U.S. Department
of Transportation

**Pipeline and Hazardous
Materials Safety
Administration**

1200 New Jersey Avenue, SE
Washington, D.C. 20590

AUG 1 8 2009

Mr. Paul Cabot
GPTC Secretary
Gas Piping Technology Committee (GPTC)
American Gas Association
400 North Capitol Street, NW
Suite 450
Washington, DC 20001

Dear Mr. Cabot:

In a letter to the Pipeline and Hazardous Materials Safety Administration (PHMSA) dated October 19, 2006, you requested an interpretation of the applicability of the Federal pipeline safety regulations in 49 CFR Part 192 to plastic natural gas pipelines. Specifically, you requested an interpretation of 49 CFR §§ 192.513(c), 192.557(c), and 192.619(a)(2)(i) as they relate to uprating polyethylene (PE) pipelines. You used the example of a 4-inch PE pipeline with a design pressure rating of 100 psig, tested to 75 psig at the time of construction, with a maximum allowable operating pressure (MAOP) of 50 psig. You suggested an approach to uprating such a line to 60 psig in increments without testing the pressure and asked whether your approach would be permissible under current regulations.

You correctly noted that § 192.557(c) permits uprating a pipeline by increasing line pressure in increments. You referenced a November 14, 1973, Office of Pipeline Safety interpretation for steel pipelines that permitted incremental uprating of steel pipelines without a pretest. You stated your belief that if this interpretation were applied to plastic pipelines, uprating incrementally in accordance with § 192.557(c) would be acceptable without testing the pressure. You expressed your view that it would be acceptable to incrementally increase the pressure to the new MAOP without testing it to 1.5 times the new MAOP.

As the regulatory agency with primary responsibility for pipeline safety in the U.S., PHMSA is obligated to ensure the pipeline safety requirements provide an adequate margin of safety. In carrying out our responsibilities, we appreciate receiving input and views from all stakeholders and particularly appreciate the views of the GPTC. In this case, however, we can not agree that the above referenced interpretation can be applied to plastic pipelines. Under § 192.619 the MAOP requirements for steel and plastic pipelines are not the same. For plastic pipelines § 192.619(a)(2)(i) requires the following:

§ 192.619 - (a) Except as provided in paragraph (c) of this section, no person may operate a segment of steel or plastic pipeline at a pressure that exceeds the lowest of the following:

(1) ...
(2) The pressure obtained by dividing the pressure to which the segment was tested after construction as follows:
(i) For plastic pipe in all locations, the test pressure is divided by a factor of 1.5.

We agree that § 192.557 allows the uprating of PE pipelines. However, § 192.619 (a)(2)(i) requires the operator to increase the uprating test pressure to 1.5 times the new MAOP in order to meet the lowest limiting factor for the new MAOP. Therefore, in order for the operator to increase the MAOP from 50 psig to 60 psig, a pressure test to 1.5 times the new MAOP (90 psig) must be conducted to comply with the § 192.619 (a)(2)(i) requirements.[1] In addition, other applicable requirements must be met including:

- Following procedures prior to uprating (§ 192.557(b)(1));
- Checking rating of applicable appurtenances for the test pressure; and
- Meeting and maintaining operating conditions to ensure pressure increments as required by the uprating (§ 192.553(a)).

I hope that this information is helpful to you. If I can be of further assistance, please contact me at (202) 366-4046.

Sincerely,

John A. Gale
Director, Office of Regulations

[1] Note that § 192.553 was amended on September 15, 2003, [68 FR 53895] to make direct reference to § 192.619 and clarify the uprating requirements. This amendment addressed the concern that the previous language referring to "this part" was potentially being applied differently among the States. This was a key focus of the work done under the State Industry Regulatory Review Committee (SIRRC) II in recognizing the principal differences between strength test vs. leak test. The SIRRC II formulated the proposed language to state these would be subjected to incremental pressure increases to the desired new MAOP with an additional leak survey to be performed no sooner than 10 days and no later than 30 days after the date the last pressure increase is achieved.

Paul Cabot
GPTC Secretary
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October 19, 2006

Richard D. Huriaux
Manager Regulations
Office of Pipeline Safety (DPS -10), RSPA
U.S. Department of Transportation
400 Seventh Street, SW Room 7128
Washington, DC 20590-001

Re: **Uprating plastic pipelines to 100 psi or below does not require additional testing**

Dear Mr. Huriaux:

The Gas Piping Technology Committee (GPTC) consists of about 80 members with technical expertise in natural gas distribution, transmission, and gathering systems. Its membership is balanced between gas distribution operators, gas transmission operators, manufacturers, and general interest personnel such as federal and state regulators. The GPTC is an Independent technical committee and has been an American National Standards Institute (ANSI) accredited committee since 1992 and has the ANSI committee designation of ANSI/GPTC Z380. The American Gas Association (AGA) has been the Secretariat to this committee since 1990.

The GPTC respectfully requests an interpretation on the application of several sections of Title 49, Part 192, Transportation of Natural and Other Gas by Pipeline: Minimum Federal Safety Standards, specifically Sections 192.513(c), 192.557(c) and Section 192.619(a)(2)(i) as these relate to uprating PE pipelines.

Given the example:

A 4" PE pipeline, with a design pressure rating of 100 psig, was initially tested at the time of construction to 75 psig in accordance with Section 192.513(c). This gave the pipeline an MAOP of 50 psig as defined in 192.619(a)(2)(i).

Now, going forward, an operator has interest in uprating the above referenced pipeline to a higher MAOP of 60 psig.

The new MAOP of 60 psig can be approached and established by increasing line pressure in increments up to the 60-psig limit. The GPTC considers the above uprating procedure to be acceptable based on the interpretation of referenced code sections. Further, the GPTC is aware OPS previously provided a similar interpretation dated November 14, 1973 for steel pipelines operating below 100 psig. In that interpretation under question 3, OPS stated, "Section 192.557(c) requires only that the new MAOP be approached in increments. In uprating, the pretest to 90 psig would not be required." This interpretation is attached as a reference.

Therefore, the GPTC respectfully requests OPS to affirm the above interpretation is also applicable for plastic pipelines operating at 100 psig or below. The affirmation would confirm that Section 192.557(c) does not require the total pressure increase to be 1.5 times the proposed MAOP, instead the total pressure would be increased up to the proposed MAOP in increments. Your prompt consideration would be appreciated.

Sincerely,

Paul Cabot
GPTC Secretary
American Gas Association

cc: Marek
Frantz
Slagle

attachment: 11/14/73 OPS Interpretation

November 14, 1973

Mr. John Searcy
Tennessee Public Service Commission
Cordell Hull Building
Nashville, TN 37219

Dear Mr. Searcy:

In your letter of October 3, 1973, you requested interpretations of various sections of Part 192, Title 49, CFR, that related to maximum allowable operating pressures (MAOP), certain test requirements, and uprating. Your specific questions and the Office of Pipeline Safety (OPS) answers are:

Question 1: Re: Maximum allowable operating pressures

"192.619(a)(2) requires that test pressure values be used as criteria for determining maximum allowable operating pressures; however, it applies only to steel operating at or above 100 psi and plastic.

"192.621 covers all materials including cast iron and ductile iron; however, it does not require that test pressure values be used as criteria for determining maximum allowable operating pressures.

"Therefore, I conclude that, for steel operating below 100 psi and for cast iron and ductile iron operating at any pressure, test pressure valves are not required criteria for determining maximum allowable operating pressures. Is this your interpretations?"

Questions 2: Re: Test requirements

"192.507(b) provides test requirements for pipelines of all materials operating at or above 100 psi and less than 30% SMYS and requires test pressure values between 100 psi and those required to produce 20% SMYS. However, it does not specify what the values will be. 192.619 would determine the test pressure values within this range for steel and plastic by relating them to maximum allowable operating pressure. However, 192.619 does not apply to cast iron and ductile iron.

"192.509 covers pipelines of all materials operating at or below 100 psi, and requires 10 psi or 90 psi as test pressures.

"The conclusion here would be that values of test pressures can be established in any pressure range for steel and plastic, and for cast iron and ductile iron operating at or below 100 psi; however, there is no required test pressure value for cast iron and ductile iron operating above 100 psi. Is this the proper interpretation?"

Answer to Questions 1 & 2

Test requirements for pipelines to operate at or below 100 psig is established by Section 192.509 based upon the intended MAOP and is applicable with the exception of service lines and plastic pipe. Cast iron and ductile iron pipelines would be included under this section if the intended MAOP is 100 psig or less.

For pipelines to operate at a hoop stress of less than 30 percent SMYS but more than 100 psig, Section 192.507 is applicable, with limitations on the MAOP for steel and plastic pipelines being set by Section 192.619.

Your interpretation is correct. There is no specific test pressure required for cast iron and ductile iron operating above 100 psig and up to 30 percent of SMYS. However, the operator must comply with the requirements of Sections 192.507 and 192.53.

Question 3: Re: Uprating

"192.557(c) provides that an increase in maximum allowable operating pressure must be made in increments. However, the following questions arise:

"(1) If the maximum allowable operating pressure it to be increased within the 1 psi to 100 psi range, and no test records are available, must it be tested to 90 psi first, in accordance with 192.509, and if so, must the test pressure be approached in the increments specified in 192.557(c)?

"(2) Or, does 192.557(c) require only that the new maximum allowable operating pressure itself be approached in the increments required?

Answer to Question 3

Section 192.557(c) requires only that the new MAOP be approached in increments. In uprating, the pretest to 90 psig would not be required.

If we may assist further, please let us know.

Sincerely,

/signed/ Cesar De Leon

Joseph C. Caldwell
Director
Office of Pipeline Safety

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