

Hazardous Liquid
Integrity Verification Process Workshop
Washington, DC
August 27, 2015

One Public Perspective

Presented by Carl Weimer, Executive Director

Pipeline Safety

T R U S T

CREDIBLE. INDEPENDENT.
IN THE PUBLIC INTEREST.

Integrity Verification Process



Surprised this is needed

The public had assumed that Integrity Management Planning had already dealt with this issue.

How can an operator have a plan to assess the risks to their pipe, if they don't know what pipe they have in the ground or what an accurate MOP is?

Why has it taken so long after so many failures below MOP did it take a San Bruno size tragedy to find this fatal flaw in integrity management?

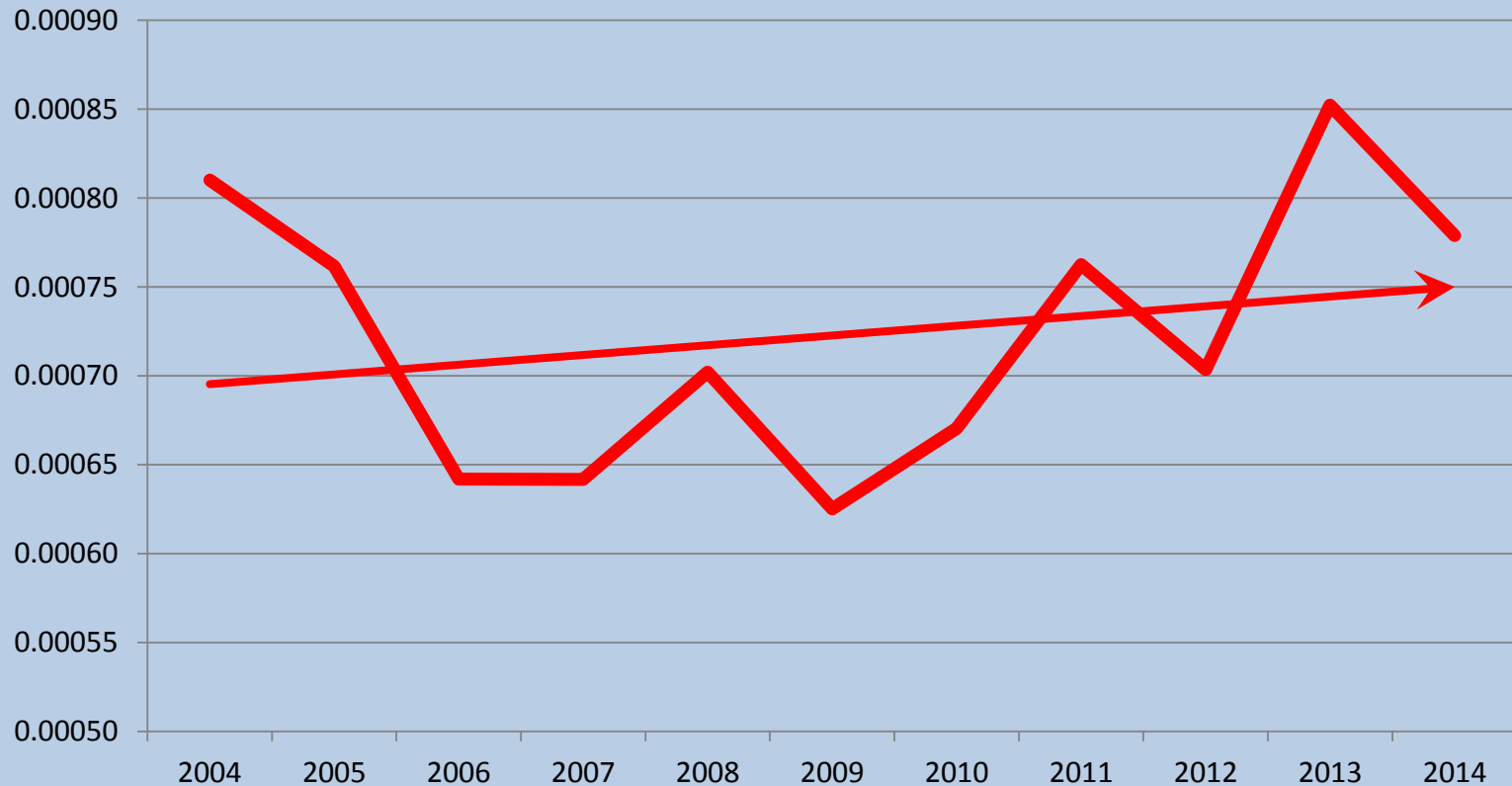
Luckily Industry, Advocates, and Regulators All Now Agree



Data shows risk exists!



