

# Oklahoma Pipeline Safety Seminar

Hazardous Liquids, May 15-16, 2025



U.S. Department of Transportation  
Pipeline and Hazardous Materials Safety Administration



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# Hazardous Liquids Discussion Topics



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# HL Discussion Topics

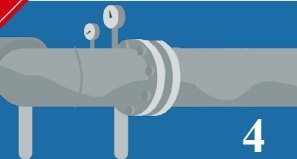
- Introduction to AID
- NPIC
- 30-Day Reports
- Deployments
- AID Update
- Statistics
- Case Study





# HL Discussion Topics

- Introduction to AID
- NPIC
- 30-Day Reports
- Deployments
- AID Update
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- Case Study



# Introduction to the AID



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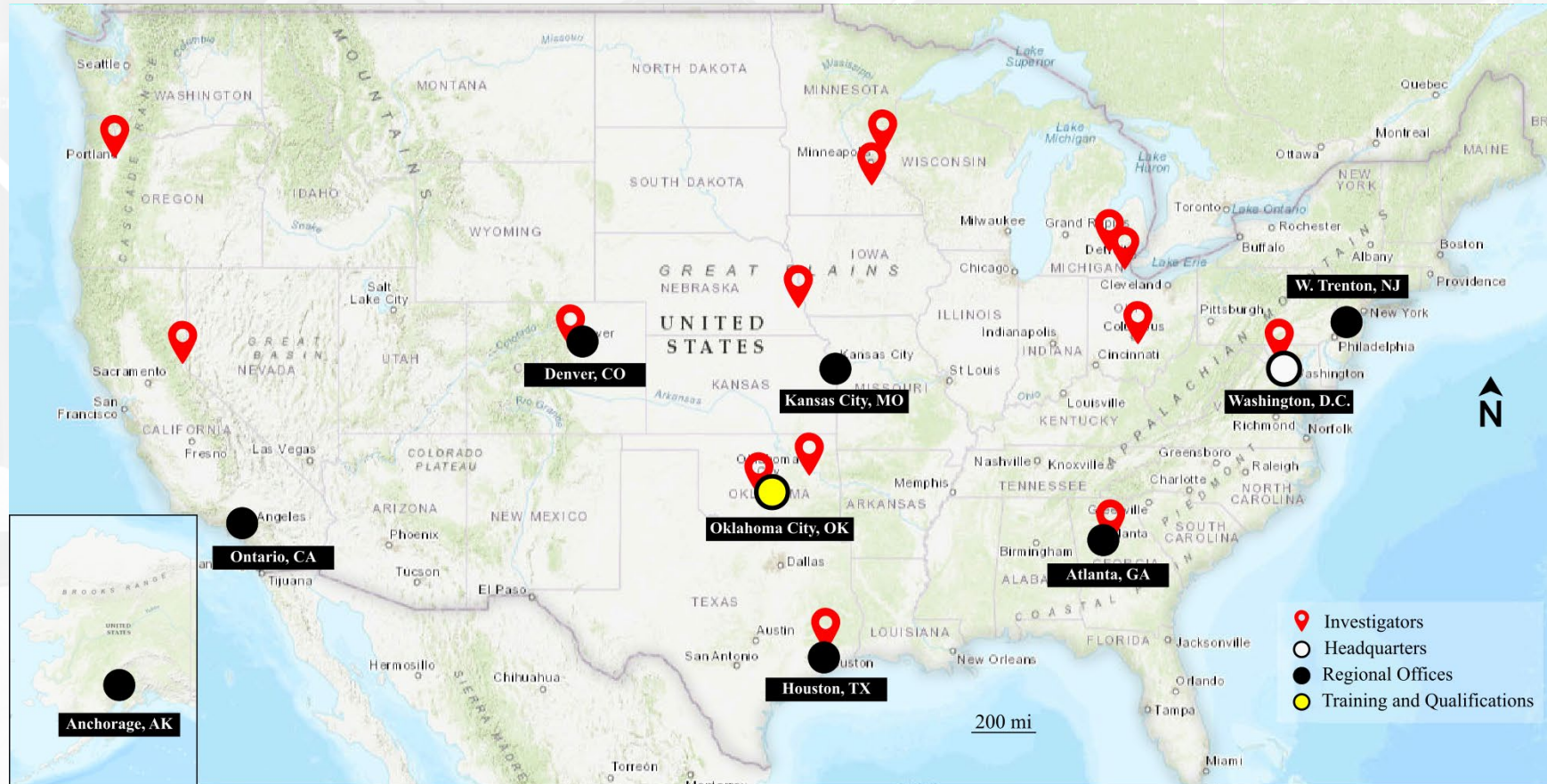


