



SOUTH CAROLINA
OFFICE OF REGULATORY STAFF
PIPELINE SAFETY
INSPECTION REPORT OF
NEW STEEL & PLASTIC
PIPELINE CONSTRUCTION

OPERATOR: (A-O) (P-Z)

DATE

South Carolina
Office of Regulatory Staff
Comprehensive Construction Form

OPERATOR: (A-O) (P-Z)

DATE:

Location:

Contractor:

Foreman:

Description:

Brand of Pipe:

Size of Pipe:

Other Specs:

Test Pressure:

Operating Pressure:

Additional Comments:

AFTER COMPLETING ABOVE, IF FILLING OUT PLASTIC CONSTRUCTION CONTINUE ON PAGE 3

AFTER COMPLETING ABOVE, IF FILLING OUT STEEL CONSTRUCTION CONTINUE ON PAGE 8

§192.287 Plastic pipe. Inspection of joints

INSPECTION

YES NO N/A

1. Does the operator have an inspector to insure that the project constructed according to this subpart?

2. Is operator personnel qualified to perform inspection tasks?

Inspector's Name: (If Operator requires Qualifications for Construction Inspection, attach documentation)

192.63: (3) Are all materials marked according to the specifications or standards to which it was manufactured or other requirements of this subpart?

(4) The pipe and components are joined by:

welding; mechanical joints; solvent cement;

fusion; other (specify);

QUALIFICATION

192.227 and 192.285:

(5) Are all personnel who make joints qualified to according to these applicable subparts? (Check Company Welder Certification Cards).

WELDER NAME (or Fusion)

HOW QUALIFIED & DATE

(From certification card)

(a)

YES NO N/A

§192.327: Cover

1. Does the pipeline have the required cover as this section prescribes?

2. Amount of cover inches

§192.281(c)(1)(2) Plastic pipe. (Heat-fusion/Socket fusion)

Butt fusion joints

1. Does the contractor have access to operator's construction manuals?

The manuals allow the teams to check on current procedures on site. It would be difficult for teams to demonstrate they are following procedures if they do not have the procedures readily available/accessible.

2. Is the hot plate clean and smooth?

Ensures joint cleanliness.

	<u>YES</u>	<u>NO</u>	<u>N/A</u>
3. Is the pipe trimmer sharp and free of debris? Preparation of joint face important for strong joints.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Have joints been left in fusion machine until the end of the fusion cycle? Ensures quality of the joint. Disturbing the joint before it has cooled sufficiently will weaken it.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Are there any precautions taken to protect against adverse weather, e.g. shelter, end caps to prevent wind chill? Ensures quality of the joint. Excessive cooling prior to butting pipe ends together or dust contamination will weaken the joint.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Pipe roller supports or other means used? Lessens risk of pipe damage or misalignment, reduces manual handling risks.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Have beads been removed with an approved bead removal tool? The geometry of the beads is used to check the quality of the butt fusion and a proper tool should be used.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Have beads been numbered and retained? If applicable, audit arrangements.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Has bead checks been retained in a project file? If applicable, audit arrangements.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
§192.281(c)(3) Plastic pipe Electrofusion joints			
1. Are all fittings stored in bags ready for use? Cleanliness of the fittings is essential to joint integrity. Contaminated fittings should be discarded.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Is there any evidence of damage on the pipe (10% rule)? Damage where the joint is made potentially affects the joint integrity. Although current standards allow for a 10% loss to pipe damage, it is poor practice to lay damaged pipe regardless of percentage loss.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Is there evidence of proper scraping on the pipe to be jointed? Preparation of the pipe is critical to joint integrity. Pipe should be scraped clean.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Are the pipe ends cut square? Contributes to proper joint alignment. If the joint has already been made, this is difficult to check but it is a good question to ask how the pipe was cut.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Has the pipe exposure tool been used to remove skin? Failure to use a proper tool may damage the parent pipe.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	<u>YES</u>	<u>NO</u>	<u>N/A</u>
6. (a) Does the contractor have access to mains and/or service clamps for Various sizes of pipe?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(b) And have they been used? Use of clamps is important to ensure correct alignment and joint restraint during the fusion cycle. This is particularly important on larger diameter mains. A range of clamps for the pipes being installed should be available on site.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Does the contractor have access to mains and/or service clamps able to clamp bends? As above. The contractor must have appropriate clamps for all electrofusion joints, including elbows and bends.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Is there evidence of marking on the pipe to assist in aligning the pipe into the socket? If there are no markings evident, it is difficult for the contractor to demonstrate correct alignment or ensure that the assembly has not moved during the fusion cycle.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Is there any evidence of misalignment? Serious misalignment is unacceptable.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. Has the correct electro fusing time been allowed? This ensures quality of the joint. If clamps have not been used to restrain the joint for the duration of the heating and cooling cycle, the joint could be weakened.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. For tees, has the correct loading tool been used? Correct loading is necessary to ensure the tee/pipe joint is made properly. Too much pressure can result in weld being expelled from the joint, too little pressure results in a poor weld.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. Has the correct cooling time been allowed before the clamp is removed? This ensures the quality of the joint. If clamps have not been used, they can't demonstrate this. The team should be aware of the appropriate cooling time.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. Is there any evidence of melt that has come out of the fitting? Indicates possible misalignment and potentially a poor fusion joint.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SUMMARY (Include a list of any non-compliances found during the inspection):

