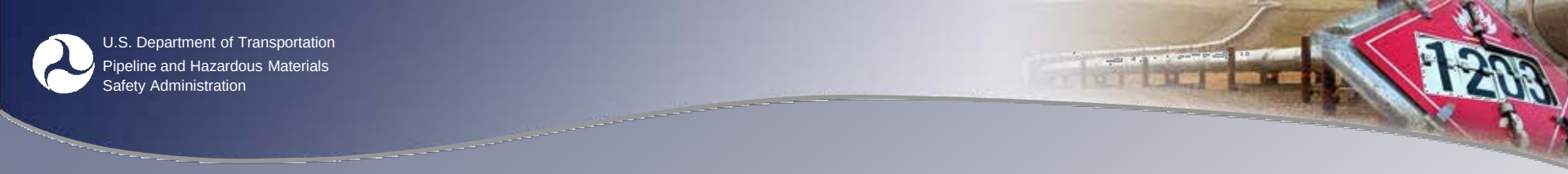



# DIMP IMPLEMENTATION

## National Association of Pipeline Safety Representatives

## US DOT PHMSA Office of Pipeline Safety


# Topics for Session 1

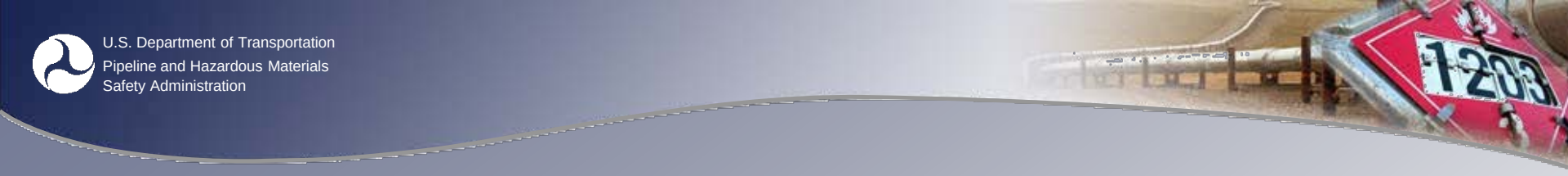
- Introduction and Overview
- Initial Inspection Results and Findings
- Questions and Answers


# Key Messages

- Same Messages from 2011 apply today
- The World is Changing…Recent Events have brought a LOT of Attention Our Way
  - The Public is Expecting and Demanding more from Regulators and Operators
- Operators and Regulators need to Be Ready with reasonable explanations for the actions we have and have not taken
- Overall safety has improved, but significant incidents continue to occur


# Regulatory Expectations

- Regulatory Expectations are that a DIMP was developed and implemented by August 2, 2011, and the Program should continue to be used, developed, and mature.
- Inspection Experience and feedback from some Operators is that DIMP inspection are positive experiences based on the interactions with Inspectors that provide meaningful insights into DIMP Implementation and solution-oriented comments.




# DIMP is a Performance Regulation

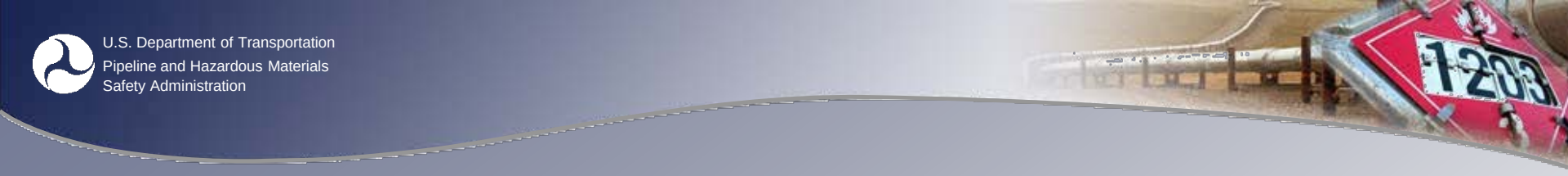
- An operator should be able to document and discuss their primary threats, the actions they are taking to address them, and the metrics used to measure their performance. *[Conveniently, this is the last table on the inspection form.]*
- Regulators have commented that performance based language is a challenge to inspect. Time during inspections is required for drill downs of data sets and gathering a comprehensive understanding of an operator's system. Inspectors are required to use judgment during their inspections in making decisions on compliance.


