

#### **Discussion Areas**

- Rule Terms and Definitions
- Overview of Final Rule
- Key Implementation Dates and Requirements
- Compliance Tools
- Inspection Strategy and Activities
- Resources and Tools





#### **Gas Rule – Split Into Three Final Rules**



- RIN 1 Safety of Gas Transmission Pipelines: MAOP Reconfirmation, Expansion of Assessment Requirements, and Other Related Amendments
  - Final Rule Published October 1, 2019
  - Response to Industry Petition Published July 6, 2020
- RIN 2 Repair Criteria, IM Improvements, Cathodic Protection, Management of Changes, and Other Related Amendments
  - Final Rule under development
- RIN 3 Gas Gathering
  - Published 11/15/2021, Effective Date 5/16/2022



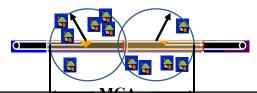
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# Rule Terms and Definitions Lis Deportment of horupotetion Phillips and Hozurdous Moderois Solety Administration Phillips and Hozurdous Medicales Phillips and Hozurdous Medica

#### **Moderate Consequence Area (MCA)**

- Potential Impact Circle (PIC) contains 5 or more buildings intended for human occupancy or
- PIC contains any portion of paved surface of any designated interstate, other freeway, or expressway, as well as any other principal arterial roadway with 4 or more lanes

MCA length extends axially along pipeline from outermost edge of first potential impact circle to outermost edge of last contiguous potential impact circle containing buildings/roads



#### **New Definitions and Terminology**

#### Principal Arterial Roadway (or Other Principal Arterial)

- Serve major centers of metropolitan areas and provide a high degree of mobility
- Provide mobility through rural areas
- Abutting land uses can be served directly (unlike interstates, freeways, and expressways)







#### **Traceable, Verifiable, & Complete (TVC) Records**

 Traceable: Records that can be clearly linked to original information about pipeline segment or facility.

Examples: pipe mill records, which include mechanical and chemical properties; purchase requisition; as-built documents indicating minimum pipe yield strength, seam type, wall thickness, and diameter.



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#### **New Definitions and Terminology**

#### Traceable, Verifiable, & Complete (TVC) Records

 Verifiable: Records are those in which information is confirmed by other complementary, but separate documentation.

Examples: pressure test of a segment complemented by pressure charts or field logs; purchase order to a pipe mill with pipe specifications verified by a metallurgical test of a coupon pulled from the same pipeline segment



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#### Traceable, Verifiable, & Complete (TVC) Records

• Complete: Records finalized as evidenced by a signature, date, or other appropriate marking such as a corporate stamp or seal.

Example: Complete pressure testing record that identifies a specific segment of pipe, who conducted test, duration, medium, temperatures, accurate pressure readings, and elevation information, as applicable



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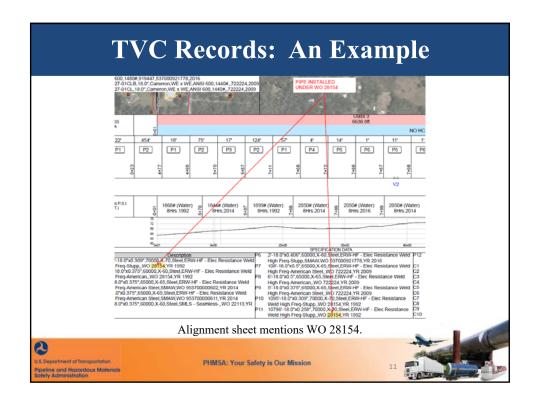


