

**BEFORE THE
PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION
UNITED STATES DEPARTMENT OF TRANSPORTATION
WASHINGTON, D.C.**

Petition for Reconsideration)	Docket No. PHMSA–2010–0026
Pipeline Safety: Miscellaneous Changes)	RIN 2137–AE59
to Pipeline Safety Regulations)	

**THE AMERICAN GAS ASSOCIATION PETITION FOR RECONSIDERATION
TO ADOPT THE MOST RECENT VERSION OF ASTM D2513**

COMES NOW, the American Gas Association, hereafter called, AGA, and submits this Petition for Reconsideration for Rulemaking to incorporate by reference a more recent version of the ASTM International (ASTM) D2513 Polyethylene (PE) Gas Pressure Pipe, Tubing, and Fittings (ASTM D2513-09A). In support of said Petition AGA states:

On August 14, 2009 AGA filed a petition with the Pipeline and Hazardous Materials Safety Administration (PHMSA) for rulemaking to increase the design factor in 49 CFR 192.121.¹ On September 9, 2009 AGA filed a petition for rulemaking to make a minor amendment to 49 CFR 192.7 to incorporate by reference the latest edition of the ASTM D2513 standard for polyethylene pipe.² PHMSA administratively denied the petitions. Pursuant to 49 CFR 190.335, AGA is requesting an informal hearing to reconsider the AGA request to incorporate by reference the latest edition of the ASTM D2513 standard for polyethylene pipe. AGA is not requesting that PHMSA reconsider the denial of the petition for rulemaking to increase the design factor in 49 CFR 192.121.

AGA received no written correspondence from PHMSA regarding the above mentioned petitions. The lack of correspondence and no federal register notice regarding the requested rulemaking in over two years is evidence of PHMSA's denial of the petitions.

¹ The petition is attached as Exhibit 1.

² The petition is attached as Exhibit 2.

AGA separated the petition for increasing plastic pipe design factor from the petition to incorporate by reference the most recent version of ASTM D 2513 in order to facilitate and make timely the rulemaking process. Safety is AGA's top priority. AGA believes a thorough discussion of changing the design factor warrants an extended rulemaking process. Conversely, operators, pipe manufacturers, federal and state regulators have already come to consensus on *ASTM D2513 – 09a Standard Specification for Thermoplastic Gas Pressure Pipe, Tubing, and Fittings*. In fact, this is an international standard that supports the use of manufacturer, extrusion, and installation of thermoplastic gas pressure pipe throughout the world. AGA is certain that there will be no adverse comments from the public, if PHMSA seeks to incorporate by reference ASTM D2513-09A standard in periodic regulatory updates.

Operators are required by regulation to use the antiquated 1987 and 1999 editions of the ASTM D2513 standard. The most recent version of the standard incorporates the advances that have been made with modern plastics and also has restrictions that are not present in the 1987 and 1999 versions. In addition, the 1987 and 1999 versions of the standard recognized by PHMSA have glaring limitations:

- The 1999 version contains no limitations or guidance on the use of re-grind materials.
- The 1999 version does not provide the most current guidance to users on assessing field fusion joints that may exhibit bubbling during heat fusion in Appendix X.1.7.2.2.
- The 1999 version references a fusion standard, ASTM D2657 that provides only generic fusion guidance for a wide range of polyolefin pipes. A more current fusion standard, ASTM F2620 is specific to polyethylene pipes and provides detailed instructions and guidance for the end user.
- The 1999 version provides no guidance on Rapid Crack Propagation, and no requirements for obtaining Rapid Crack Propagation information.

Many operators have voluntarily incorporated portions of new editions of the standard into their pipeline safety operating procedures because it allows them to use the advances provided by modern plastics and improves safety. However, this has become increasingly difficult. Operators are spending hundreds of millions of dollars to replace cast iron and bare steel with plastic materials and, by PHMSA's regulations, are required to comply with obsolete ASTM D 2513 standards for these materials. Operators and state regulators have brought these problems to

PHMSA's attention.³ The Kansas Corporation Commission concluded in its June 9, 2009 Order that, the ASTM D 2513-09 standard that was approved in May 2009 was consistent with pipeline safety and therefore waived the requirements of the obsolete ASTM D 2513-99, section A1.5.7, without notice and opportunity for hearing.

AGA understands that PHMSA plans to issue an Advance Notice of Proposed Rulemaking (ANPRM) that comprehensively addresses plastic pipe issues. This action will not resolve the issues presented in the ASTM D 2513 petition. Even if PHMSA issues an ANPRM in early 2012, AGA expects that it will take PHMSA at least five years to work through the regulatory process before a final regulation is promulgated.

AGA believes an informal hearing to reconsider of the request for rulemaking is warranted to understand how these safety issues can be timely resolved and what additional steps need to be taken. If you have questions or need additional information, please feel free to me.

Date: December 13, 2011

AMERICAN GAS ASSOCIATION

By:



Christina Sames

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³ Numerous operators and state regulators have sought special permits to address the problems caused because pipeline safety regulations continue to incorporate by reference the antiquated ASTM D2513 1987 and 1999 editions. One special permit request is provided for the record as Exhibit 3.

**BEFORE THE
PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION
UNITED STATES DEPARTMENT OF TRANSPORTATION
WASHINGTON, D.C.**

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**Petition for Rulemaking
From The American Gas Association**

COMES NOW the American Gas Association, hereafter called AGA, and submits this petition for rulemaking. In support of said petition, AGA states:

1. AGA submits the petition to the Associate Administrator of the Pipeline and Hazardous Materials Safety Administration, PHMSA, pursuant to 49 CFR 190.331.

