

PI-73-0108

April 30, 1973

Mr. Ronald D. Gardner, Manager
Research and Development
The Pipe Line Development Company
1831 Columbus Road
Cleveland, Ohio 44113

Dear Mr. Gardner:

Your letter of April 10, 1973, enclosed a sketch of a domed, contoured welding cap used to cover a pit hole clamp. The cap is field welded for permanency on pipe of not more than 40,000 p.s.i. SMYS. You ask, in effect, whether the design of this cap is governed by the standards of §192.717(c).

As here relevant, §192.717(c) is applicable to welded steel plates that are used to repair corrosion pits. However, the cap described in the sketch appears to be a fitting or component rather than a plate. The provisions of §192.717(c) would therefore not apply to your cap. Although the regulations contained in Part 192 do not purport to cover the specific design requirements of every type of component or fitting that might be safely welded onto a pipeline, they do, however, set forth general design requirements for pipeline components including components fabricated by welding. Thus Subpart D of Part 192, including in particular §192.153, would be applicable to the design of the welding cap. Subpart E of Part 192, covering the welding of steel in pipelines, would also have general applicability with reference to the design of welding caps.

To the extent that you consider your welding cap to be a branch connection as suggested in your letter, the applicable design requirement is set forth in §192.155. That requirement is stated as a performance standard rather than a detailed specification, and the means of compliance is left with the designer.

For your information, a copy of Part 192 is enclosed. If you have further questions in this regard, we will be pleased to respond.

Sincerely,
Original signed by:
Joseph C. Caldwell
Director

April 10, 1973

The Pipe Line Development Company
1831 Columbus Road
Cleveland, Ohio 44113

Office of Pipeline Safety
The Pipe Line Development Company
1831 Columbus Road
Cleveland, Ohio 44113

Office of the Secretary of Transportation
Washington, D. C. 20590

Attention: Mr. Joseph C. Caldwell
Director
Office of Pipeline Safety

Dear Mr. Caldwell:

Enclosed you will find a sketch of a domed, contoured welding cap (4 inches O.D.). It is used to cover a pit hole clamp and is field welded for permanency on pipe not more than 40,000 psi SMYS.

The diameter of the cap remains fixed for all sizes of pipe; only the saddle contour changes.

I have four questions concerning the design of these caps:

- (1) Is the wall thickness of the cap governed by standard pipe design for an intersection or branch connection?
- (2) Is the wall thickness determined by the design principles of a patch repair (Subpart M, part 192.717, paragraph "C") "of the same or greater thickness than the pipe"?
- (3) Does the rule apply (Subpart M, part 192.717 paragraph "C") "not more than one half the diameter of the pipe in size", thereby limiting it to 8 inch nominal pipe and above?
- (4) Can the cap be used on 4-1/2 inches O.D. and 6-5/8 inches O.D. pipe under the definition of an intersection or branch connection?

Your assistance in answering these questions will be greatly appreciated.

Respectfully yours,
Ronald D. Gardner, Manager
Research and Development