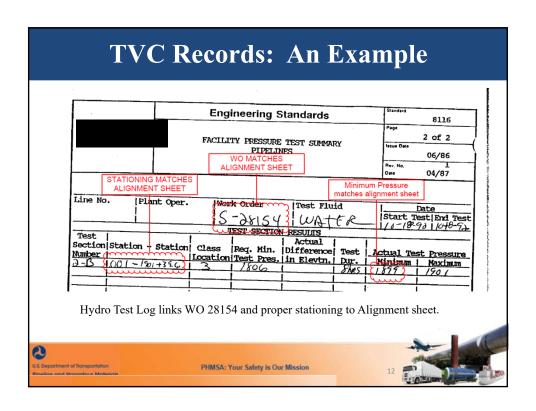
#### TVC Records: An Example

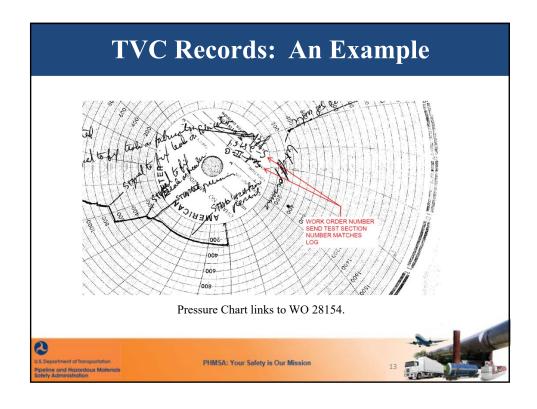
- Operator provided GRIT with example of TVC records for an MAOP determination for a single pipeline segment
- Records provided:
  - Alignment sheet
  - Hydrostatic test log and pressure chart
  - Mill test report
- Records are complete
- Operator was able to link each record together to show that the information was *verifiable* and *traceable*.

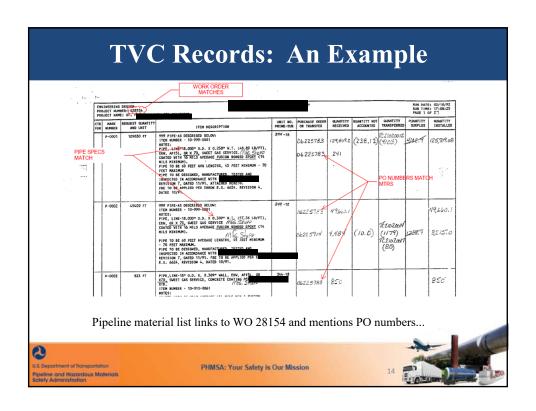


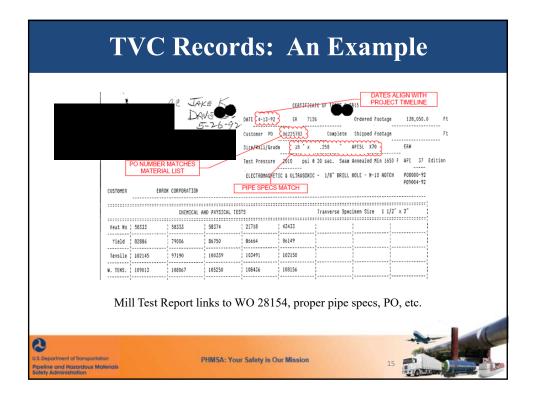












#### **Engineering Critical Assessment (ECA)**

Analytical assessment procedure based on:

- Fracture mechanics principles
- Relevant material properties
- Operating history and environment
- In-service degradation
- Failure mechanisms including initial and final defect sizes
- Maximum defect sizes based upon MAOP

ECA must be documented

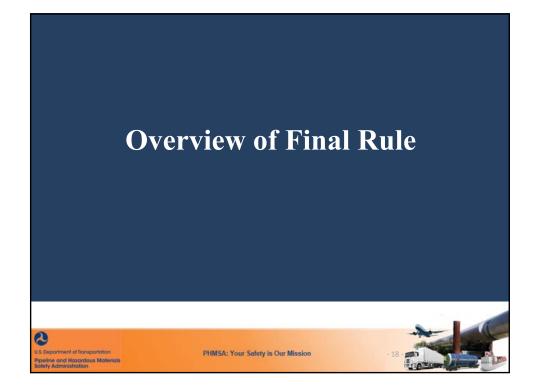


- "Legacy" pipe
  - §192.619(c) (i.e., pipeline segments where the MAOP is based upon the highest actual operating pressure records obtained during the 5-year interval between July 1, 1965, to July 1, 1970, when operators:
- ✓ do not have pressure test or
- do not have material property records or
- ✓ operate above 72% SMYS









- Two new long-term programs:
  - 1. MAOP Reconfirmation (§192.624) 15 years
    - Material Verification (§192.607)
    - Engineering Critical Assessments (§192.632)
  - 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



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#### **Summary of 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 ≥ 30% Specified Minimum Yield Strength (SMYS) in HCAs, Class 3 locations, Class 4 locations, or piggable MCAs.