2. The petition seeks substantive changes to sections §192.121 - *Design limitations of plastic pipe* and §192.123 - *Design limitations for plastic pipe*.

3. The petition seeks to increase the design factor (DF) in section 192.121 from 0.32 to 0.40 for polyethylene pipe (PE) installed after the date of promulgation of a revised rule.

4. The petition seeks more comprehensive safety limitations for plastic pipe specifications in 192.123. There would be new limitations for minimum wall thickness and standard design ratio (SDR) for specific diameter plastic piping.

5. The requested regulatory changes would have the purpose and effect of allowing gas utilities to design, install, and operate new PE piping with operating capacities consistent with the capabilities of modern plastic materials.

6. The petition provides documentation of the comprehensive program, supported by the Operation Technology Development (OTD) group, to establish the technical evidence for the proposed changes. The program has included laboratory testing and evaluation to ensure that the safety and integrity of the gas distribution system is maintained at the increased design factor. Field experiments, authorized by special permits from state and federal pipeline safety agencies, have been initiated to confirm design and laboratory evaluations. This effort has been active since at least 2004.

7. The technical evaluation of the plastic pipeline design factor has been publicly discussed and supported in various regulatory initiatives through the AGA, Gas Piping

Technology Committee (GPTC), Plastics Pipe Institute (PPI), Gas Technology Institute (GTI), and others entities.

8. The public benefits from the increased use of PE piping, in lieu of steel, because the plastic piping systems have quantifiable lower emissions. Moreover, plastic is not susceptible to corrosion, which is responsible for some of the leakage in steel piping systems.

9. The regulatory language for the existing and proposed sections is provided herein for PHMSA's review.

10. AGA does not expect that the adoption of the proposed language would either increase costs to gas utilities or have any adverse consequences.

11. The adoption of the propose language will not create burdens on small businesses, small organizations and small governmental jurisdictions.

12. No changes are recommended to recordkeeping requirements.

I. Background

For over a decade, there has been tremendous interest on the part of gas distribution companies to increasingly utilize their PE piping infrastructure to its maximum capabilities. This has been supported through various regulatory initiatives through the AGA, GPTC, PPI, GTI, and others.

As of June 2004, the Department of Transportation Pipeline Hazardous Materials Safety Administration adopted several amendments to Title 49, Part 192 of the Code of Federal Regulations and its respective Subparts, which govern the minimum requirements for the safe use of plastic piping systems. Specifically, an amendment to Part 192.123 was adopted to increase the maximum allowable design pressure for PE piping systems from 100 psig to 125 psig. However, it was generally recognized that additional changes are required to maximize the benefits associated with the use of plastic piping systems by gas distribution companies - specifically, an increase in the design factor used to calculate the design pressure from 0.32 to 0.40 within Part 192.121 requirements.

The primary implication of the proposed increase in the design factor is that it permits gas utility companies to more effectively design their PE piping systems for the intended application in order to satisfy the necessary capacity considerations.

The remainder of the sections to follows presents both the current and proposed code language and a comprehensive justification for the proposed changes which clearly demonstrates that the increase in the design factor from 0.32 to 0.40 will not adversely compromise overall safety and system integrity.

II. Current Requirements

CHAPTER I--RESEARCH AND SPECIAL PROGRAMS ADMINISTRATION, DEPARTMENT OF TRANSPORTATION

PART 192--TRANSPORTATION OF NATURAL AND OTHER GAS BY PIPELINE: MINIMUM FEDERAL SAFETY STANDARDS

Subpart C--Pipe Design

§192.121 - Design limitations of plastic pipe¹

Subject to the limitation of §192.123, the design pressure for plastic pipe is determined by either of the following formulas:

$$P = 2S \frac{t}{(D-t)} (DF)$$

$$P = \frac{2S}{(SDR-1)} (DF)$$

- [where]
- P = Design pressure, gauge, psig (kPa)
 - S = For thermoplastic pipe, the HDB is determined in accordance with the listed specification at a temperature equal to 23°C (73°F), 38°C (100°F), 49°C (120°F), or 60°C (140°F); for reinforced thermosetting plastic pipe, 75,800 kPa (11,000 psi).
 - t = Specified wall thickness, mm (in.)
 - D = Specified outside diameter, mm (in.)
 - DF = 0.32 or
= 0.40 for nominal pipe size (IPS or CTS) 4-inch or less, SDR-11 or greater (i.e. thicker pipe wall), PA-11 pipe produced after January 23, 2009

§192.123 - Design limitations for plastic pipe

¹ The following language reflects the recent rulemaking to include new language related to the introduction of the PA11 piping systems. Federal Register/Vol. 73, No 248/Wednesday, December 24, 2008/Rules and Regulations 790005

(a) Except as provided for in paragraph (e) and (f) of this section, the design pressure may not exceed a gauge pressure of 100 psig (689kPa) for plastic pipe used in:

(1) Distribution systems; or

(2) Classes 3 and 4 locations.

(b) Plastic pipe may not be used where operating temperatures of the pipe will be:

(1) Below -20°F (-20°C), or -40°F (-40°C) if all pipe and pipeline components whose operating temperature will be below -29°C (-20°F) have a temperature rating by the manufacturer consistent with the operating temperature; or

(2) Above the following applicable temperatures:

(i) For thermoplastic pipe, the temperature at which the HDB used in the design formula under 192.121 is determined

(ii) For reinforced thermosetting plastic pipe, 150°F (66°C)

(c) The wall thickness for thermoplastic pipe may not be less than 0.062 inches (1.57 millimeters)

(d) The wall thickness for thermosetting plastic pipe may not be less than that listed in the following table

....

