

DEPARTMENT OF TRANSPORTATION
Research and Special Programs
Administration

49 CFR Part 195

[Docket No. PS-77, Notice 1]

Transportation of Hazardous Liquids
by Pipeline; Isolated Corrosion Pitting

AGENCY: Materials Transportation
 Bureau (MTB), DOT.

ACTION: Notice of proposed rulemaking.

SUMMARY: This notice proposes to revise the standard governing isolated corrosion pitting on interstate hazardous liquid pipelines by replacing it with a standard similar to the one governing localized corrosion pitting on gas transmission lines. The current standard is too restrictive because it does not permit the use of technological advances in evaluating the strength of corroded pipe. This proposed amendment will reduce costs to industry and consumers without reducing public safety.

DATE: Interested persons are invited to submit written comments on this proposal before November 28, 1983. Late filed comments will be considered so far as practicable.

ADDRESS: Comments should be sent to the Dockets Branch, Room 8426, Materials Transportation Bureau, U.S. Department of Transportation, 400 Seventh Street, SW., Washington, D.C. 20590, and identify the docket and notice numbers. All comments and other docket material are available in Room 8426 for inspection and copying between the hours of 8:30 a.m. and 5:00 p.m. each working day.

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

SUPPLEMENTARY INFORMATION: By a letter dated May 21, 1982, The American Petroleum Institute (API), a National trade association involved in most areas of the petroleum industry, petitioned MTB to revise the Federal safety standard in § 195.416(g) governing isolated corrosion pitting. The API asked that the standard be revised to reflect the corrosion pitting criteria found in paragraph 451.6.2(a)(7) of the American Society of Mechanical Engineers (ASME) Code B31.4, "Liquid Petroleum Transportation Piping Systems" (1979 Edition).

With regard to steel pipe that is required to be examined for external corrosion, § 195.416(g) provides:

"If isolated corrosion pitting is found, the operator shall repair or replace the pipe unless—

(1) The diameter of the corrosion pits is less than the nominal wall thickness

as measured at the surface of the pipe; and

(2) The remaining wall thickness at the bottom of the pits is at least 70 percent of the nominal wall thickness."

This standard was derived from a notice of proposed rulemaking (33 FR 10213; July 17, 1968) which in § 180.416(g) proposed that pipe be replaced if corrosion pitting reduces the original wall thickness by 10 percent or more. The technical basis for the modified version of the rule finally adopted as quoted above was not explained in the final rule document (34 FR 15473; Oct. 4, 1969).

On the basis of research conducted by Battelle Columbus Laboratories ("Summary of Research to Determine the Strength of Corroded Areas in Line Pipe", J. F. Kiefner and A. R. Duffy, July 20, 1971), as reflected in the B31.4 Code, API asserts in its petition that § 195.416(g) is unduly stringent. The current rule is said to cause pipe to be replaced or repaired when these remedial measures are not needed for safety.

The Battelle research developed and tested criteria, incorporating mathematical expressions of length and depth of corroded areas, to predict the pressure strength of corroded pipe. For pit depths equal to 80 percent or more of nominal wall thickness, the criteria require repair or replacement of pipe. For pit depths less than 80 percent of nominal wall thickness, the criteria permit continued operation of pipe at its current maximum pressure if the measured aggregate length of the corroded area is equal to or less than a calculated value. The pipe may be operated at a calculated reduced pressure if the length is longer than the calculated value.

The underlying premise of these criteria is that the minimum stress level at which pipe will fail in corrosion pits is 100 percent of the pipe's specified minimum yield strength (SMYS). Since the maximum operating pressure permitted under Part 195 produces a maximum stress level of 72 percent of SMYS, the criteria provide a 1.4 (100/72) factor of safety. This factor is greater than the minimum 1.25 factor of safety provided under § 195.406(a)(3) by hydrostatic pressure testing. The 1.25 factor, which results from limiting maximum operating pressure to 80 percent of test pressure, is generally accepted as a sufficient measure of pipeline integrity.