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
- 4. Pipe replacement
- **5.** Small Potential Impact Radius (PIR) Pressure Reduction
- 6. Other Technology



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#### **Summary of Final Rule**

- MAOP Reconfirmation (§192.624) and Verification of Pipeline Material Properties and Attributes (§192.607)
  - Operator must have procedures which include:
    - Process for reconfirming MAOP
    - Performing spike test if used (§192.506) and material verification for line pipe and components (§192.607)
  - Operators must document and verify material properties and attributes where explicitly referenced in Part 192 (i.e. §192.624 and §192.712)





- MAOP Reconfirmation (§192.624) and Verification of Pipeline Material Properties and Attributes (§192.607)
  - For operators without TVC material property and attribute records, allows operators to develop and implement procedures to opportunistically verify material properties when excavations occur (i.e. repairs, maintenance, replacements/relocations)



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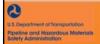
#### **Summary of Final Rule**

- MAOP Reconfirmation (§192.624) and Verification of Onshore Pipeline Material Properties and Attributes (§192.607)
  - For operators electing to pressure test lines (Method
    1) to reconfirm MAOP, must follow Subpart J and
    §192.619(a)(2), and create material properties
    records if they are not already documented as TVC
    records at time of pressure test by testing pipe
    materials cut out at test manifold sites or any failed
    pipe from the test



cont.

- MAOP Reconfirmation (§192.624) and Verification of Onshore Pipeline Material Properties and Attributes (§192.607)
  - For operators electing to use Engineering Critical
     Assessment (ECA) to reconfirm MAOP, must follow
     §192.632 and obtain TVC material property records
     needed to conduct an adequate ECA for a threat
     assessment
    - Note: Operators that need to conduct anomaly assessment and repairs may use the procedure to verify material properties regardless of location



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#### **Summary of Final Rule**

- Assessments Outside of HCA (§192.710)
  - Requires integrity assessment of steel gas transmission segments in Class 3/4 locations, and piggable MCAs operating at ≥ 30% SMYS
  - Complete initial assessment no later than
     July 3, 2034 and a recurring assessment at least
     once every 10 years thereafter





- Seismicity (§192.917, §192.935)
  - Operators must consider seismicity when identifying and evaluating threats
  - Include seismicity when evaluating outside force damage and for additional preventative and mitigative measures





 6-month Grace Period for 7-CY IM Reassessment Intervals with notice and justification (§192.939)



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#### **Summary of Final Rule**

- Strengthening Assessment Requirements (IBR §192.7, §192.150, §192.493, §192.921)
  - Incorporates 3 industry standards for ILI
  - Expands allowable assessment methods
    - Spike hydrostatic pressure test
    - Excavation and in situ direct examination
    - Guided Wave Ultrasonic Testing
  - Limits allowable use of Direct Assessment





- Launcher and Receiver Safety (§192.750)
  - Equipped with a suitable means to relieve pressure in barrel <u>and</u>
  - Equipped with means to indicate pressure or prevent opening if pressurized





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#### **Summary of Final Rule**

- MAOP Exceedance Reporting (§191.23)
  - Report each exceedance of MAOP that exceeds margin (build-up) allowed for operation of pressure-limiting or control devices
  - file MAOP exceedance report w/in 5 calendar days





Imposes related recordkeeping requirements for pipeline materials and components. Examples include:



- tests and inspections
- physical characteristics
- mechanical and chemical composition
- standard in effect at time of manufacturing
- welder/joiner qualifications



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# Key Implementation Dates and Requirements





