

**DEPARTMENT OF  
TRANSPORTATION**

**Materials Transportation Bureau**

[Docket No. 79-2W, Notice 1]

**Transportation of Natural Gas and  
Other Gas by Pipeline; Petition for  
Waiver**

The Department of the Army, Alaska District, Corps of Engineers (Corps), has petitioned the [M]aterials Transportation Bureau (MTB) for a waiver from compliance with the low temperature limitation of minus 20 degrees Fahrenheit in 49 CFR 192.123(b)(1) to permit operation of a proposed plastic pipeline system down to minus 40 degrees Fahrenheit. The Corps is designing a buried gas distribution system to replace the present system in the community of Barrow, Alaska, for the Bureau of Indian Affairs. The completed gas distribution system is to be operated by the Barrow Utilities and Electric Cooperative.

The Corps is planning to use Driscopipe 7000 high density polyethylene pipe, manufactured by Phillips Products Company, Incorporated, for both mains and services that will be buried in permafrost in this gas distribution system.

Portions of the gas transmission system supplying gas to the distribution system are aboveground. As a result, during the winter months, the gas supply temperature is expected to reach a low of minus 40 degrees Fahrenheit, which is not only below the minimum temperature of minus 20 degrees Fahrenheit permitted under §192.123(b)(1), but will also super chill the permafrost in contact with the pipe. During the summer months, the gas supply temperature is expected to be well above freezing and will cause thawing of the permafrost in parts of the system immediately adjacent to the buried pipe.

This type of freeze-thaw cycle permits pipe settlement causing tensile stresses. The petition indicates that steel pipe installed in such an environment in Barrow and similar Arctic communities has failed in very short times due to these stresses.

In contrast, the petition also stated the [sic] the Department of Public Works, Northwest Territory, Canada, has for 2 years operated a gas distribution system in Norman Wells, comprising high density polyethylene piping. Although gas temperatures have reached a minimum of approximately minus 50

degrees Fahrenheit and settlement of up to 2 feet has occurred without failure, the system has operated without pipe failures. The Corps states that this continued operation without failure is due to the properties of high density polyethylene that allow the material to relax the tensile stresses without failures.

As further supporting evidence that Driscopipe 7000 will perform safely at temperatures far below those anticipated in the waiver petition, the Corps submitted a Technical Information Bulletin on Driscopipe 7000 prepared by Phillips Products Company, Inc. This Bulletin includes data from tests showing that the pipe material has excellent strength and ductility at temperatures as low as minus 110 degrees Fahrenheit. Other test results show no signs of failures when the pipe is bent to a radius of 24 inches at a temperature of 40 degrees Fahrenheit. This Bulletin also indicates that the brittleness temperature, as determined by the ASTM D 746 test method, is lower than minus 180 degrees Fahrenheit[.]

MTB is considering granting the requested waiver from the requirements of §192.123(b)(1) for the following reasons:

1. The minus 20 degrees Fahrenheit operating temperature limit required under §192.123(b)(1) does not appear appropriate for Driscopipe 7000.
2. The Driscopipe 7000 material appears to provide a safe, economic solution to the freeze-thaw condition anticipated for gas distribution systems buried in permafrost.
3. Unlike many other thermoplastic materials, ultra-high density polyethylene increases in strength with a decrease in temperature.

Interested persons are invited to comment on the proposed waiver by submitting in triplicate such data, views, or arguments as they may desire. Communications should identify the docket and notice numbers and be submitted to: Docket Branch, Materials Transportation Bureau, Department of Transportation, Washington, DC 20590.

All comments received before August 13, 1979, will be considered before final action is taken. Late filed comments will be considered so far as practicable. All comments will be available at the Docket Branch, Materials Transportation Bureau, before and after the closing date for comments. No hearing is

contemplated, but one may be held at a time and place set in a Notice in the **Federal Register** if requested by an interested person desiring to comment at a public hearing and raising a genuine issue.

(49 U.S.C. 1672; 49 CFR 1.53(a), Appendix A of Part 1 and Appendix A of Part 102.)

Issued in Washington, DC, on June 26, 1979.

**Cesar De Leon,**  
*Associate Director for Pipeline Safety  
Regulation, Materials Transportation Bureau.*

[FR Doc. 79-20338 filed 6-29-79; 8:45 am]

---

**DEPARTMENT OF  
TRANSPORTATION**

**Research and Special Programs  
Administration**

[Docket No. 79-2W, Notice 2]

---

**Transportation of Natural and Other  
Gas by Pipeline; Grant of Waiver**

---

The Department of the Army, Alaska District, Corps of Engineers (Corps), has petitioned the Materials Transportation Bureau (MTB) for a waiver from compliance with the low temperature limitation of minus 20 degrees Fahrenheit in 49 CFR 192.123(b)(1) to permit operation of a proposed plastic pipeline system down to minus 40 degrees Fahrenheit. The Corps is designing a buried gas distribution system to replace the present system in the community of Barrow, Alaska, for the Bureau of Indian Affairs. The completed gas distribution system is to be operated by the Barrow Utilities and Electric Cooperative.

The Corps is planning to use Driscopipe 7000 high density polyethylene pipe manufactured by Phillips Products Company, Incorporated, for both mains and services that will be buried in permafrost in this gas distribution system. The petition contained evidence that Driscopipe 7000 will perform safely at temperatures far below those anticipated in the area.

In Notice 1 of this docket (44 FR 38693), interested persons were invited to submit comments on the proposed waiver before August 13, 1979. No comments have been received nor were there any requests for a public hearing on this petition. Therefore, for the reasons set forth in Notice 1 and the petition, MTB finds that:

1. While plastic pipe may not be used where operating temperatures are under minus 20 degrees Fahrenheit under §192.123(b)(1), such a limitation does not appear appropriate for certain plastic pipe such as Driscopipe 7000, a polyethylene plastic pipe having unique high strength at such temperatures.

2. The Driscopipe 7000 material provides a safe, economic solution to the freeze-thaw condition anticipated for gas distribution systems buried in permafrost.

3. Unlike many other thermoplastic materials, ultra-high density polyethylene increases in strength with a decrease in temperature.

In consideration of the foregoing, effective immediately, the Barrow Utili-

ties and Electric Cooperative is hereby granted a waiver from compliance with 49 CFR 192.123(b)(1) for operation of the replacement gas distribution pipeline system in the community of Barrow, Alaska.

(49 U.S.C. 1672; 49 CFR 1.53(a), Appendix A of Part 1 and Appendix A of Part 106)

Issued in Washington, D.C., on November 7, 1979.

**Cesar De Leon,**  
*Associate Director for Pipeline Safety  
Regulation, Materials Transportation Bureau.*

[FR Doc. 79-25067 Filed 11-14-79; 8:45 am]