



PHMSA / NAPSRS

Distribution Construction Workshop

St. Louis, MO
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Office of Training & Qualifications





Discussion Items

Pipe and Appurtenances

- Risers
- Valves
- Couplings
- Tapping Tees
- Code and Standards
 - ✓ 1968 Code (Part 192)
 - ✓ Old or Obsolete Standards



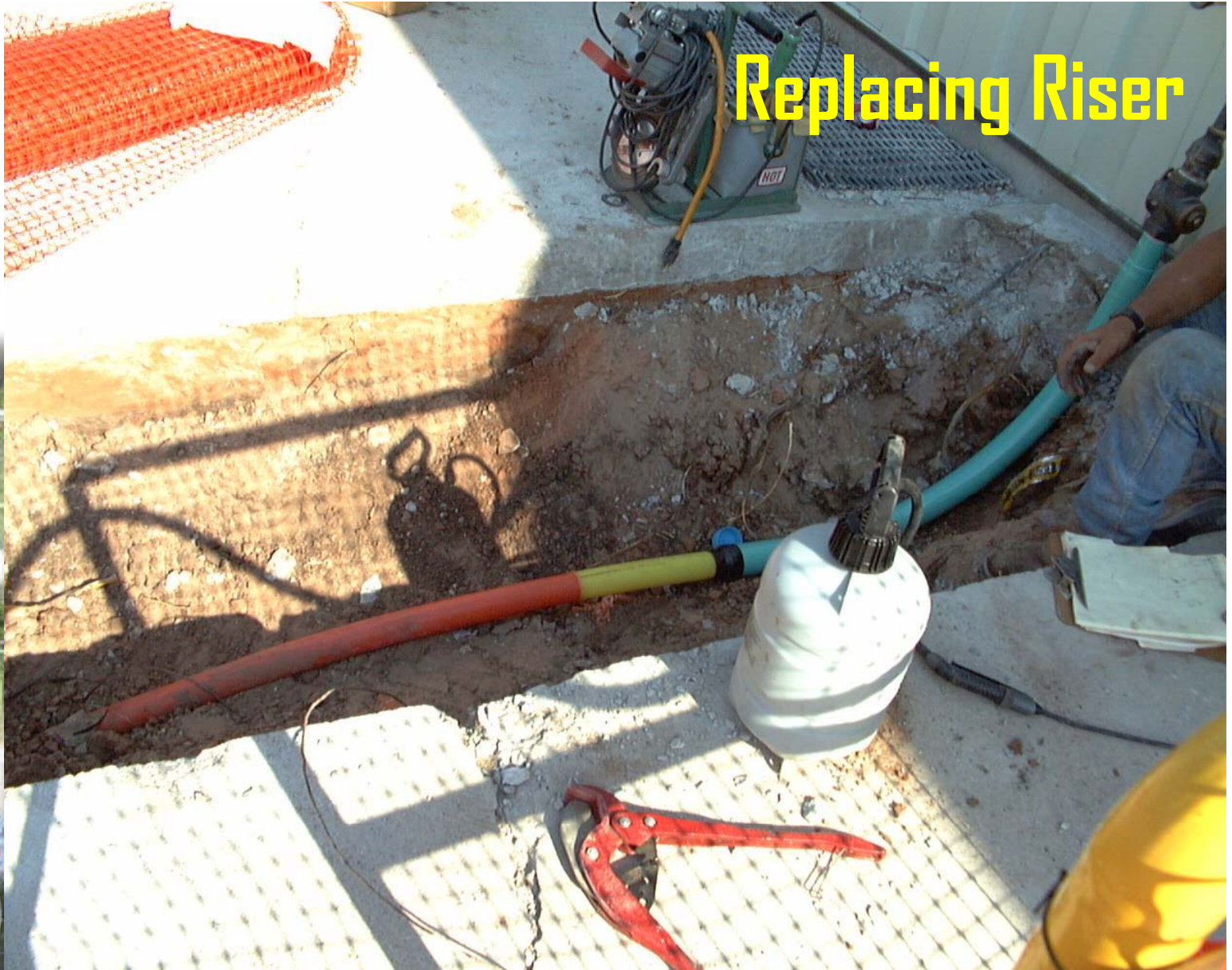
Riser Issues

- Risers that have been assembled incorrectly with compromised or missing parts are likely to fail
- Riser leak failures are likely to occur at low environmental temperature
- Risers in-service conditions (combination of low & high temperature, tensile pull-out and over & under torque can have an affect on rubber gaskets and “O”-rings, as well as possibly deforming the retainer rings thereby making the riser more susceptible to leak failures.



