Dec 12 1975

Mr. J. L. Williams
Williams Brothers Engineering Company
6600 South Yale Avenue
Tulsa, OK 74136

Dear Mr. Williams:

This is with regard to the telephonic conversation between you and Mr. George L. Mocharko of this Office concerning installing gas pipelines uncased under a hard surface road.

Your interpretation of 49 CFR §192.103, §192.105, and §192.111(b)(2) is correct per your letter and attachments dated August 4, 1975.

We trust this adequately responds to your inquiry.

Sincerely,

Cesar DeLeon
Acting Director
Office of Pipeline
Safety Operations

dal\192\103\75-12-12

July 31, 1975

U.S. Department of Transportation
Office of Pipeline Safety
Washington, D.C. 20590

Attention: Mr. Ceasar De Leon

Subject: Interpretation of Sub-Sections 192.103, 192.105, and 192.111(b)(2)
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Gentlemen:

Attached is a print of our Figure 1-12.

Sub-sections 192.103, 192.105(a) and 192.111(b)(2) deal with external loads, design formula for steel pipe, and design factor (F) for steel pipe.

The attached Figure 1-12 is an example that illustrates our interpretation of these sub-sections of the code. Basically our interpretation is that for any given pipe size and wall thickness; and for a given design factor (F) the design pressure (internal pressure allowed) will be a lessor pressure when installed uncased under a hard surface road than when installation results in parallel encroachment on roads right-of-way.

Our interpretation is based upon:

A. 192.103

> Pipe must be designed with sufficient wall thickness, or must be installed with adequate protection to withstand anticipated external pressures and loads that will be imposed on the pipe after installation.

B. 192.105(a)

t = Nominal wall thickness of the pipe in inches. ... additional wall thickness required for concurrent external loads in accordance with 192.103 may not be included in computing design pressure.

C. API RP 1102 Fourth Edition, September 1968 - Recommended Practice for Liquid Petroleum Pipelines Crossing Railroads and Highways

Paragraphs 3.1 a, b, and c.

Using this information Figure 1-12 has been constructed and indicates that for 12.75" O.D. x .255" W.T., X-60 pipe the design pressure would be limited to 1350 psig for an uncased road crossing of a hard surfaced road in a Class 1 location, while the design pressure for the same pipe would be 1440 psig for parallel encroachment on highways or public streets in a Class 1 location.

Please advise if you concur with our interpretation of the regulations.

Your prompt consideration of this matter will be appreciated.

Yours very truly,

WILLIAMS BROTHERS ENGINEERING COMPANY

J. L. Williams

Attachment