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ENSTAR Natural Gas Company
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Hardcopy ___ Electronically
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September 21, 2007

Mr. Chris Hoidal
Director, Western Region
Pipeline and Hazardous Materials Safety Administration
12300 W. Dakota, Ave. Suite 110
Lakewood, CO 80228

RE: CPF 5-2006-0014

Dear Mr. Hoidal,

I'd like to thank you, Ms. Renita Bivins, and all of the other PHMSA representatives for providing us the opportunity on August 29, 2007, to hear our position on this Notice of Proposed Violation. As we discussed in the telephonic hearing, the purpose of this letter is to:

- 1) Request a waiver of Section 192.707 of Title 49 CFR that would exempt ENSTAR from installing pipeline markers on gas main road crossings in Class 1 and 2 locations and instead adopt a risk based policy of installing pipeline markers on large diameter gas mains in Class 1 and 2 locations, and
- 2) We are providing additional documentation to support our position that black, High Density Polyethylene (HDPE) Pipe used by ENSTAR has an above ground storage life exposure to Ultraviolet (UV) light far in excess of the two years that is allegedly required in Section 192.321 of Title 49 CFR.

1. 192.707 Line Markers for Mains and transmission lines

ENSTAR respectfully requests a waiver of Section 192.707 of 49 CFR that would exempt ENSTAR from installing pipeline markers over gas mains at road and railroad crossings in Class 1 and 2 locations. From your own observations and admissions, this is a difficult section of the code to maintain compliance and hence routinely has limited enforcement in State run programs. We propose to adopt a risk based approach to installing pipeline markers in Class 1 and 2 locations where we would install pipeline markers not only at road crossings but over the length of large diameter (6" NPS and larger) gas mains in Class 1 and 2 locations. These large diameter mains have the most risk for harm to the general public and potential loss of service if damaged. Generally large diameter mains in Class 1 and 2 locations parallel major roads. Having pipeline markers installed along the length of these important pipelines offers a larger degree of safety as opposed to a single marker installed at obscure road crossings in random, remote locations. Enclosed is a proposed revision to ENSTAR's Standard Operating Procedure (SOP 1430) that addresses pipeline markers on gas mains in Class 1 and 2 Locations. If approved, we propose to identify these mains and install the markers after the ground is free of frost in 2008.

2. 192.321 Installation of plastic pipe

We are still perplexed at how PHMSA interprets this section of the code to limit the outdoor storage life of plastic pipe to 2 years. PHMSA is obviously concerned about the exposure of plastic pipe to UV radiation and we agree a straight forward rule should be written to that affect. We continue to believe most prudent Operators would interpret Section 192.321 of 49 CFR to limit how long plastic pipe could be used in a temporary application above ground – a maximum of two years.

Our defense has been and continues to be the manufacturer's written letters attesting to their products weatherability to UV exposure. All plastic gas pipe must be manufactured to ASTM D2513. ASTM D2513 Annex A. 1.5.7 allows outdoor storage times in excess of 2 years where the manufacturer has shown that the pipe performance properties are not affected by the extended outdoor storage time. Attached is a letter from Performance Pipe and a copy of their technical bulletin stating that Driscoplex 6800 and Yellowstripe 8300 has can be stored outdoors up to 20 years without any detrimental affects to the pipe. PolyPipe has similarly supplied us with the attached letter that states their black gas pipe has a 50 year shelf life. The Performance Pipe letter and technical bulletin and PolyPipe letters indicate their respective products will meet the ASTM specification well after two years of outdoor storage. In the case of Performance Pipe 6800 / 8300 - that's 20 years. PolyPipe black pipe is 50 years.