### **Key Implementation Dates**



- By July 1, 2020 (Effective Date of Rule)
  - Report pressure exceedances (§191.23(a)(10), §191.25(b))
  - Verify and maintain records to document class locations, including determination methods (§192.5)
  - Follow IBR documents
  - Begin to Identify, prioritize, and perform assessments (§192.710) outside HCAs, i.e. non HCA Class 3 and 4, and MCAs
  - Implement procedures addressing regulations without timeframes explicitly defined in final rule



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# **Key Implementation Dates**



- July 1, 2021
  - Use new Incident Report (Form PHMSA F 7100.2);
     available on PHMSA website
  - Operators subject to §192.624, develop and implement procedures for completing all actions required for MAOP reconfirmation by this date (<u>Requires operators to know</u> their MCAs.)
  - For GT pipe and components, have and begin to implement procedures for material properties and attributes verification



# **Key Implementation Dates**



- July 1, 2021
  - For GT pipe installed after this date, retain welder or plastic joiner qualification records for min. 5 years after construction
  - Any launchers/receivers used after this date must meet conditions of §192.750
  - Identification and preliminary assessment plans for moderate risk pipelines outside of HCAs per §192.710
  - Use of §192.18 notifications for alternative technologies



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# **Key Implementation Dates**



- March 15, 2022 Annual Report Due (Form PHMSA F 7100.2-1)
  - Report on <u>all MCAs</u> and MAOP reconfirmation for pipeline segments operational as of December 31, 2021

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### **Key Implementation Dates**



For Operators Subject to §192.624 and §192.710:

- July 3, 2028 Complete all actions required by §192.624 on at least 50% of pipeline mileage subject to MAOP reconfirmation
- July 3, 2034 Complete all originally identified assessments required by §192.710
- July 2, 2035 Complete all actions required by §192.624 on 100% of pipeline mileage subject to MAOP reconfirmation



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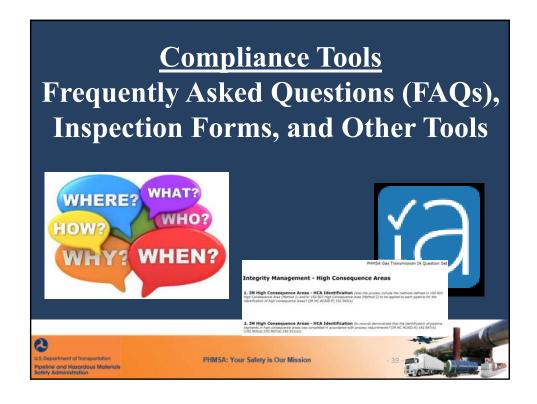


#### **Additional Reminders**

- Collect and retain (for life) TVC Records for establishing/reconfirming MAOP
- Locate all Subpart J compliant hydrotest records (§192.517), if conducted
  - Must be TVC records
  - Affidavits by themselves will not suffice for §192.624 MAOP verification
- Engineering Critical Assessment (ECA) per §192.712 is applicable to ALL segments
- TVC records needed more than just MAOP reconfirmation, e.g. 192.712
- MCA identification is not a one-time event







# Frequently Asked Questions (FAQs) & Answers

- Solicited, and continue to solicit FAQs
  - Industry
  - State/Federal Regulators
  - Public
- Assist in implementation of final rule; provide
  - Clarity to existing requirements
  - Guidance
  - Information Sources
- Batched, draft FAQs posted in Federal Register to solicit public comment - Docket ID: PHMSA-2019-0225



#### FAQs & Answers – 1st Batch Gas Rule FAQs

- 44 draft FAQs and Answers
- Posted for public comment January 30, 2020; comment period open until March 27, 2020
- Final Batch 1 FAQs issued September 15, 2020
- Topical Areas include:
  - General Spike Hydrostatic Testing
  - Reporting Material Verification
  - Other Technology Notification Failure Mechanics
  - Moderate Consequence Area Assessments Outside HCAs
  - MAOP Establishment and Reconfirmation



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#### FAQs & Answers – 2<sup>nd</sup> Batch Gas Rule FAQs