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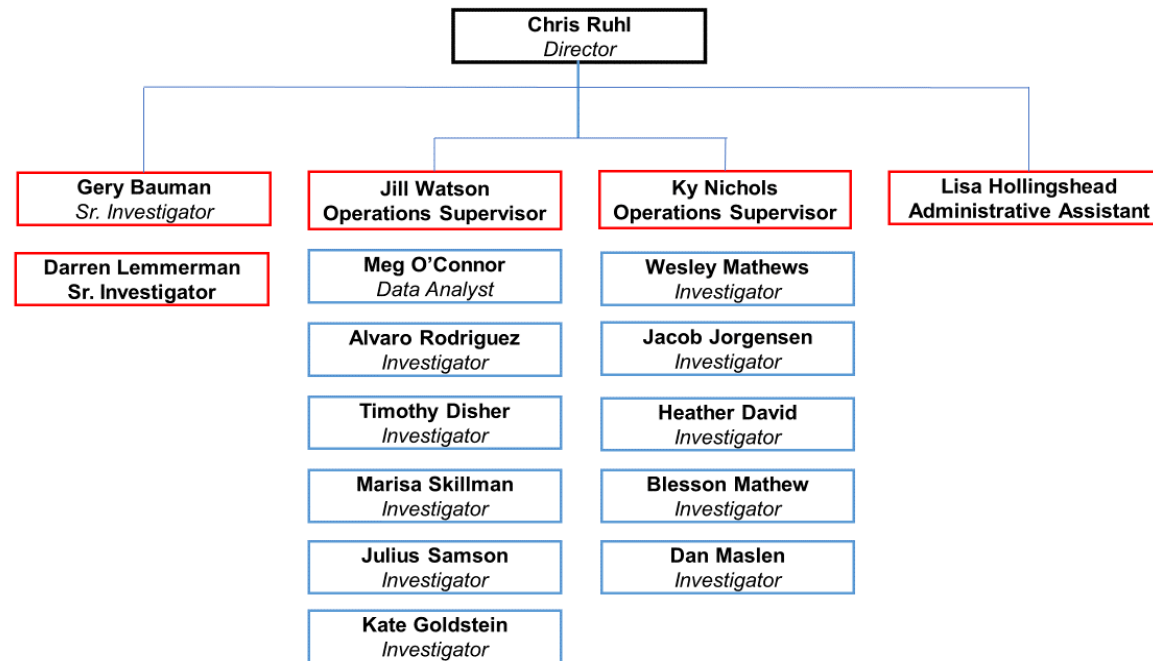




# Introduction to the AID: Where Are We?



# Introduction to the AID: Who Are We?





# Introduction to the AID: What Do We Do?

- Review, Evaluate, and Disseminate NRC Notifications
- Manage Investigation from Initial Notification through Cause Determination
- Conduct Onsite Accident Investigations: Support State Investigations
- Oversee Operator 30-Day Reports
- Analyze Data to Identify Emerging Trends
- Convey Report Findings





# National Pipeline Incident Coordinator (NPIC)



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# NPIC: Responsibilities

- Evaluates NRC reports to determine jurisdiction and determine appropriate PHMSA response
- For State regulated events, forwards NRC notice to state
- For OPS regulated events, contacts operator and begins an investigation
- Serves as PHMSA distribution point
- Serves as the lead investigator, unless there is an AID deployment





# NPIC: PHMSA Reporting Requirements

- **Initial Report** (within earliest practical moment following discovery but **no later than 1 hour**)
  - A death, or personal injury necessitating in-patient hospitalization
  - Incident involved a fire or explosion
  - Greater than \$50,000 damage including the cost of the cleanup AND product
  - Resulted in pollution of any stream, river, lake, or similar body of water
  - An event that is characterized as significant by operator

- **48-Hour Update** 195.52(d) - Within 48 hours after the confirmed discovery of an incident an operator must revise or confirm:
  - Amount of product released
  - Location of the failure
  - Time of the failure
  - Number of fatalities and injuries
  - All other significant facts that are known by the operator that are relevant to the cause of the accident or extent of the damages. If there are no changes or revisions to the initial report, the operator must confirm the estimates in its initial report.



# Hazardous Liquids – 30-Day Reports



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# Hazardous Liquids – 30-Day Reports

- PHMSA-required, operator submitted reports (7000-1, 7000-2)
- AID's information collection begins upon notification of an incident
- For State Regulated incidents, AID relies on state partners
- When initial 30-day report is received, it is included in the following month's SMARS/MARS reports

NOTICE: This report is required by 49 CFR Part 195. Failure to report can result in a civil penalty as provided in 49 USC 60122.		OMB NO: 2137-0047 EXPIRATION DATE: 4/30/2026
 U.S. Department of Transportation Pipeline and Hazardous Materials Safety Administration	<b>ACCIDENT REPORT – HAZARDOUS LIQUID AND CARBON DIOXIDE PIPELINE SYSTEMS</b>	Report Date _____ No. _____ (DOT Use Only)
<small>A federal agency may not conduct or sponsor, and a person is not required to respond to, nor shall a person be subject to a penalty for failure to comply with a collection of information subject to the requirements of the Paperwork Reduction Act unless that collection of information displays a current valid OMB Control Number. The OMB Control Number for this information collection is 2137-0047. Public reporting for this collection of information is estimated to be approximately 12 hours per response, including the time for reviewing instructions, gathering the data needed, and completing and reviewing the collection of information. All responses to this collection of information are mandatory. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to: Information Collection Clearance Officer, PHMSA, Office of Pipeline Safety (PHP-30) 1200 New Jersey Avenue, SE, Washington, D.C. 20590.</small>		
<b>INSTRUCTIONS</b>		
<small><b>Important:</b> Please read the separate instructions for completing this form before you begin. They clarify the information requested and provide specific examples. If you do not have a copy of the instructions, you can obtain one from the PHMSA Pipeline Safety Community Web Page at <a href="https://www.phmsa.dot.gov/pipeline/library/forms">https://www.phmsa.dot.gov/pipeline/library/forms</a>.</small>		

NOTICE: This report is required by 49 CFR Part 195. Failure to report can result in a civil penalty not to exceed \$100,000 for each violation for each day that such violation persists except that the maximum civil penalty shall not exceed \$1,000,000 as provided in 49 USC 60122.		OMB NO: 2137-0047 EXPIRATION DATE: 4/30/2026
 U.S. Department of Transportation Pipeline and Hazardous Materials Safety Administration	<b>GRAVITY AND REPORTING-REGULATED HAZARDOUS LIQUID ACCIDENT REPORT</b>	Report Date _____ No. _____ (DOT Use Only)
<small>A federal agency may not conduct or sponsor, and a person is not required to respond to, nor shall a person be subject to a penalty for failure to comply with a collection of information subject to the requirements of the Paperwork Reduction Act unless that collection of information displays a current valid OMB Control Number. The OMB Control Number for this information collection is 2137-0047. Public reporting for this collection of information is estimated to be approximately 10 hours per response, including the time for reviewing instructions, gathering the data needed, and completing and reviewing the collection of information. All responses to this collection of information are mandatory. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to: Information Collection Clearance Officer, PHMSA, Office of Pipeline Safety (PHP-30) 1200 New Jersey Avenue, SE, Washington, D.C. 20590.</small>		
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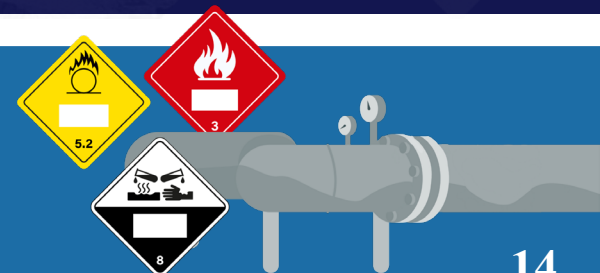
# Deployments



