

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

AUG 14 2002

Mr. Glynn Blanton  
Chief, Gas Pipeline Safety Division  
Tennessee Regulatory Authority  
460 James Robertson Parkway  
Nashville, TN 37243-0505

Dear Mr. Blanton:

We have considered your letter of June 18, 2002, notifying us that the Tennessee Regulatory Authority (TRA) has approved the application of the Nashville Gas Company (NGC), a Division of Piedmont Natural Gas Company, Inc., for a waiver from 49 CFR §§ 192.121 and 192.123(a). The waiver would permit NGC to operate plastic pipe made of polyamide resin (also known as Nylon 11, PA 11, or Rilsan™) at operating pressures of up to 200 psig, or 100 psig above the current limit under § 192.123(a). The proposed 200 psig limit is based on using a design factor of 0.40, instead of the currently required 0.32, in the design formula in § 192.121.

To properly evaluate the safety of the pipeline system and of the 0.40 design factor, we need more information than your letter or the TRA order provides. Therefore, we object to the waiver, and under 49 U.S.C. § 60118(d), TRA's action granting the waiver is stayed.

We will reconsider our objection if you provide the following information regarding the proposed system:

1. Please indicate the diameters of the PA 11 plastic pipe to be used in the main and service lines.
2. Please indicate the SDR numbers of the PA 11 plastic pipe to be used in the main and service lines.
3. Please indicate the class location of the main and service lines.
4. Please indicate if the waiver is permanent or only for a trial period in conjunction with the Gas Technology Institute study. If the latter, please indicate the length of the trial period.
5. Please indicate if hot taps are to be performed on the PA 11 plastic pipe.
6. Please indicate if TRA staff will be present periodically during the installation of the PA 11 plastic pipe.
7. Please indicate why TRA believes it is safe to use a design factor of 0.40 instead of 0.32 to determine the design pressure of PA 11 plastic pipe.

Sincerely,  
Stacey L. Gerard  
Associate Administrator for Pipeline Safety

TENNESSEE REGULATORY AUTHORITY  
460 James Robertson parkway  
Nashville, Tennessee 37243-0505

June 18, 2002

Ms. Stacey Gerard, Associate Administrator  
US Department of Transportation  
RSPA/Office of Pipeline Safety  
400 7<sup>th</sup> Street, SW Room 7128  
Washington, DC 20590

RE: Nashville Gas Company, a Division of Piedmont Natural Gas Company, Inc. Request for Waiver of 49 CFR 192.121 and 192.123 (a) of Part 192 of U.S.C. Title 49. TRA Docket Number 01-0113.

Dear Ms. Gerard:

Please find enclosed the order of the Tennessee Regulatory Authority (TRA) in the referenced matter. We are submitting the order and Nashville Gas Company (NGC) petition for review and action in accordance with 49 USC 60118(a). NGC requests action on this matter to allow installation of the proposed PA 11 material along Rutland Road and Hunting Hills Road in Wilson County, Mt. Juliet, Tennessee within their service territory.

TRA Gas Pipeline Safety staff will monitor the installation and quality assurance procedures developed specifically for PA 11. We will review all records regarding the use of the pipe as it applies to material, length, pressure test, pipe size, wall thickness, environmental conditions, class location, and qualifying procedures for joining of the material. We will require NGC to remove a cross-section of the PA 11 pipe for testing and evaluation of the material's aging characteristics at both the twelve (12) and twenty-four (24) month periods from the date of installation. The results of these tests will be filed with our agency and made available to the Office of Pipeline Safety upon request. The proposed pressure test of the PA 11 will be at 200 percent of the maximum allowable operating pressure, which is in excess of the requirement of Subsection 192.513. NGC shall maintain line markers and appropriate signage in the area of the proposed pipeline and conduct leak surveys twice in the first year and then annually for five years, which is beyond the requirement of 192.723.

If the TRA does not receive a response from the Federal Office of Pipeline Safety within sixty days of receipt of the order, we understand that NGC will be free to proceed under the provisions of the order. If you have any questions regarding this matter, please contact Richard Collier, General Counsel, at 1-800-342-8359 extension 170 or me at extension 185. Your prompt response to this request is appreciated.