(e) The design pressure for thermoplastic pipe produced after July 2004 may exceed a gauge pressure of 100 psig (689kPa) provided that:

(1) The design pressure does not exceed 125 psig (864kPa)

(2) The material is a PE2406 or a PE3408 as specified within ASTM D2513 (ibf, see 192.7)

(3) The pipe size is nominal pipe size (IPS) 12 or less; and

(4) The design pressure is determined in accordance with the design equation defined in 192.121

(f) The design pressure for polyamide-11 (PA-11) pipe produced after January 23, 2009 may exceed a gauge pressure of 100 psig (689 kPa) provided that:

(1) The design pressure does not exceed 200 psig (1279 kPa)

(2) The pipe size is nominal pipe size (IPS or CTS) 4-inch or less; and

(3) The pipe has a standard dimension ratio of SDR-11 or greater (i.e. thicker pipe wall)

III. Proposed Changes (Changes in **Bold/Italics**)

§192.121 - Design limitations of plastic pipe²

Subject to the limitation of §192.123, the design pressure for plastic pipe is determined by either of the following formulas:

² The following language reflects the recent rulemaking to include new language following the introduction of the PA11 piping systems. Federal Register/Vol. 73, No 248/Wednesday, December 24, 2008/Rules and Regulations 790005

$$P = 2S \frac{t}{(D-t)} (DF)$$

$$P = \frac{2S}{(SDR-1)} (DF)$$

[where]

P = Design pressure, gauge, psig (kPa)

S = For thermoplastic pipe, the HDB is determined in accordance with the listed specification at a temperature equal to 23°C (73°F), 38°C (100°F), 49°C (120°F), or 60°C (140°F); for reinforced thermosetting plastic pipe, 75,800 kPa (11,000 psi).

t = Specified wall thickness, mm (in.)

D = Specified outside diameter, mm (in.)

DF = 0.32 or

= 0.40 for nominal pipe size (IPS or CTS) 4-inch or less, SDR-11 or greater **less** (i.e. thicker pipe wall), PA-11 pipe produced after January 23, 2009

= **0.40 for PE2708 or PE4710 pipe produced after [insert effective date]**

§192.123 - Design limitations for plastic pipe

(a) Except as provided for in paragraph (e) and (f) and (x) of this section, the design pressure may not exceed a gauge pressure of 100 psig (689kPa) for plastic pipe used in:

- (1) Distribution systems; or
- (2) Classes 3 and 4 locations.

(b) Plastic pipe may not be used where operating temperatures of the pipe will be:

- (1) Below -20°F (-20°C), or -40°F (-40°C) if all pipe and pipeline components whose operating temperature will be below -29°C (-20°F) have a temperature rating by the manufacturer consistent with the operating temperature; or
- (2) Above the following applicable temperatures:
 - (i) For thermoplastic pipe, the temperature at which the HDB used in the design formula under 192.121 is determined
 - (ii) For reinforced thermosetting plastic pipe, 150°F (66°C)

(c) The wall thickness for thermoplastic pipe may not be less than 0.062 inches (1.57 millimeters)

- (d) The wall thickness for thermosetting plastic pipe may not be less than that listed in the following table

....

- (e) The design pressure for thermoplastic pipe produced after July 2004 may exceed a gauge pressure of 100 psig (689kPa) provided that:
- (1) The design pressure does not exceed 125 psig (864kPa)
 - (2) The material is a PE2406 or a PE3408 as specified within ASTM D2513 (ibf, see 192.7)
 - (3) The pipe size is nominal pipe size (IPS) 12 or less; and
 - (4) The design pressure is determined in accordance with the design equation defined in 192.121
- (f) The design pressure for polyamide-11 (PA-11) pipe produced after January 23, 2009 may exceed a gauge pressure of 100 psig (689 kPa) provided that:
- (1) The design pressure does not exceed 200 psig (1279 kPa)
 - (2) The pipe size is nominal pipe size (IPS or CTS) 4-inch or less; and
 - (3) The pipe has a standard dimension ratio of SDR-11 or ~~greater~~ **less** (i.e. thicker pipe wall)

(X) The design pressure for polyethylene (PE) pipe produced after [insert effective date] for use in distribution systems or class 3 and 4 locations provided that:

(1) The design pressure is determined in accordance with the equation defined in 192.121 using a 0.40 design factor

(2) The material is a PE2708 or a PE4710 as specified within PPI TR4

(3) The design pressure does not exceed 125 psig (864 kPa)

(4) For PE piping systems operating at gauge pressure of less than 100 psig (689 kPa), the wall thickness may not be less than that listed in the table below

Nominal Pipe Size in inches	Minimum Wall Thickness in inches	Corresponding SDR values
½" – 1-1/2"	0.090 in.	Variable
2-inch	0.216 in.	11
3-inch	0.259 in.	13.5
4-inch	0.265 in.	17
6-inch	0.315 in.	21
8-inch	0.411 in.	21
10-inch	0.512 in.	21
12-inch	0.607 in.	21

(5) For PE piping systems operating at gauge pressure of greater than 100 psig (689 kPa), the wall thickness may not be less than that listed in the table below

Nominal Pipe Size in inches	Minimum Wall Thickness in inches	Corresponding SDR values
½" – 1-1/2"	0.090 in.	Variable
2-inch	0.216 in.	11
3-inch	0.259 in.	13.5
4-inch	0.333 in.	13.5
6-inch	0.491 in.	13.5
8-inch	0.639 in.	13.5
10-inch	0.796 in.	13.5
12-inch	0.944 in.	13.5

IV. Justification

Since 2004, a comprehensive program has been in place, with the financial support of Operation Technology Development (OTD) group, to establish the technical substantiation for the proposed changes. The Increase in Design Factor (IDF) program was divided into three distinct phases:

Phase I: Development of minimum material performance based requirements for PE materials and investigation of additional design and engineering considerations to justify an increase in the design factor.