- Content includes 24 more FAQs to address:
  - New questions received at February 27, 2020, Public Meeting
  - New questions received on Docket (PHMSA-2019-0225) before March 27, 2020
- Similar topical areas as 1st Batch
- Posted Draft Batch-2 FAQs to Federal Register
   December 22, 2020, for comment (Closed March 16, 2021)
- Currently under legal review





#### **FAQ Comments & Additional Questions**

Propose new FAQs:

Submit additional questions/clarifications/hypothetical scenarios to docket PHMSA-2019-0225, at https://www.regulations.gov/docket?D=PHMSA-2019-0225

Batch-1 and 2 FAQs public comments

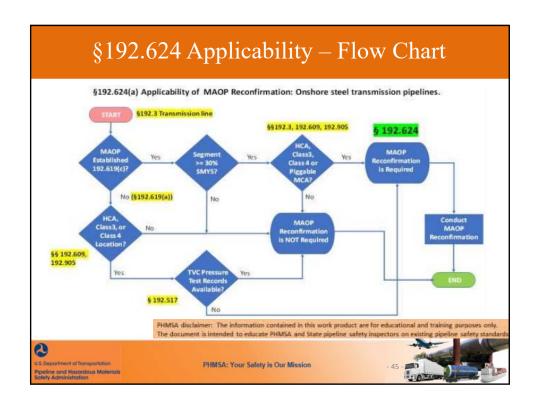
Read comments to docket, PHMSA-2019-0225, at <a href="https://www.regulations.gov/docket?D=PHMSA-2019-0225">https://www.regulations.gov/docket?D=PHMSA-2019-0225</a>

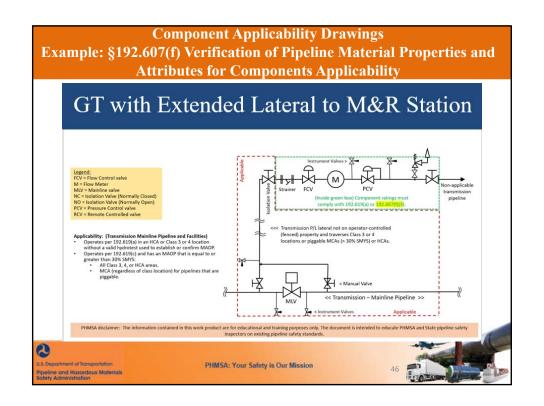


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#### **Inspection Questions** PHMSA "2019 Gas Rule" Question Set - Public Use – Revision Date: September 29, 2021 PHMSA disclaimer: The information contained in this work product are for educational and training purposes only. This document is intended to educate PHMSA and State pipeline safety inspectors on existing pipeline safety standards. 2. MCA Identification What is the methodology being used for identifying MCAs? (IM.MC.MCAIDENTIF.P) 192.624(a)(2) (192.710(a)(2)) 3. MCA Identification Do the records demonstrate MCAs are properly identified and documented with the physical characteristics/attributes, operating conditions, and surrounding environmental conditions of the pipeline? (IM.MC.MCAIDENTIF.R) 192.624(a)(2) (192.710(a)(2);) 4. MCA Identification Do field observations of select locations indicate MCAs in the field are consistent with operator's most recent documented MCAs? (IM.MC.MCAIDENTIF.O) 192.624(a)(2) (192.710(a)(2)) 5. MCA Identification - Roadway Do records demonstrate the operator p G G A /22 | O A /23 | O A /23 | O A /23 | O PHMSA: Your Safety is Our Mission ipeline and Hazardous Materials afety Administration





# Inspection Strategy and Activities U.S. Decomment of Disriportation Physics and Moderical Editory Administration PHMSA: Your Safety is Our Mission Printing Control of Disriportation Physics and Moderical Editory Administration

#### **Inspection Strategy**

- Pilots Inspections
  (October 2020 April 2021)
- Specialized Compliance Inspections (July 2021 – July 2028)
- Integrated Inspections (TBD)