Riser Replacement Programs

- XXXXX has replaced about 15,000 risers & will replace another 87,000 by 2013
- XXXXX has identified 318,000 risers as prone to failure and will replace ALL by 2011
- XXXXX has taken "prone to fail" risers off their material list & is replacing the 5,000 installed in their system from 1/03 – 1/07
- XXXXX identified almost 55,000 that are prone to failure
- Other XXXXX conducting riser surveys & will report results to State Commission/s within the next few years in connection with DIMP



Replacing Riser



ASTM D 2513 – 1999 Ed.

Outside Storage Requirements

Annex A1.5.7 Outside Storage Stability

PE pipe stored outdoors and unprotected for at least two years from date of manufacture shall meet *all the requirements of this specification.*

PE pipe stored outdoors for over two years from date of manufacture is suitable for use if it meets the requirements of *this specification.*



ASTM D 2513 – 1999 Ed. UV Degradation

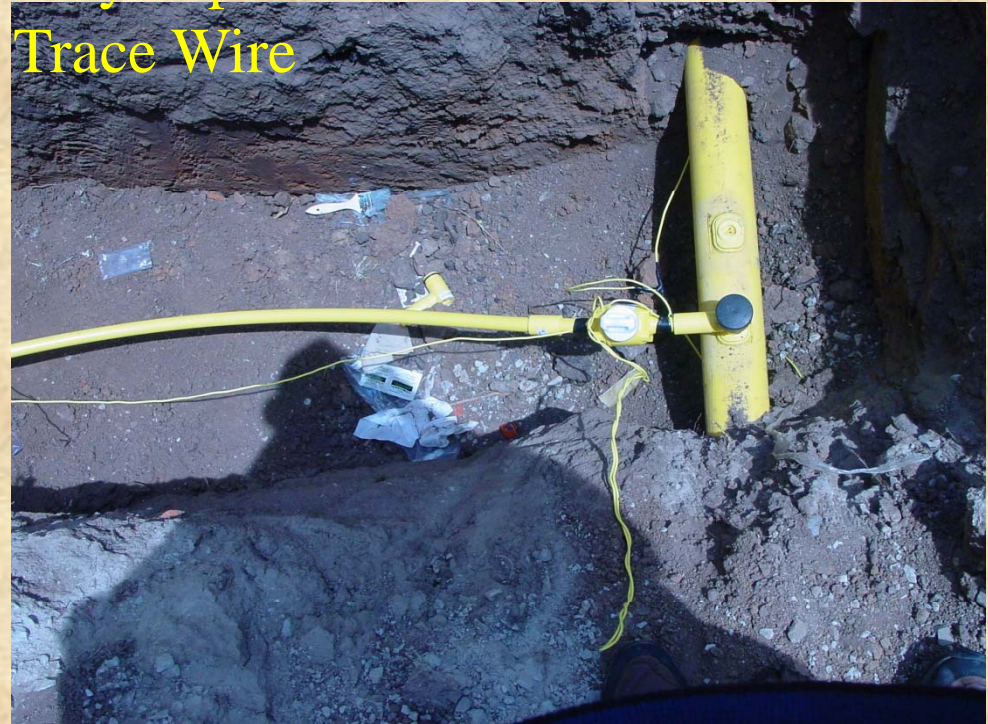
- Oxidation & sidewall fusion – **indications of problems**
- New test data indicates oxidation may causes cold joints
- Roughing up the surface with emery cloth does not completely remove the oxidation based on some preliminary testing.
- Peeling/scraping may best solve issue.



Valve Issues

- Appears 1st try at installing tapping tee was not acceptable
- Second one was installed approximately 1 pipe diameter away
- Notice cut-off tapping tee on side of main
- Tracer wire is taped directly to the pipe & connections are coated with electrical tape
- Poly valve and service tee appear to be in a bind and pulled off to one side putting undue stress on the connections and fittings
- Ground surrounding the pipe seems to have a large amount of rock or gravel which could cause impingement on pressure points on the pipe