Sincerely,  
Glynn Blanton, Chief  
Gas Pipeline Safety Division  
Enclosure

BEFORE THE TENNESSEE REGULATORY AUTHORITY

NASHVILLE, TENNESSEE

June 17, 2002

IN RE: )  
)  
APPLICATION OF NASHVILLE GAS COMPANY, A ) DOCKET NO.  
DIVISION OF PIEDMONT NATURAL GAS COMPANY, ) 01-01133  
INC. FOR A WAIVER OF SECTIONS 192.121 AND )  
192.123(A) OF PART 192 OF U.S.C. TITLE 49 )

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ORDER APPROVING WAIVER OF THE REQUIREMENTS REGARDING PIPE  
DESIGN PURSUANT TO 49 C.F.R. ft§ 192.121 AND 192.123(a)

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This matter came before the Tennessee Regulatory Authority ("Authority") at a public hearing held on May 7, 2002, for consideration of an application filed by Nashville Gas Company ("NGC") for a waiver of 49 C.F.R. §§ 192.121 and 192.123(a) regarding the design of plastic pipe utilized in its gas distribution system.

**BACKGROUND**

On December 19, 2001, NGC filed its *Application of Nashville Gas Company, a Division of Piedmont Natural Gas Company, Inc. for a waiver of Sections 192.121 and 192.123(a) of Part 192 of U.S.C. Title 49 to permit the use of polyamide resin (also known as Nylon 11, PA 11, or Rilsan™) as a piping material to distribute natural gas at operating pressures up to 200 psig as limited by its approved Plastic Pipe Hydrostatic Design Basis design factor of 0.40 and the use of the design formula contained within Section 192.121 ("Application")*. Upon acknowledging that the Application contained ambiguities and that the supporting information provided therein was incomplete, NGC filed an amended Application bearing the same title on March 5, 2002.<sup>1</sup>

The amended Application requests a waiver from the Minimum Federal Safety Standards ("MFSS") regarding the design of plastic pipe found at 49 C.F.R. §§ 192.121 and 192.123(a). These standards have been adopted by the Tennessee Regulatory Authority.<sup>2</sup> Section 192.121 sets forth formulas for determining the design pressure for plastic pipe.<sup>3</sup> Section 192.123(a) sets forth limitations regarding design pressure and operating temperatures.<sup>4</sup> NGC seeks Authority approval for use of polyamide resin (also known as Nylon 11, PA 11, or Rilsan™) as a piping material to be used in the distribution of natural gas. NGC proposes to utilize this piping material at operating pressures which may vary from the requirements of Section 192.123 by up to 200 psig as limited by its Plastic Pipe Institute Hydrostatic Design Basis rating<sup>5</sup> of 2500 psi, and using a design factor of 0.40 in the formula contained within 49 C.F.R. § 192.121.

This piping material will be used at a site located in Mount Juliet, Wilson County, Tennessee along Rutland and Hunting Hills Roads. There will be two miles of main line and three miles of service line that will potentially serve thirty to forty customers in the service area. NGC will maintain records regarding the use of the polyamide resin material including the type of material, location, length, pressure, pipe size, wall thickness, environmental conditions and class location.

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<sup>1</sup>The amended Application provided additional information to the Authority including the results of a study performed by Nicor Technologies for the Gas Research Institute. In support of the amended Application, NGC provided information showing that PAU has been approved under American Society for Testing and Materials (ASTM) D2513-96a with a HDB rating of 2500 psi. NGC relies on third party testing and evaluations of the PA11 material by the Gas Technology Institute that corroborates the material's strength, integrity, and performance. NGC points out the continued safe operability of two separate installations of PA 11 piping systems operating over 150 psig. One of these systems is operating at 160 psig in the Nicor Gas distribution network under a waiver approved by the Illinois Commerce Commission (ICC Docket No: 9S0494)\_

<sup>2</sup>Tenn. Code Ann. § 65-28-104 (Supp. 2001).

<sup>3</sup>49 C.F.R. § 192.121 (2002).

<sup>4</sup>49 C.F.R. § 192.123 (2002).

<sup>5</sup>The PA11 Hydrostatic Design Basis (HDB) rating was established after tests conducted under the auspices of the Plastic Pipe Institute (PPI) and the ASTM. The Gas Technology Institute (formerly Gas Research Institute) has conducted thirty tests and evaluations corroborating the material's strength, integrity and performance.

