



Description This procedure is used to non-destructively test a weld, pipe or component, by any process that clearly indicates any defects that may affect the integrity of the tie-in or component replacement.

Regulatory Applicability Welds on a pipeline that will be operated at pressure that produces a hoop stress of 20% or more of SMYS unless the weld is visually inspected and approved by a qualified welding inspector and:

1. The pipe has a nominal diameter of less than 6 inches;
or

2. The pipeline is operated at a pressure that produces a hoop stress less than 40% of SMYS and there are such a limited number of welds that non-destructive testing impractical.

When nondestructive testing is required (see exceptions above), the following percentages of each day's field butt welds, selected at random by the operator, must be non-destructively tested over their entire circumference:

1. At least 10% of welds in onshore Class 1 locations;
2. At least 15% of welds in Class 2 locations;
3. 100% of welds in Class 3 and 4 locations, at crossings of major or navigable rivers, offshore, and within railroad or public highway rights-of-way, including tunnels, bridges, and overhead road crossings, unless impracticable, which in case at least 90% must be tested. Non destructive testing must be impracticable for each girth weld not tested.

100% of welds at pipeline tie-ins, including tie-ins of replacement pipe.

With the exception of a welder whose work is isolated from the principal welding activity, testing must include a sample of each welder's work each day.

- Regulated Transmission Pipelines
 - Regulated Gathering Pipelines (Type A)
 - Regulated Gathering Pipelines (Type B)¹
 - Regulated Distribution Pipelines
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Frequency Any time welding is performed on the pipeline, as required above

Reference 49 CFR 192.241 *Inspection and Test of Welds*
49 CFR 192.243 *Non-Destructive Testing*

¹ If the line is new, replaced, relocated or changed.



LA Title 43 Part XIII 1321 *Inspection and Test of Welds*
LA Title 43 Part XIII 1323 *Non-Destructive Testing*

Forms / Record Retention F-192.225 *Pipeline Welding Packet / Life of Pipeline System (Procedure Steps #7)*

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

OQ Covered Task 0611 *NDT – Liquid Penetrant Testing*
0601 *NDT – Radiographic Testing*
0621 *NDT - Magnetic Particle Testing*
0631 *NDT – Ultrasonic Testing*

(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. Decide which NDT process to use. The process must clearly indicate defects that may affect the integrity of the weld.

NOTE: Trepanning may not be used. Guidelines for performing each type are located on the following page.

2. Obtain the written procedures for the test. The written procedure must be attached to form F-192.225. If the procedure needs to be qualified, use the appropriate section of F-192.225 to document the qualification. The procedure must have provisions for proper interpretation of the test to ensure the weld is acceptable under 49 CFR 192.241(c) (See procedure P-192.245).
3. Determine that the technicians have been trained on the procedures that are to be used. Document this verification on F-192.225.
4. Witness the results of the test for abnormal conditions or defects.
5. If the weld is found to be unacceptable follow procedure P-192.245 to repair or remove the weld defect.
6. Record all required data on F-192.225. Attach all supplemental data.
7. Retain for the life of the pipeline, a record showing by milepost, engineering station, or by geographic feature, the number of girth welds made, the number nondestructively tested, the number rejected, and the disposition of the rejects. This should be documented on F-192.225.

Radiographic (X-Ray) Inspection

Individuals performing x-ray inspection must be certified. Procedure should be developed according to industry certifications.

Ultrasonic Inspection

1. Prepare pipe surface.
 - a) Remove poly coating.
 - b) Clean surface.
2. Calibrate UT equipment according to manufacturer's specifications.
3. Use meter to get reading.
 - a) UT complete weld area.
 - b) Record reading.

NOTE: A detailed procedure that includes test result interpretation must be written and qualified prior to usage.

Magnetic Flux Inspection

Individuals performing magnetic flux inspection must be certified. Procedure should be developed according to industry certifications.



Dye Penetrant Inspection

1. 1) Select the appropriate dye penetrant.
2. 2) Coat the pipe surface under evaluation with the dye penetrant.
3. 3) Clean the excess dye penetrant from the surface of the pipe.
4. 4) Spray or dust the white powder developer on the surface of the pipe under evaluation.
5. 5) Conduct a visual inspection using white or ultraviolet light, identifying the visible or fluorescent dye indications.

NOTE: A detailed procedure that includes test result interpretation must be written and qualified prior to usage.