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# PHMSA Focus Areas for New Regulations – Lessons Learned

## 2023 North Dakota & South Dakota Pipeline Safety Operator Training

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# So Many New Regulations but Why So Quiet on the PHMSA Front?

# New Rules Since October 2019



# Slew of New Rules in Last 4 Years

- **Mega Rule split into 3 Rules**
  - RIN-1 MAOP Reconfirmation (10/1/19)
  - RIN-2 Repair Rule (8/24/22)
  - RIN-3 Gathering Rule (11/15/21)
- **Gas Regulatory Reform Rule (1/11/21)**
- **Valve Rule (4/8/22)**
- **2019 HL Rule (10/1/19)**

# Agency Resources Stretched Thin

- Underground Storage Inspections
- SCADA and Control Room Inspections
- Drug and Alcohol Inspections
- Construction Inspections
- Leak Detection and Repair Procedural Reviews (Section 114)
- Environmental Justice Questions
- Accident Response and Resulting Orders

**Take away:** There appears to have been a slight reprieve regarding compliance inspections of the new regulations, both at the Federal and State level but that is changing. Also, many of the deadlines have not occurred yet. Let's recap the highpoints of these new regulations so you can prioritize your compliance efforts.

# Summary of RIN-1 Final Rule

- **Two new long-term programs:**
  1. MAOP Reconfirmation (§ 192.624) - 15 years
    - Material Verification (§ 192.607)
  2. Assessments outside of HCAs (§ 192.710) – Initial by 2034 and reassessments every 10 years, e.g. piggable MCAs over 30% SMYS
- **Other miscellaneous changes:**
  - Minor IMP changes
  - Launcher/Receiver Safety
  - MAOP Exceedance Reporting
  - Recordkeeping

# Summary of RIN-1 Final Rule

- **MAOP Reconfirmation (§ 192.624):**

Applies to:

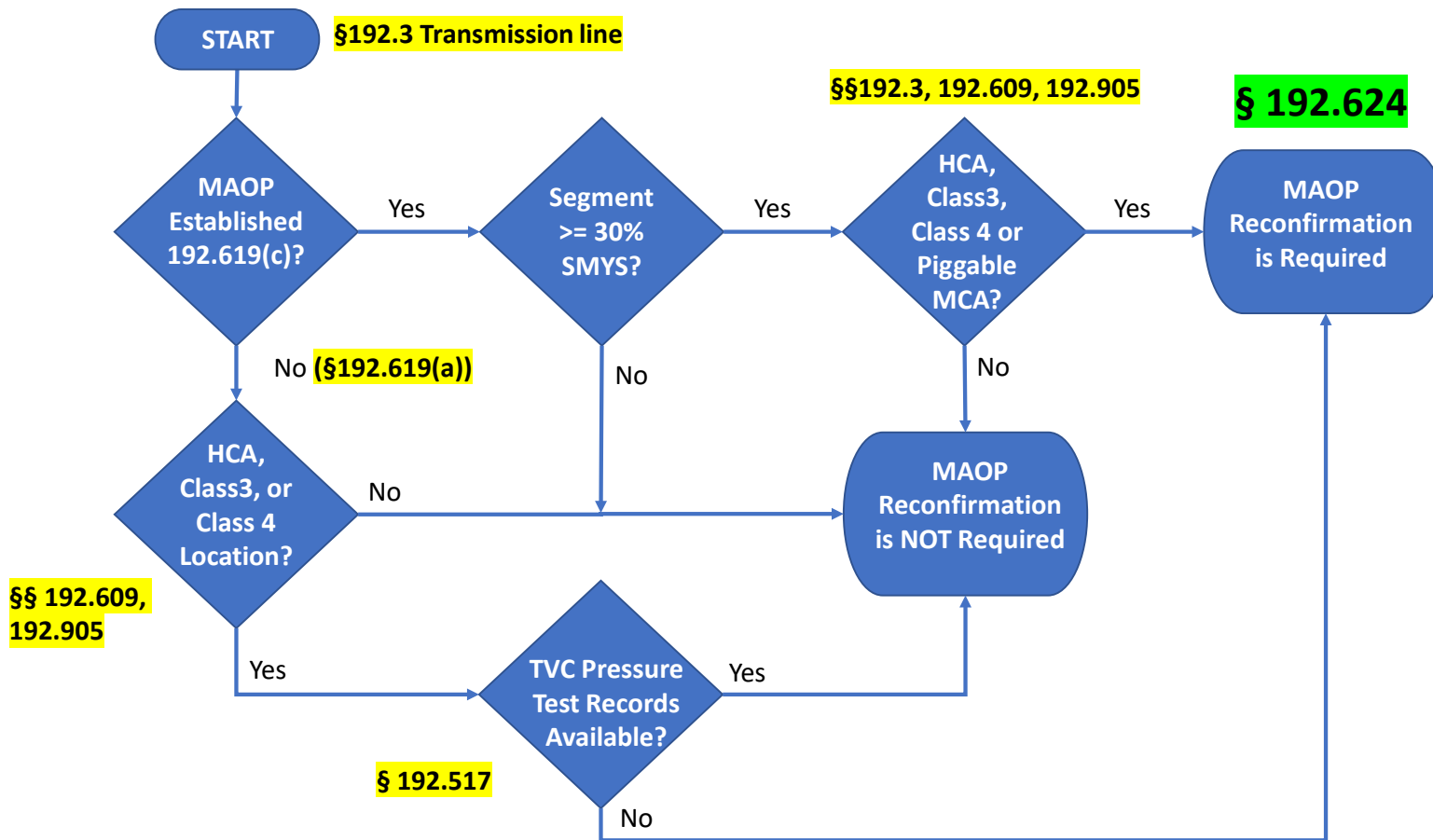
- HCAs, Class 3 locations, and Class 4 locations **without records** necessary to establish MAOP in accordance with § 192.619(a)(2); and
- Legacy lines operating at  $\geq 30\%$  Specified Minimum Yield Strength (SMYS) in HCAs, Class 3 locations, Class 4 locations, or piggable MCAs.



