

PI-80-0104

October 21, 1980

Mr. Gerald F. Malloy
Chairman, Eastern Region
Department of Public Utility Control
State of Connecticut
165 Capitol Avenue
Hartford, CT 06115

Dear Gerry:

At the recent State/Federal meeting, I promised to provide two requested items of information. One, a list of nominees for the THLPSS Committee, was placed in your hands before adjourning. The other an answer to the question relating to testing HVL pipelines, Docket No. PS-55, asking if the test media could be the fluid to be transported or, in the alternative, some fluid other than water, is as follows.

This docket applies to §§195.300, 195.302(b), and 195.406(a)(5) which, in essence, prescribe hydrostatic testing or otherwise limits the pressure for operation of HVL pipelines. It does not address test media.

The media acceptable for testing must be in accordance with §195.306. This section prescribes that water must be used, except that onshore pipelines may be tested with non volatile petroleum liquids if specified conditions and procedures are met.

Sincerely,
Walter Dennis
Office of Pipeline Safety Regulation
Materials Transportation Bureau

March 11, 1971

American Petroleum Institute Petition for Reconsideration – Par. 195.306(b)(2)

Acting Director, Office of Pipeline Safety

Acting Federal Railroad Administrator

The API petition for reconsideration of Par. 195.306(b)(2) has been reviewed by the OPS staff. We agree that the 1,000-foot restriction is perhaps too restrictive, but we do not agree to completely delete the requirement. In our opinion to do so would be a substantial reduction in the degree of safety intended. Also, any action in this direction should only be done through a notice of proposed rule making with an opportunity for comment.

Contrary to Mr. Lord's statement on page 2 of the petition, this subject was expected to be a part of the public hearing of January 18, 1970. It was intended that all phases of testing be discussed. While the Notice for the hearing (34FR, No. 191) did not specifically reference the 1,000-foot limitation, it did state ". . .commenters are not limited to the specific questions raised. Should there be any other aspect of testing or operating limitations that a person is interested in, he should feel free to express an opinion at the hearing. . . ." (None were expressed.)

The OPS staff has studied the API proposal and also reevaluated the public comments received on the proposed regulation. Considering those comments and other information available we recommend that the petition be denied and that the attached proposed regulation revision be published as a notice of proposed rule making. In our opinion, this proposed change should substantially satisfy the industry concern while maintaining a high degree of public safety.

Section 195.306 – Test Medium

(a) No change.

(b) Liquid petroleum that does not vaporize rapidly may be used as a test medium if –

- (1) The entire pipeline section under test is outside of cities and other populated areas.
- (2) The test medium has a vapor pressure of less than 3.0 as determined by the Reid Method (ASTM Designation D-323).
- (3) There are no occupied buildings within 300 feet of the pipeline while the test stress level is 50 percent or greater of the specified minimum yield strength of the pipe in the test section.
- (4) There are no more than 15 buildings intended for human occupancy or assembly within 1,000 feet of the line in any one mile of length.
- (5) The carrier takes steps to assure that any loss of test fluid will not create a hazard to any water supply or public area in the vicinity and will minimize the chance of damage to the environment.

IF there are any questions, I or my staff will be happy to discuss them with you.

Original signed by:
Joseph C. Caldwell

United States Government
Department of Transportation
Federal Railroad Administration

MEMORANDUM

DATE: December 31, 1970

TO: The Acting Administrator

FROM: Director,
Bureau of Railroad Safety

SUBJECT: Petition for Reconsideration
Paragraph 195.306(b)(2)

I forward for your review a Petition for Reconsideration filed by the American Petroleum Institute (API), on behalf of the petroleum pipeline industry, concerning a restriction published in Amendment 195-2 which states:

Section 195.306 Test Medium

- (a) Except as provided in Paragraph (b) of this section, water must be used as the test medium.
- (b) Liquid petroleum that does not vaporize rapidly may be used as the test medium if--(1) the entire pipeline section under test is outside of cities and other populated areas; and (2) there are no persons, other than those conducting test, within 1000 feet of the test section.

It is with the "1000 foot" restriction that this petition deals. My staff concurs with the petitioner belief that 49 CFR, Section 195.306(b)(2) should be deleted.

This particular provision causes great difficulty to pipeline operations when an existing pipeline is relocated or when pipe is replaced in an existing pipeline. Relocation and repair are accomplished while the pipeline contains product. If the pipeline company is required to remove product for an appropriate distance (usually anywhere from 20 to 50 miles) so as to hydrostatically test the line, then fill that line with water, then test and purge, the water from the line, it creates a real hardship. Some of this hardship is enumerated in the attached Petition for Reconsideration.

The American Petroleum Institute also notes that there has been no unsatisfactory safety experience relative to the hydrostatically testing of pipelines with petroleum products which do not easily vaporize.

If you concur with the petitioner, I shall have the appropriate formal rule making material prepared at once.

Mac E. Rogers

American Petroleum Institute
1101 Seventeenth Street, Northwest
Washington, D.C 20036

December 23, 1970
Re: 14.23 - HM -6

Mr. Carl V. Lyon, Acting Administrator
Federal Railroad Administration
400 7th Street, S. W.
Washington, D. C. 20596

Dear Mr. Lyon:

The American Petroleum Institute (API), on behalf of the petroleum pipeline industry, petitions for reconsideration, in part, of the regulations issued by the Federal Railroad Administration (FRA) on November 2, 1970, in Amendment 195-2; Docket HM-6, Testing Requirements and Operating Pressure Limitations to 49 CFR, 195, Transportation of Liquids by Pipeline. This petition has been developed by the Institute's Central Committee on Pipe Line Transportation whose members have management responsibility for virtually all of the nation's liquid petroleum pipelines.