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# Deployments

AID and/or PHMSA regional personnel may deploy if there is a release of product and one or more of the following:

- ✓ Death
- ✓ Injuries
- ✓ Large hazardous liquid spill, or spill reaches water
- ✓ Major transportation impact - highway, airport, rail
- ✓ Major supply impact
- ✓ Pipeline system/operator of interest
- ✓ Toxic release – Anhydrous Ammonia, CO<sub>2</sub>
- ✓ NTSB deploys
- ✓ Politically sensitive/high media interest
- ✓ State request

Houma, Louisiana  
2025



# Deployments: Investigation of Failures - 192.617, 195.402(c)

Each operator shall establish procedures for analyzing accidents and failures, including the selection of samples of the failed facility or equipment for laboratory examination, where appropriate, for the purpose of determining the causes of the failure and minimizing the possibility of a recurrence.

Before

#### Investigation of failures and incidents.

(a) *Post-failure and incident procedures.* Each operator must establish and follow procedures for investigating and analyzing failures and incidents as defined in § 191.3, including sealing the failed pipe, component, or equipment for laboratory testing or examination, where appropriate, for the purpose of determining the causes and contributing factor(s) of the failure or incident and minimizing the possibility of a recurrence.

(b) *Post-failure and incident lessons learned.* Each operator must develop, implement, and incorporate lessons learned from a post-failure or incident review into its written procedures, including personnel training and qualification programs, and design, construction, testing, maintenance, operations, and emergency procedure manuals and specifications.

(c) *Analysis of rupture and valve shut-off.* If an incident on an onshore gas transmission pipeline or a Type A gathering pipeline involves the closure of a rupture-isolation valve (RAV), as defined in § 192.3, or the closure of alternative equivalent technology, the operator of the pipeline must also conduct a post-incident analysis of all of the factors that may have impacted the release volume and the consequences of the incident and identify and implement operations and maintenance measures to prevent or minimize the consequences of a future incident. The requirements of this paragraph (c) are not applicable to distribution pipelines or Type B and C gas gathering pipelines. The analysis must include all relevant factors impacting the release volume and consequences, including, but not limited to, the following:

- (1) Detection, identification, operational response, system shut-off, and emergency response communications, based on the type and volume of the incident.
- (2) Appropriateness and effectiveness of procedures and pipeline systems, including supervisory control and data acquisition (SCADA), communications, valve shut-off, and operator performance.
- (3) Actual response time from identifying a rupture following a notification of potential rupture, as defined at § 192.3, to initiation of mitigative actions and isolation of the pipeline segment, and the appropriateness and effectiveness of the mitigative actions taken.
- (4) Location and timeliness of actuation of RAV's or alternative equivalent technologies; and
- (5) All other factors the operator deems appropriate.

(d) *Rupture post-failure and incident summary.* If a failure or incident on an onshore gas transmission pipeline or a Type A gathering pipeline involves the identification of a rupture following a notification of potential rupture, or the closure of an RAV (as those terms are defined in § 192.3), or the closure of an alternative equivalent technology, the operator of the pipeline must complete a summary of the post-failure or incident review required by paragraph (c) of this section within 90 days of the incident, and while the investigation is pending, conduct quarterly status reviews until the investigation is complete and a final post-incident summary is prepared. The final post-failure or incident summary, and all other reviews and analysis produced under the requirements of this section, must be reviewed, dated, and signed by the operator's appropriate senior executive officer. The final post-failure or incident summary, all investigation and analysis documents used to prepare it, and records of lessons learned must be kept for the useful life of the pipeline. The requirements of this paragraph (d) are not applicable to distribution pipelines or Types B and C gas gathering pipelines.

After





# Deployments: 195.402(c)(5)

- Post-failure and accident procedures
  - Must establish and follow procedures for investigating failures and incidents
    - Includes sending failed specimen to lab to determine cause and contributing factors
- Post-failure and -accident lesson learned
  - Must develop, implement and incorporate lessons learned
- Analysis of rupture and valve shut-offs
  - When incidents cause the closure of RMV, operator must conduct a post incident analysis
- Rupture post-failure and accident summary
  - Required within 90 days of incident with quarterly status reviews until complete



# Deployments: Metallurgical Examination Protocol

- Guidance metallurgical laboratory failure examination protocol
  - Includes background information, evidence collection & preservation, chain of custody, material testing
  - Revised March 2019 – Available on PHMSA AID's website

[www.phmsa.dot.gov/incident-reporting/accident-investigation-division/metallurgical-laboratory-failure-examination-protocol-pdf](http://www.phmsa.dot.gov/incident-reporting/accident-investigation-division/metallurgical-laboratory-failure-examination-protocol-pdf)





# Hazardous Liquids – Reportable Events in Oklahoma



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# Hazardous Liquids – Reportable Events in Oklahoma