# Flow Charts

## Example: § 192.624 Applicability

§192.624(a) Applicability of MAOP Reconfirmation: Onshore steel transmission pipelines.



# Summary of RIN-1 Final Rule

**Onshore transmission pipelines needing to confirm MAOP must use one of the following six methods:**

1. Pressure Test
2. Pressure Reduction
3. Engineering Critical Assessment (ECA) – using ILI Tools **Need good ILI and material data**
4. Pipe replacement
5. Small Potential Impact Radius (PIR) Pressure Reduction
6. **Other Technology – Not Being used Widely!**

# RIN-2 Overview aka Repair Rule (8/4/2022)

- Many new Definitions, e.g., distribution center, Close Interval Survey, wrinkle bend, transmission line.
- Strengthen integrity management assessment requirements, adjust the repair criteria for high-consequence areas
- Codifies a management of change process,
- Require operators to inspect pipelines following extreme weather events

# RIN-2 aka Repair Rule (8/4/2022)

- Extends repair criteria outside of Subpart O HCAs
- Specifies enhanced evaluation and repair criteria for dents and cracks, updates and bolsters gas transmission pipeline corrosion control requirements, including remediation deadlines (many exemptions for gathering lines)
  - May need material data obtained per 192.607
- Update and bolsters gas transmission pipeline corrosion control requirements,
  - Requires coating surveys on new lines
  - Requires interference surveys

# Notices of Enforcement Discretion

While some Notices of Enforcement Discretion (which stay enforcement) have ended, the following are still in place:

- December 8, 2022: Stays enforcement of most RIN-2 requirements for existing onshore transmission pipelines, except for regs with independent compliance timelines, § 192.917(b) (data gathering and integration) and § 192.13(d) (changes to risk and Management of Change)
- April 19, 2023: Stays enforcement of violations of most of RIN-2 requirements for pipelines that will go into service between rule issuance and 2/24/24. Corrosion (§§ 192.319 and 192.461) and extreme weather notifications (§ 192.613) not stayed.
- April 20, 2023: Stay enforcement of 15-month compliance deadline for remedial actions to address deficiencies found in interference survey (§ 192.473(c))

# RIN-2

## Rulemaking challenges and litigation

- Rulemaking finalized August 24, 2022
- AGA, INGAA and API filed petitions for reconsideration, challenging the following aspects:
  - Requirement that any crack or crack-like anomaly meeting certain criteria, including those which have a predicted failure pressure  $< 1.25$  MAOP, be treated as immediate repair conditions (§§ 192.714 and 192.933)
  - Requirement that operators of transmission pipelines with corrosive constituents in the gas develop and implement a corrosion monitoring and mitigation program (§ 192.478)
  - Requirement to develop a procedure and perform ECA assuming a reassessment safety factor of 5 or more for the assessment interval for dents and other mechanical damage (§ 192.712)
  - Requirement to treat metal loss preferentially affecting detected longitudinal seams formed by high-frequency ERW with failure pressure less than 1.25 MAOP as immediate repair condition (§§ 192.714 and 192.933)
  - Requirement to conduct at least 3 direct examinations for stress corrosion cracking within the covered segment

# RIN-2

## Rulemaking challenges and litigation

- On April 19, 2023, PHMSA granted the request in part (to extend the effective date of the rule), but denied the other requests.
- On April 24, 2023, PHMSA issued technical corrections to RIN-2.
- On July 10, 2023, INGAA filed a Petition for Review of RIN-2 with the US Court of Appeals for the DC Circuit.
- Case is pending.