Phase II: Perform comprehensive testing and evaluation to validate the impact of an increase design factor on key construction, maintenance, and operating practices to ensure the safety and integrity of the gas distribution systems.

Phase III: Perform targeted field experiments under special permit³ (waivers) to obtain actual in-service operating experience and establish the technical basis for continued efforts related to future rule-making initiatives by the Department of Transportation.

From the inception of the program, objective peer review of the technical data was assured by establishing a joint industry steering committee consisting of representatives from each of the key stakeholder groups: gas utility companies, regulatory representatives, and pipe, resin, and fittings manufacturers. The joint industry steering committee efforts were critical in terms of effectively guiding the overall technical approach and establishing the technical recommendations to ensure that the overall safety and integrity of the gas distribution network is not adversely compromised.

Significant progress has been made relative to each of the aforementioned phases resulting in the approvals of several special permits in various states to allow the use of a 0.40 design factor for new PE piping systems.

³ The use of the term “special permit” is based on recent revisions to the definitions within DOT – formerly referred to as “waiver”. These terms may be used interchangeably throughout the document.

From Phase I, a comprehensive set of raised bar performance based requirements were established by the IDF steering committee that are significantly more conservative than the current requirements contained within ASTM D2513-98. These additional performance based requirements help to ensure that only those materials which can satisfy the recommended raised bar performance requirements are utilized in conjunction with the proposed increased design factor.

From Phase II, the cumulative results of comprehensive testing and evaluation demonstrated that there are no deleterious effects for the proposed increase in the design factor. Specifically, the result of comprehensive testing on pipe, fittings, and various types of joints at pressures corresponding to the use of 0.80 design factor effectively demonstrated that there were no failures at test times significantly greater than the theoretical intended design life of 50-years. This underscores the improvements in the performance characteristics of modern PE piping materials which conform to the raised bar requirements developed by the IDF steering committee.

Based on the positive results of both Phases I and II, a series of special permits were filed in various states to allow the use of a 0.40 design factor subject to strengthened limitations within CFR Part 192 requirements as part of the Phase III efforts. To date, five (5) special permits have been granted in various parts of the United States. This includes the states of Arizona, Indiana, Maryland, New Jersey, and Tennessee. These special permits have been formally reviewed and commented on by the PHMSA and the appropriate state regulatory agencies.

The technical considerations notwithstanding, there are significant overall benefits associated with the proposed changes. As previously noted, the primary implication associated with the increase in the design factor is that it permits gas utility companies to increasingly utilize safe and proven PE materials to satisfy the necessary capacity considerations in the most optimum design scenarios. As part of the Phase III efforts, a series of analyses were performed to quantify the key benefits associated with the proposed increase in the design factor. The results demonstrate that there is approximately an 11% (or greater) increase in capacity by designing the PE piping systems in their optimum size configuration for the intended application.

Additionally, using the PE life cycle data synthesized by the National Renewable Energy Laboratory U.S. Life-Cycle Inventory Database as the basis for assessing the greenhouse gas

(GHG) emissions equivalency⁴, and taking into account the environmental impact associated with only the upstream production perspective, the results demonstrated that the proposed increase in the design factor would result in a significant reduction in emissions. Specifically, the results demonstrated that the proposed change in the design factor would facilitate the increased use of PE materials which have lower net natural gas emissions as compared to steel piping systems. It is important to emphasize that these results are significantly conservative in that only one portion of the overall life-cycle analysis was considered. By taking other factors into account, these savings undoubtedly will increase the overall positive environmental impact for the proposed change being solicited.

Cumulatively, the results of the IDF program clearly demonstrate the reliability of the proposed increase in the design factor subject to the revised limitations. The results show that the overall safety and system integrity will not be adversely compromised, and there are additional benefits for the gas utility companies and the public.

V. Conclusion

AGA appreciates the effort that PHMSA, state regulators, OTD and other stakeholder have provided in supporting the effort to analyze and test the performance of polyethylene material at the 0.4 design factor. AGA believes the work has shown that the use of the increased design factor will be safe, reliable, cost effective and beneficial to the public. The adoption of the regulatory language presented in the petition will promote pipeline safety and benefit the environment.

The American Gas Association, founded in 1918, represents 202 local energy companies that deliver clean natural gas throughout the United States. There are more than 70 million residential, commercial and industrial natural gas customers in the U.S., of which almost 93 percent — more than 65 million customers — receive their gas from AGA members. AGA is an advocate for natural gas utility companies and their customers and provides a broad range of programs and services for member natural gas pipelines, marketers, gatherers, international natural gas companies and industry associates. Today, natural gas meets almost one-fourth of the United States' energy needs.

⁴ Database is available at: <http://www.nrel.gov/lci/>

Respectfully submitted,

Date:

By: _____
Philip Bennett

For further information, please contact:

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CERTIFICATE OF SERVICE

I hereby certify that I have caused a copy of the Petition of the American Gas Association to be served upon the Administrator, Pipeline and Hazardous Materials Safety Administration by depositing the same in United States mail, to the addresses shown, with proper postage, on the ___ day of August, 2009.