# Insights from DIMP Team

- Operators should trust that they have implemented a sound DIMP, and do what your plan tells you to do.
- Communication within the organization of what DIMP means to each individual group is important for its successful implementation.
- Implementation may require a change in culture to put pipeline safety first and change the way business is done.
- The importance and usefulness of DIMP is not always understood - The DIMP is not just another book on the shelf, and resources must be allocated to manage the program.


# Data

- Data quality is commonly a concern; and data cleanup and scrubbing is often required.
- Access to records and acquiring quality data from which to perform analysis can require operators to revise their data gathering forms and input requirements.
- Finding the right balance between SME and hard data is important.
- Thoughtful integration of data to identify existing and potential threats, and these tasks require an appropriate level of resource allocation.




# Common Struggles

- Software enhancements or program augmentation can be required to “canned” programs and existing systems that were originally designed and implemented for specific purposes.
- Identifying measures to reduce risk requires good analysis, and tying performance measures to these actions is required.
- Criteria for when measures to address risk are needed requires quantifiable results, and we are not finding criteria all the time.
- Baselines have to be established for performance measures, and if data collection has just initiated, then the plan must be documented.


# Potential Threats

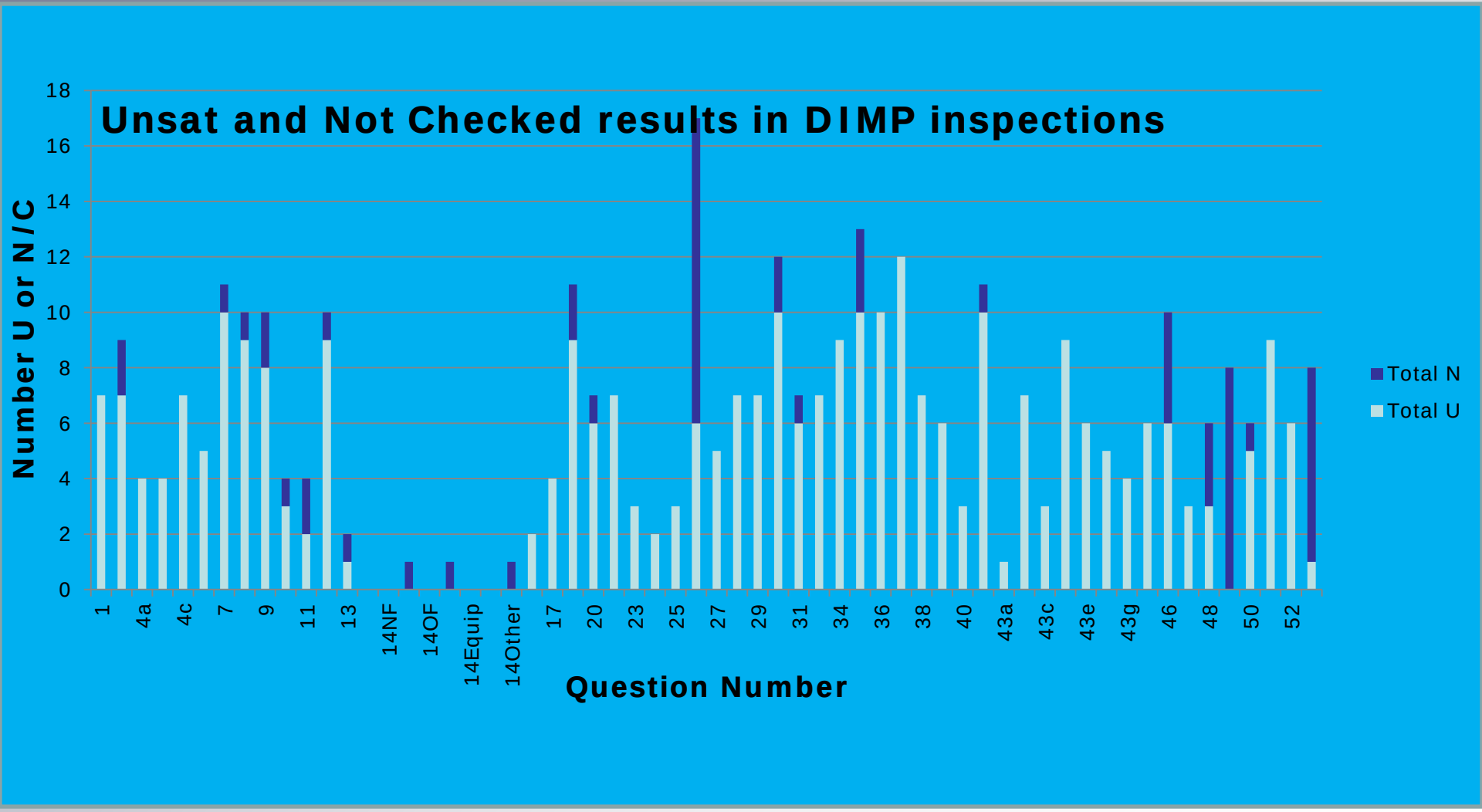
- Some Operators are struggling with potential threats, and these include threats that are known threats that the Operator has not experienced yet (from industry or PHMSA information) as well as threats that have not resulted in a leak (e.g., near misses). Some examples include:
  - overpressurization events; regulator malfunction or freeze-up; cross-bores into sewer lines; static electricity build and discharge; materials with identified performance issues; gophers; plastic eating bugs; etc.