# RIN-3 Overview

- Rulemaking finalized November 15, 2021
  - Type C
    - Certain gas gathering lines in Class 1 locations that are subject to reporting requirements in 49 C.F.R. Part 191 and safety standards in 49 C.F.R. Part 192
  - Type R
    - Onshore gas gathering lines other than Type A, B, or C that are subject to incident and annual reporting requirements in 49 C.F.R. Part 191
  - 10-Mile Incidental Gathering Limitation
  - Compliance Deadlines



# RIN-3 Overview

## Type C

Class 1 and operate at  $\geq 20\%$  SMYS metallic or  $>125$  psig non-metallic or metallic if SMYS unknown

Add'l Criteria Method 1 or Method 2	$\geq 8.625''$ to $12.75''$	$>12.75''$ to $16''$	$>16''$
<b>No Building Intended for Human Occupancy or Other Impacted Site</b>	Reporting and OPID  Design, Construction, Initial Inspection and Testing (New)  Damage Prevention  Emergency Plans	Reporting and OPID  Design, Construction, Initial Inspection and Testing (New)  Damage Prevention  Emergency Plans	Reporting and OPID  Design, Construction, Initial Inspection and Testing (New)
<b>Building Intended for Human Occupancy or Other Impacted Site</b>	Reporting and OPID  Design, Construction, Initial Inspection and Testing (New)  (+) Corrosion Control  Damage Prevention  Emergency Plans  (+) Line Markers  (+) Public Awareness  (+) Leakage Survey and Repair	Reporting and OPID  Design, Construction, Initial Inspection and Testing (New)  (+) Corrosion Control  Damage Prevention  Emergency Plans  (+) Line Markers  (+) Public Awareness  (+) Leakage Survey and Repair  (+) Plastic Pipe and Components  (+) MAOP	Corrosion Control  Damage Prevention  Emergency Plans  Line Markers  Public Awareness  Leakage Survey and Repair  Plastic Pipe and Components  MAOP

# RIN-3 Overview

## New Type R Reporting

- Onshore gas gathering lines that do not qualify as Type A, Type B, or Type C lines
  - Subject to incident and annual reporting requirements in 49 C.F.R. Part 191
    - Incident reporting went into effect on May 16, 2022
    - **First annual report was due March 15, 2023**
  - Exempt from safety-related condition reporting requirements
  - Exempt from National Pipeline Mapping System requirements (along with all other gathering lines)
  - No substantive Part 192 requirements apply to Type R

# RIN-3 Overview

## Incidental Gathering

- Existing definitions for onshore gas gathering remain largely unchanged
  - Use API RP 80 (1<sup>st</sup> ed.) in determining whether a pipeline is part of an onshore gas gathering line, subject to current limitations on the beginning and endpoints for gathering
- Incidental gathering may not be used for new, replaced, relocated, or otherwise changed pipelines that extend 10 or more miles in length from another gathering endpoint
  - Exercise of enforcement discretion applies to legacy incidental gathering lines that extend 10 or more miles

# RIN-3 Overview

## Final Rule Deadlines

- **May 16, 2022**
  - Final rule effective date
  - Reporting requirements apply
- **November 16, 2022\***
  - Establish records of beginning and endpoints for all gathering lines
- **March 15, 2023**
  - First annual reports due for Type C and Type R lines
- **May 16, 2023\***
  - Type C gathering lines in compliance with all applicable requirements

*\* May request alternative compliance deadline*

# RIN-3

## Rulemaking Challenges and Litigation

- GPA Midstream and API filed a Petition for Reconsideration on November 15, 2021, asserting, among other things:
  - PHMSA did not properly conduct a risk assessment as part of promulgating the rule;
  - PHMSA did not properly consider cost information or determine costs and benefits associated with complying with the rule;
  - PHMSA did not make reasoned determination that the benefits of the rule justified the costs.
- Petitioners also requested extension of certain compliance deadlines and certain clarification.

# RIN-3

## Rulemaking Challenges and Litigation

- On April 1, 2022, PHMSA issued a response to the Petition for Reconsideration.
  - On May 16, 2022, PHMSA issued a final rule that made certain clarifications and corrections to RIN-3
    - Certain Type C lines do not need to report MAOP exceedances
    - May use default SMYS for identifying Type C lines
    - Limited enforcement discretion for existing incidental gathering lines
  - Petition was otherwise denied.
- On May 2, 2022, GPA Midstream and API filed a Petition for Review with the DC Circuit.