Poly Tap Valve-Trace Wire





Valve Issues

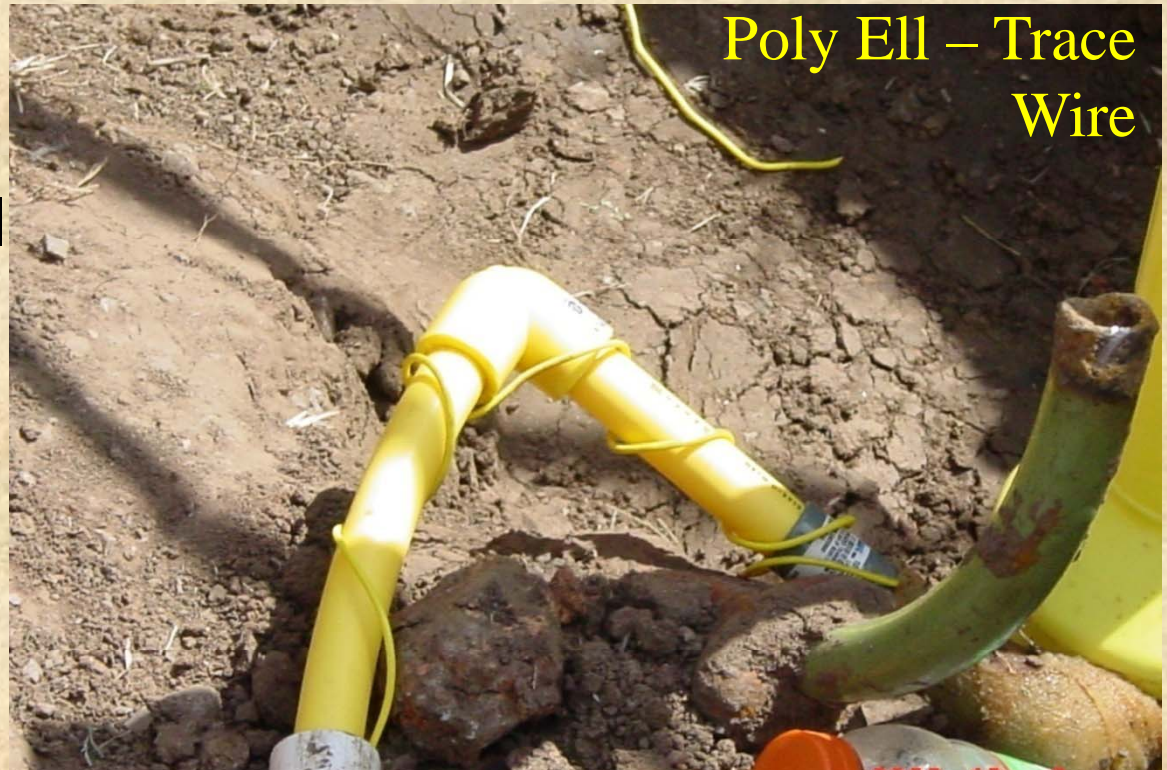
- Closer view of previous image
- Notice threaded transition is not taped or coated
- Live section of steel service could be in contact with abandoned service causing a possible CP issue
- Also, notice the PE pipe is in a PVC casing or old PVC service line





Valve Issues

- Different angle of Poly to Steel Valve image above
- Trash in the ditch here also
- Notice the stress put on the ell due to the improper alignment of the poly line to the steel line
- The trace wire is also in direct contact and wrapped around the pipe



Tapping Tees & Cap Issues



- Was this caused by a **manufacturing defect** or **excavation** or **installation problems**?



- Tee caps sometimes suffer from leaking o-rings, separation of the cap, or material quality control defects in the cap