# Looking Forward

- Regulators are interested in learning what measures operators are implementing to address identified risks.
- Identify and compile best practices and potential threats that have been identified by each operator for communication to Stakeholders.
- Ensure appropriate levels of funding is being allocated to address all significant risks that meet established criteria.
- As a DIMP matures, good performance measurement should show positive trends towards improving integrity and safety culture, or changes to the DIMP should be implemented.


# Initial DIMP Inspection Results and Findings

# Inspection Findings

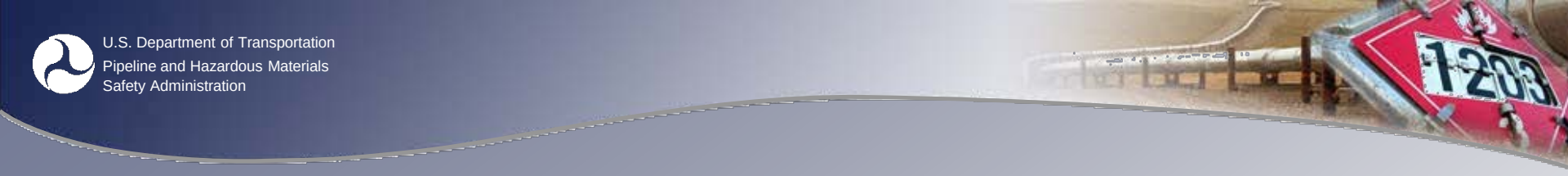



# DIMP Inspections

- Plan development and implementation due August 2, 2011.
- State Programs and PHMSA have been conducting DIMP inspections since the implementation date of the Rule.
- Today's presentation will include:
  - Key findings from the inspections conducted to date and
  - Discussion of the expectations of regulators based on the findings.


# DIMP Rule Provisions

- IM Plan and Models used to develop IM Plan
- Knowledge of gas distribution system
- Identify threats that could threaten the integrity of pipeline
- Evaluate and rank risk associated with distribution pipelines
- Identify and implement measures to address risks
- Measure performance, monitor results, and evaluate effectiveness of IM program
- Periodic Evaluation and Improvement of IM Program
- Report results of required performance measures
- Records maintained to demonstrate compliance




# IM Plans and Development Models

# 192.1005


# IM Plans and Development Models

- When a “Model” Program is used, documentation of how the “Model” Program works must be integrated or referenced.
- An Operator’s Operations, Maintenance, and Inspection procedures may need to be integrated or referenced in the DIMP depending on program’s structure.
- Procedures are required in 192.1007, and plans must contain adequate procedural documentation.
- Procedure means a fixed, step-by-step sequence of activities or course of action (with definite start and end points) that must be followed in the same order to correctly perform a task.
- Multi-state operators may have one or more plans but must be able to filter their risk ranking and measures to reduce risk by state.


# Knowledge of Gas Distribution System

# 192.1007(a)


# Knowledge of Gas Distribution System

- Where DIMP relies upon subject matter expert (SME) input, the operator must be able to demonstrate why the SME is an expert.
- SME decisions and conclusions must be documented.
- Operators must specify how field information is to be relayed into DIMP. Some operators have modified field data acquisition forms and internal processes to incorporate new information and correct inaccurate information.
- Plan must reference the missing information list when it resides outside of the DIMP.
- Procedures for identification and collection of additional information must be included or referenced in DIMP to ensure consistent collection and processing.