MTB concurs with API's criticism of the current standard for accepting or rejecting isolated corrosion pitting because it has no apparent scientific foundation and does not emphasize pipe

strength. The remaining pressure strength of pipe material in a corroded area is the most important consideration in determining whether the pipe can safely continue in use. Although evaluating that strength is a complex problem, the Battelle criteria have gained recognition as an acceptable method of evaluation. Not only are the criteria including in the B31.4 Code, but they are also in the ASME B31.8 Code for gas pipelines and the ASME *Guide for Gas Transmission and Distribution Piping Systems*. In view of the safety provided by the Battelle criteria, their widespread acceptance by the industry, and the potential for cost savings, the MTB is proposing to grant API's petition and amend § 195.416(g) to allow use of the Battelle criteria.

Rather than including the criteria directly in 195.416(g), MTB believes that adopting a performance standard is a better rulemaking option, because it would permit the use of future technological developments. Although the B31.4 Code provisions that API recommended are not performance standards, the MTB standard in 49 CFR 192.485(b) for localized corrosion pitting on gas transmission lines is written in performance terms. This Part 192 standard for pipelines comparable to interstate hazardous liquid pipelines and operated in similar environments has provided an acceptable level of safety without enforcement difficulties since its adoption in 1978 (36 FR 12302). MTB proposes therefore, that this standard, which is set forth below in a slightly modified form to fit the Part 195 regulatory context, be adopted for isolated pitting on hazardous liquid pipelines subject to Part 195 instead of the current § 195.416(g). MTB believes there is no significant difference between the terms "isolated" and "localized" when used to describe corrosion pitting, and use of the latter term will provide consistency with Part 192 and the B31.4 Code provisions.

A noticeable difference between the proposed standard and the current one is that § 195.416(g) now does not expressly permit the reduction of operating pressure as an alternative remedy to repair or replacement of corroded areas. However, by Interpretation 82-8, issued August 16, 1982, MTB declared that §§ 195.416 (f) and (g) may be read together for purposes of understanding the standard for isolated corrosion pitting. Under that interpretation, pressure reduction in accordance with the general corrosion rule of § 195.416(f) is an allowable remedy for isolated corrosion, pitting. Introducing the new language from

§ 192.485(b) that provides for pressure reduction does not, therefore, represent a change in the way § 195.416(g) is currently being enforced.

Under the proposed revised wording of § 195.416(g) as well as the current § 192.485(b), the key consideration in determining if a remedy is required is whether pitting exists to a degree where leakage might result. The Battelle criteria and the B31.4 Code provide a simple, objective means of making this determination. Operators may, of course, use any other demonstrably safe method, such as pressure testing in accordance with Part 195 requirements at 1.25 times maximum operating pressure, to verify that leakage from corrosion pits would not occur under normal operating conditions. Such conditions would include compliance with other corrosion control requirements of Part 195, which are intended to preclude further corrosion damage.

Classification

The Regulatory Flexibility Act (94 Stat 1164, 5 U.S.C. 601) requires a review of each proposed safety regulation issued after January 1, 1981, for its effect on small businesses, organizations, and governmental bodies. I certify that the regulation proposed by this notice will not have a significant economic impact on a substantial number of small entities because few, if any, interstate hazardous liquid pipelines are owned by small entities.

Since this proposed rule will have a positive effect on the economy of less than \$100 million a year, will result in cost savings to consumers, industry, and governmental agencies, and no adverse effects are anticipated, the action is not "major" under Executive Order 12291. Also, it is not "significant" under Department of Transportation procedures. Further, MTB has determined that this proposal does not require a full draft Regulatory Evaluation under those procedures. While the proposed rule would provide definite cost savings for operators in many cases, the difference between the proposed and current requirements and the frequency at which savings would occur should result only in a minor cost savings impact on the industry as a whole.

List of Subjects in 49 CFR Part 195

Pipeline safety, External corrosion, General corrosion, Isolated corrosion pitting.

