Description

This procedure is used to visually inspect all pipe and/or other components during construction or repair to ensure the components are not damaged in a manner that could impair their strength or reduce the pipe's serviceability.

Regulatory Applicability

All pipe and components being installed/replaced

☒ Transmission Pipelines
☒ Regulated Gathering Pipelines (Type A)
☒ Regulated Gathering Pipelines (Type B)
☒ Distribution Pipelines

Frequency

As needed

Reference

49 CFR 192.63	*Marking of Materials*
49 CFR 192.121	*Design of Plastic Pipe*
49 CFR 192.301	*Scope*
49 CFR 192.303	*Compliance with Specifications or Standards*
49 CFR 192.305	*Inspection – General*
49 CFR 192.307	*Inspection of Materials*
49 CFR 192.313	*Bends and Elbows*
49 CFR 192.315	*Wrinkle Bends in Steel Pipe*
49 CFR 192.317	*Protection from Hazards*

Forms / Record Retention

F-192.305	General Inspection Report / Life of Pipeline System

Related Specifications

API 1104	*Welding of Pipelines and Related Facilities*
ASME Boiler Pressure Vessel Code (Section 9)	

OQ Covered Task

0211 *Measure and Characterize Mechanical Damage on Installed Pipe and Components*

0811 *Visual Inspection of Welding and Welds*

1331 *Damage Prevention Inspection During Third Party Excavation or Encroachment Activities as Determined Necessary by Operator*

(In order to perform the tasks listed above; personnel must be qualified in accordance with West Texas Gas's Operator Qualification program or directly supervised by a qualified individual.)

Procedure Steps

1. Check components and consumables upon receipt.
   a) Ensure that they are marked properly:
      i) Each valve, fitting, length of pipe, and other component must be marked as prescribed in the specification or standard to which it was manufactured. However, thermoplastic fittings must be marked in accordance with ASTM D2513. Markings may also indicate size, material, manufacturer, pressure rating and temperature rating. Also, type, grade and model as appropriate.
      ii) Surfaces of pipe and components that are subjected to stress from internal pressure may not be field die stamped.
      iii) If any item is marked by die stamping, the die must have blunt or rounded edges that will minimize stress concentrations.
      iv) Butt-welding type fittings must meet the marking, end preparation, and the bursting strength requirements of ASME/ANSI B16.9 or MSS Standard Practice SP-75.
   b) Verify that the material received is marked as shown on the purchase document and that the material received is what was ordered. Review the documentation and verify that information agrees with purchase document requirements and material markings. Only items which meet or exceed the purchase document requirements are to be accepted by the receiving location.
   c) Maintain the purchase document number and any other appropriate identification markings on the material in a manner that does not damage the material so that the marking remains visible until the material is installed. Review markings as necessary.
   d) Cross reference mill test reports and fitting certification papers with the purchase order number. All steel pipe must have mill test reports when received and all fittings and other components must have certifications.
2. Visually inspect all pipe and components at the site to ensure that they are not damaged in a manner that could impair their strength or reduce serviceability.
3. Plastic pipe used in new construction must meet the criteria established in 49 CFR 192.63 and 49 CFR 192.123.
   a) Each valve, fitting, length of pipe and other component must be marked with its manufacturing standard, or, in the case of thermoplastic fittings, to the standards of ASTM D2513-87. All pipe must also be marked indicating size, material, manufacturer, pressure and temperature ratings, type, grade and model.
   b) All plastic pipe installed must meet the design limitations set forth in 49 CFR 192.123, including standards for temperature and pressure limitations.
   c) All installed radius fittings will meet or exceed the minimum bend radius specified by the manufacturer for the diameter of the pipe being installed.
4. Ensure welding is done in accordance with a qualified written procedure and procedure P-192.225.

5. Ensure welds are done according to procedure. This inspection must be conducted according to procedures P-192.241 and/or P-192.243 by a qualified inspector.
6. Ensure that the welder is shielded form weather related conditions that can impair the weld.
7. Inspect to ensure each component is provided with protection against external corrosion per procedures P-192.455 and P-192.461. Ensure that the coating has not been damaged. If damage has occurred, the coating must be repaired or replaced prior to covering the pipe.
8. Visually inspect entire length of exposed pipeline to ensure there are no wrinkles, gouges or other apparent physical damage.
9. Ensure each field bend in steel pipe complies with the following:
   a) Does not impair the serviceability of the pipe.
   b) Wrinkle bend are not made on steel pipe that will be operated at a pressure that produces a hoop stress of 30 or more, of SMYS.
   c) Does not have any sharp kinks.
   d) When measured along the crotch of the bend, the wrinkles are a distance of at least one pipe diameter.
   e) On pipe 16” or larger diameter, the bend does not have a deflection of more than 1 ½ percent for each wrinkle.
   f) Has a smooth contour and is free from buckling, cracks, or any other mechanical damage.
   g) On pipe containing a longitudinal weld, it must be as near as practicable to the neutral axis of the bend unless:
   h) Is made with an internal bending mandrel; or
   i) The pipe is 12 inches or less in outside diameter or has a diameter to wall thickness ratio less than 70.
   j) Each circumferential weld of steel pipe which is located where the stress during bending causes a permanent deformation in the pipe must be non-destructively tested either before or after the bending process.
   k) Wrought-steel welding elbows and transverse segments of these elbows may not be used for changes in direction on steel pipe that 2” or more in diameter unless the arch length, as measured along the crotch, is at least 1”.
   l) No Bend shall have a difference between the maximum and minimum diameters in excess of 2.5 percent of the nominal diameter.
10. Ensure all pipe installed in a ditch is installed in a manner that minimizes secondary stresses and the possibility of damage to the pipe.
    a) Inspect the ditch to ensure materials capable of damaging the coating are not present.
    b) Identify and remove foreign objects that could cause damage to the pipeline system.
    c) Ensure backfilling is done in a manner that protects the pipe coating and provides support for the pipe.

d) Inspect backfill material before and during operations to prevent damage to pipeline.

11. Ensure buried pipe is provided with adequate cover per 49 CFR 192.327 and there is appropriate clearance between the pipe and underground structures per 49 CFR Part 192.325. (See Procedure P-192.325.)
12. Ensure pipe at each railroad and highway crossing is installed to adequately withstand the dynamic forces exerted by the anticipated traffic loads.
13. Ensure valves are accessible to authorized employees and are protected from damage and tampering.
14. Complete all applicable forms, gather all construction records (mill specs) and file. These are to be retained for the life of the pipeline.