After twelve (12) months, and again after twenty-four (24) months, NM will remove certain cross-sections of pipe for testing and evaluation of the aging characteristics of the material.

Among the safety measures being taken, NGC will pressure test the newly installed pipe at 350 psig (200% of the maximum operating pressure of 175 psig) and maintain appropriate signage and line markers. NGC will also conduct a leak survey of the installed pipe, twice the first year, and on an annual basis thereafter for 5 years. NGC will otherwise conform to all other related requirements of Sections 192.191, .281 and .287. These tests and evaluations will be performed by the Gas Technology Institute and the results will be provided to the Authority and the federal government's Office of Pipeline Safety.

## **FINDINGS AND CONCLUSIONS**

In considering a request for a waiver of the requirements set forth in 49 C.F.R. §§ 192.121 and 192.123(a), the Authority must comply with the same requirements for granting a waiver as those placed on the United States Secretary of Transportation in 49 U.S.C. § 60118.<sup>6</sup> Under these requirements, the Authority may waive compliance with any part of an applicable standard on terms it considers appropriate if the waiver is not inconsistent with pipeline safety.<sup>7</sup>

At the public hearing conducted on May 7, 2002, the Directors unanimously approved the request for waiver based on the following findings:

1. NGC is a gas public utility as defined in Tenn. Code Ann. § 65-28-104, and as such, is subject to the jurisdiction of the Authority pursuant to Tenn. Code Ann. § 65- 28-106.
2. Through its request for a waiver of the Minimum Federal Safety Standards set forth at 49 C.F.R. §§ 192.121 and 192.123(a), NGC is asking that it be allowed to use polyamide resin (also known as Nylon 11, PA 11, or Rilsanni) as a piping material to distribute natural gas at operating pressures up to 200 psig as limited by its Plastic Pipe Institute Hydrostatic Design Basis rating of 2500 psi, and using a design factor of 0.40 in the formula contained within 49 C.F.R. § 192.121.
3. The Authority concludes that the waiver of the requirements set forth in 49 C.F.R. §§ 192.121 and 192.123(a) is a practical solution for gas distribution that is not inconsistent with pipeline safety or the integrity of the pipeline.

## **IT IS THEREFORE ORDERED THAT:**

1. *The Application of Nashville Gas Company, a Division of Piedmont Natural Gas Company, Inc. for a waiver of Sections 192.121 and 192.123(a) of Part 192 of U.S.C. Title 49 to permit the use of polyamide resin (also known as Nylon 11, PA II, or Rilsan as a piping material to distribute natural gas at operating pressures up to 200 psig as limited by its approved Plastic Pipe Hydrostatic Design Basis design factor of 0.40 and the use of the design formula contained within Section 192.121, as amended, is approved and the waiver requested therein is granted.*
2. A written notice of the waiver granted herein shall be transmitted to the Office of the Secretary of Transportation consistent with the requirements set forth at 49 U.S.C. 60118(d).
3. This Order will be effective sixty (60) days from the date the Secretary of Transportation receives the written notice of the waiver unless an objection is entered by the Secretary in accordance with the requirements of 49 U.S.C. 60118(d).

<sup>6</sup> 49 U.S.C. § 60118 (2001) provides in pertinent part that a "State authority may waive compliance with a safety standard in the same way and to the same extent the Secretary may waive compliance under subsection (c) of this section." Subsection (c) of 49 U.S.C. § 60118 provides that "the Secretary by order may waive compliance with any part of an applicable standard . . . after notice and an opportunity for a

<sup>7</sup>Subsections (c) and (d) of 49 U.S.C. § 60118 have been interpreted through the United States Department of Transportation's Guidelines for States Participating in the Pipeline Safety Program (May 1996). Chapter 3 of this publication provides specific guidelines for state agencies in considering a waiver of federal regulation involving intrastate pipelines. The guidelines mirror the requirements set forth at 49 U.S.C. § 60118 (2001) and provide some additional specifics regarding the interaction between the state agency and the office of the Secretary of Transportation.

Sara Kyle, Chairman

H. Lynn Greer, Jr., Director

Melvin J. Malone, Director

K. David Waddell, Executive Secretary