# Knowledge (continued)

- Specific source data and documents used in development and implementation of DIMP must be included in DIMP.
- Procedure for collection of additional or missing information must be documented.
- If there is no missing or unknown information, the DIMP must state this assumption.
- Plan must list data that the Operator has identified that is needed to fill gaps.
- Plan must include procedure for recording new pipe data, including location and materials used.


# Identify Threats to Integrity

# 192.1007(b)


# Identify Threats to Integrity

- A DIMP must provide adequate details or specificity to address specific threats and risks in the Operator's unique operating environment.
- Consideration must be given to applicable operating and environmental factors affecting consequence (e.g., paved areas, business districts, hard to evacuate) relating to the Consequence of Failure (COF) when evaluating risk.
- DIMP procedures must provide for the re-evaluation of threats and the identification of new or potential treats.
- Plan must include procedures to evaluate and obtain data from external sources that are reasonably available to identify existing and potential threats.


# Evaluate and Rank Risks

# 192.1007(c)


# Evaluate and Rank Risks

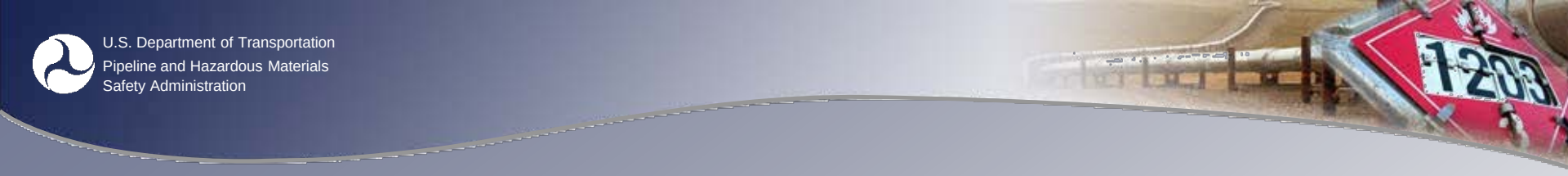
- System subdivision for the evaluation and ranking of risks must be sufficient to appropriately analyze risk(s) present in the Operator's unique operating environment.
- Geographical segmentation may be appropriate when systems are separated by space or a specific, predominate threat exists (e.g., where flooding can be expected, earthquake prone area). However, different materials may be a predominate threat in a region, and segmentation may need to be refined to accommodate different failure rates.
- Operators must consider non-leak failures in analyzing risk. DIMP should address failures that do not result in a release (e.g., near miss) to identify potential threats.
- Risk ranking must include all risks to pipeline facilities.


# Evaluate and Rank Risks (cont.)

- The risk ranking model results must be validated. One operator identified that the “COF” can be diluted by Frequency of Failure (“FOF”) – a larger range for consequences was needed to get reasonable results.
- Plan must provide explanation of the process used to validate the data used in the risk ranking and to review the output of the risk ranking model for “reasonableness”.
- The Plan (or Model used) must address risks specific to services as well as mains.
- When changes are made to a risk model, the risk ranking should be re-run and results incorporated into DIMP promptly.

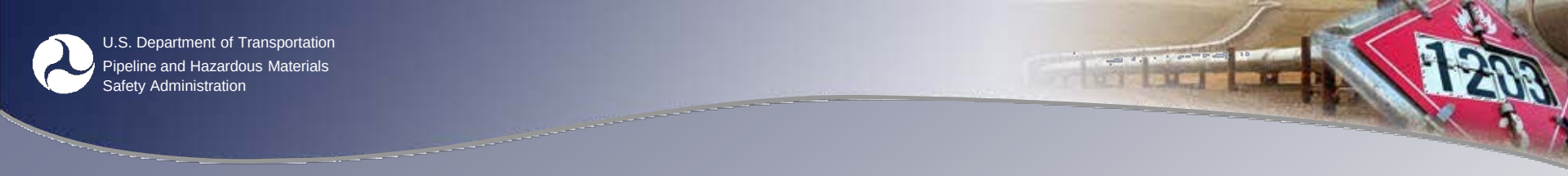

# Measures to Address Risks

# 192.1007(d)




# Measures to Address Risks

- The Plan must provide for a link between the specific risk (either a threat or consequence) and the measure to reduce risk that has been identified and implemented.
- The Plan must contain or reference an effective leak management plan unless all leaks are repaired when found.
- If an Operator repairs all leaks when found, that must be stated or referenced in the DIMP.
- Intervals must be established for the re-evaluation of implemented measures to reduce risks to gage their effectiveness and identify if the measure is appropriate.
- DIMP Models must rank proposed projects/replacements based on risk and not the cost.