What is PHMSA's justification for limiting the UV exposure of all plastic pipe to only 2 years? We can only surmise PHMSA is concerned about **yellow** plastic gas pipe that has no carbon black UV stabilizers. PHMSA has a valid concern of limiting UV exposure of non UV stabilized **yellow** plastic gas pipe to a 2 year outdoor storage life and so do we. In the pictures submitted by your inspector, Mr. Bill Flanders, there are several pieces of **yellow** gas pipe on our racks. This is actually Phillips 8100 pipe that is black pipe with a very thin yellow outer shell. It has been exposed to sunlight for more than 2 years old. Although it appears in excellent condition, we have removed it and all similar pipe from our inventory due to the lack of UV stabilizers in the outer shell. We've done so as there is a scientific, logical reason for limiting the outdoor storage life of **yellow** plastic pipe due to the lack of UV stabilizers.

We disagree with this section of the code being universally applied to the outdoor storage of all plastic pipe and ask that you reconsider your position and interpretation of this section of the code. Even better, write a new section to 49 CFR that deals with the outdoor storage of plastic pipe that is straight forward, easy to understand and based on sound principals.

Thank you again for consideration of our position on these issues. Should you have any questions, do not hesitate to contact me at 907-264-3745.

Sincerely,

ENSTAR Natural Gas Company



David W. Bredin
Director of Operations

cc: Ms. Renita Bivins, PHMSA Senior Attorney

Attachments:

Performance Pipe letter dated May 9, 2006

PolyPipe Memorandum dated May 26, 2006

Performance Pipe Technical Bulletin – Weatherability , Outdoor Storage Limits of Performance Pipe Gas Distribution Products

Proposed Revision 2, ENSTAR SOP 1430 Pipeline Markers



1411 Nicholas Drive Concord, CA 94520
Ph: 925.676.1323 Fax: 925.676.1342
Cell: 214.287.8977
peterba@cpchem.com
www.performancepipe.com

May 9, 2006

Enstar Natural Gas
Mr. Dave Bredin
Operations Manager
401 E. International Airport Blvd
Anchorage, AK 99519

**Subject: HDPE UV Protection &
Outdoor Storage Life**

Dear Mr. Bredin,

Performance Pipe, utilizing a High Density Polyethylene (HDPE) resin that contains 2.5% carbon black, manufactures DriscoPlex™ 6800 Series Gas Distribution Piping. This additive provides Ultra-violet (UV) protection in outdoor storage for extended periods of time as identified in the Performance Pipe - DriscoPlex™ 6800 PE3408 Polyethylene Piping literature (Bulletin PP301).

The United States Department of Transportation (DOT), Code of Federal Regulations (CFR), Title 49, Part 192, "Transportation of Natural and Other Gas by Pipeline; Minimum Safety Standards" places limitations on the age of polyethylene pipe only in temporary above ground installations. Subpart G, Section 321, Item (g) specifically states:

Uncased plastic pipe may be temporarily installed above ground level under the following conditions: (1) The operator must demonstrate that the cumulative aboveground exposure of the pipe does not exceed the manufacturer's recommended maximum period of exposure or 2 years, whichever is less.

ASTM D2513 places limitations on the age of polyethylene pipe only if the pipe no longer meets the requirements of the specification. ASTM D2513 Annex A.1.5.7 states:

Outdoor Storage Stability – PE pipe stored outdoors and unprotected for at least two years from date of manufacture shall meet all the requirements of this specification. PE pipe stored outdoors for over two years from date of manufacture is suitable for use if it meets the requirements of this specification.

Enstar Natural Gas
May 9, 2006
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DriscoPlex™ 6800 Series Gas Distribution Piping meets the requirements of the ASTM D2513 specification at the time of manufacture. In addition, outdoor storage of pipe cannot change the properties of the material in such a way that would cause it to no longer meet the same specifications after two years of outdoor storage.

If you have any questions or would like additional information, please do not hesitate to contact me.

Regards,

Barry Peterson
Performance Pipe
Territory Sales Manager

PolyPipe[®]

M E M O R A N D U M

Date: May 26, 2006
To: Dave Bredin, Enstar Natural Gas
Cc: Mark Tufts
From: Allison Crabtree, P.E. – QA Manager
Re: Shelf-Life of Yellow Striped HDPE Black Gas Pipe

Dave,

I have contacted our supplier of the yellow concentrate that is used for the yellow stripe on your black gas pipe and confirmed that the shelf-life of this product is a two year exposure to ultraviolet light. This reduction in shelf life is due to the decreased UV stabilization in the yellow stripe as opposed to that of the black pipe. As you are aware, the solid wall black gas pipe continues to be rated for a 50 year shelf life. If you should have any other questions, please contact me at 800-433-5623 ext. 219.