**Significant Incidents Per Mile of Hazardous Liquid Pipeline
The Integrity Management Years**

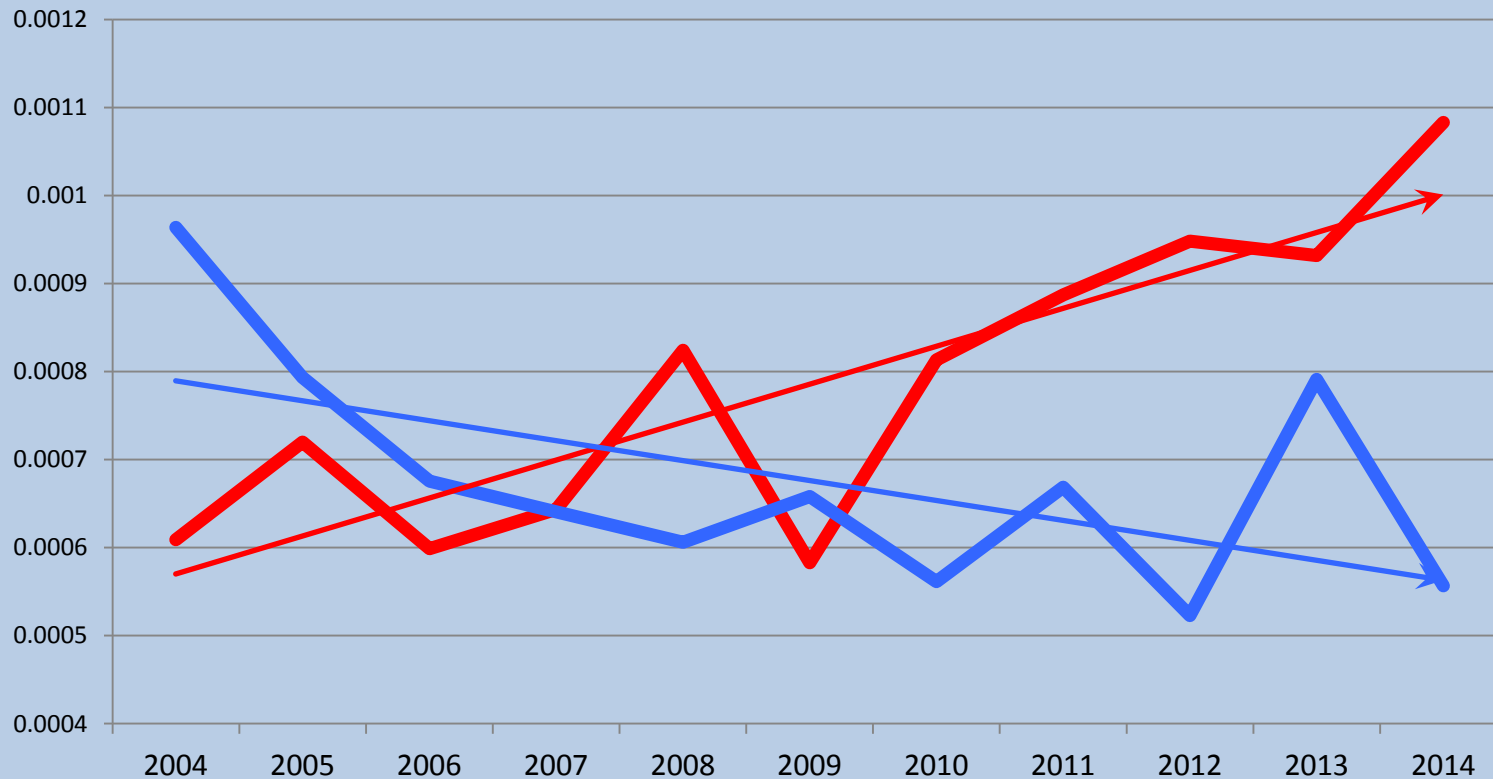


Data shows risk exists!