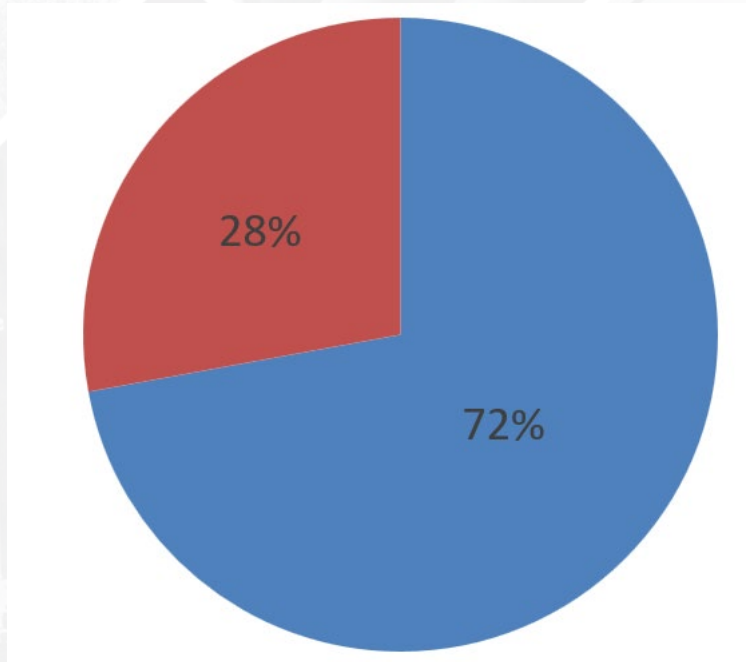
- March 2022 through March 2025
- 103 total events requiring 30-Day Reports
  - 53 were Hazardous Liquid-Related (51%)
  - 25 were GRR Hazardous Liquid (24%)





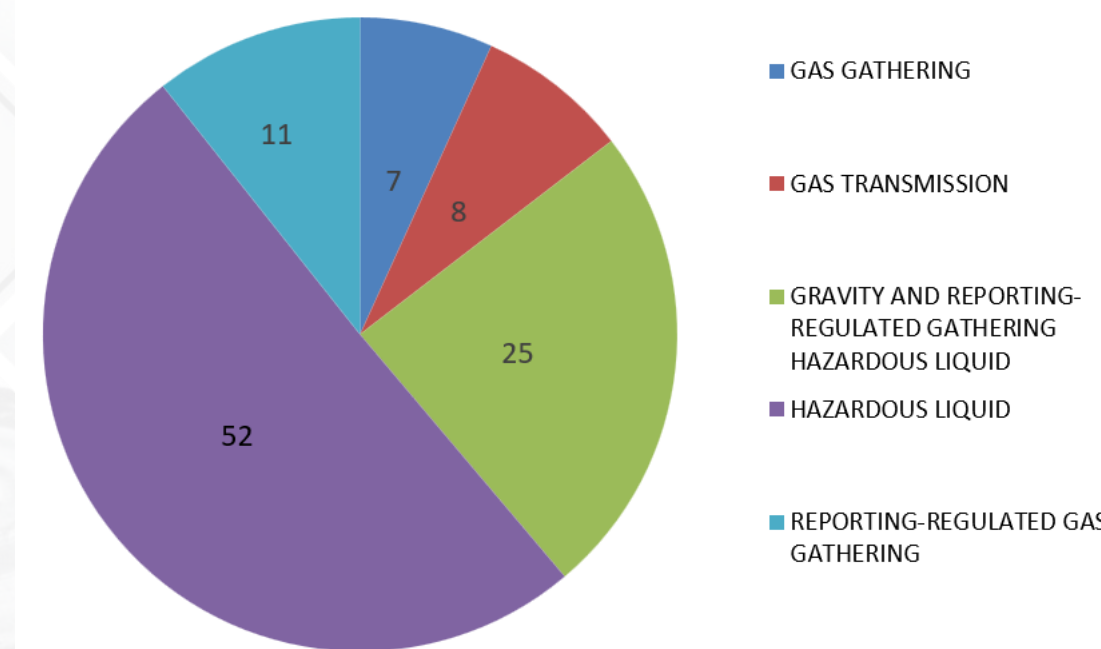
# Hazardous Liquids – Reportable Events in Oklahoma