Regards,
Allison Crabtree, P.E.



Weatherability

Outdoor Storage Limits of Performance Pipe Gas Distribution Pipe Products

Performance Pipe polyethylene gas distribution piping products are protected from UV effects and outdoor exposure to ensure pipe performance requirements are maintained. ASTM D2513 requires that all polyethylene gas pipes produced to the standard must be able to withstand a minimum of 2 years outdoor storage without affecting the pipe's ability to meet the requirements of the standard. ASTM D2513 allows outdoor storage times in excess of 2 years where the manufacturer has shown that the pipe performance properties are not affected by the extended outdoor storage time.¹

Yellow Pipes

Yellow pipes, such as Driscopipe® 8100 and Driscoplex® 6500, are protected against outdoor exposure through additive formulations. Accelerated laboratory weathering tests were conducted on the formulations that predict the yellow pipe materials are protected sufficiently to provide a service life of at least four years in outdoor exposure conditions. The accelerated tests measure changes in the tensile properties of the polyethylene materials after exposure to high levels of UV and humidity. Performance Pipe also conducts actual field pipe exposure tests to confirm the accelerated laboratory weathering test predictions. At periodic time intervals the field exposed pipe samples are tested for melt flow (ASTM D1238 condition 190/2.16), hoop stress/ring tensile (ASTM D1598/ASTM D2290), and ESCR (ASTM D1693, condition C). The test data confirm that there is no measurable change in pipe performance properties after over four years of outdoor exposure. A summary of the test data is attached.

Black Pipes

For black pipes, such as Driscoplex™ 6800 and Yellowstripe® 8300, the presence of a minimum of 2% carbon black properly dispersed in the polyethylene piping material provides long term protection from the potentially damaging affects of UV and outdoor exposure. Weathering studies have shown that pipe produced with a minimum 2.0% concentration of finely divided and evenly dispersed carbon black is protected from the harmful effects of UV radiation for indefinite periods of time.² Field experience of piping materials containing a minimum of 2% carbon black confirms that pipe performance does not deteriorate after 20 years of service in selected outdoor exposure.

Based on the tests conducted, Performance Pipe provides the following specific outdoor storage recommendations for the Performance Pipe gas distribution piping products.

- | | |
|----------------------|----------|
| □ Driscoplex® 6500 | 4 years |
| □ Driscoplex® 6800 | 20 years |
| □ Driscopipe® 8100 | 4 years |
| □ Yellowstripe® 8300 | 20 years |

¹ ASTM D2513-04a Section A.1.5.7 *Outdoor Storage Stability*

² Plastic Pipe Institute 'Handbook of Polyethylene Pipe' Chapter 8, *Above Ground Applications*

STANDARD OPERATING PROCEDURES MANUAL



Alaska Pipeline Co.

ENSTAR Natural Gas

Title: Pipeline Markers

No: 1430 Revision No.: 002 (Proposed) Effective Date: XX/XX/XXXX Page No. 1 of 3

Authorizing Signature: Dave Bredin

Title: Operations Manager

Scope: This procedure explains when and where pipeline markers shall be placed on ENSTAR/Alaska Pipeline Company transmission and distribution pipelines.

Policy: Pipeline markers shall be installed and maintained on Company transmission and distribution pipelines in accordance with this procedure.