# RIN-3

## Agreement with Industry

- PHMSA agreed to 1-year exercise of enforcement discretion for existing 8-to-12-inch diameter Type C lines, effectively extending the compliance deadline until May 16, 2024.
  - Notice issued July 8, 2022
- PHMSA expects operators to exercise diligence in achieving compliance
- GPA and API agree to provide educational and informational sessions during the 1-year enforcement discretion period
- Starting May 17, 2024, PHMSA will prioritize compliance with the additional safety requirements for buildings intended for human occupancy or other impacted sites

# Valve Rule

Addresses NTSB and Congressional Mandates by requiring Rupture Mitigation Valves (RMVs)

- All new and entirely replaced transmission pipelines greater than 6" diameter and installed after April 10, 2023 must have RMVs in HCAs, Class 3 and Class 4 areas
  - 40% considered entirely replaced (40%), e.g. replacing 2 out of 5 miles for a class change
  - Within 14 days of putting into service

**RMVs** include Automatic and Remote Control Valves, but generally not check valves ( $\leq 12"$  diam. laterals allowed)



# Valve Rule

## Requirements that apply even if no pipeline construction or replacement occurs:

- Rupture Notification – 192.635
  - *Does the operator have procedures to identify and notify operator personnel of a potential rupture? Are there records to support these actions?*
- Incident and Failure Investigation -192.617(c) and (d)
  - *For incidents that involve an RMV, does the operator's procedures require a post-incident analysis of all the factors that may have impacted the release volume and consequences of the release and identify and implement operators and maintenance measures to minimize future incidents? Is there a failure summary?*
- Valve Maintenance – 192.745 (for existing RMVs)
- Preventative and Mitigative Measures (HCA areas) - 192.935(c)
  - *Does the process (procedures) include requirements to decide if RMVs or AETs represent an efficient means of adding protection to potentially affected HCAs. Are there records?*
  - *Class Location changes would be one common trigger to see if this should be*
- Emergency Plans – 192.615

# Valve Rule Challenges and Litigation

- D.C. Circuit recently vacated rupture mitigation valve requirements for gathering lines, *GPA Midstream Ass'n v. United States Dep't of Transportation*, 67 F.4th 1188, 1199 (D.C. Cir. 2023)
  - PHMSA did not exceed legal authority in prescribing final rule, but failed to comply with rulemaking requirements in Pipeline Safety Act
  - Agency did not properly determine the appropriateness of the rule to particular types of pipeline transportation or facilities – could not determine that the standard was practicable or that benefits justified the costs.
- On August 1, 2023, PHMSA published a final rule amending Parts 192 and 195 in response to the D.C. Circuit decision, to remove gathering line-specific amendments in the Valve Rule

# So What Can I Expect in Future Compliance Inspections?

- PHMSA led inspections strategies
- What guidance is out there?
- How can I prepare for “new” rule inspections.
  - Different for Feds and State Led Inspections
  - “Mega” inspections versus “Incremental” audits
- Expected Focus Areas of New Rules
- Findings to Date

# Apparent PHMSA Inspection Strategy for New Regulations

- Dedicated inspections will continue for construction, UNGS, D&A, and Control Room
- Dedicated inspections by the Gas Rule Implementation Team (GRIT) on RIN-1, and the assessment and repair aspects of RIN-2
- RIN-3 “pilot” inspections are being completed now, and compliance activities will probably be rolled up under Integrated Inspections (II).
- Integrated Inspections will continue to make up the lion’s share of the inspections. (Remaining RIN-2 code and Valve Rule code to be included in II)

# Resources for Inspections

Frequently Asked Questions posted to PHMSA public website but hard to find:

- RIN-1: FAQs Batches 1 and 2 but some key FAQs omitted. 9/15/20 and 4/19/23
- RIN-2: FAQs Pending
- RIN-3: FAQs Updated 5/9/23
- Valve Rule Fact Sheet Updated 6/29/23
- 2019 HL rule: FAQs updated 11/30/20

Inspection questions located at:

- <https://www.phmsa.dot.gov/forms/pipeline-compliance-forms>
- RIN-2 and RIN-3 questions not posted yet

# How to Prepare for GRIT Inspections

- Work with PHMSA to clearly define scope of inspection regardless of having an Integrated Inspection
- Try to limit GRIT inspections to one pipeline system, e.g., like vintage, materials, MAOP determination method.
- Prepare to spend an extreme amount of time on MAOP determination, class location studies, and MAOP changes due to class.
  - Applicability “Jumping off point” for RIN-1 and RIN-2!!!
- Have your MCA and class identification expert available at the onset.