Incident/Accident Jurisdiction



■ OPS Regulated ■ State Regulated

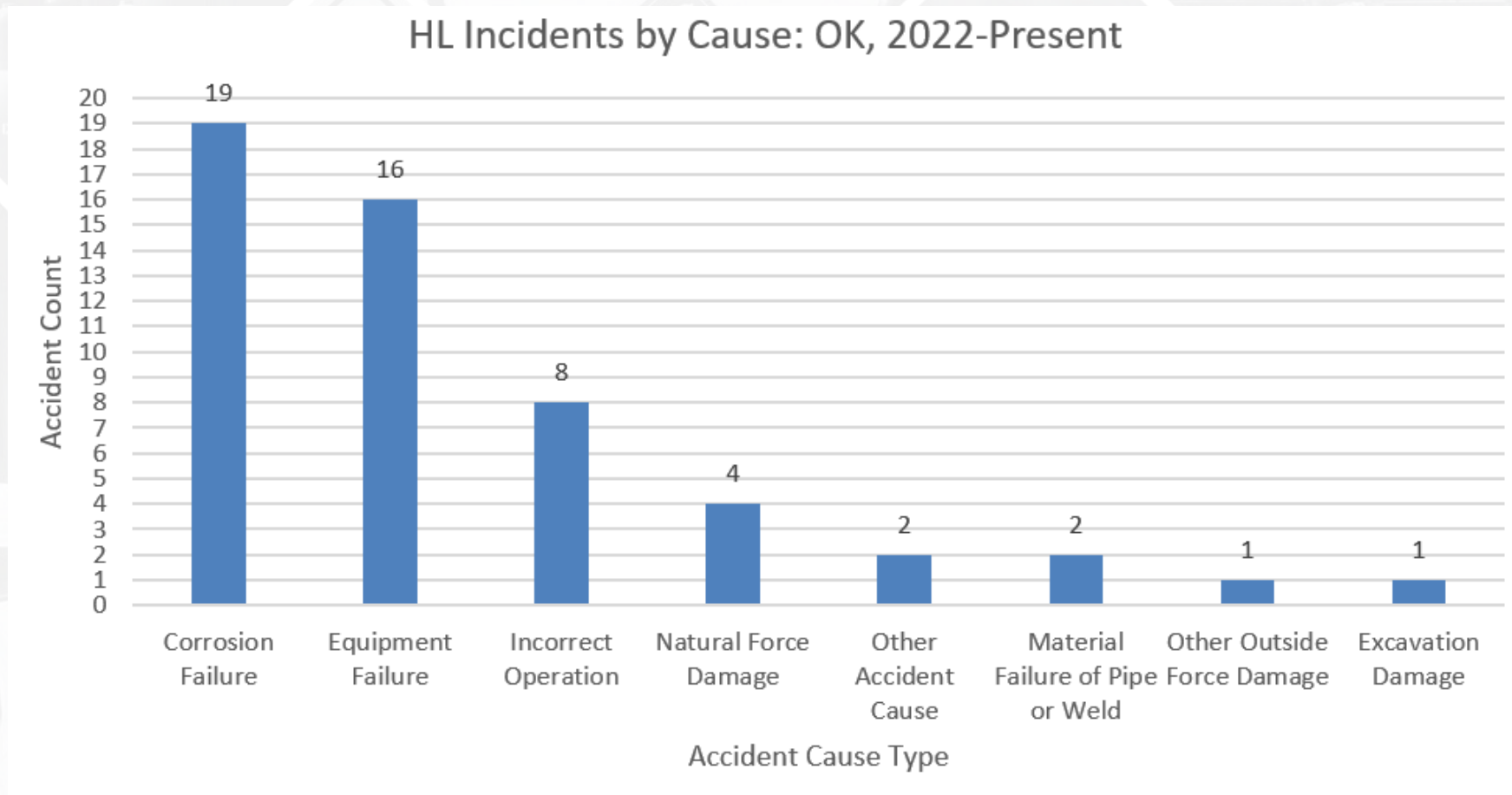
Incident/Accident System Type



■ GAS GATHERING  
■ GAS TRANSMISSION  
■ GRAVITY AND REPORTING-REGULATED GATHERING HAZARDOUS LIQUID  
■ HAZARDOUS LIQUID  
■ REPORTING-REGULATED GAS GATHERING

