

April 17, 1990

Mr. David C. Vosbein
President, Wellstream Corporation
Suite 401
800 Bering Drive
Houston, TX 77057

Dear Mr. Vosbein:

Thank you for the presentation made by you and your colleagues, Richard T. Hill and Donald M. Lenz, to Cesar De Leon, Lloyd W. Ulrich and G. Joseph Wolf of the Office of Pipeline Safety (OPS) on February 28, 1990, regarding Wellstream Corporation's flexible pipe and its uses.

In your letter of February 27, 1990, and in discussions on February 28, you requested that OPS clarify this office's opinion regarding 49 CFR Section 192.13 on the acceptability of Coflexip flexible pipe stated in a letter dated November 8, 1978, from Cesar De Leon, Associate Director for Pipeline Safety Regulations, Material Transportation Bureau, to John B. Geddle, Esquire (copy enclosed).

In the meeting of February 28, you provided us with two booklets, Wellstream Corporation General Information and Operating History and Wellstream Corporation Flexible Pipe Technology, February 1990. Wellstream Corporation's flexible pipe, similar to Coflexip pipe, is fabricated of multiple layers of extruded plastic and spirally wound steel. It is available in a wide range of diameters for service under a wide range of pressures and in a great variety of environments. Generally the product is manufactured to individual specifications engineered for each unique installation.

It is acknowledged that flexible pipe systems are in use in a variety of applications offshore and that the number of applications is growing. Flexible pipe is preferred for certain offshore installations in which it would be difficult to install and maintain rigid piping systems or components.

The American Petroleum Institute (API) published on June 1, 1988, the First Edition of API Recommended Practice 17B titled Recommended Practice for Flexible Pipe. While there is no standard specification for the manufacture of flexible pipe, Recommended Practice 17B, Section 6, includes recommendations for product tests in three categories - Prototype Tests, Acceptance Tests and Special Tests. Recommended Practice 17B, in its Scope, acknowledges that ". . . flexible pipe is a custom-built product which can be manufactured in a variety of methods" and that ". . . the design and analysis of flexible pipe are made difficult by its multilayered composite construction involving different materials." Recommended Practice 17B describes

typical offshore applications in risers, pipelines and pipeline/flowline tie-ins. While the requirements in Part 192 specifically applicable to steel and plastic pipe do not apply to flexible pipe, such as that manufactured by the Wellstream Corporation, this does not mean that Section 192.13 prohibits the use of this type of pipe in gas service. If a Part 192 provisions does not apply by its terms to a particular type of pipe, such as Wellstream's flexible pipe, then an operator need only meet the provisions of Part 192 that do apply. For example, the requirements of Sections 192.103 and 192.143, as well as Subpart I, would apply to a design using Wellstream pipe.

We hope that this letter clarifies the regulations for the use of flexible pipe systems.

Sincerely,

George W. Tenley, Jr.
Director
Office of Pipeline Safety

Enclosure