

1.0 PURPOSE

The purpose of this work instruction is to establish and maintain documented procedure to ensure that the manual ultrasonic inspection is carried out on entire weld seam of hot pulled induction bends to detect cracks, inclusion & other weld imperfections.

2.0 SCOPE

This procedure is established to conduct manual ultrasonic examination by using Angle beam pulse echo ultrasonic technique to detect weld imperfections of hot pulled induction bends.

3.0 APPLICABLE CODE & STANDARDS

- API 5L 45th edition 2012 "Specification for Line Pipe"
- ISO 15590-1:2009 Petroleum and natural gas industries —Induction bends, fittings and flanges for pipeline transportation systems —Part 1: Induction bends
- MSS-SP-75-2008 "Specification for high test, wrought, butt welding fitting.
- ASME B 16.49:2007 Factory-Made, Wrought Steel, Butt welding Induction Bends for Transportation and Distribution Systems
- ISO 9712 "Qualification and certification of personnel"

4.0 RESPONSIBILITY

Personnel performing Ultrasonic Examination shall be responsible for interpretation & evaluation of indications during the examination & preparation of examination reports. An ASNT LEVEL III shall be responsible for overall supervision.

5.0 PERSONNEL QUALIFICATION

NDT personnel shall be qualified as per WCL written practice & Vision examination shall be as per applicable SNT–TC–1A.

- NDT L-III shall be responsible for overall supervision.
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- NDT L-II personnel shall set up the equipment; perform tests and reports the results.

6.0 STAGE OF EXAMINATION

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The Manual Ultrasonic Examination shall be carried on bends after completion of bending process.

7.0 METHOD OF EXAMINATION

Angle beam contact method

8.0 TECHNIQUE

Pulse echo technique

9.0 EQUIPMENT USED

9.1 Flaw Detector (specify equipment)

9.2 Cable: Co-axial cable (specify cable)

9.3 Search Unit - Angle probe of 45°/60°/70°, with frequency 4 MHz of size 8 X 9 mm.

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