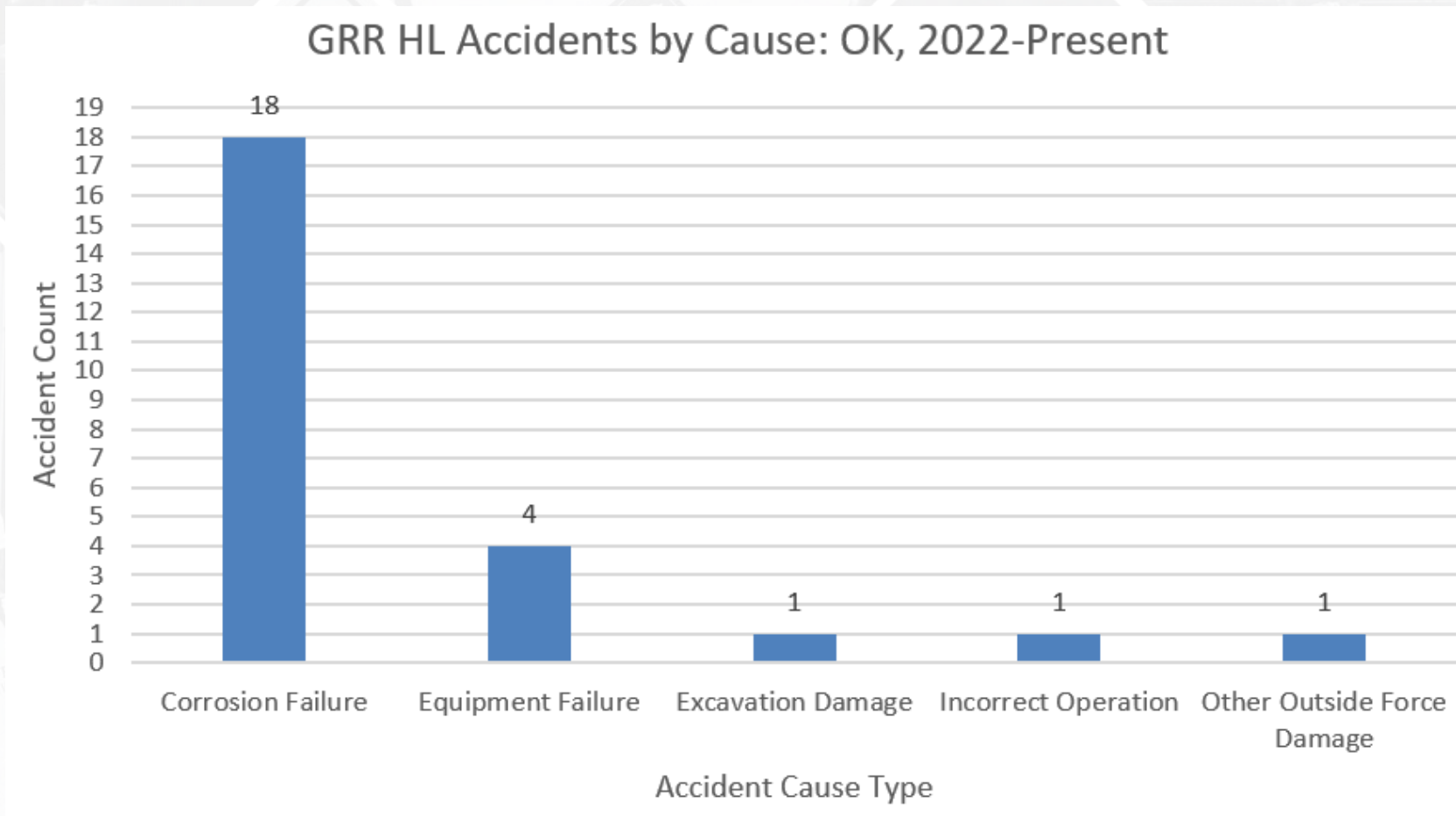


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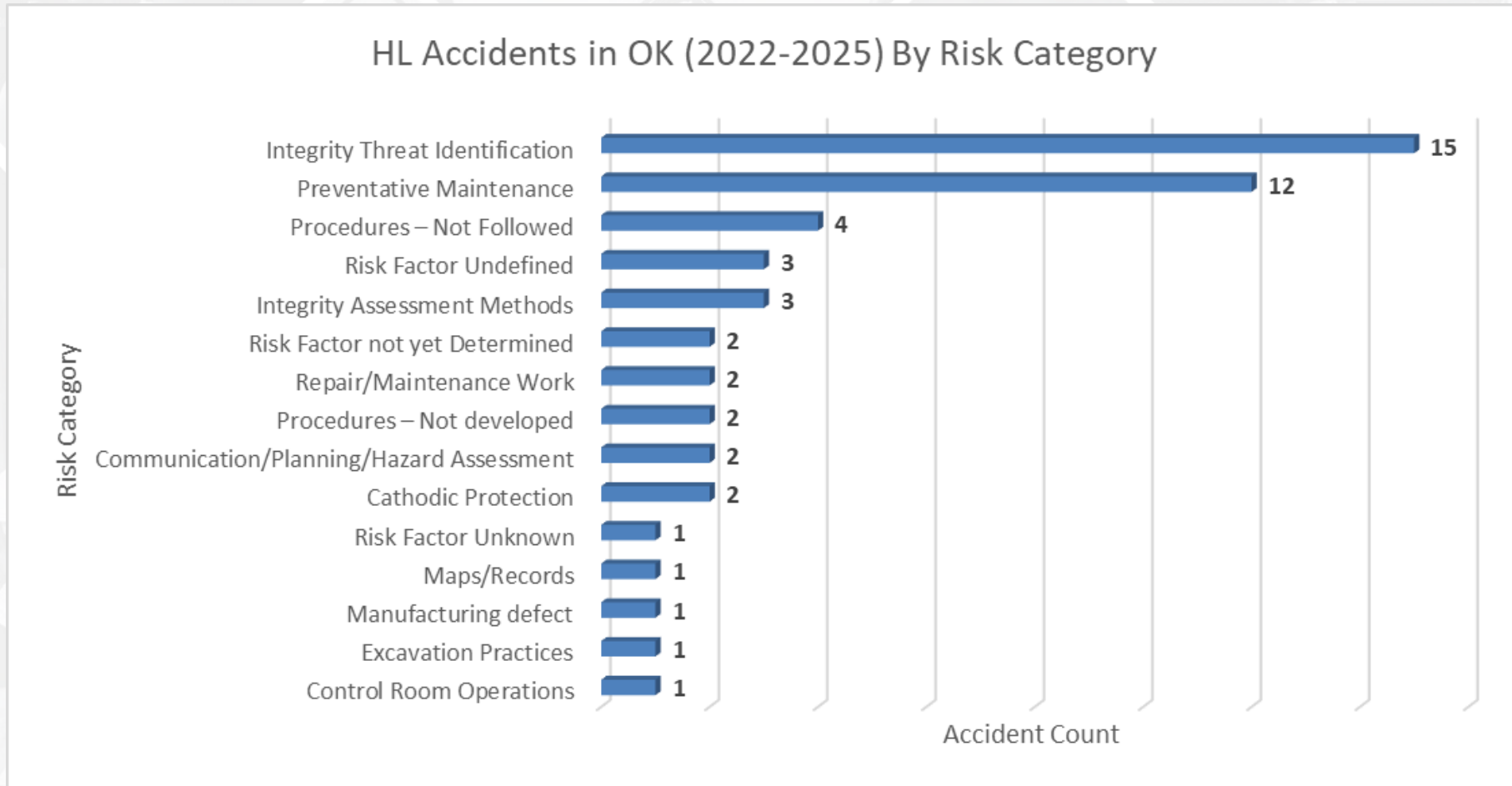