Pipeline and Hazardous Materials Safety Administration
U.S. Department of Transportation- East Building
1200 New Jersey Ave, SE
Washington, DC 20590

Philip Bennett

American Gas Association
400 North Capitol, NW
Washington, DC 20001



American Gas Association

COPY

September 9, 2009

Mr. Jeffrey D. Wiese
Associate Administrator for Pipeline Safety
U.S. Department of Transportation
Pipeline and Hazardous Materials Safety Administration
East Building, 2nd Floor
1200 New Jersey Ave., SE
Washington, DC 20590

Re: Petition for Rulemaking
Request for Stay of Enforcement
Plastic Pipe Color and UV Stabilizer

Dear Mr. Wiese:

Pursuant to 49 CFR §190.331, I have enclosed an original and three copies of the American Gas Association's Petition for Rulemaking to make a minor amendment to 49 CFR §192.7. The Petition requests that PHMSA incorporate by reference the 2009 edition of ASTM D2513 - *Standard Specification for Thermoplastic Gas Pressure Pipe, Tubing, and Fittings* section, *A1.3.5 Color and UV Stabilizer*, to replace the old edition already incorporated by reference. The Petition also requests a Stay of Enforcement.

AGA believes it is beneficial to incorporate voluntary consensus standards as part of federal pipeline safety regulations when the standards have been tested and incorporating these standards advances safety. The pipeline safety code is still operating with the 1987 and 1999 editions of ASTM D2513. AGA believes that granting this Petition and Stay of Enforcement will benefit pipeline safety.

Please file the Petition to the docket in your normal manner.

Sincerely,

A handwritten signature in black ink that reads "Philip Bennett". The signature is written in a cursive, flowing style.

Philip Bennett

**BEFORE THE
PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION
UNITED STATES DEPARTMENT OF TRANSPORTATION
WASHINGTON, D.C.**

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**Petition for Rulemaking and Request for a Stay of Enforcement
From The American Gas Association**

COMES NOW the American Gas Association, hereafter called AGA, and submits this petition for rulemaking and stay of enforcement. In support of said petition, AGA states:

1. AGA submits the petition to the Associate Administrator of the Pipeline and Hazardous Materials Safety Administration, PHMSA, pursuant to 49 CFR §190.331 *Petitions for rulemaking*.

2. The petition requests that the PHMSA make minor amendments to its regulations in accordance with 49 CFR §190.339 *Direct final rulemaking*.

3. The minor amendment is to incorporate by reference part of the most recent edition of ASTM D2513 - *Standard Specification for Thermoplastic Gas Pressure Pipe, Tubing, and Fittings* section, *A1.3.5 Color and UV Stabilizer*.

4. The AGA also requests that PHMSA issue a stay of enforcement for the requirements of 49 CFR §192.59, but limit the stay of enforcement to the requirements set forth in ASTM D2513 (2009), section A1.3.5.

5. AGA believes the requested regulatory changes promptly remove barriers encountered by operators in achieving higher levels of pipeline safety.

6. An expedited review of the petition is warranted because of the inherent time limits in the ASTM standard; state regulators and operators are already requesting special permits to waive existing requirements and adopt ASTM D 2513 (2009), in part; granting the petition can avoid redundant regulatory efforts; and the suggested amendment is minor.

7. The most recent version of ASTM D2513 recognizes that modern polyethylene pipe contains sufficient carbon black to provide protection against ultraviolet (UV) light during outside storage longer than the two-year limit in the previous ASTM D2513 standard, which is currently incorporated by reference in 49 CFR §192.7.

8. AGA is not aware of any objections to the relevant special permits. AGA knows of no technical objections to the relevant section of the ASTM standard.

9. Granting this request for a stay of enforcement would prevent PHMSA from being inundated with special permit requests to adopt ASTM D2513, section A.1.3.5 (2009).

10. The public benefits from this petition because it increases pipeline safety by adopting the latest technology provided by a consensus standard. Operators will be able to use emergency pipe stock that might otherwise be destroyed because of the existing time exposure limits to UV light.

11. The regulatory language for the existing and proposed sections is provided herein for PHMSA's review.

12. AGA does not expect that the adoption of the proposed language would either increase costs to gas utilities or have any adverse consequences.

13. The adoption of the proposed language will not create burdens on small businesses, small organizations and small governmental jurisdictions.

14. No changes are recommended to recordkeeping requirements.

I. Petitioner

The American Gas Association, founded in 1918, represents 202 local energy companies that deliver clean natural gas throughout the United States. There are more than 70 million residential, commercial and industrial natural gas customers in the U.S., of which almost 93 percent — more than 65 million customers — receive their gas from AGA members. AGA is an advocate for natural gas utility companies and their customers and provides a broad range of programs and services for member natural gas pipelines, marketers, gatherers, international natural gas companies and industry associates. Today, natural gas meets almost one-fourth of the United States' energy needs.

II. Background

There are more than two million miles of piping serving more than 70 million customers in the nation's natural gas distribution system. Plastic has surpassed steel for the majority of installed piping. Most residential pipe installed in the last 30 years has been plastic. Plastic is the material of choice because of its flexibility and its resistance to corrosion.

The foundation of this plastic pipe infrastructure is *ASTM D2513 - Standard Specification for Thermoplastic Gas Pressure Pipe, Tubing, and Fittings*. This specification covers the

requirements and test methods for material, dimensions, hydrostatic burst strength, tensile strength, chemical resistance, sustained pressure, heat fusion, and impact resistance of plastic pipes, tubing, and fittings used for direct burial and reliner applications in fuel gas mains and services for the distribution of natural gas. This specification does not cover threaded pipe.