Significant Incidents Per Mile of Hazardous Liquid Pipeline The Integrity Management Years

Within Could Affect HCA Areas Outside of Could Affect HCA Areas



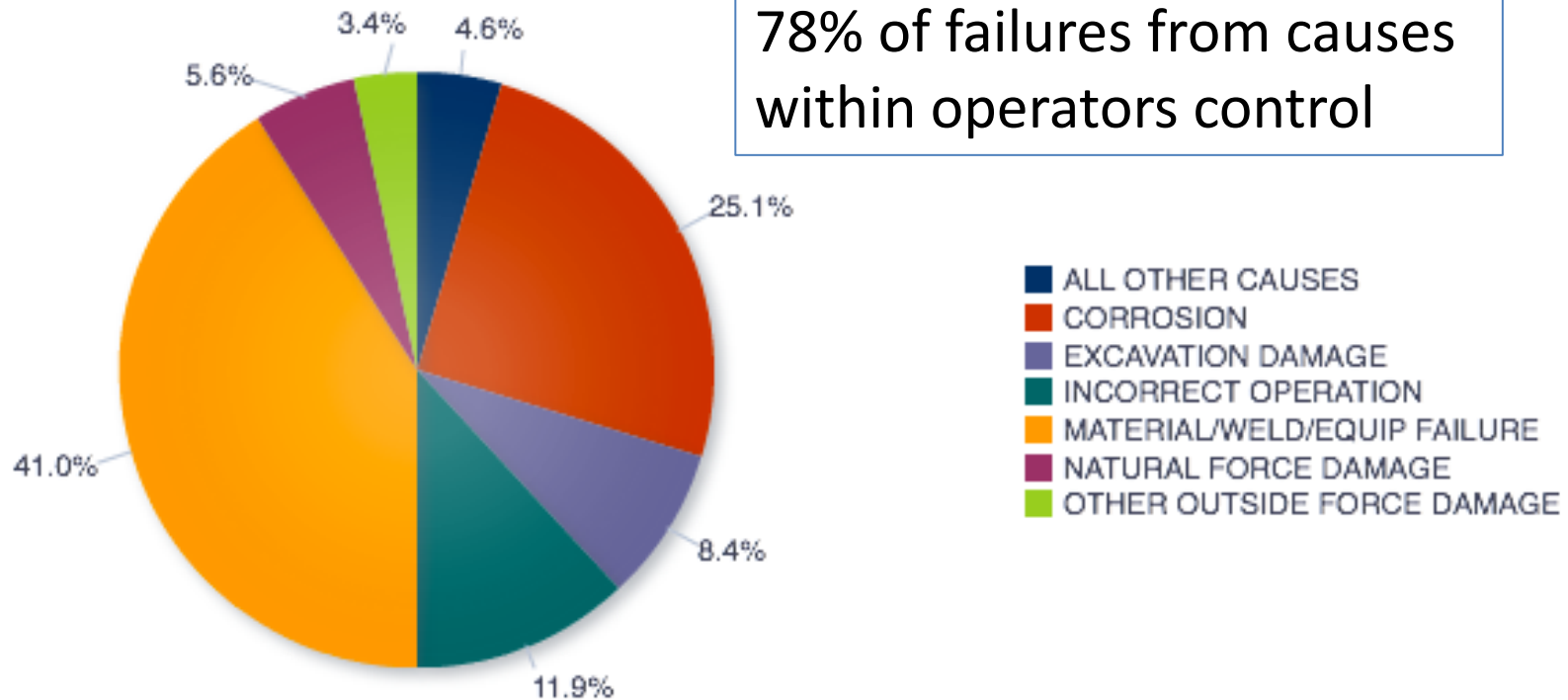
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Significant Incident Cause Breakdown: 5 Year Average - (2010-2014)

System Type: HAZARDOUS LIQUID State: ALL

Offshore: ONSHORE Commodity: ALL



Data shows risk exists!



- In the past 5 years there have been 795 Significant Incidents on hazardous liquid pipelines.
- Of the 795 incidents 103 were material failures of the pipe or welds, and ALL of those failures occurred at pressures under the MOP. 61 of the 103 failures were on pipe installed before 1970.
- Of the 795 incidents 193 were corrosion failures with 108 of those occurring in could affect high consequence areas.