The Institute recognizes the expenditure of thought and effort which the Department of Transportation has devoted to the development of these regulations. In general, the regulations are workable and enforceable, and your staff is to be complimented on completing this task in so creditable a fashion. The Institute is particularly pleased to note that the FRA has chosen to respect many of the industry's carefully developed engineering and operating practices.

It is important that the regulations which become effective on January 8, 1971, be fully disseminated and understood within industry and government. The Institute, in the interest of reducing the possible confusion which might result from extensive changes in the regulations before that date, wishes to petition for reconsideration of only a single requirement at this time. It is possible that further experience in implementing the requirements of Part 195 will indicate the need for initiatives from the carriers for additions to, revisions of, or deletions from these regulations. The Institute assumes that the Federal. Railroad Administration will recognize the need for possible future petitions for rulemaking and will accept this petition without prejudice to future requests for changes.

In its review of Amendment 195-2, the Institute was surprised and disappointed to encounter sub-section 195.306(b)(2) Test Medium. The requirements contained in this sub-section were first proposed by the FRA in its Notice of Proposed Rule-Making (Docket No. HM-6; Notice 68-4) issued on July 12, 1968. The text of the proposal was:

180.306 Test Medium

- (b) If the entire pipeline section being tested is located outside of any city or other populated area and if there are no persons (other than those conducting the test) within 1,000 feet of the test section, the carrier may use liquid petroleum of a type that will not vaporize if released to the atmosphere.

In its filing of January 13, 1969, in response to this Notice, the Institute recommended the 2,000-foot "clear zone" requirement, 1,000-feet on each side of the pipeline, in proposed paragraph (b) be deleted, and a requirement for backfilling prior to testing with a petroleum medium be substituted. The Institute also pointed out that the proposal would effectively prohibit use of petroleum as a test medium, primarily because of pipeline-highway crossings.

The requirements contemplated by this proposal were not included in the regulation in Part 195,

Transportation of Liquids by Pipeline, Requirements for Design, Construction, Operations, and Maintenance promulgated on September 29, 1969. Nor were they designated as a subject for hearing in the Notice for Public Hearing (Notice 69-27; Docket No. HM-6) issued the same day. Neither were the carriers made aware in any other manner that this proposal remained under active consideration until certain of its requirements appeared as regulations in Amendment 195-2.

The Institute objects most strongly to the 2,000-foot clear zone provisions in paragraph 195.306(b)(2) of the Amendment and reiterates its proposal that this requirement be deleted.

This change is requested because the required clear zone limitation is so unduly restrictive as to virtually eliminate use of petroleum as a test medium in the nation's petroleum pipelines. This prohibition would result primarily from the difficulty of establishing clear zones under the 2,000-foot criteria. Adoption of the API recommendation will provide relief from this problem with no decrease in safety.

Although the use of petroleum test media is not a frequent practice on new construction, it has been a common practice when testing relocations and it can be a most necessary one under certain circumstances. To prohibit it, as the current regulation effectively does, would create an unnecessary hardship on the carriers. It should also be pointed out that there has been no unsatisfactory safety experience related to the hydrostatic testing of pipelines with petroleum products which do not easily vaporize.

A number of factors dictate that the Regulations permit hydrostatic testing with petroleum under certain circumstances. First, in winter in the northern states, ground temperatures are so low as to freeze water should it be employed as a test medium. If carriers are limited to the use of water as a test medium, they can safely conduct hydrostatic tests only when they are absolutely certain that the ambient temperature during the test period will not drop below the point where the test water would freeze and damage the pipeline. The use of anti-freeze solutions -- ethylene glycol or methanol -- as test media is contraindicated by their expense and the problem of disposing of them without contributing to pollution. By testing with petroleum products, pipelines may be placed in service many months earlier than if the carrier were forced to wait for the spring thaw.

Secondly, in some areas a quantity of water sufficient to provide linefill for the hydrostatic test cannot be acquired. This is sometimes the case in the Desert Southwest, the Rocky Mountain States and in certain parts of the North in winter.

Thirdly, in the case of pipelines undergoing tests because of repair or modification, the disposal of water contaminated with petroleum products can create serious problems.

Finally, it is difficult to dry a pipeline following a hydrostatic test with water so as to eliminate the possibility of product degradation. Even minute amounts of water may render some petroleum products unacceptable. This is particularly true of aviation turbine fuel and aviation gasoline, products commonly transported by pipeline.

Hydrostatic tests are conducted by skilled personnel, the section of line under test being kept under careful patrol and close scrutiny. These tests are hydrostatic, the test medium having no velocity which might be converted to pressure by an unexpected operating upset and only that volume of the test medium necessary for linefill is employed. Continuous communication, usually by radio, is maintained along the entire section of pipeline undergoing testing. As a further safety measure, sections to be buried are backfilled prior to testing. The practice of hydrostatic testing with certain petroleum products is a safe practice and is sometimes a necessary one.

The Institute requests that the FRA act affirmatively and as quickly as possible on this Petition. It stands ready to provide whatever further information or explanation the FRA may require.

Very truly yours,
B.H. Lord, Jr.