# GRIT Inspection Findings to Date (1/3)

Relatively few RIN-1 inspections have been done at Federal level. Areas of concern are being found on new and OLD regulations:

- Trying to use non compliant subpart J hydrotest to meet 192.619(a) as the sole TVC record.
- Believing a pre-code strength test may be used as a TVC record to do MAOP verification on grandfathered pipeline (currently not allowed)
- Not having the high 5 year (1965-1970) operating pressure for either grandfathered (192.619(c)) or non-grandfathered (192.619(a)) pipelines.
- Not adjusting high 5 year operating pressure for pressure gradient.
- Still need to have basic 192.619 records to support MAOP in areas not needing reconfirmation.

# GRIT Inspection Findings to Date (2/3)

Areas of concern from RIN-1 inspections so far:

- Missing obvious MCAs such as interstates, freeways, and public gathering places
- Disagreements on application of the clustering rule
- Disagreement on whether the 24-month class location change out period starts upon completion of class survey or time of class change.
- Prompts for class location studies not clearly defined
  - Are there clearly defined triggers to conduct them?



# GRIT Inspection Findings to Date (3/3)

Areas of concern from RIN-1 inspections so far:

- No clear statement of MAOP determination method.
- No definition of “opportunistic” dig; with the new repair criteria for cracks and dents it should probably apply everywhere. There has been an issued case on this.
- Method 3, ECA will not be considered without good ILI data and material records.
- Determine which components are applicable for material testing, i.e. need TVC records for
- Supposed TVC records and “as built” do not match ILI survey results. Easiest “Gotcha!”

# Untapped GRIT Compliance Opportunities

**Very, very few companies have applied for Method 6 MAOP determination method.**

For example:

- 1) PHMSA may consider a pipeline system to be reconfirmed if you have good ILI data, a pre-1970 pressure test that has basic strength test information, run a SMYS-determining ILI coupled with a few focused material digs for verification, and fix all “actionable” anomalies.
- 2) PHMSA may allow extension of MAOP reconfirmation methods to Class 1 and 2 areas if operator can demonstrate like pipe conditions.

# Method 6 - Potential MAOP Reconfirmation Option

- PHMSA regulations require reconfirmation of grandfathered pipelines operating over 30% SMYS for HCAs, Class 3 and 4 areas, and piggable MCAs. The rule is explicit that the pipelines **MUST** be reconfirmed if the original MAOP was established under 192.619(c). Operators of these pipes must go through the reconfirmation process.
- A previous hydrotest, regardless of when it was conducted, is not explicitly allowed to “kick out” grandfathered pipelines from the 192.624 (a)(2) MAOP reconfirmation applicability regulations.
- PHMSA recognizes a good hydrotest of grandfathered pipe however should be considered.

# RIN-2 – Called Repair Rule but Could Easily be called Corrosion Rule

The corrosion regulations are the easiest to enforce because they include hard deadlines and acceptance criteria. Expect these RIN-2 audit questions first:

- ACVG/DCVG to assess coating § 192.461- repair and replacement (similar to § 192.319)
- Prescriptive CP monitoring § 192.465
  - Delineate extent of problems – e.g. systemic or localized, and remediated promptly. (Will need a CIS)
  - Remediate low areas within 1 year
- Prescriptive analysis, thresholds, permit requests, and remediation time frames for Interference surveys § 192.473
- Internal corrosion – less clear but once you determined you have corrosive constituent, then monitor annually. § 192.478

# RIN-2 Repair Rule Needs Good Material Data to Make It Work

- 192.714 Repair Criteria for Onshore Pipeline now apply outside of HCAs.
- Will need required material data to evaluate cracks and dents per the rule.
- Caution: Collection of good material data is now not needed just for MAOP Reconfirmation sections, but everywhere for evaluating cracks and dents, e.g. Charpy Toughness
- Recommendation: Consider opportunistic digs on all transmission line sections to determine material attribute data per 192.607