Gas operators often store medium and high density polyethylene (PE) pipes for new construction and maintenance work outdoors due to large storage floor space requirements. Outdoor storage of plastic pipe means that some pipe gets exposed to direct sunlight. To protect PE pipes and fittings from UV light degradation, manufacturers add a UV stabilizer to the pipe formation process to absorb UV rays and prevent them from attacking the plastic. The stabilizers are tested by pipe manufacturers and demonstrate safe protection of yellow pipe for greater than three years and black pipe for greater than a twelve year period. With the added stabilizer, plastic pipe properties perform as specified by the manufacturer, if installed within the three or twelve years, respectively, from date of manufacture. Plastic pipe outdoor storage requirements are regulated by 49 CFR §192.59, which incorporates by reference ASTM D2513 Standard, 1999 edition.

III. Justification and Suggested Amended Language

AGA recognizes that the PHMSA staff participates in more than 25 national voluntary consensus standards committees. There are more than 60 standards and specifications incorporated by reference into 49 CFR parts 192, 193, and 195. PHMSA, state regulators and industry have expended an enormous amount of effort to participate in various committees in standard development associations. AGA supports the proposed non-substantive edits and regulatory clarifications published in the July 22, 2009 federal register notice, titled, *Periodic Updates of Regulatory References to Technical Standards and Miscellaneous Edits*. However, AGA is disappointed that PHMSA did not adopt in whole or in part the latest version of *ASTM D2513, ASTM Designation: "Standard Specification for Thermoplastic Gas Pressure Pipe, Tubing, and Fittings (2009)*. The latest version of the standard provides some significant upgrades over the 1999 edition. In the proposed rule, PHMSA states,

"PHMSA believes that a number of important issues need to be fully addressed by ASTM Committee F-17 and D20.10 before we adopt any new editions. Among these are the issues of appurtenances, marking and or traceability, increase in design factor, and

qualifications requirements for new materials. Therefore, we are proposing to continue to reference in the gas pipeline safety regulations the standards found in ASTM D'638 (2003 edition), (ASTM D2513 1987 and 1999 edition), ASTM D2517 (2000 edition) and ASTM F1055 (1998 edition) for plastic pipe and fittings..."

The ASTM D 2513 standard is the foundation of the gas utility infrastructure, and it is important not to limit technical progress to versions of standards that are 10 and 22 years old. The 2009 edition of ASTM D2513 incorporates advances in manufacturing and installing polyethylene piping. Section *A.1.3.5 Color and UV Stabilizer*, takes into account the significant advances that have occurred to plastic materials, including the UV stabilizers that are added to these materials. The revised edition provides for more realistic regulation for the current absorptive properties of carbon black against exposure to ultraviolet light than the ASTM standard that was issued more than a decade ago.²

The specification for color and UV stabilizer has been revised in the 2009 edition of the standard to state:

A.1.3.5 Color and UV Stabilizer – PE materials shall be Code C or E as defined in Specification D3350. Code C material shall contain 2 to 3 percent well dispersed carbon black, and due to absorptive properties of the carbon black, is considered to be stabilized against deterioration from unprotected exposure to UV for not less than 10 years. Code E material shall be stabilized and protected against deterioration from unprotected UV exposure for not less than 3 years.

The fundamental problem caused by not adopting the latest version of ASTM D2513 is that the comprehensive resolution of all of the issues involved in specifications for plastic pipe manufacture and use may take many years to resolve; while uncontested issues, like the UV limitation, are prevented from improving pipeline safety.³ The petition knows of no disputes with the consensus standard position on UV light protection.

Since PHMSA has provided notice that it does not intend, at this time, to adopt the latest addition of ASTM D2513, AGA believes, at a minimum, PHMSA should provide a Stay of

¹ Fed Reg Page 36140, col 2

² Portions of the 1987 and 1999 versions of ASTM D2513 are incorporated by reference into 29 CFR 192

³ AGA submitted a petition for rulemaking to address the cited increased design factor, with the recognition that rulemaking will be delayed until results from field testing are completed.

Enforcement from section A1.5.7 *Color and UV Stabilizer* in the 1999 edition of ASTM D2513. This section stipulates that PE pipe stored more than two years outdoors requires additional testing to prove it meets the requirements of ASTM D2513-99. Manufacturers, independent labs and operators have conducted significant testing related to outdoor storage of plastic pipe. The latest version of ASTM D2513 allows unprotected yellow pipe and fittings to be stored outdoors for three years and unprotected black pipe and fittings to be stored outdoors for ten years.

There is no controversy regarding the technical vigor of the revised section as it pertains to the ability of plastic piping to withstand ultraviolet light. Gas utility operators and their state regulators have already sought waivers to take advantage of the new standard. AGA believes adoption of this section is consistent with the prudence PHMSA, NAPSR and AGA share regarding regulations. Finally, the Stay of Enforcement would eliminate the need for dozens of states and hundreds of operators to seek special permits for applying the storage requirements adopted in the current consensus standard.

This petition requests a minor amendment to revise 49 CFR §192.7 to incorporate by referenced ASTM section as presented below. If accepted, the addition will supersede the previous rule amendment by PHMSA.

The proposed regulatory language is simply to add the following section to 49 CFR 192.7.

Source and name of referenced material	49 CFR reference
<u>(13) ASTM Designation: D2513-09 “Standard Specification for Thermoplastic Gas Pressure Pipe, Tubing, and Fittings”. A.1.3.5 Color and UV Stabilizer.</u>	<u>§192.59.</u>

IV. Conclusion

AGA appreciates the effort that PHMSA has expended in supporting more than 25 voluntary national consensus organizations. AGA believes it is beneficial to incorporate voluntary consensus standards as part of federal pipeline safety regulations when the standards have been tested and incorporating these standards advances safety. AGA also believes it is

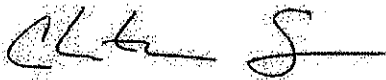
beneficial to update standards that PHMSA incorporates by reference to allow pipeline operators to use current technology, materials and operating practices. The pipeline safety code is still operating with the 1987 and 1999 editions of ASTM D2513. The 2009 edition of the standard enhances pipeline safety. Priority should be given to incorporating the standard by reference. Immediate pipeline safety improvement can be achieved with a stay of enforcement as presented in this petition.

