constructed before September 12, 1970,
to the highest pressure that is per-
mitted under §192.619, using as test
pressure the highest pressure to which
the segment of pipeline was previously
subjected (either in a strength test or
in actual operation).

(d) After complying with paragraph
(b) of this section, an operator that
does not qualify under paragraph (c) of
this section may increase the pre-
viously established maximum allow-
able operating pressure if at least one
of the following requirements is met:

(1) The segment of pipeline is suc-
cessfully tested in accordance with the
requirements of this part for a new line
of the same material in the same loca-
tion.

(2) An increased maximum allowable
operating pressure may be established
for a segment of pipeline in a Class 1
location if the line has not previously
been tested, and if:

(i) It is impractical to test it in ac-
cordance with the requirements of this
part;

(ii) The new maximum operating
pressure does not exceed 80 percent of
that allowed for a new line of the same
design in the same location; and

(iii) The operator determines that
the new maximum allowable operating
pressure is consistent with the condi-
tion of the segment of pipeline and the
design requirements of this part.

(e) Where a segment of pipeline is
uprated in accordance with paragraph
(c) or (d)(2) of this section, the increase
in pressure must be made in incre-
ments that are equal to:

(1) 10 percent of the pressure before
the uprating; or

(2) 25 percent of the total pressure in-
crease,

whichever produces the fewer number
of increments.

§ 192.557 Uprating: Steel pipelines to a
pressure that will produce a hoop
stress less than 30 percent of SMYS:
plastic, cast iron, and ductile iron
pipelines.

(a) Unless the requirements of this
section have been met, no person may
subject:

(1) A segment of steel pipeline to an
operating pressure that will produce a
hoop stress less than 30 percent of
SMYS and that is above the previously
established maximum allowable oper-
ating pressure; or

(2) A plastic, cast iron, or ductile
iron pipeline segment to an operating
pressure that is above the previously
established maximum allowable oper-
ating pressure.

(b) Before increasing operating pres-
sure above the previously established
maximum allowable operating pres-
sure, the operator shall:

(1) Review the design, operating, and
maintenance history of the segment of
pipeline;

(2) Make a leakage survey (if it has
been more than 1 year since the last
survey) and repair any leaks that are
found, except that a leak determined
not to be potentially hazardous need
not be repaired, if it is monitored dur-
ing the pressure increase and it does
not become potentially hazardous;

(3) Make any repairs, replacements,
or alterations in the segment of pipe-
line that are necessary for safe oper-
ation at the increased pressure;

(4) Reinforce or anchor offsets, bends
and dead ends in pipe joined by com-
pression couplings or bell and spigot
joints to prevent failure of the pipe
joint, if the offset, bend, or dead end is
exposed in an excavation;

(5) Isolate the segment of pipeline in
which the pressure is to be increased
from any adjacent segment that will
continue to be operated at a lower
pressure; and

(6) If the pressure in mains or service
lines, or both, is to be higher than the
pressure delivered to the customer, in-
stall a service regulator on each serv-
vice line and test each regulator to de-
terminate that it is functioning. Pressure
may be increased as necessary to test
each regulator, after a regulator has
been installed on each pipeline subject
to the increased pressure.

(c) After complying with paragraph
(b) of this section, the increase in maxi-
 mum allowable operating pressure
must be made in increments that are
equal to 10 p.s.i. (69 kPa) gage or 25 per-
cent of the total pressure increase,
whichever produces the fewer number
of increments. Whenever the require-
ments of paragraph (b)(6) of this sec-
tion apply, there must be at least two
approximately equal incremental increases.

(d) If records for cast iron or ductile iron pipeline facilities are not complete enough to determine stresses produced by internal pressure, trench loading, rolling loads, beam stresses, and other bending loads, in evaluating the level of safety of the pipeline when operating at the proposed increased pressure, the following procedures must be followed:

(1) In estimating the stresses, if the original laying conditions cannot be ascertained, the operator shall assume that cast iron pipe was supported on blocks with tamped backfill and that ductile iron pipe was laid without blocks with tamped backfill.

(2) Unless the actual maximum cover depth is known, the operator shall measure the actual cover in at least three places where the cover is most likely to be greatest and shall use the greatest cover measured.

(3) Unless the actual nominal wall thickness is known, the operator shall determine the wall thickness by cutting and measuring coupons from at least three separate pipe lengths. The coupons must be cut from pipe lengths in areas where the cover depth is most likely to be the greatest. The average of all measurements taken must be increased by the allowance indicated in the following table:

<table>
<thead>
<tr>
<th>Pipe size inches (millimeters)</th>
<th>Allowance inches (millimeters)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Cast iron pipe</td>
</tr>
<tr>
<td>Pit cast pipe</td>
<td>Centrifugally cast pipe</td>
</tr>
<tr>
<td>3 to 8 (76 to 203)</td>
<td>0.075 (1.91)</td>
</tr>
<tr>
<td>10 to 12 (254 to 305)</td>
<td>0.08 (2.03)</td>
</tr>
<tr>
<td>14 to 24 (356 to 610)</td>
<td>0.08 (2.03)</td>
</tr>
<tr>
<td>30 to 42 (762 to 1067)</td>
<td>0.09 (2.29)</td>
</tr>
<tr>
<td>48 (1219)</td>
<td>0.09 (2.29)</td>
</tr>
<tr>
<td>54 to 60 (1372 to 1524)</td>
<td>0.09 (2.29)</td>
</tr>
</tbody>
</table>

(4) For cast iron pipe, unless the pipe manufacturing process is known, the operator shall assume that the pipe is pit cast pipe with a bursting tensile strength of 11,000 p.s.i. (76 MPa) gage and a modulus of rupture of 31,000 p.s.i. (214 MPa) gage.


Subpart L—Operations

§ 192.601 Scope.

This subpart prescribes minimum requirements for the operation of pipeline facilities.

§ 192.603 General provisions.

(a) No person may operate a segment of pipeline unless it is operated in accordance with this subpart.

(b) Each operator shall keep records necessary to administer the procedures established under § 192.605.

(c) The Administrator or the State Agency that has submitted a current certification under the pipeline safety laws, (49 U.S.C. 60101 et seq.) with respect to the pipeline facility governed by an operator’s plans and procedures may, after notice and opportunity for hearing as provided in 49 CFR 190.237 or the relevant State procedures, require the operator to amend its plans and procedures as necessary to provide a reasonable level of safety.


§ 192.605 Procedural manual for operations, maintenance, and emergencies.

(a) General. Each operator shall prepare and follow for each pipeline, a manual of written procedures for conducting operations and maintenance activities and for emergency response. For transmission lines, the manual