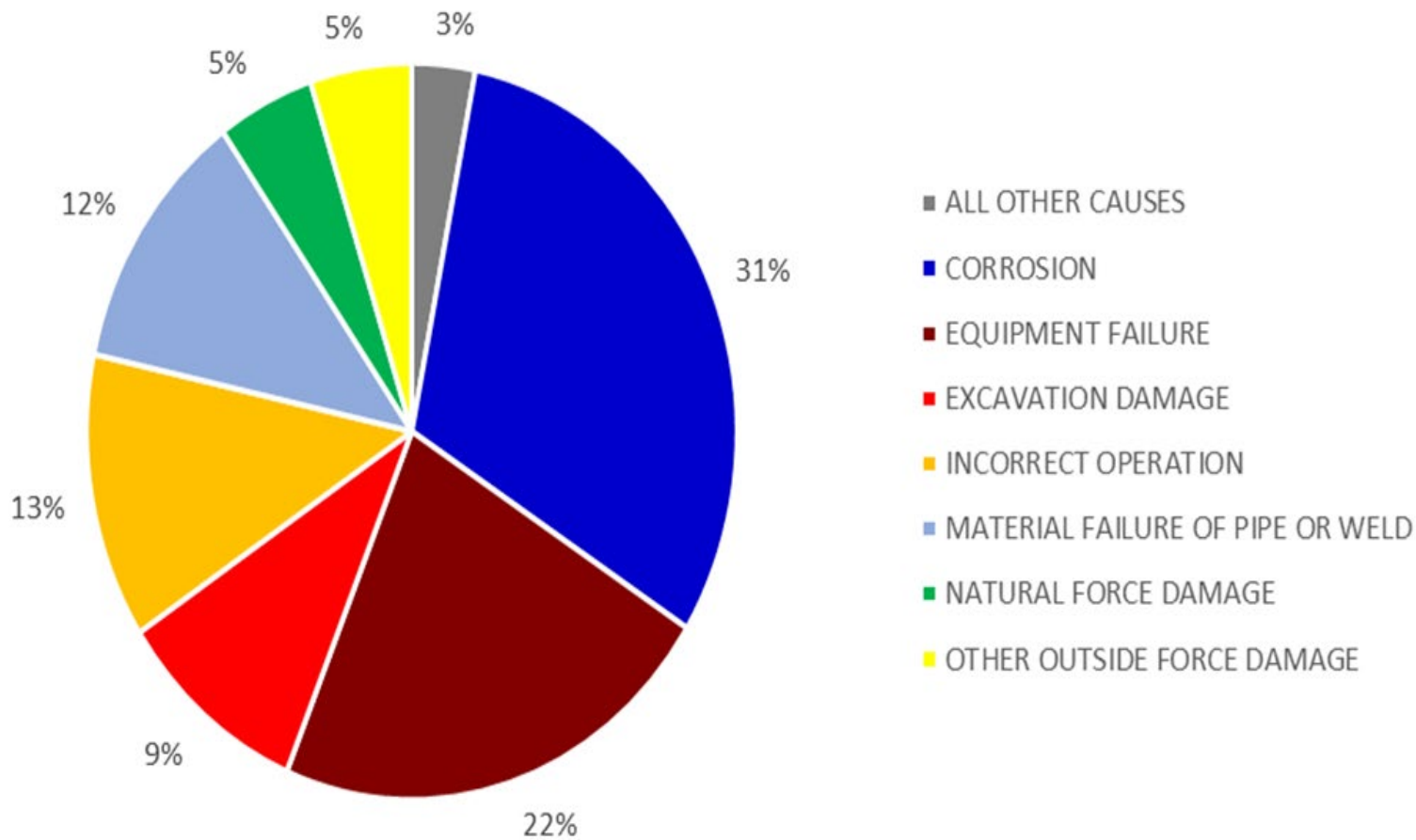
# Other PHMSA focus area (RIN-2) Post Extreme Weather Surveillance

PHMSA and industry both are focusing on enhanced surveillance after extreme weather and natural disasters. 2019 HL rule and RIN-2

While not frequent, the consequences of a weather or earth induced outside force failure can be huge.

Common extreme weather or natural force events in the Dakotas are ground movement, flooding, and possibly river scour.

# Accidents Impacting People or the Environment Apparent Causes 2013-2022



Source: PHMSA, 3-22-23

# Small Percentage; Big Impact

Geohazards typically result in a catastrophic rupture(s) of the pipe.

- Excessive strain due to land movement, typically failing in circumferential weld at the HAZ, or at transitions or tie ins
- Long unsupported spans in river lead to Vortex Induced Vibration failure, typically in the HAZ of the weld
- Sometimes failures occur from axial compression when perpendicular to land movement
- Could have multiple failures during same event



# Recovered Pipe from Yellowstone River (2015) Vortex Induced Vibration Leading to Weld Failure



# Refined Products Pipeline Rupture (2013) Crow Nation in WY



# Crude Oil Rupture (2016) Ash Coulee, ND



# Small Percentage; Big Impact

3/11/22 - A 22-inch hazardous liquid pipeline spilled 3,900 barrels of crude oil adjacent to the Cahokia Creek approximately 15 miles east of St. Louis, Missouri.

