PHMSA Update

2014 API – AGA Joint Committee
Oil & Gas Pipeline Welding Practices

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2011 Pipeline Safety Act

PHMSA continues to make progress on meeting the requirements of the law.

Latest initiative is valve placement and rupture detection

http://thomas.loc.gov/home/gpoxmlc12/h2845_enr.xml

Rupture detection and valve placement

- Working on definition of a rupture
- Intent is that rupture detect metrics will be integrated with valves or equivalent technology to improve incident response
- Focusing on ruptures in HCAs and could affect areas for hazardous liquids and HCAs, Class 3, and 4 areas for Gas.
- Require response times that initiative valve closures around a rupture within XX minutes. There will also be expectations on time it should take valves to close after action is initiated
- Proof of process
Adoption of API 1104 21st Edition

- PHMSA is not in active rule making regarding adopting this standard
- PHMSA is circulating the standard among subject matter experts for their recommendations.
- I have reviewed the standard and have recommended its incorporation into CFR Parts 192 and 195.

- PHMSA is continuing to identify low strength pipe and fittings.
- Active QAQC needed
- For pipe - low yields show up during procedure or welder qualifications and the first caliper tool run post hydrotest
- For fittings - the problem is identified during hydrotest or shortly thereafter
The Department of Transportation Office of Inspector General and the Justice Department prosecuted two individuals for falsification of radiographs. Both individuals plead guilty.

<table>
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<th>Facility Locations</th>
<th>Welds &gt;6”</th>
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<th># require repair</th>
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Duplication / Falsification of Federal Records

Proposed Alert Notice

- 3 recent occurrences of burn-through while welding a Type B full encirclement sleeve on a pipeline
- Recent failure of a sleeve welded with E 7018-B9 electrode. Welding procedure only specified the use of E XX18 electrodes
- The B class of electrode would not be the best choice of electrode for in-service welding
Research & Development: University Partnerships

- PHMSA has awarded several cost sharing research projects targeted at universities
- Topics and details are available at:
  
  https://primis.phmsa.dot.gov/matrix/PrjmList.rdm?rfp=44&titlecol=1

More information can be obtained by emailing James.Merritt@dot.gov

Parts 192 and 195

- §192.225  Welding Procedures
  
  (a)  Welding must be performed by a qualified welder in accordance with welding procedures qualified under section 5 of API 1104 (incorporated by reference, see §192.7) or section IX of the ASME Boiler and Pressure Vessel Code "Welding and Brazing Qualifications" (incorporated by reference, see §192.7) to produce welds meeting the requirements of this subpart. The quality of the test welds used to qualify welding procedures shall be determined by destructive testing in accordance with the applicable welding standard(s).
  
  (b)  Each welding procedure must be recorded in detail, including the results of the qualifying tests. This record must be retained and followed whenever the procedure is used.

- §195.214  Welding procedures

  (a)  Welding must be performed by a qualified welder in accordance with welding procedures qualified under Section 5 of API 1104 or Section IX of the ASME Boiler and Pressure Vessel Code (ibr, see § 195.3). The quality of the test welds used to qualify the welding procedure shall be determined by destructive testing.

  (b)  Each welding procedure must be recorded in detail, including the results of the qualifying tests. This record must be retained and followed whenever the procedure is used.
Pipeline built 1963 - 36” 0.344 X60 Failed Girth Weld due to 17” x 25% root bead Hydrogen crack
Pipeline built 1963 - 36” 0.344 X60 Failed Girth Weld due to 11” x 27% root bead Hydrogen crack

Arc Burns

- Arc burns are not acceptable on high pressure gas pipelines and liquid pipelines per 192.309(c) and 195.226.
PHMSA – links

http://primis.phmsa.dot.gov/ptr.htm

- Gas Distribution Integrity Management Program (DIMP)
- Gas Transmission Integrity Management (GT IM)
- Hazardous Liquid Integrity Management (HL IM)
- High Volume Excess Flow Valves (EFV)
- Low Strength Pipe
- Operator Qualification (OQ)
- Pipeline Construction
- Research & Development (R&D)
- Public Meetings

Thank you

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