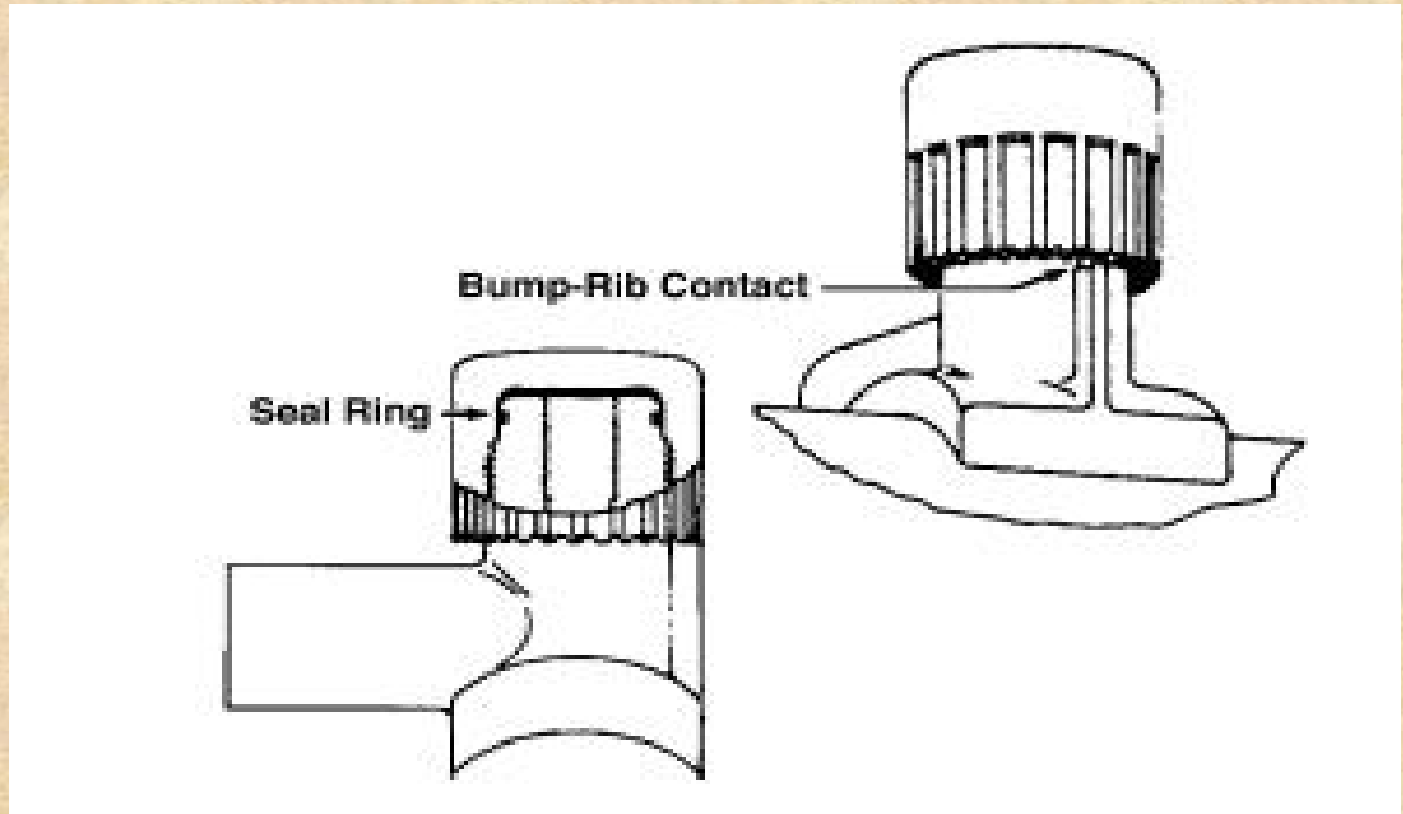


Tapping Tees & Cap Issues

Tapping Tee Fusions



Tapping Tees & Cap Issues



Tapping Tee Cap Closure

Misc. Issues for Consideration



Misc. Issues for Consideration



Misc. Issues for Consideration





Transmission lines & Special Permits

80 % Pipelines

(OQ) Operator Qualification issues

Special Permits



ASME B31Q

Change is inevitable. Change
for the better is a full-time job.

Adlai E. Stevenson

1900-1965



The Thirteen Issues

High Impact	Med. Impact	Low Impact
1. Scope of OQ Inspections	9. Additional Covered Tasks	4. Criteria for Small Operators
2. Evaluation of KSA's	10. Extent of Documentation	5. Direction & Observation of NQI's
3. Reevaluation Interval	11. Treatment of Training	6. Noteworthy Practices
7. Maintenance vs. New Construction	12. Abnormal Operating Conditions	13. Persons Contributing to an Incident or Accident
8. Treatment of Emergency Response		



ASME B31Q

Why – To address 12 of the 13 issues determined in the OQ Public Meeting in 2002

Who – All stakeholders involved – Oil & Gas Transmission, Distribution, Contractors, Government

Planned Outcome – A document that any operator can use to develop a program



- A **new version** of the standard will be in print early 2010 –
 - New construction is covered
 - Requires program effectiveness
 - Clarifies tasks
 - Clarifies requirements
- **Scope** is still “Safety and Integrity”



ASME B31Q

- A standing committee meets 3-4 times a year
- Focus on clarifying remaining issues from the original development and any new issues brought forward by committee members or the public



ASME B31Q

- As an operator: **If using B31Q** - Remember that the regulation addresses the four-part test for covered tasks.
- You should not delete an existing covered task just because it might not be on the B31Q list. An inspector will ensure you follow your procedures, but you will be inspected for compliance for both the B31Q list and any task that meets the four-part test.