Please let us know if AGA can provide you with assistance.

Respectfully submitted,

Date:

By:



Christina Sames

For further information, please contact:

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CERTIFICATE OF SERVICE

I hereby certify that I have caused a copy of the Petition of the American Gas Association to be served upon the Administrator, Pipeline and Hazardous Materials Safety Administration by depositing the same in United States mail, to the addresses shown, with proper postage, on the 9 day of September, 2009.

Pipeline and Hazardous Materials Safety Administration
U.S. Department of Transportation- East Building
1200 New Jersey Ave, SE
Washington, DC 20590

A handwritten signature in black ink, appearing to read "Philip Bennett", with a long horizontal line extending to the right.

Philip Bennett

American Gas Association
400 North Capitol, NW
Washington, DC 20001



U.S. Department
of Transportation

**Pipeline and Hazardous
Materials Safety
Administration**

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

AUG 17 2009

Ms. Susan K. Duffy
Executive Director
State Corporation Commission
of the State of Kansas
1500 SW Arrowhead Road
Topeka, KS 66604-4027

Dear Ms. Duffy:

The Pipeline and Hazardous Materials Safety Administration (PHMSA) reviewed your letter of June 8, 2009, notifying us that the State Corporation Commission of the State of Kansas (Commission) has granted the City of Louisburg, Kansas (Louisburg) a waiver of 49 CFR § 192.59(a)(1), as adopted by Kansas Administrative Regulations 82-11-4. Louisburg requested a waiver of § 192.59(a)(1) to allow for the use of Polyethylene (PE) pipe that is not in compliance with ASTM D2513-99, which is listed in Appendix B to Part 192. Paragraph A1.5.7 of ASTM D2513-99 specifies that PE pipe stored outdoors and unprotected for longer than two years from date of manufacture must meet certain testing requirements prior to use. Louisburg wants to use PE pipe that has been stored outside for approximately two-and-a-half years without subjecting the pipe to the complete series of testing prescribed by ASTM D2513-99.

The waiver granted by the Commission is partially based on information that the ASTM F-17 Committee on Plastic Piping Systems responsible for updating ASTM D2513 recently voted to revise paragraph A1.5.7. The Committee voted to extend the period allowed for outdoor storage to three years without further testing. In addition, the Commission also considered the fact that the manufacturer of the pipe in question, Performance Pipe Company, has tested this type of pipe to demonstrate its characteristics are not damaged after outdoor exposure of up to four years.


While PHMSA is aware of the latest efforts to update ASTM D2513, at this time ASTM D2513-99 is the version incorporated by reference. PHMSA also notes that even if the latest changes to ASTM D2513-99 are taken into consideration, the pipe in question is nearing the three-year outdoor storage limit and may potentially exceed that limit before the pipe is installed and put into service. Finally, PHMSA has reviewed the test data provided by Performance Pipe and recommends additional testing to increase the level of confidence of the long-term performance of the pipe in service.

Taking these items into account, PHMSA objects to the waiver unless the Commission requires Louisburg to meet the following conditions:

- Prior to installing and putting the pipe in service, Louisburg should work with the manufacturer (and PHMSA if needed) to identify and have performed an appropriate peel test (or equivalent) of samples of the PE pipe in question. The tests should include removing and examining sufficient layers to confirm oxidation is not present over 5-10 mils deep. This data should be provided to the Commission for review prior to installation.
- If sidewall or electrofusion methods are intended, Louisburg should work with the manufacturer (and PHMSA if needed) to identify and have performed appropriate “knock-off” or equivalent tests with fittings, where the fittings are fused on samples of the pipe in the areas exposed to direct sunlight and force is applied to the fitting to the point of failure. Generally, if the oxidized layers haven’t been sufficiently removed, the failure will occur at the fitting. If oxidized layers have been sufficiently removed, failure will occur at the pipe.
- Louisburg should work with the manufacturer (and PHMSA if needed) to develop appropriate surface preparation procedures that call for removal of 5-10 mils from the surface of the pipe, using an appropriate tool prior to joining with fittings or other appurtenances.
- Louisburg should work with the manufacturer (and PHMSA if needed) to identify sufficient tracking and traceability procedures to record locations where the pipe is installed and also where each joint or appurtenance is located. This information should be available to the Commission upon request.
- Procedures for all of the above requirements must be developed and submitted to the Commission prior to usage by Louisburg.

If you wish to discuss this or any other pipeline safety matter, my staff would be pleased to assist you. Under 49 U.S.C. § 60118 (d), you may also request a hearing on this matter. Please call John Gale, Director of Regulations at 202-366-4046 for regulatory matters or Alan Mayberry, Director of Engineering and Emergency Support at 202-366-5124 for technical matters. If you wish to discuss with personnel from our Central Region, please contact Ivan Huntoon, Director of the PHMSA Central Region at 816-329-3829.

Sincerely,


For

Jeffrey D. Wiese
Associate Administrator for Pipeline Safety

**THE STATE CORPORATION COMMISSION
OF THE STATE OF KANSAS**

Before Commissioners: Thomas E. Wright, Chairman
 Michael C. Moffet
 Joseph F. Harkins

In the Matter of the City of Louisburg,)
Kansas , Requesting Waiver of Pipeline)
Safety Regulation Title 49 C.F.R. Part) Docket No. 09-LSBP-920-MIS
192.59(a)(1), as Adopted by K.A.R. 82-)
11-4, Pertaining to Time Limits for)
Outdoor Storage of Polyethylene Pipe.)

