Pipeline and Hazardous Materials Safety Admin., DOT  § 192.313

§ 192.305 Inspection: General.
Each transmission line or main must be inspected to ensure that it is constructed in accordance with this part.

§ 192.307 Inspection of materials.
Each length of pipe and each other component must be visually inspected at the site of installation to ensure that it has not sustained any visually determinable damage that could impair its serviceability.

§ 192.309 Repair of steel pipe.
(a) Each imperfection or damage that impairs the serviceability of a length of steel pipe must be repaired or removed. If a repair is made by grinding, the remaining wall thickness must at least be equal to either:
   (1) The minimum thickness required by the tolerances in the specification to which the pipe was manufactured; or
   (2) The nominal wall thickness required for the design pressure of the pipeline.
(b) Each of the following dents must be removed from steel pipe to be operated at a pressure that produces a hoop stress of 20 percent, or more, of SMYS, unless the dent is repaired by a method that reliable engineering tests and analyses show can permanently restore the serviceability of the pipe:
   (1) A dent that contains a stress concentrator such as a scratch, gouge, groove, or arc burn.
   (2) A dent that affects the longitudinal weld or a circumferential weld.
   (3) In pipe to be operated at a pressure that produces a hoop stress of 40 percent or more of SMYS, a dent that has a depth of:
      (i) More than 1/4 inch (6.4 millimeters) in pipe 12 3/4 inches (324 millimeters) or less in outer diameter; or
      (ii) More than 2 percent of the nominal pipe diameter in pipe over 12 3/4 inches (324 millimeters) in outer diameter.
For the purpose of this section a “dent” is a depression that produces a gross disturbance in the curvature of the pipe wall without reducing the pipe-wall thickness. The depth of a dent is measured as the gap between the lowest point of the dent and a prolongation of the original contour of the pipe.
(c) Each arc burn on steel pipe to be operated at a pressure that produces a hoop stress of 40 percent, or more, of SMYS must be repaired or removed. If a repair is made by grinding, the arc burn must be completely removed and the remaining wall thickness must be at least equal to either:
   (1) The minimum wall thickness required by the tolerances in the specification to which the pipe was manufactured; or
   (2) The nominal wall thickness required for the design pressure of the pipeline.
(d) A gouge, groove, arc burn, or dent may not be repaired by insert patching or by pounding out.
(e) Each gouge, groove, arc burn, or dent that is removed from a length of pipe must be removed by cutting out the damaged portion as a cylinder.

§ 192.311 Repair of plastic pipe.
Each imperfection or damage that would impair the serviceability of plastic pipe must be repaired or removed.

§ 192.313 Bends and elbows.
(a) Each field bend in steel pipe, other than a wrinkle bend made in accordance with §192.315, must comply with the following:
   (1) A bend must not impair the serviceability of the pipe.
   (2) Each bend must have a smooth contour and be free from buckling, cracks, or any other mechanical damage.
   (3) On pipe containing a longitudinal weld, the longitudinal weld must be as near as practicable to the neutral axis of the bend unless:
      (i) The bend is made with an internal bending mandrel; or
      (ii) The pipe is 12 inches (305 millimeters) or less in outside diameter or has a diameter to wall thickness ratio less than 70.
(b) Each circumferential weld of steel pipe which is located where the stress
during bending causes a permanent de-
formation in the pipe must be non-
destructively tested either before or
after the bending process.

(c) Wrought-steel welding elbows and
transverse segments of these elbows
may not be used for changes in direc-
tion on steel pipe that is 2 inches (51
millimeters) or more in diameter un-
less the arc length, as measured along
the crotch, is at least 1 inch (25 milli-
eters).

3, 1985; Amdt. 192–85, 63 FR 37503, July 13, 1998]

§ 192.315 Wrinkle bends in steel pipe.

(a) A wrinkle bend may not be made
on steel pipe to be operated at a pres-
sure that produces a hoop stress of 30
percent, or more, of SMYS.

(b) Each wrinkle bend on steel pipe
must comply with the following:
(1) The bend must not have any sharp
kinks.

(2) When measured along the crotch
of the bend, the wrinkles must be a dis-
tance of at least one pipe diameter.

(3) On pipe 16 inches (406 millimeters)
or larger in diameter, the bend may
not have a deflection of more than 15°
for each wrinkle.

(4) On pipe containing a longitudinal
weld the longitudinal seam must be as
nearly as practicable to the neutral axis
of the bend.

[35 FR 13257, Aug. 19, 1970, as amended by
Amdt. 192–85, 63 FR 37503, July 13, 1998]

§ 192.317 Protection from hazards.

(a) The operator must take all prac-
ticable steps to protect each trans-
mission line or main from washouts,
floods, unstable soil, landslides, or
other hazards that may cause the pipe-
line to move or to sustain abnormal
loads. In addition, the operator must
take all practicable steps to protect
offshore pipelines from damage by mud
slides, water currents, hurricanes, ship
anchors, and fishing operations.

(b) Each aboveground transmission
line or main, not located offshore or in
inland navigable water areas, must be
protected from accidental damage by vehi-
cular traffic or other similar
causes, either by being placed at a safe
distance from the traffic or by install-
ing barricades.

(c) Pipelines, including pipe risers, on
each platform located offshore or in in-
land navigable waters must be pro-
ected from accidental damage by ves-
sels.

16, 1976; as amended by Amdt. 192–78, 61 FR 28784, June
6, 1996]

§ 192.319 Installation of pipe in a
ditch.

(a) When installed in a ditch, each
transmission line that is to be operated
at a pressure producing a hoop stress of
20 percent or more of SMYS must be
installed so that the pipe fits the ditch
so as to minimize stresses and protect
the pipe coating from damage.

(b) When a ditch for a transmission
line or main is backfilled, it must be
backfilled in a manner that:
(1) Provides firm support under the
pipe; and

(2) Prevents damage to the pipe and
pipe coating from equipment or from
the backfill material.

(c) All offshore pipe in water at least
12 feet (3.7 meters) deep but not more
than 200 feet (61 meters) deep, as meas-
ured from the mean low tide, except
pipe in the Gulf of Mexico and its inlets
under 15 feet (4.6 meters) of water,
must be installed so that the top of the
pipe is below the natural bottom unless
the pipe is supported by stanchions,
held in place by anchors or heavy con-
crete coating, or protected by an equiv-
alent means. Pipe in the Gulf of Mexico
and its inlets under 15 feet (4.6 meters)
of water must be installed so that the
top of the pipe is 36 inches (914 milli-
ometers) below the seabed for normal
excavation or 18 inches (457 millime-
ters) for rock excavation.

[35 FR 13257, Aug. 19, 1970, as amended by
Amdt. 192–27, 41 FR 34606, Aug. 16, 1976;
Amdt. 192–78, 61 FR 28784, June 6, 1996; Amdt.
192–85, 63 FR 37503, July 13, 1998]

§ 192.321 Installation of plastic pipe.

(a) Plastic pipe must be installed
below ground level except as provided
by paragraphs (g) and (h) of this sec-
tion.

(b) Plastic pipe that is installed in a
vault or any other below grade enclo-
sure must be completely encased in