PART 195—[AMENDED]

In view of the above, the MTB proposes to revise § 195.416(g) to read as follows:

§ 195.416 External corrosion control.

(g) If localized corrosion pitting is found to exist to a degree where leakage might result, the pipe must be replaced or repaired, or the operating pressure must be reduced commensurate with the strength of the pipe based on the actual remaining wall thickness in the pits.

(49 U.S.C. 2002; 49 CFR 1.53 and Appendix A of Part 1 and Appendix A of Part 106)

Issued in Washington on October 6, 1983.

Richard L. Beam,

Associate Director for Pipeline Safety
Regulation Materials Transportation Bureau.

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DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR 17

Endangered and Threatened Wildlife and Plants: Proposed Endangered Status and Critical Habitats for Seven Plant and One Insect Species in Ash Meadows, Nevada and California

AGENCY: Fish and Wildlife, Service, Interior.

ACTION: Proposed rule and finding on a petition.

SUMMARY: The Service proposes to determine seven plant and one insect species to be Endangered species and to designate their Critical Habitats. This action is being taken because these species are restricted to the Ash Meadows region and ground water basin in Nye County, Nevada, and Inyo County, California, where they are facing intensifying threats. Imminent land development for housing subdivisions, clearing of land for road construction and agricultural purposes, pumping of ground water, and diversion of surface flows threaten the integrity of the species' habitat and therefore their survival. The proposed rule constitutes the Service's findings on a petition to list the plants. The Service seeks data and comments from the public on this proposal.

DATES: Comments from the public and the States of California and Nevada must be received by December 12, 1983. Public hearing requests must be received by November 28, 1983.

ADDRESSES: Interested persons or organizations can obtain information from and submit written comments to the Regional Director, U.S. Fish and Wildlife Service, Lloyd 500 Building, Suite 1692, 500 NE. Multnomah Street, Portland, Oregon 97232. Comments and materials received will be available for public inspection by appointment during normal business hours at the Service's Office of Endangered Species at the above address.

FOR FURTHER INFORMATION CONTACT: Mr. Sanford R. Wilbur, U.S. Fish and Wildlife Service, Suite 1692, Lloyd 500 Building, 500 NE. Multnomah Street Portland, Oregon 97232 (phone 503/231-6131), or Mr. John L. Spinks, Jr., Chief, Office of Endangered Species, U.S. Fish and Wildlife Service, Washington, D.C. 20240 (phone 703/235/1975).

SUPPLEMENTARY INFORMATION:

Background

The Ash Meadows region is a unique and diverse desert wetland located east of the Amargosa River in California and Nevada. This wetland is maintained by flow from several dozen springs and seeps which are fed by an extensive groundwater system which extends more than 100 miles northeast of Ash Meadows. Hundreds of plant and animal species, many of them endemic, are associated with this wetland and depend upon it for survival. The eight species that are the subjects of the proposal occur only in Ash Meadows. These eight species are briefly described below.

1. The spring-loving centaury (*Centaurium, namophilum* Reveal, Broome, & Beatley var. *namophilum* Broome) was first recognized as a variety by Broome (1981). *Centaurium namophilum* was described by Reveal, Broome, and Beatley in 1973, although it had been collected as early as 1891 by Coville and Funston (Reveal, Broome, and Beatley, 1973). The spring-loving centaury is an erect annual reaching 4.5 dm in height and has pink flowers. It is found on "moist to wet clay soils along the banks of streams or in seepage areas" (Mozingo and Williams, 1980) and is often found with the Ash Meadows gumplant.

2. The Ash Meadows gumplant (*Grindelia fraxino-pratensis*, Reveal and Beatley) was described by Reveal and Beatley in 1971, although it had been collected as early as 1965 by Beatley (Reveal and Beatley, 1971). It is an erect biennial or perennial reaching 7 to 10 dm in height and has yellow inflorescences that have heads measuring 8 to 10 mm in diameter (Mozingo and Williams, 1980).