# Hazardous Liquids – Reportable Events in Oklahoma

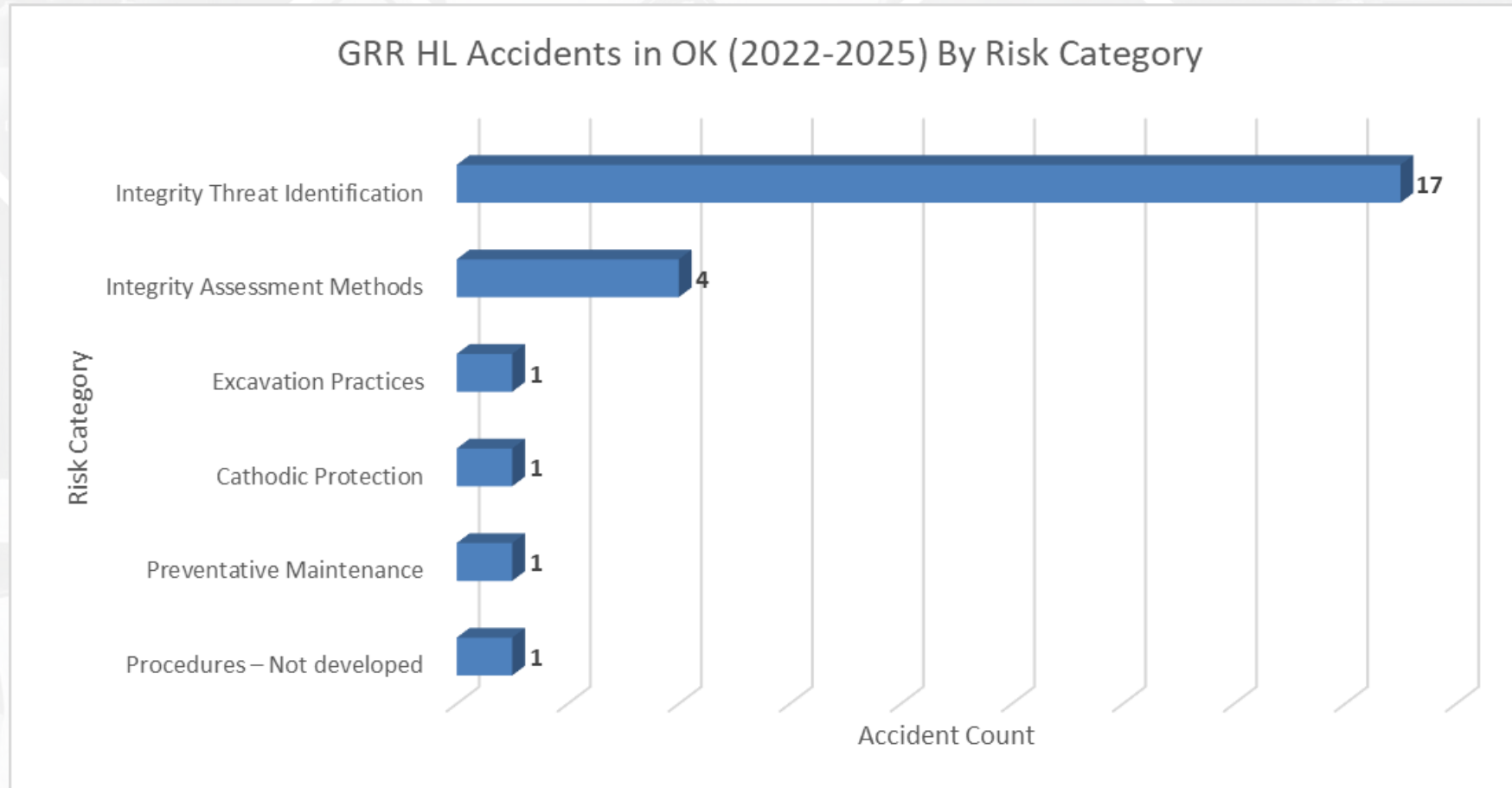


# Hazardous Liquids – Reportable Events in Oklahoma





# Hazardous Liquids – Reportable Events in Oklahoma



# Earth Movement



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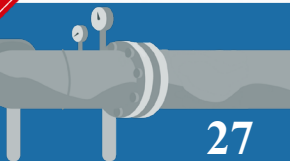
# Earth Movement



Edwardsville, Illinois  
2022

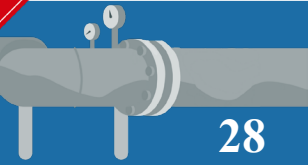


Satartia, Mississippi  
2020





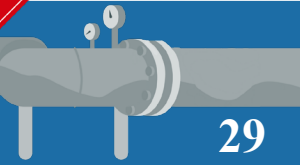
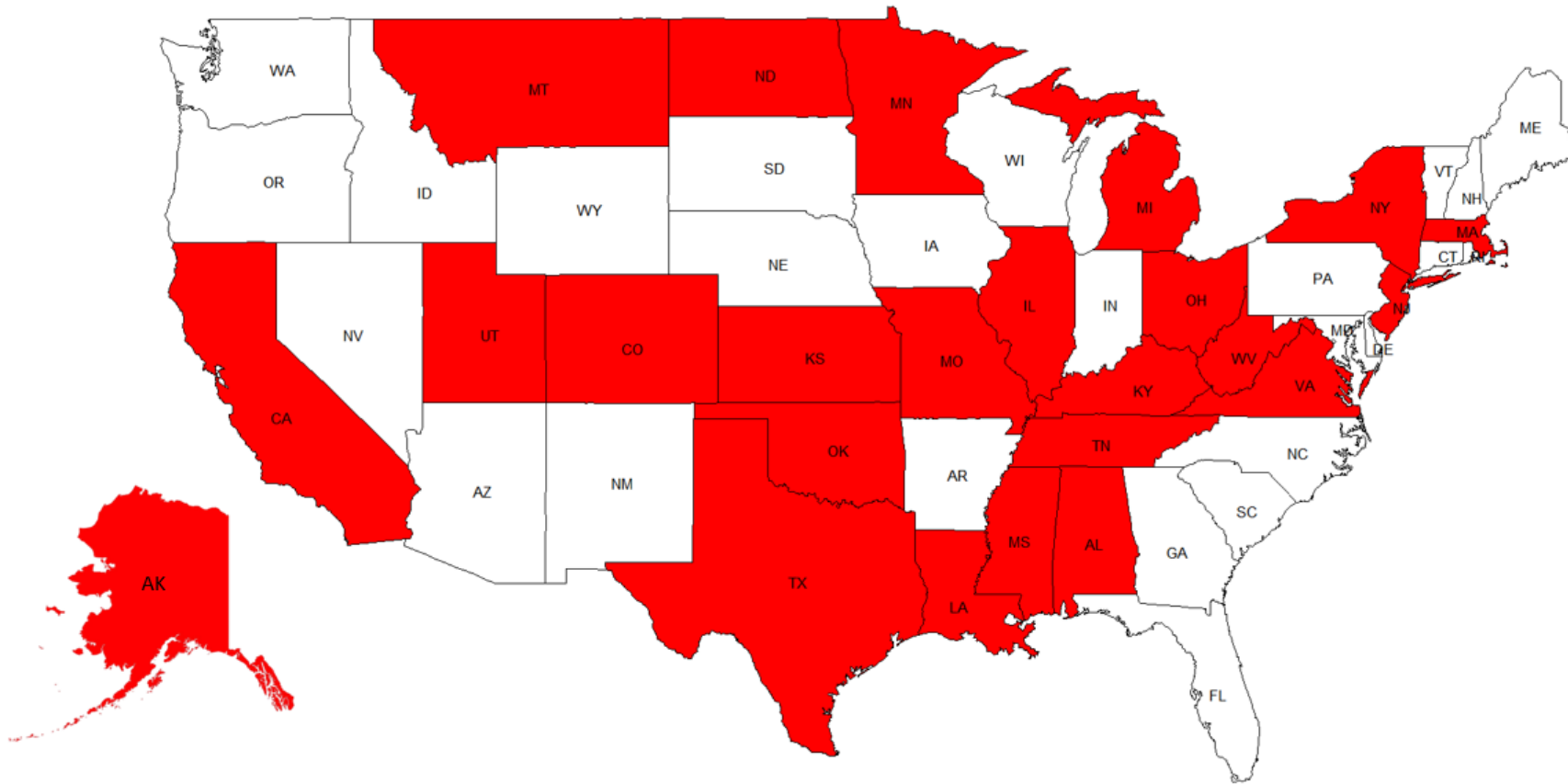
# Earth Movement: What are the Signs?