PHMSA ADB 06-03 (November 17, 2006, PHMSA Advisory Bulletin)

Construction-related excavation damage continues to be one of the three leading causes of pipeline damage. PHMSA continues to find pipeline operators damaging regulated pipelines, production and gathering pipelines, and other utilities adjacent to where construction and maintenance is being performed. This damage jeopardizes the safety of excavators, pipeline employees, construction personnel, and others in the vicinity of the excavation. To guard the integrity of buried pipelines and prevent injury, death, and property and environmental damage, PHMSA advises pipeline operators to take the following damage prevention measure. Operators should use the full range of safe locating excavation practices. In particular, pipeline operators should ensure the use of qualified personnel to accurately locate and mark the location of its underground pipelines.

	<u>YES</u>	<u>NO</u>	<u>N/A</u>
16. Has the Operator taken necessary precautions to Insure that all underground gas and hazardous liquid Pipelines have been correctly located and properly Marked to avoid their damage during excavation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17. Does the Operator fully follow written Damage Prevention Procedures established as part of this Operator's O & M Procedures, or kept otherwise?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

GENERAL ITEMS:

	<u>YES</u>	<u>NO</u>	<u>N/A</u>
1. If alcohol is being used to clean PE pipe, insure that It is purified (90 – 95% alcohol by volume)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. What is the general depth of buried service lines? Mains?			
3. If EFV's are being installed, what distance are they from The main? How was this determined?			

4. If a pressure test was not observed during this inspection Is a copy of the test being made available after it is performed?
5. Is the installation of this pipeline(s) being provided To responsible party who will record the information In the Company's records and mapping?
6. Are all pipelines installed with sufficient clearance From any other structure according to guidance Provided in §192.325?

SUMMARY

Other comments:

List any non-compliances found during the inspection:

10/2017

IF FILLING OUT STEEL CONSTRUCTION CONTINUE HERE:

<u>MATERIAL</u>	<u>YES</u>	<u>NO</u>	<u>N/A</u>
192.55: Does the material meet the requirements of this subpart?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
192.63: Are all material marked according to the specifications or standards to which it was manufactured or other requirements of this subpart?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

QUALIFICATION

192.227 Are all personnel who make joints qualified to according to these applicable subparts? (Check Commission Welder Certification Cards).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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WELDER NAME

HOW QUALIFIED & DATE

(From certification card)