- No more waivers – Special Permits
- 80% SMYS – a number of requirements imposed including “new construction” OQ tasks



Qualification of Personnel:

- For the purpose of this special permit, a “covered task” is any task that meets the requirements in § 192.801 (b) and any construction task associated with implementing the increased MAOP allowed by this special permit that can affect the **integrity of the pipeline segment**. This includes, but is not limited to, tasks associated with construction or pipe replacement activities. Personnel performing these covered tasks on the pipeline must be qualified in accordance with 49 CFR Part 192, Subpart N.80% SMYS – a number of requirements imposed including “**new construction**” OQ tasks

ASME B31Q COVERED TASK LIST



Pipe Offloading

- Receipt of pipe into yards prior to stringing

Field Coating Inspection

Pipe Handling

Concrete Coating

- **Pipe Inspection** – Upon arrival on ROW, including ovality checks

Tapping – (During Construction)

- **Appurtenance Inspection** – Upon arrival on ROW

Jeeping – Inspection of Manufacturer & Field Coating

Excavation – Ditching

Installation of:

Boring & Directional Drilling

- CP (including ground beds, rectifiers & test stations)
- Appurtenances (not limited to):
 - * Valves
 - * Control Line Tubing
 - * Compressor Stations
 - * Overpressure Control Devices

Pipe Bending

Welding

Welding Inspection – All Methods

Coating Repairs - Field

Field Coating

Lowering of Pipe



ASME B31Q COVERED TASK LIST Cont'd

Pulling the Pipe Through a Directional Drill, Cased Crossing or a Bore

SCADA Control Point Verification

Padding and Backfilling

Launching & Receiving of deformation & test inline inspection devices

Pressure Testing

Anomaly Evaluation & Repair

Repairs from Pressure Testing

AC/DC Interference Survey & Mitigation
(during/after construction)

Purging & Dewatering

Joining of Flanged Components

Installation of Line Markers

Installation of Pipeline Supports

Mapping/Surveying (Post Installation)

Installation of Fabricated Assemblies

Operate/Use Gas Quality Monitoring Equipment

Gas Quality Monitoring & Control

SCADA System for Monitoring & Control

Right-of-way Determination – Possible paths/choices to ensure stable conditions

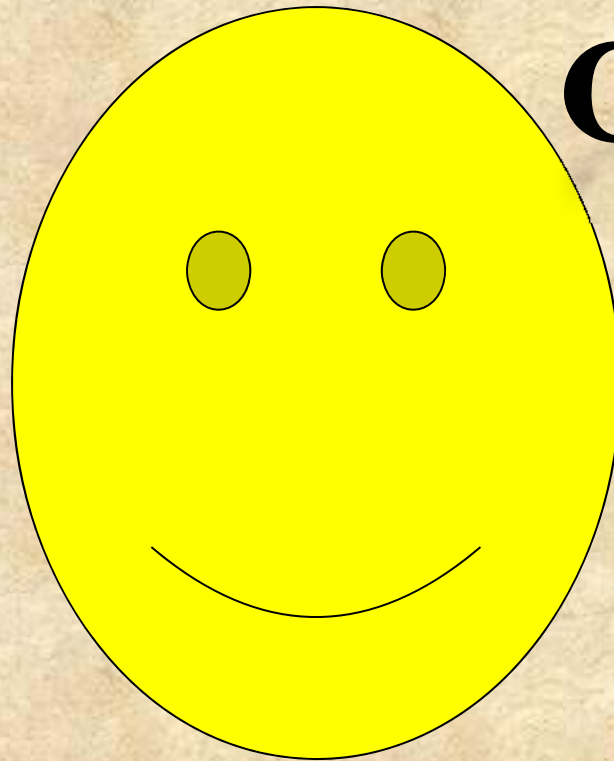


ASME B31Q COVERED TASK LIST Cont'd

Inspection of Work:	Line Locating / One Call
- Trenching	R.O.W. Clean-up & Restoration
- Excavating	Cathodic Protection System Surveys
- Bending	(DCVG, ACVG, CIS)
- Etc.	AOCs must be Developed Specifically for Construction

Misc. Issues for Consideration

GOOD LUCK



QUESTIONS

GOOD

PROCEDURES

