

2017 LGA SMALL OPERATOR SEMINAR

MAOP VERIFICATION



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Director of Pipeline Safety



1998 WHITE PAPER

- ❖ **Written by Lane Miller (PHMSA TQ) and Don Stursma (Iowa Utilities Board)**
- ❖ **“For onshore pipelines, review records for the highest operating pressure between July 1, 1965 and July 1, 1970, such as pressure charts, regulator station inspection reports showing inlet or outlet pressures, etc. (If no records are available, a notarized statement by a person in charge of pipeline operations during that time period, attesting to the operating pressure during that period, may be acceptable at the discretion of the regulatory agencies.)”**

1998 WHITE PAPER (CONTINUED)

- ❖ **Written by Lane Miller (PHMSA TQ) and Don Stursma (Iowa Utilities Board)**
 - ❖ **“There is also another way these regulations can be used. If pipeline and/or distribution system records are missing or incomplete, it may be impossible to conclusively determine what the MAOP should be under the other criteria. In that case, the operator must consult with the Regulatory Agency, and should look at the normal operating pressures over the last 5 years, and select the highest pressure which did not cause unusual safety or operational problems. This pressure must have applied for a long enough period of time for any problems to become evident. The operator could then conclude that this pressure represents the maximum known safe operating pressure, and determine that it should be the MAOP.”**



CONSERVATION'S POLICY

- ❖ If design is your controlling factor, then you must verify that it is the lowest pressure and provide calculations and documentation of that.
- ❖ If test data is your controlling factor, then you must have a test report which may include dead-weight test data, pressure charts or actual test pressure recordings during the duration of the test. It must also include beginning pressure, ending pressure, duration of test, date of test, and test medium used.

CONSERVATION'S POLICY (CONTINUED)

- ❖ If the 5-year window is your controlling factor, then you must provide a history of pressure data and how you determined the maximum operating pressure during that period. It cannot be a pressure that spiked and was not maintained for a considerable amount of time, for instance a few hours. We would look at these on a case-by-case basis.
- ❖ If you used the maximum safe pressure operated, then it would have to be reviewed and determined by us if it was acceptable. These would also be looked at on a case-by-case basis. Remember, this pressure has to be lower than the operating pressure and only used for de-rating the pipeline.

CONSERVATION'S POLICY (CONTINUED)

- ❖ In lieu of these four ways to establish your MAOP, due to lack of documentation, we will consider the following 3 alternate means to establish your MAOP. These methods are reviewed on a case-by-case basis by operator and system.
 - ❖ Implement uprating procedures in accordance with 192, Subpart K. We will witness these procedures.
 - ❖ Pressure data for the “last 5-years window” of the pipeline’s operation, due to the fact it gives us a better understanding as to the current condition of the pipeline. If it is determined that the pipeline operated safely at a maximum operating pressure during that window, then that MAOP can be accepted as the new MAOP for that individual system.
 - ❖ Affidavit from an operating person during the time of installation or initial operation to verify the pressure (test or MOP) that the pipeline was subjected. This is our least accepted method for establishing the MAOP and only for pre-code pipe. It is used only as a last resort and primarily on pre-code pipeline systems.

PHMSA INTERPRETATION

09-0021

- ❖ **Requested by New Mexico Public Regulation Commission**
- ❖ **New Mexico was following the guidelines established by the 1998 White Paper**
- ❖ **OPS Standards and Rulemaking declares only pressure test, uprating or waivers are acceptable**

Slide 7

LD(12)

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Lykken, David (UTC), 12/30/2014

STATE GUIDELINES

- ❖ **Adoption of Federal Regulations and Requirements**
 - ❖ **A state agency participating in the pipeline safety program under certification is required to adopt Federal pipeline safety regulations or take steps to adopt such regulations. Adoption of applicable regulations.....a State agency may issue additional or more stringent standards concerning intrastate pipelines as long as they are compatible with Federal regulations. Any interpretation of a regulation adopted by a State agency must not conflict with any opinion/interpretation issued by PHMSA.**

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LD(16)

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Lykken, David (UTC), 12/30/2014

WHAT OTHER STATES ARE DOING

- ❖ **NAPSR Southwest Region**
 - ❖ **ARPSC**
 - ❖ **Require Pressure Test/Upgrading since 1989 → MAOP is normal operating pressure and upgrade from there**
 - ❖ **TXRRC**
 - ❖ **Require pressure test/upgrading**
 - ❖ **OKCC**
 - ❖ **Still allows affidavits**
 - ❖ **NMPRC**
 - ❖ **Submitted a waiver request**

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Lykken, David (UTC), 12/30/2014

PRESSURE TEST/UPRATING

- ❖ **TIMELINE FOR TESTING/UPRATING ALL PARTS OF THE SYSTEM**
- ❖ **TAKE MAOP REDUCTION UNTIL PRESSURE TESTS ARE COMPLETED (IF POSSIBLE)**
 - ❖ **What was highest operating pressure the last five years?**

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LD(21)

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HOOP STRESS/SMYS

- ❖ **HOOP STRESS = $P \cdot R / T$**
 - ❖ **P = Maximum Allowable Operating Pressure**
 - ❖ **R = Radius (inner)**
 - ❖ **T = wall thickness**
- ❖ **SMYS = $2St/D$**
 - ❖ **S = minimum yield for grade of pipe**
 - ❖ **T = wall thickness**
 - ❖ **D = outside diameter of pipe**

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WAIVERS

- ❖ What information are we looking for?
 - ❖ System Records Evaluation (type of pipe)
 - ❖ Station Component Evaluation (regulator stations)
 - ❖ Historical Operating Pressure
 - ❖ Leak History and Cathodic Protection
 - ❖ Evaluation of Over-Pressure Protection
 - ❖ Are appropriate devices in use?
 - ❖ Isolated System Pressure Tests
 - ❖ What cannot be isolated for a test and why?
 - ❖ Evaluation of Minimum System Pressure Requirements
 - ❖ Can you meet highest demands at a lower MAOP?
 - ❖ Field Investigations
- ❖ We would look back at the last five years

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REPLACING PIPE

- ❖ If you are in the middle (or will begin) a pipe replacement project on pipe for which your MAOP paperwork is insufficient, then pipe in the ground is covered as long as you are on schedule for replacement and comply with the following:
 - ❖ Take MAOP reduction (if possible)
 - ❖ Increase Leak Survey Frequency

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Questions or Comments?





Thank You!