(a)

(b)

(c)

<u>INSPECTION AND TEST OF WELDS</u>	<u>YES</u>	<u>NO</u>	<u>N/A</u>
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192.241: (1) Does the Operator have an individual who is qualified to inspect welding according to this subpart?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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(2) Inspector's Name:

- 192.305:** (1) Does the operator have an inspector to insure that the project is constructed according to this subpart?
- (2) Qualifications (check documentation if required):
- (3) Inspector's Name:

NON-DESTRUCTIVE TESTING

- | | <u>YES</u> | <u>NO</u> | <u>N/A</u> |
|--|--------------------------|--------------------------|--------------------------|
| 192.243: (1) Are proper percentages and samples of weld joints being collected and non-destructively tested (X-ray) each day? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| (2) Are necessary repairs being performed? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| (3) Are qualified personnel performing these tasks?
(verify X-ray technician's qualifications) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| (4) Are there sufficient records being maintained? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

INSTALLATION IN DITCH

- 192.319:** (1) Does the pipe fit the ditch so as to minimize stresses and protect the coating from damage?
- (2) Is the ditch backfilled so as to provide firm support to the pipe and backfill material will not damage the coating?

YES **NO** **N/A**

COVER

192.327: (1) Does the transmission line or main have the required cover as this section prescribes?

CATHODIC PROTECTION

192.455: (1) If steel pipe is being installed, does it have an external protective coating meeting the requirements of 192.461?

(2) Is a cathodic protection system planned or being installed with the installation which will be placed in operation within one year after completion of construction?

(3) Are steps being taken to adequately protect pipe coating?

(4) Is coating being inspected with a holiday detection Instrument and repairs made?

PRESSURE TEST REQUIREMENTS

192.509: (1) Do records indicate that the operator test his installations as required by this section?

Tested with _____ to _____ psig

192.511: (2) Do records indicate that steel service lines are tested as required by this section?

Tested with _____ to _____ psig.

192.517: (3) Does the operator keep records of the testing of the for the life of the pipe?

PURGING

192.629: (1) When the pipeline is purged of air by gas, is the flow moderately rapid and continuous?

(2) If gas is not of sufficient quantity to prevent the formation of a hazardous mixture, does the operator use a slug of inert gas before the gas?

LINE MARKERS

192.707: (1) Are line markers being provided as required?

TESTING OF REPAIRS

192.719: (1) On segments of transmission lines that are repaired by cutting out the damaged portion, has the new section been tested to the pressure required for a new line?

(2) Are all field girth butt welds that are not strength tested, tested by non-destructive test meeting the requirements of 192.243?

PREVENTION OF

ACCIDENTAL IGNITION

192.751: (1) Have workmen removed all potential sources of
ignition in areas where gas is vented to open air?

(3) Is a fire extinguisher that is in good working
condition provided on the work site?

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YES NO N/A

**1. Has the Operator taken necessary precautions to
insure that all underground gas and hazardous liquid
pipelines have been correctly located and properly
marked to avoid their damage during excavation?**

2. Does the Operator fully follow written damage prevention Procedures established as part of this Operator's O & M Procedures, or kept otherwise?

GENERAL ITEMS:

1. What is the general depth of buried service lines?

Mains?

2. If EFV's are being installed, what distance are they from the main?

How was this determined?

3. If a pressure test was not observed during this Inspection Is a copy of the test being made available after it is performed?

4. Is the installation of this pipeline(s) being provided To responsible party who will record the information In the Company's records and mapping?

YES NO N/A

5. Are all pipelines installed with sufficient clearance from any other structure according to guidance provided in §192.325?

6. Are welds found to be unacceptable being removed or Repaired according to this subpart?

SUMMARY

Other comments: *(include information regarding X-ray requirements, technician qualifications, and if mistakes have been discovered in the welds)*

List any non-compliances found during the inspection: