

PI-01-0110

U.S. Department of Transportation
Research and Special Programs Administration
400 Seventh St. S.W.
Washington, D.C. 20590

May 31, 2001

Mr. Douglas Kilpatrick, P.E.
Pipeline Safety Director
Washington Utilities and Transportation Commission
P.O. Box 47250
Olympia, WA 98504-7250

Dear Mr. Kilpatrick:

This letter is in response to your letter of March 15, 2001, requesting an interpretation of the pipeline pressure up rating requirements in 49 CFR Part 192, Subpart K.

You note that a local distribution company (LDC) wants to up rate a steel pipeline in a Class 3 location to a pressure that will produce a hoop stress of less than 30 percent of specified minimum yield strength (SMYS). In 1957, the pipe was pressure tested to 465 psig and the LDC established a maximum allowable operating pressure (MAOP) of 190 psig based on the highest operating pressure during the five-years prior to July 1, 1970. The LDC proposes to raise the pressure from 190 psig to 250 psig in four increments of 15 psig.

You assert that the up rating procedure described above does not meet the minimum requirement of 49 CFR § 192.553(d), which states that

. . . a new maximum allowable operating pressure established under this subpart may not exceed the maximum that would be allowed under this part for a new segment of pipeline constructed of the same materials in the same location.

We agree that the word "part" as used in 192.553(d) refers to 49 CFR Part 192, rather than just to Subpart K. Therefore, any up rating is limited by the provisions of § 192.619, *Maximum allowable operating pressure; Steel or plastic pipelines*.

The up rating regulations in Subpart K do not require that a new pressure test be conducted at the time of up rating. And, § 192.555(c), which covers up rating to a pressure that will produce a hoop stress 30 percent or more of SMYS, explicitly allows the use of a previous pressure test as the basis for MAOP, even if the pipeline was not operated to the MAOP during the five years prior to July 1, 1970. Although the use of a previous pressure test is not mentioned in § 192.557, which covers up rating to a pressure that will produce a hoop stress less than 30 percent of SMYS, it makes no sense to rely on a previous pressure test for high-stress pipe and to disallow it for low-stress pipe. And, in any case, § 192.553(d) clearly states that the new MAOP may not exceed the maximum that we would allow for new pipe of the same material at the same location. Therefore, reliance on a previous pressure test is allowable for up rating to a higher MAOP, providing that the pressure test, de-rated for class location as specified in § 192.619, allows for a maximum

allowable operating pressure equal to or greater than the proposed up rated pressure.

cc: Stephanie J. Kreshel, PSE
Don McCoy, TSI

In response to your specific questions:

1. **Do you agree with our interpretation that the LDC must up rate to a pressure using the table and factors found in 49 CFR § 192.619(a)(2)(ii)?**

Answer: No. The LDC may follow the up rating procedure in 49 CFR Part 192, Subpart K. The up rated pressure will be limited to the maximum pressure that can be supported by a current or previous pressure test, as de-rated for class location using the factors found in 49 CFR § 192.619(a)(2)(ii).

2. **If you agree, is the factor used based on date installed, or date up rated. In this case would the LDC need to up rate to 375 psig (250 x 1.5 — date updated) or 350 psig (250 x 1.4 -- date installed) to establish an MAOP of 250 psig?**

Answer: Not applicable.

3. **According to § 192.555(c), can a pipeline installed and tested prior to the start of the five-year window ending July 1, 1970, be up rated to a pressure that will produce a hoop stress of 30 percent or more of SMYS, using the original pressure test as the basis of the MAOP?**

Answer: Yes. 49 CFR § 192.555(c) states that ". . . an operator may increase the MAOP of a segment of pipeline constructed by September 12, 1970, to the highest pressure that is permitted under § 192.619, using as test pressure the highest pressure to which the segment of the pipeline was previously subjected." A new pressure test is not required, unless the old pressure test cannot justify the up rated pressure.

If you need further assistance, please call me at (202) 366-4565.

Sincerely yours,
Richard D. Huriaux, P.E.
Manager, Regulations
Office of Pipeline Safety

March 15, 2001

Richard Huriaux
Manager of Regulations
United States Department of Transportation
Federal Office of Pipeline Safety
400 7th Street, South West, Room 7128
Washington, District of Columbia 20590

Dear Mr. Huriaux:

Subject: Clarification of Title 49, Part 192, Subpart K, Uprating

Can you please provide a clarification for the following situation? A local gas distribution company (LDC) wishes to up rate a steel pipeline to a pressure that will produce a hoop stress of less than 30 percent SMYS. The LDC installed the pipeline in 1957 and at that time tested it to 465 psig. The LDC established the MAOP at 190 psig based on the highest operating pressure incurred during the 5 year window prior to July 1, 1970. The LDC now wishes to up rate this pipeline to an MAOP of 250 psig. This pipeline is in a class 3 location. The LDC's up rate procedure calls for raising the pressure from 190 psig to 250 psig in 4 increments of 15 psig each. We believe that the LDC's procedure to raise pressure only to the desired MAOP during the up rate does not meet the minimum requirements of subpart K. We base this interpretation on the fact that Part 192.553(d) states that:

*“ . . . a new MAOP established under Subpart K may not exceed the maximum that would be allowed under this **part** for a new segment of pipeline constructed of the same materials in the same location”,*

We believe that the word **part** in this paragraph refers to all of Part 192 and this requires the LDC to up rate to a pressure using the factors in the table from Part 192.619(a)(2)(ii). We also believe that since the table found in Part 192.619(a)(2)(ii) contains a note (1) referring to the required use of factors for offshore pipelines that this would imply the necessity to use the factors in this table for onshore pipelines also. One point of confusion for us is the fact that Part 192.555(c) appears to allow the use of a previous pressure test as the basis for MAOP even if the pipeline was not operated to the MAOP during the 5 year window prior to July 1, 1970.

Although Part 192.555 applies to pipelines that will be operated to a hoop stress of 30 percent or more of SMYS it does not make sense that Subpart K would be less stringent for the higher stress pipeline. Our questions to you are:

1. Do you agree with our above interpretation that the LDC must up rate to a pressure using the table and factors found in Part 192.619(a)(2)(ii)?
2. If you agree with our above interpretation, is the factor used based on date installed, or date up rated. In this case would the LDC need to up rate to 375 psig (250 X 1.5 — date up rated) or 350 psig (250 X 1.4 — date installed) to establish an MAOP of 250 psig?
3. According to Part 192.555, can a pipeline installed and tested prior to the start of the 5 year window ending July 1, 1970, be up rated to a pressure that will produce a hoop stress of 30 percent or more of SMYS, using the original pressure test as the basis of the MAOP?

We would appreciate your help in getting an official clarification resolving this issue. This clarification will

assist the Washington Utilities and Transportation Commission staff in interpreting and applying the requirements of Subpart K during future up rates. If you have any question or need any additional information, please contact Scott Rukke at (360)664-1241.

Thank you for your time and assistance.

Sincerely,
Douglas Kilpatrick, P.E.
Pipeline Safety Director