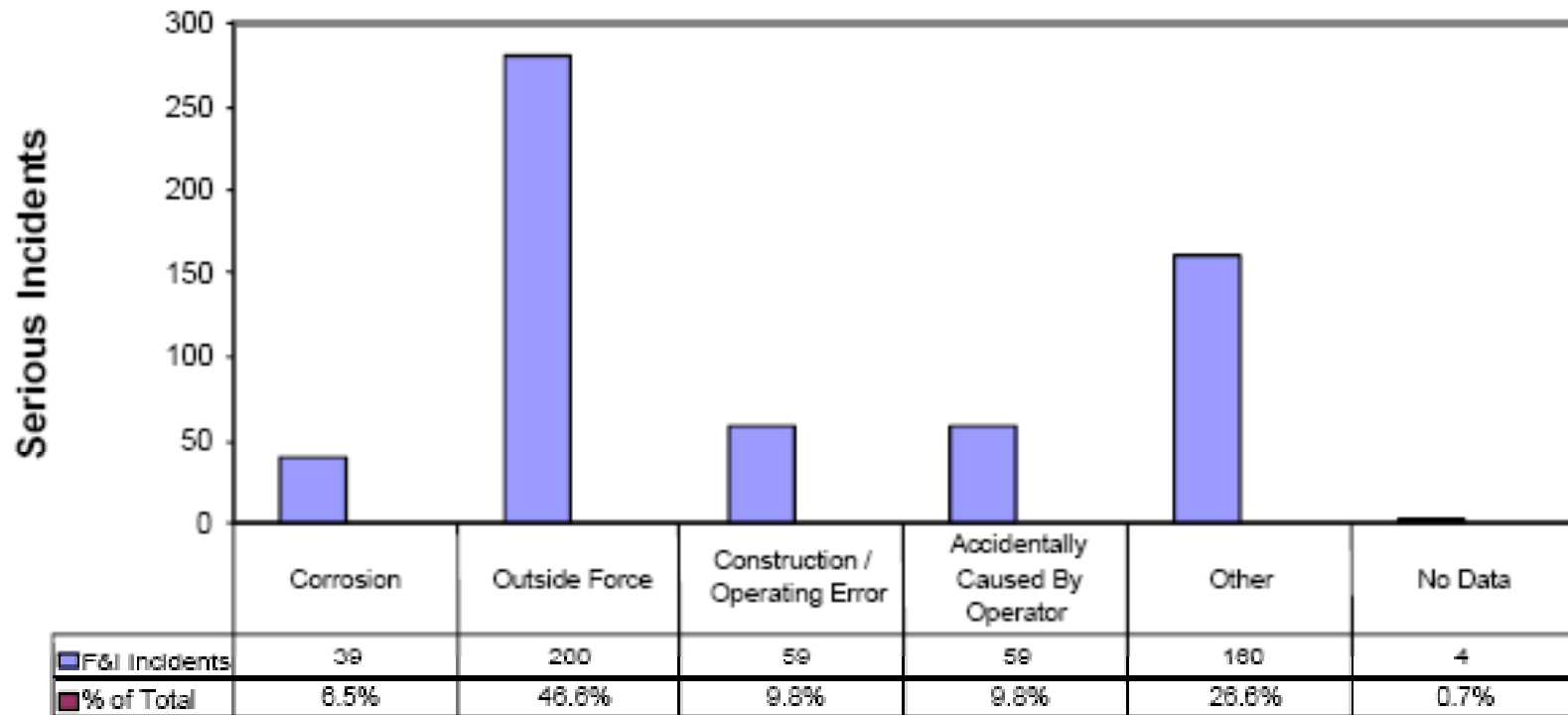
# Periodic Inspection/Maintenance

- Cathodic protection (CP) must be tested once per year. Rectifiers and moving/active components must be inspected six times per year (192.465)
- Operators must reevaluate pipelines without CP every 3 years and provide CP if active corrosion is found (192.465)
- Pipe exposed to the atmosphere must be inspected for corrosion every 3 years (192.481)
- Leak surveys must be conducted annually in business districts and at least every 5 years (3 if cathodically unprotected and electrical surveys are impractical) outside of business districts (192.723)

# Periodic Inspection/Maintenance – Cont'd

- Pressure limiting devices must be tested at least annually (192.739)
- Each valve necessary for safe system operation must be tested annually (192.747)
- Vaults housing pressure regulating equipment must be inspected annually (192.749)
- Mains must be patrolled 4 times a year in business districts and twice per year outside business districts (192.721)

## Distribution Serious Incidents (601 Total) By Cause Totals for Years 1990-2002



**2004 American Gas Foundation study**



# Integrity Management - Goals

- Focused actions for efficient improvement
- Improve operator understanding
- Foster action to address threats/issues of importance
- Reduce the number and severity of distribution pipeline incidents

# Monitoring Performance

- Reducing accidents will take time
- Number of leaks, excavation damages
- Process indicators
  - Results of inspections
  - Quality and thoroughness of risk assessments
  - Number and kind of risk reduction activities