

# MPSC Risk Based Inspections & Inner Workings

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# Risk Based Inspection

- PHMSA requires that States that participate in the Pipeline Safety Program develop a risk-based inspection process to prioritize inspections.
- Started developing risk based inspection methodology in 2014.
- Has been a lower priority due to incident workload and staffing levels.
- The goal is to implement in 2018.



# Risk Based Inspection

## Data Input

- Leak history
- Non-compliance history
- Amount of construction
- Incident history
- Changes in personnel
- Changes in procedures
- Amount of pipeline
- Pipeline materials
- Pipeline age
- Release consequences
- Operating pressures
- Confidence factors



# Risk Based Inspection

- Model will use data to create inspection cycles for each operator's unit.
- Some rules may come up every year while others will remain every few years.
- Each rule is still required to be inspected every five years.



# Risk Based Inspection

- We will be working with operators once we have a baseline model.
- We will be requesting data from annual reports split out on a unit level.
- We will be asking operators what other data can be readily obtained that may assist in the model.



# Risk Based Inspection

- Examples of Distribution Data by Unit:
  - Miles of main and services by material, size, vintage, etc.
  - Unprotected vs. protected
  - Number of leaks by cause
  - Excavation damage data



# Risk Based Inspection

- Examples of Transmission Data by Unit:
  - Miles of pipeline by material, size, vintage, class location, HCA, stress level, etc.
  - Unprotected vs. protected
  - Leaks and Failures



# Risk Based Inspection

- Examples of Other Data by Unit:
  - Miles of proposed construction for upcoming year
  - Other damage prevention data
  - Reported and non-reported incidents

# Risk Based Inspection

- The final product will create a customized inspection form for each inspection unit.
- Question sets will be selected by groupings of rules
  - If internal corrosion is high risk, then the internal corrosion grouping will be included
    - 192.475 – 192.477



# Risk Based Inspection

## What Will Change?

- This depends on whatever algorithm is developed.
- Staff already visits each operator annually.
- Construction inspection frequency will be based on an “inspection per mile of construction” metric for each unit.
- May create additional, more focused inspections that focus on specific rules.



# Risk Based Inspection

## In the Interim

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### 3. Intrastate Inspection Program

#### 3.1 **Inspection Priorities (Interim Inspection Unit Risk Analysis Procedure)**

Annually the Program Manager and the SE shall review appropriate documentation to analyze the risk associated with each inspection unit. The review shall include the following considerations:

1. Length of Time Since the Last Inspection – The standard inspection frequency is outlined in **Section 2.11**. This review shall consider if there have been any issues with completing standard inspections at the required frequency or Staff believes that an increased frequency is required for a specific part of the regulations.
2. History of the Inspection Unit – This review shall consider the operator's operating history of the unit considering data submitted by operators in required reports and the Staff's knowledge of the system.
  - Leak History – The Staff shall consider the leak data in the operator's annual reports, other leak data, and its general knowledge of the system.
  - High Risk Materials – The Staff shall consider the material data in the operator's annual reports, other material knowledge, and its general knowledge of the system.
  - High Consequence Area – The Staff shall consider the high consequence areas in the operator's annual reports.
  - Environmentally Sensitive Areas – The Staff shall consider its general



# MPSC Inner Workings

## (Database & Staffing Levels)

# Gas Safety Database Upgrades

Current database used for recording, storing, sorting and reporting information gathered during inspections and investigations:

- Has roots back to about 2010
- Is housed on an older server
- Was conditionally given by MN-OPS
- Has room for improvement today.

# Gas Safety Database Upgrades

This month, MPSC entered into an agreement with the Minnesota Office of Pipeline Safety (MN-OPS) to partner equally in procuring professional vendor services to build a new system. MPSC will assist throughout the solicitation and selection processes and with oversight and project management.

# Gas Safety Database Upgrades

## The new application requirements include:

- Web-based
- Incorporation of Damage Prevention, including damages, enforcement
- Modifications aligned with US-DOT-PHMSA Grant Guidelines, including reporting
- Compatibility with mobile devices, GIS & associated it's reporting.

# Gas Safety Staffing Level Changes

## Workload Considerations:

- Amount of federally reportable incidents requiring investigation, report, and non-compliance activities
- Inspector turnover
- Compliance issue backlog
- Ability to schedule and effectively conduct inspections of certain operators
- Budget issues

# Gas Safety Staffing Level Changes

## Workload Considerations (continued):

- Pending regulations
- Damage prevention program
- Operator staff turnover and changes.

Previous staffing formula was simplistic, based upon just a few annual report quantities, and did not consider newer regulation. Alternatively, new analysis can determine current requirements.

# Staffing Level Changes Michigan PSC GO by MIDA

- 2015 Inspection Day Status
  - Staffing Formula: 7.37
  - Actual Person Years: 7.73
  - Actual Inspection Days: 792
    - Equivalent Inspector Person Years: 9.32
    - Average Days/Inspector: 102
- Minimum Inspection Day Analysis
  - Projected Intrastate Inspection Days: 881
    - Equivalent Inspector Person Years: 10.36
  - Projected Interstate/Intrastate Inspection Days: 967
    - Equivalent Inspector Person Years: 11.37

# Gas Safety Staffing Level Changes

## Path forward:

- Approvals for increasing staff
- State and federal funding
- Learning curve for new inspectors
- Ability to hire and retain to maintain staffing level
- PHMSA minimum inspection requirements during expansion
- Incorporates IMP, DIMP, CRM, OQ, and D/A.

# Staffing Level Changes

## *Gas Operations Section*

### Current Structure:

Program Manager  
2 Utilities Engineers  
1 DP Engineer  
1 Admin/Analyst  
8 Gas Safety Engineers

### Proposed Structure:

Program Manager  
2 Supervising Engineers  
2 Utilities Engineers  
1 DP Engineer  
1 Admin/Analyst  
11 Gas Safety Engineers

# Rulemaking

- Damage Prevention – Case U-18078
- Gas Safety – Request for rulemaking.
- Technical Standards – New request for rulemaking.

# Questions or Comments?





**Thank You!**