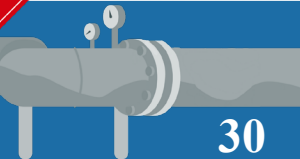
# Earth Movement: States with Accidents

States Affected by Earth Movement (Not Due to Rain/Flood)  
2010 to Present



# Earth Movement: Case Study, Satartia Accident

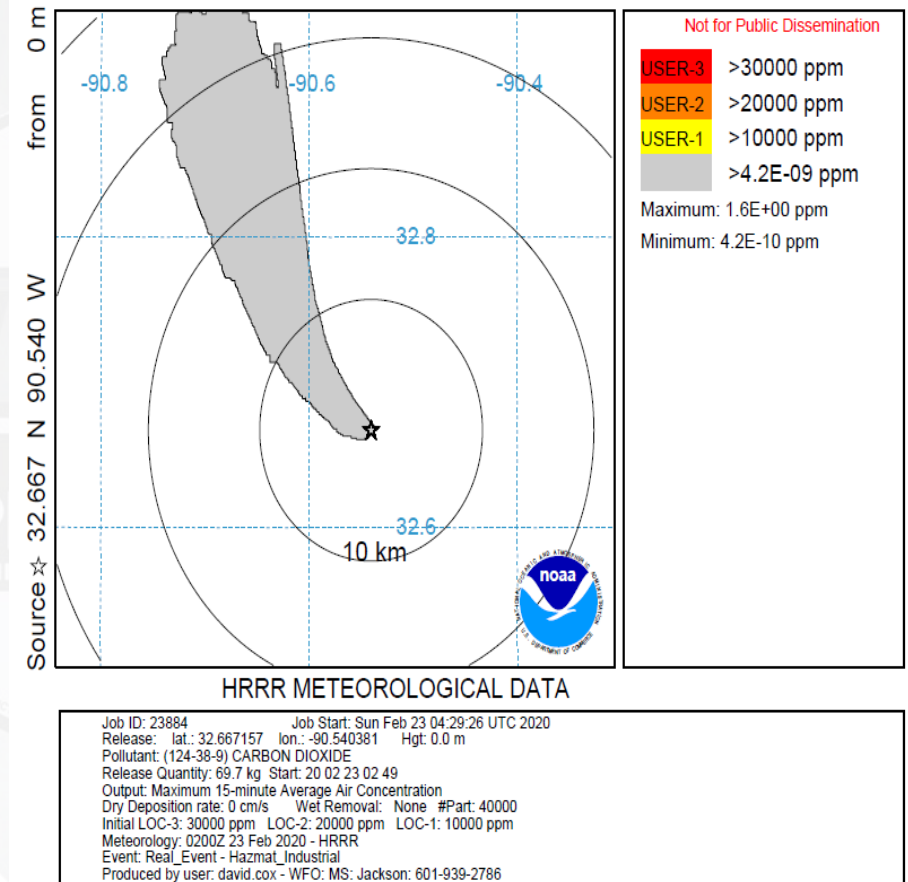
- Pipeline Data
  - 24-inch CO<sub>2</sub>
  - Installed in 2009
  - API 5L X80, 0.469-inch wall thickness on mainline pipe, 0.540-inch wall thickness on bored pipe
  - 77 miles long (Jackson Dome, MS to Delhi, LA)
  - Primary use is for Enhanced Oil Recovery (EOR)





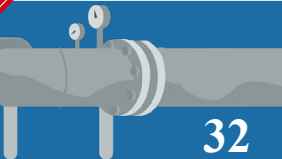
# Earth Movement: Case Study, Satartia Accident

- February 2020
  - Release occurred approximately one mile southeast of Satartia, Mississippi
  - Many individuals sought medical attention
  - 200 people – Satartia, MS, residents and those in the area – evacuated
  - Total of 31,405-barrels released



# Title (TNR, Bold, 50, Single Line)

- AID investigated onsite
- Failure attributed to land movement
- PHMSA issued \$2.9 million civil penalty





# Earth Movement: Advisory Bulletin

- 2022 Advisory Bulletin

- Potential for damage to pipeline facilities caused by earth movement in variable, steep, and rugged terrain and terrain with varied or changing subsurface geological conditions.
- Changing weather patterns due to climate change, including increased rainfall and higher temperatures, that may impact soil stability in areas that have historically been stable.
- Owners and operators should consider monitoring geological and environmental conditions, including changing weather patterns, in proximity to their facilities.



# Thank you



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