ORDER

The above-captioned matter comes before the State Corporation Commission of the State of Kansas (Commission). Having examined its files and records, and being duly advised in the premises, the Commission finds and concludes as follows:

I. BACKGROUND

1. In December 2006, the City of Louisburg's Public Works Department (Louisburg) purchased a quantity of polyethylene (PE) pipe in anticipation of extending its gas system for a new housing subdivision. The main project was delayed, resulting in 4800 feet of 2-inch pipe and 2800 feet of 6-inch pipe being stored in outdoor storage since December 2006.

2. On March 8, 2009, Louisburg requested a waiver of the requirements of paragraph A1.5.7 of the American Society for Testing Materials (ASTM) standard D2513. The standard is adopted by reference in Title 49 C.F.R. §192.59(a)(1), defined as a listed specification in Section I of Appendix B to Title 49 C.F.R. Part 192, and adopted by K.A.R. 82-11-4.

3. Paragraph A1.5.7 requires PE pipe stored outdoors for more than two years undergo the complete series of tests prescribed by ASTM D2513 for new pipe before it can be installed for gas service.

4. On June 1, 2009, Commission Staff (Staff) submitted a memorandum recommending the Commission approve Louisburg's request for a waiver of Title 49 C.F.R. §192.59(a)(1) as adopted by K.A.R. 82-11-4. In support of its position, Staff indicated that the ASTM committee responsible for updating the D2513 specification voted in May 2009 to delete paragraph A1.5.7 from the standard and extend the period allowed for outdoor storage to three years. While Staff noted that the new standard has yet to be published by ASTM or adopted by the United States Department of Transportation (USDOT), it also noted that the two year limitation under the previous standard is a conservative estimate of the time PE pipe is resistant to ultraviolet (UV) radiation exposure. Further Staff stated that although the pipe purchased by Louisburg has not been tested as prescribed by ASTM D2513, Performance Pipe, the manufacturer of the Louisburg pipe has tested this type of pipe to demonstrate its characteristics are not damaged after outdoor exposure of up to four years. Despite the fact that Performance Pipe did not perform all of the tests called for in the D2513 standard, the testing regimen that was performed is considered to test for all properties of the plastic that could be affected by UV degradation. Ultimately, Staff asserted that granting the waiver is consistent with the intent of pipeline safety requirements, and the recently approved D2513 standard, because the pipe has been stored outdoors only since December 2006.

II. Discussion

5. K.S.A. 66-1,150 authorizes the Commission to adopt such rules and regulations as may be necessary to be in conformance with the Natural Gas Pipeline Act of 1968, as amended, 49 U.S.C.A. 1671 *et seq.*

6. This request seeks a waiver of the requirements of a pipeline safety standard adopted by reference in Title 49 C.F.R. §192.59(a)(1) which is adopted by K.A.R. 82-11-4.

7. K.A.R. 82-11-9(b) provides the Commission may grant waivers of gas pipeline safety regulations adopted in K.A.R. 82-11-1 *et seq.*, after notice and opportunity for hearing, if the Commission determines that notice and hearing are necessary, and that the waiver is consistent with pipeline safety.

8. Additionally, pursuant to K.A.R. 82-1-202(a) the Commission has the power to waive any of its regulations, and can waive the requirement of notice and opportunity for hearing if the Commission determines that a waiver of the requirement contained in the regulation is in the public interest.

9. In the current matter, the ASTM committee recently voted to extend the outdoor storage period for PE pipe to three years. The Louisburg pipe has been stored outdoors for 2 ½ years. Because the Louisburg pipe is within the parameters under the recently adopted standard, requiring Louisburg to expend funds on notice and a hearing would result in unwarranted expenses that will ultimately be passed on to the residents of Louisburg. Therefore, the Commission concludes the notice and hearing provision of K.A.R. 82-11-9(b) is unnecessary.

10. Further, the Commission agrees with Staff's analysis regarding the waiver. Considering the pipe in question has been stored outdoors for a time period less than allowable under the newly adopted D2513 standard, coupled with the fact that the pipe's manufacturer

demonstrated that similar PE pipe maintains integrity when stored outdoors for a period up to four years, the requested waiver appears reasonable and not to be in conflict with the intent of pipeline safety. Therefore, the Commission finds and concludes that granting the waiver is in the public interest and consistent with pipeline safety.

IT IS, THEREFORE, BY THE COMMISSION ORDERED:

A. The City of Louisburg, Kansas' request for waiver of Title 49 C.F.R. § 192-59(a)(1) as adopted by K.A.R. 82-11-4 is granted as it applies to the 4800 feet of 2-inch pipe and 2800 feet of 6-inch pipe currently in Louisburg's inventory.

B. Because this waiver constitutes a modification of federal pipeline safety requirements contained in Title 49 C.F.R. §192.59(a)(1) this waiver is contingent upon approval from the U.S. Department of Transportation.

C. The parties have fifteen days, plus three days if service of this order is by mail, from the date this order was served in which to petition the Commission for reconsideration of any issue or issues decided herein. K.S.A. 66-118b; K.S.A. 2008 Supp. 77-529(a)(1).

D. The Commission retains jurisdiction over the subject matter and the parties for the purpose of entering such further order, or orders, as it may deem necessary.

BY THE COMMISSION IT IS SO ORDERED.

Wright, Chr.; Moffet, Com.; Harkins, Com.

Dated: JUN 08 2009

ORDERED MAILED

JUN 09 2009

 **EXECUTIVE
DIRECTOR**

Susan K. Duffy
Executive Director

TJP: acc