

**Research and Special Programs
Administration**

49 CFR Part 195

[Amdt. No. 195-19; Docket No. OPSO-48]

Seams on Adjacent Pipe Lengths

AGENCY: Materials Transportation
Bureau (MTB).

ACTION: Final rule.

SUMMARY: This final rule revokes § 195.218 which requires that seams on adjacent pipe lengths be offset. This action is taken because the pipe manufacture and welding technology has advanced sufficiently to make the requirement of this section unnecessary.

EFFECTIVE DATE: September 8, 1980.

FOR FURTHER INFORMATION CONTACT:
Frank Robinson, (202) 426-2392.

SUPPLEMENTARY INFORMATION: On September 21, 1977, MTB issued a notice of proposed rulemaking (Notice 77-6, 42 FR 48900) proposing to revoke § 195.218, "Welding: Seam Offset." The notice invited comments from interested persons concerning the need to offset weld seams on adjacent pipe lengths as required by § 195.218. MTB initiated this rulemaking proceeding as a result of waivers granted to the Alyeska Pipeline Service Company. Information provided in support of the waivers demonstrated that technological advances in pipe manufacture and welding have minimized the likelihood of weld failure due to residual stresses and have, therefore, made unnecessary the requirement to offset adjacent longitudinal weld seams.

Seven commenters responded to the notice. Six industry commenters, including the American Petroleum Institute and the American National Standards Committee B-31, concurred with MTB's proposed revocation of the offset requirement of § 195.218 for the same reasons given in the notice.

One dissenting industry commenter argued that removal of § 195.218 is not warranted in all cases because much of the pipe that could be installed may not have been manufactured according to the latest technology. This commenter stated that the Alyeska pipeline was built to a specification which included requirements for ductility and notch toughness of weld and pipe metals in the arctic environment. However, Notice 77-6 was not issued on the basis that line pipe available for use in liquid service throughout the U.S. would have material characteristics similar to those on the Alaskan pipeline. Rather, the notice was

predicated on the fact that pipe manufacturing and welding technology has advanced in the area of ductility to the point where § 195.218 is no longer necessary. This statement is as true for Grade B pipe, made to standard API 5L, as it is for the higher strengths and grades of pipe. Each of the normally followed API standards for pipe manufacture, API 5L and 5LX, provides for a level of ductility that is high enough to remove the potential, under normal operating conditions, of weld seam failure and propagation that § 195.218 was intended to prevent. Although Grade B pipe may be more brittle under cold conditions than the higher grades of pipe, due to its higher transition temperature from a ductile to brittle condition, § 195.102 requires the carrier to select component materials for the temperature environment in which the component will be used to assure that structural integrity is not impaired. For these reasons, the MTB believes it is not necessary to maintain the requirement to offset weld seams on Grade B pipe or other pipe.

In view of the cost savings that will result from the revocation of this regulation the effective date of this final rule is September 8, 1980.

In consideration of the foregoing, 49 CFR Part 195 is amended as follows:

§ 195.218 [Revoked]

1. By revoking § 195.218 "Welds: Seams Offset."
2. By deleting § 195.218 from the table of sections. (Hazardous Liquid Pipeline Safety Act of 1979 (Title II of Pub. L. 96-219, November 30, 1979); 49 CFR 1.53 and Appendix A of Part 1).

Issued in Washington, D.C., on September 2, 1980.

L. D. Santman,
Director, Materials Transportation Bureau.
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49 CFR Part 195

[Amdt. 195-17; Docket No. PS-55]

Testing Highly Volatile Liquid Pipelines

AGENCY: Materials Transportation
Bureau (MTB).

ACTION: Final rule.

SUMMARY: This final rule provides that onshore "interstate pipeline facilities" (as that term is defined in the Hazardous Liquid Pipeline Safety Act of 1979) constructed before January 8, 1971, may not transport highly volatile liquids (HVL) unless they have been hydrostatically tested in accordance with Subpart E of Part 195 or do not

operate at a pressure that exceeds 80 percent of any test or operating pressure which has been held for four continuous hours. This rule reduces the potential for severe HVL pipeline accidents caused by latent material and construction defects.

EFFECTIVE DATE: October 8, 1980, except that a longer compliance period is set forth in the final rule for pipelines in HVL service before September 8, 1980.

FOR FURTHER INFORMATION CONTACT:
Frank Robinson, 202-426-2392.

SUPPLEMENTARY INFORMATION: Accident reports on file with the MTB show that HVL pipelines have caused a substantially higher percentage of deaths, injuries, and property damage than hazardous liquid pipelines carrying less volatile commodities. The record of hazardous liquid pipeline accidents reported on Form DOT-7000-1 from 1968 through 1977 shows that although HVL pipeline accidents comprise only 10 percent of the total number of accidents involving liquid pipelines, the HVL pipeline accidents caused 66 percent of the deaths, 50 percent of the injuries, and 30 percent of the property damage. These statistics clearly illustrate that an HVL spill presents a much higher risk to safety than spills of other hazardous liquids. This higher potential for damage is due to the fact that when HVL is released to the atmosphere, it forms a gas cloud, which is a markedly different and more insidious hazard than that presented by spills of less volatile liquids.

A definition of a highly volatile liquid has been adopted under Part 195 in Amendment 195-15, Docket PS-51 (44 FR 41197, July 16, 1979), but is repeated here for clarity: a "highly volatile liquid" or "HVL" is "a commodity which will form a vapor cloud when released to the atmosphere and which has a vapor pressure exceeding 276 kpa (40 psia) at 37.8°C (100°F)."

Inside the pipeline, HVL will remain a liquid as long as the pressure is higher than the vapor pressure of the liquid. If a pipeline rupture occurs and the pressure is reduced to atmospheric pressure, some of the liquid will immediately vaporize to a gas. The remainder will turn to gas as it picks up heat from its surroundings. The gas forms a cloud that will move downhill or downwind depending on the terrain, type of liquid involved, and atmospheric conditions. Because it is generally heavier than air, the rapidly expanding gas cloud will tend to hug the ground as it continues to migrate. If a source of ignition is encountered, a petroleum gas cloud will burn or explode. In the case of the lighter anhydrous ammonia vapor, the