#### **Pilot Inspections**

- Used to align PHMSA, States, and pipeline operators
  - Expectations
  - Guidance (FAQs)
  - Compliance criteria (Be based on 2 FAQ batches and explicit parts of regulation) - Fair Notice is Key
- Focused on nearer term requirements
  - Class location confirmation
  - MCA identification procedures and completion if applicable
  - Applicability of §§192.607, 192.624 and 192.710
  - Material verification procedures
  - MAOP reconfirmation procedures
  - Reporting



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#### **Pilot Inspection Plan**

- Boardwalk October 2020
- Iroquois Gas November 2020
- Louisville Gas & Electric February 2021
- National Grid/MMT (192.607 only) March 2021
- Dominion Energy Questar Pipeline March 2021
- Southern Star Central Gas April 2021

Note: Draft inspection questions used during pilots shared with NAPSR (changed slightly when IA updated)





#### Overarching Pilot Results Program Positives

- Started early with identifying TVC records and gaps
- Robust databases to house TVC and MAOP records
- MCA identification was far along
- Integrity Management groups involved; meshing with Subpart O activities



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#### Overarching Pilot Results Areas Needing Attention

- Meeting existing regulations for MAOP determination (§192.619) and class location revisions (§192.611)
- Clearly identify how original MAOP determined §192.619(a) versus §192.619(c)
- Ensuring applicable legacy lines meeting MAOP reconfirmation requirements – TVC Subpart J records don't exempt legacy lines
- Comparing ILI surveys with records used to establish MAOP (add to and/or ensure consistency)
- Applying §192.619(a)(4) and §192.712 after discrepancies with assumed material properties found, i.e. finding "weak" pipe





# **Overarching Pilot Results Areas Needing Attention**

- Definition and procedures for "Opportunistic Digs" to collect missing material attribute information
- Proper application of ECA
- Consideration for personnel training and OQ; may require additional "covered tasks"
- Procedures for MAOP exceedance; training, recognition, reporting
- Identification of components applicable under material testing
- Procedures for inspecting safety devices on launcher/receivers prior to use
- Procedures; don't just parrot code



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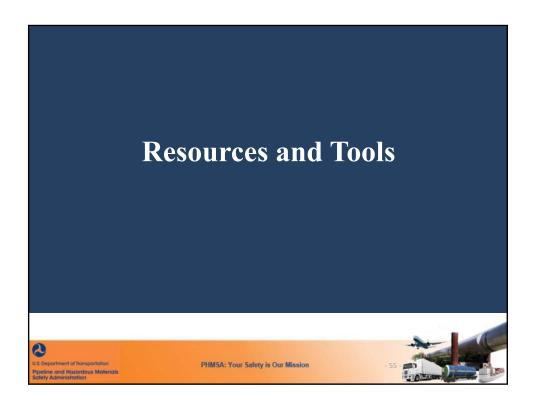


#### **Specialized Compliance Inspections**

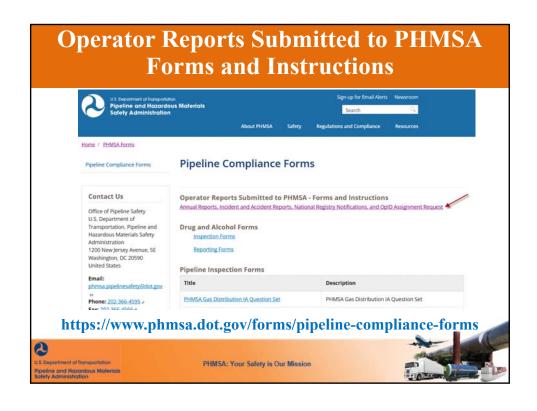
- Began in July 2021
- Conducted on Pipeline Systems (operator approach planned for common procedures)
- Utilize Inspection Assistant (IA) questions and guidance materials based on FAQs
- Focus mostly on applicable pipelines and adequacy of procedures and plans
  - Legacy lines in Class 3, 4, and HCAs (Part B and D)
  - Lines that have had ILIs (Part F)
  - May screen out small diameter pipe system initially (Part H)
- Enforcement done by regions













#### Thank You!!

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