Procedure:

I. Responsibility for Installation and Maintenance of Pipeline Markers

- A. Pipeline Supervisors, Division Managers and the Distribution Mains Manager shall be responsible for ensuring the Company's transmission and pipelines have pipeline markers installed and maintained in accordance with this procedure.
- B. Division Managers and the Distribution Mains Manager shall be responsible for ensuring the affected Company distribution pipelines have pipeline markers installed and maintained in accordance with this procedure.
- C. All Company employees shall be observant of conditions on pipeline right-of-ways and shall report to their immediate Supervisor, those locations where pipeline markers are needed to comply with this procedure.
- D. ENSTAR's Engineering Department shall prepare a maps identifying all Class 1 and Class 2 locations in it's service area for the purpose of identifying areas where pipeline markers are to be installed. These maps shall be updated on regular intervals, generally once a year.
- E. Should pipeline markers be required on new construction projects, ENSTAR's Engineers shall identify them on the construction drawings.

II. Where Pipeline Markers Are to be Installed

- A. Transmission Pipelines
 - 1. For buried transmission pipelines, pipeline markers shall be placed and maintained as close as practical over each buried pipeline:
 - a. At each crossing of a public road or railroad; and
 - b. Wherever necessary to identify the location of the transmission pipeline to reduce the possibility of damage or interference.
 - 2. Pipeline markers are **not** required on buried transmission lines located offshore or under waterways and other bodies of water.
 - 3. Pipeline markers shall be placed and maintained along each section of transmission pipeline that is located **above ground** in areas accessible to the

STANDARD OPERATING PROCEDURES MANUAL



Alaska Pipeline Co.

ENSTAR Natural Gas

Title: Pipeline Markers

No: 1430 Revision No.: 002 (Proposed) Effective Date: XX/XX/XXXX Page No. 2 of 3

public.

4. As a rule of thumb, pipeline markers should generally be placed approximately 1/2 mile or less apart. Pipeline markers should be placed in areas where future excavation is likely such as gravel pits, drainage ditches, etc.

B. Distribution Pipelines

1. For buried distribution pipelines, pipeline markers shall be placed and maintained as close as practical over each buried 6" NPS or larger pipelines in Class Location 1 and Class Location 2 continuously along the length of the pipeline and at all road and railroad crossings. As a rule of thumb, pipeline markers should generally be placed approximately 1/2 mile or less apart.
2. Additional pipeline markers will be installed at Company discretion wherever they are necessary to identify the location of the distribution main to reduce the possibility of damage or interference.
3. Pipeline markers are **not** required on buried distribution mains located offshore or under waterways and other bodies of water.
4. Pipeline markers shall be placed and maintained along each section of distribution main that is located **above ground** in areas accessible to the public.

III. Description of Pipeline Markers

- A. The following shall be written legibly on a background of sharply contrasting color on each pipeline marker:
 1. The word "Caution", or "Danger" followed by the word "Gas Pipeline" all of which, except for markers in heavily developed urban areas, shall be in letters at least one inch high with one-quarter inch stroke.
 2. "ENSTAR" and/or "Alaska Pipeline Company" and the Company's 24-hour contact number (907-277-5551) shall also be printed on the pipeline marker.
- B. The typical printed message on an ENSTAR/Alaska Pipeline Company pipeline marker is shown in Attachment 1.



Alaska Pipeline Co.

ENSTAR Natural Gas

Title: Pipeline Markers

No: 1430 Revision No.: 002 (Proposed) Effective Date: XX/XX/XXXX Page No. 3 of 3

Attachment 1
Typical Message on an ENSTAR/Alaska Pipeline Company
Pipeline Marker

A vertical rectangular sign with a thick black border. The word "CAUTION" is written vertically in large, bold, white letters on a black background on the left side. The word "PIPELINE" is written vertically in large, bold, black letters on a white background on the right side. Below the words, the text "IN THIS VICINITY BEFORE DIGGING CALL COLLECT" is centered. At the bottom, the ENSTAR logo is displayed, followed by "ENSTAR NATURAL GAS CO" and the phone number "(907) 277-5551".

CAUTION **PIPELINE**

IN THIS VICINITY
**BEFORE
DIGGING**
CALL COLLECT

ENSTAR
ENSTAR NATURAL GAS CO
(907) 277-5551