# Performance Measurement

# 192.1007(e)


# Performance Measurement

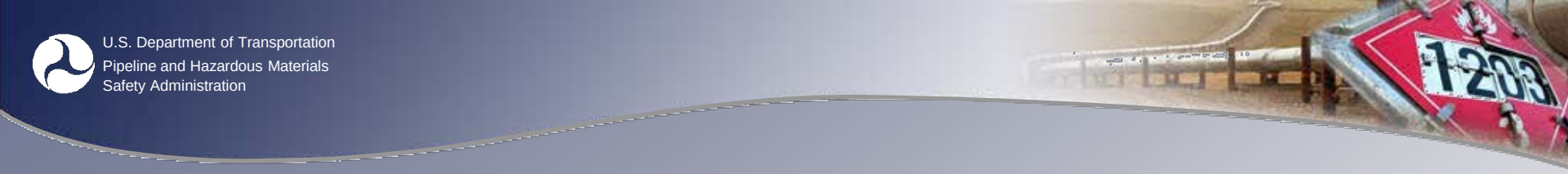
- Operators must develop and monitor performance measures from an established baseline to evaluate the effectiveness of its IM program.
- A DIMP must include procedures for establishing baselines for Performance Measures required in 192.1007(e)
- Some Operator's Plans identified “triggers” to initiate development of new performance measures depending on the program performance and the operating environment
- Each Measure Implemented to Reduce Risk must have a Performance Measure established to monitor its effectiveness
- Operators have identified a single performance measure to evaluate the effectiveness of multiple risk control measures


# Periodic Evaluation and Improvement

# 192.1007(f)


# Periodic Evaluation and Improvement

- A Plan must contain procedures for conducting periodic evaluations.
- If it is found necessary to make changes to the periodic evaluation procedure when an Operator implements this element in the future, the changes would be handled with revisions to the original procedure.
- Plans are expected to include procedures for notifying appropriate operator personnel of changes and improvements made to the plan or plan requirements when they are affected by the change.
- The Plan must provide for the incorporation of pipe replacement program in the DIMP as the future risk results will be affected by the removal of vintage pipeline facilities.




# Reporting and Records

# 192.1007(g) & 192.1011


# Report Results

- The DIMP must include (or reference) procedure(s) describing the collection and reporting of Annual Report data as part of the annual report to PHMSA.
- If a State agency exercises jurisdiction over the Operator's pipeline and requires reporting, a procedure must include instruction to send reporting information to the state pipeline safety authority.


# Records Required to be Maintained

- An operator must maintain records demonstrating compliance with the requirements of this subpart for at least 10 years. The Plan must describe how superseded plans and data will be maintained and kept secure
- Plans must include an adequate revision log. An revision log would contain the Plan effective date, revision dates, and description of any changes in that revision
- Some Plans included statements in DIMP that “all Company records were used in the development of the DIMP” – specificity is appropriate as only those records used to develop and implement the DIMP should be referenced as being records required to be maintained for 10 years.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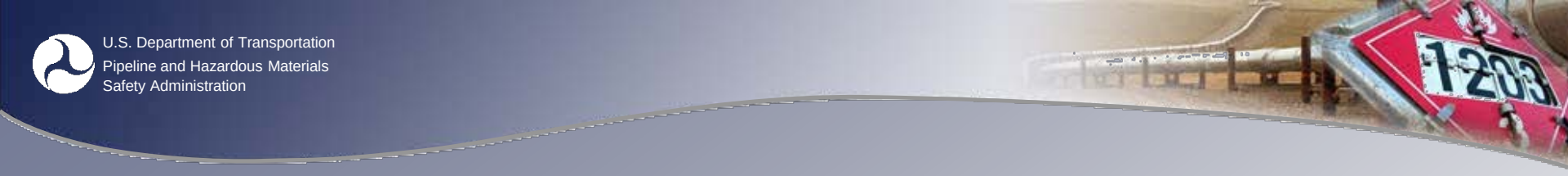


# Questions and Answers