**The Goal
Is Zero**

Where would HL IVP be applicable:

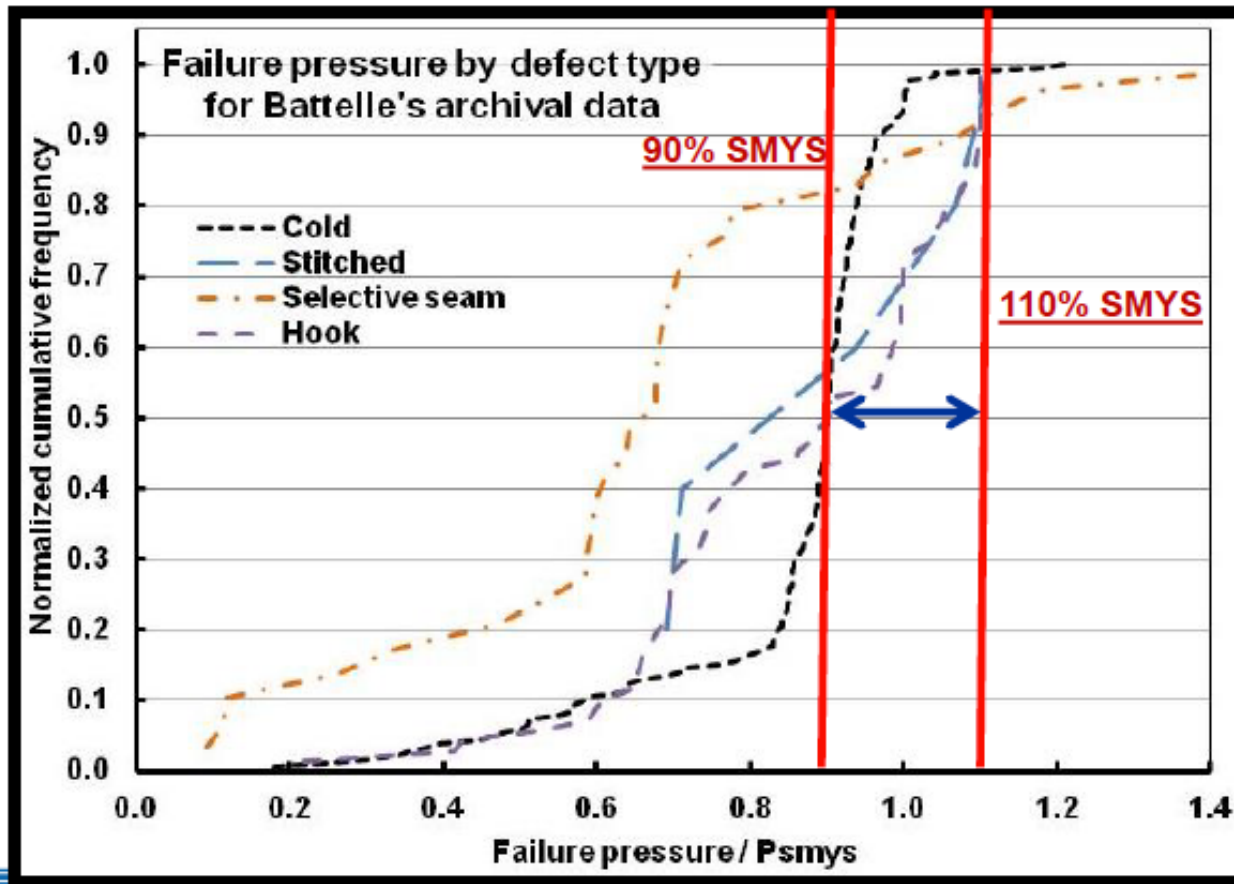
- High consequence areas (HCA);
- Rural gathering lines (195.11) that could affect an HCA;
- Could affect right-of-ways of a designated interstate, freeway, expressway, and other principal 4-lane arterial roadways;
- Highly volatile liquid (HVL) pipelines; and
- Any other non-HCA hazardous liquid pipeline with an MOP of > 20% SMYS.



Assessments to Establish MOP

- **Allow Operator to Select Best Option to Establish MOP**
- **Candidate IVP Options for Establishing MOP**
 - Pressure Test (with Spike Test for Legacy Pipe or pipe with M&C failure history)
 - Derate pressure
 - Engineering Critical Assessment
 - Replace
 - Alternative technology (notification to PHMSA required)

Long Seam ERW Failures Chart



Information from PHMSA Long Seam ERW R&D Program – over 600 failures

It would appear from this Battelle data that the spike test should be somewhere in the area of 100% – 110% SMYS