5/30/21 - A hazardous liquid pipeline spilled 640 barrels of gasoline in Greens Bayou, TX

2/19/21 - 22,318 thousand cubic feet<sup>1</sup> (Mcf) of natural gas was released from a Type A gathering pipeline system in Belmont, Ohio

12/23/20 - 4,450 Mcf natural gas was released from a gas distribution main in Newport News, VA

2/22/20 - A carbon dioxide pipeline failed approximately one mile southeast of Satartia, Mississippi, releasing approximately 30,000 barrels of liquid carbon dioxide that immediately began to vaporize at atmospheric conditions

1/21/19 - A 30-inch natural gas pipeline ruptured and ignited near Summerfield, Ohio

4/30/18 - An 8-inch intrastate pipeline failed in a remote mountainous region of Marshall County, West Virginia resulting in the release of 2,658 barrels of propane.

12/5/2016 - Approximately 14,400 barrels of crude oil were spilled into an unnamed tributary to Ash Coulee Creek, Ash Coulee Creek itself, the Little Missouri River, and their adjoining shorelines in Billings County, North Dakota.



# Geohazards is Industry and Regulatory Focus

- New(ish) or Planned Industry Standards
- API RP 1133 – Managing Hydrotechnical Hazards for Pipelines Located Onshore or within Coastal Zones
- API RP 1187 for Geohazard Management (under Development)
  - Outgrowth of Joint Industry White Paper on Guidelines for Management of Landslide Hazards (INGAA Foundation)

# New Regulations on Extreme Weather and Natural Disasters

## § **192.613(c)** Continuing surveillance.

(Issued August 24, 2022, Originally Effective May 24, 2023)

- 9 month stay issued December 6, 2022; now effective February 24, 2024

## § **195.414** Inspections of pipelines in areas affected by extreme weather and natural disasters.

(Issued October 1, 2019, Effective July 1, 2020)

# Supplement the Integrity Management Regulations for High Consequence Areas

§ **192.935** What additional preventive and mitigative measures must an operator take? (b)(2) ***Outside force damage.*** If an operator determines that outside force (*e.g.*, earth movement, loading, longitudinal, or lateral forces, seismicity of the area, floods, unstable suspension bridge) is a threat to the integrity of a covered segment, the operator must take measures to minimize the consequences to the covered segment from outside force damage.(12/15/2003)

§ **195.452(i)** *What preventive and mitigative measures must an operator take to protect the high consequence area? (1) **General requirements.*** An operator must take measures to prevent and mitigate the consequences of a pipeline failure that could affect a high consequence area (12/1/2000)

# Extreme Weather and Natural Disasters

**Could be:**

**Flooding/River Scour/Channel Migration  
Excessive Rain and Soil Saturation**

**Hurricanes**

**Tornadoes**

**Wildfires**

**Earthquakes**

**Avalanches**

**Our Focus will be on the Geohazards  
related to Flooding and Landslides**



# Overarching General Purpose of New Extreme Weather/Natural Disaster Regs

(a) *General*. Following an extreme weather event or natural disaster that has the likelihood of damage to infrastructure by the scouring or movement of the soil surrounding the pipeline, such as a named tropical storm or hurricane; a flood that exceeds the river, shoreline, or creek high-water banks in the area of the pipeline; a landslide in the area of the pipeline; or an earthquake in the area of the pipeline, an operator must inspect all potentially affected pipeline facilities to detect conditions that could adversely affect the safe operation of that pipeline.

# Key Advisory Bulletins – Land Movement

- **June 2, 2022: Pipeline Safety: Potential for Damage to Pipeline Facilities Caused by Earth Movement and Other Geological Hazards**  
<https://www.phmsa.dot.gov/regulations/federal-register-documents/2022-11791>
- **5-2-2019: Pipeline Safety: Potential for Damage to Pipeline Facilities Caused by Earth Movement and Other Geological Hazards**  
<https://www.phmsa.dot.gov/regulations/federal-register-documents/2019-08984>

# Key Advisory Bulletins - Scour

- **4-11-2019: Pipeline Safety: Potential for Damage to Pipeline Facilities Caused by Flooding, River Scour, and River Channel Migration**
- <https://www.phmsa.dot.gov/regulations/federal-register-documents/2019-07132>
- **1-19-2016: Pipeline Safety: Potential for Damage to Pipeline Facilities Caused by Flooding, River Scour, and River Channel Migration**
- <https://www.phmsa.dot.gov/regulations/federal-register-documents/2016-00765>

# Inspection Questions Tied to Advisories (1/3)

- The processes should identify how “extreme weather” and “natural disasters” that further require action are identified and how will you know when that threshold is reached.
- The processes should identify the person(s) responsible for making the determination.
- The processes should identify how the operator will identify facilities that are likely to be damaged by such events.

# Inspection Questions Tied to Advisories (2/3)

- The processes should address the type of event, the pipeline facilities affected and history of the facility to determine the initial post-event inspection to perform.
- For the different facilities and areas the process should define the initial inspection methods.
- The processes should identify who will perform the inspection and how it will be performed.
- The process should identify possible or probable additional assessments required depending on the outcome of the initial inspection.

# Inspection Questions Tied to Advisories (3/3)

Identify the process for determining appropriate remedial actions that are required following the initial inspection.

NOTE: These are different and in addition to any additional assessment required following the initial inspection. For example:

- i. Reducing operating pressure or do "lock up" test
- ii. Remediating facilities
- iii. Performing additional patrols, leak surveys, hydrotest, ILI.
- iv. Notification to communities.

The remedial actions are required to be taken promptly. The processes should define "prompt".

# What is a PHMSA or State Inspector Looking for in Field?

- Look for man-made changes in vicinity of pipeline ROW that could affect slope stability or river crossings, i.e., steepened slopes or toe removal, or new bridge crossings that alter stream flow
- Observe tell tale signs of earth movement, e.g. tilting of poles, bent tree trunks, hummocky soils, cracks at top of hills
- See if Operator ROW has experienced excessive bank erosion, or has learned of failed pipelines upstream of subject pipeline
- See if Operator ROW patrollers are trained to detect geohazards or utilize geotechnical consultants
- Is there follow through with resolving ID'd geohazards?
- Does operator remotely monitor or have instrumentation in geohazard areas (What does it show?)
- Validate new trenched crossings or HDDs of rivers had a geotechnical analysis, i.e.. were there soil borings, determination of critical river velocity for scour, historic stream gauge readings

# Example of Post Natural Disaster Response: November 2018 Anchorage Quake (Mag 7.1)

- HL Pipelines shut in – mainline valves closed and each section monitored for leaks
  - ROW patrolled – walking, flying, driving
  - Isolated line segments – conducted stand up leak tests
- NG lines idled
  - ROW patrolled
  - Walking leak survey upon access
- Limited return to service at reduced pressure while ILI deformation and inertial mapping
- Some use of LIDAR and FLIR (heat changes)
- Full return to service after full ILI reports and remedial actions including repairs, stress relief, and ROW improvements
- Waived some OQ requirements, e.g., relights.



# But what about Gathering??

PHMSA and States May Try to Use Other **Applicable** Regulations to Address Extreme Weather and Geo Hazard Response (Backdoor Approach) to Protecting Unregulated Gathering lines

Original Construction – 192.317 Protection From Hazards: 195.110 External Loads

## Using Information from Other Field Surveys

- Leak Surveys
- Patrolling
- Corrosion Surveys including CIS
- Class Location Studies
- Continuing Surveillance
- “Catch All” – §195.401(b) for HL; §192.613(a) for Type A Gathering Lines (NG)

# Moving the Safety Needle for Smaller Operators

- **Train any Operator Personnel that is routinely on right of way to recognize potential ground movement**
  - Have a Geotechnical Expert train all field personnel on how to recognize geohazard “red flags” beforehand
- Look around – not just on your ROW
  - Migrating River Channels
  - Progressive Slope Failures
  - Pistol Butt Trees
  - Tension Cracks, Hummocking
  - Nearby Earthwork or New Loads
  - Nearby Failures
  - Pipeline Spans approaching Critical Length

# Moving the Geohazard Safety Needle Not A One Time Thing

- Operators need to constantly determine how earth movement and river scour may impact their line
- Not a one time analysis – **Look for change!**
  - Progressive slope failure moving your way
  - Altered slope angles and/or drainage
  - Meandering rivers
  - Altered river embankment protections or channel
  - LIDAR and ILI data

# Moving the Geohazard Safety Needle

## Use What you Have

- Mine all the data from ILIs – not just corrosion and dents, (Ovality, Buckles, Inertial Data – Get a Baseline early)
- Talk to neighboring pipeline operators – share intel of issues they have; it could be coming your way
- Collaborate and coordinate remediation and monitoring
- Make sure landowners know who and when to call if they see ground movement issues

# Recap of PHMSA Led Inspections

- RIN-1 inspections being conducted by dedicated teams at the Federal level (GRIT team)
- RIN-2 requirements related to repair will be added to these GRIT teams.
- The corrosion and surveillance requirements of RIN-2 are being added to the general Integrated Inspections.
- RIN-3 related inspections will focus on applicability of existing regulatory requirements
- There are few valve related requirements due now except for Rupture Notification unless you are building or completing replacing a pipeline

# Open Forum

Operator Suggestions?  
Questions?

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# § 192.8 How are onshore gathering lines and regulated onshore gathering lines determined?