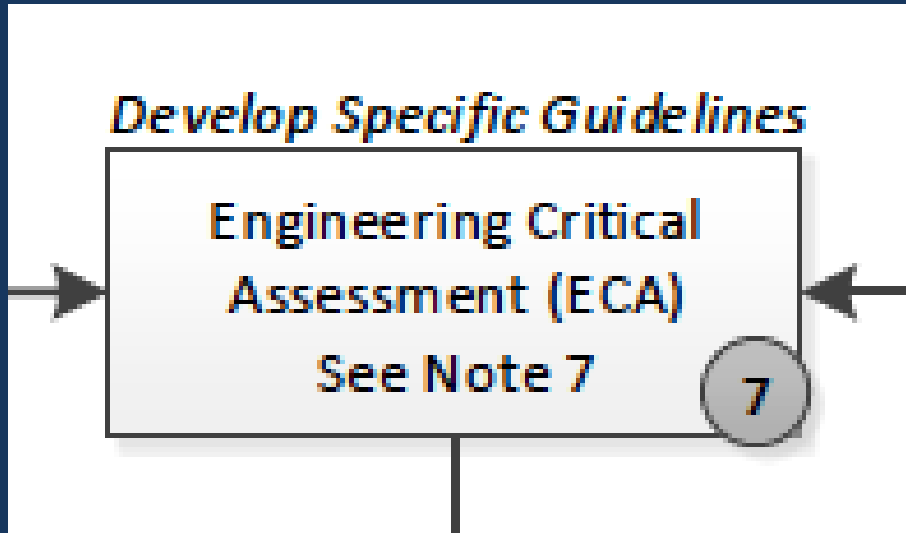
Question whether Pressure Reduction should be a long term strategy, or whether the level of reduction proposed is adequate

- **Method 2: Pressure Reduction**

- Reduce pressure by $\text{MOP divided by } 1.25$
- Estimate remaining life, segments w/crack defects

Why? Of the 103 pipe and weld failures in the past five years leading to significant incidents 70% of them occurred at pressures lower than MOP divided by 1.25

Unconvinced on ECA Option



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One problem identified with the IMP is it provides too much flexibility so some operators can do bad risk analysis, leading to bad risk assumptions, leading to bad testing protocols leading to failures. How is this different?

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Approval of PHMSA Required



- **Method 5: Alternative Technology**

- May use an alternative technical evaluation process that provides a sound engineering basis for establishing MOP.
- Notify PHMSA at least 90 or 180 days in advance of use
 - Notification must include details
 - No objection from PHMSA

“No Objection” is different than approval. We think any Alternative Technology should be reviewed and approved by PHMSA, and if not in the code should be via the special permit process

Why are material records needed?

- To establish design and maximum operating pressures (MOP)



If this is true why does the material documentation step occur after MOP establishment in the flow chart?

Missing or Inadequate
Mat'l Documentation

*Develop
Specific
Guidelines*

Implement program to test pipe samples to establish material properties. Program based on long term statistical sampling program and utilize *in situ* NDE, cutouts and destructive tests, destructive tests of pipe cutout for other reasons (such as repairs and relocations), use of conservative assumptions for evaluation of defects and repair criteria, etc. See Note 4.

B

Material Sampling Protocol

It is not clear to us what the protocol for sampling pipe will be to ensure that there are enough samples taken to ensure that the material properties of all segments are known. This should be spelled out in the final program.



Specific Guidelines & Criteria

- IVP chart is high level concept
- **Details and specifications to be developed**
- **For example:**
 - Spike pressure test specs (pressure, hold time, etc.)
 - De-rate criteria (amount of MOP reduction)
 - ILI program requirements and specifications
 - Material verification specs (# of cutouts, etc.)



Would have been better to know what PHMSA is thinking about these critical issues before workshop

We do not understand Note 8

“Note 8: IVP is not a one-time process, but will be exercised on a recurring basis based on assessment results.”

What assessment results and by who?

Recur if documents lost?

Recur if M&C failure occurs? How many?

Recur every ?? years to verify MOP is still valid?

The industry has argued that hazardous Liquid pipelines have already been required to verify MOP, but we believe that the requirements of CFR 195 Subparts E & F are less stringent than what is being proposed by this IVP process, and that the numerous failures at pressures under MOP demonstrate the need for these changes.

Is the industry sincere in their desire for “zero incidents” or not?



The industry has argued that “imposing a retroactive testing requirement to identify the piping material, where no data is available, would be impracticable to implement.”

We ask how have Integrity Management risk analysis requirements been met if they don't know what pipe they have in the ground? We support Material Documentation.



The industry has argued that these IVP requirements would “divert resources from higher-priority risks and activities.”



Thank You!

Pipeline Safety

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**Credible.
Independent.
In the public interest.**

300 N. Commerical St, Suite B

Bellingham, WA 98225

360-543-5686

carl@pstrust.org

<http://www.pstrust.org>