



U.S. Department
of Transportation
Pipeline and Hazardous
Materials Safety
Administration

1200 New Jersey Avenue, SE
Washington, DC 20590

March 12, 2020

Attention: State Pipeline Safety Program Managers

PHMSA has identified two implementation issues with the Plastic Pipe Rule. I'm writing to communicate PHMSA's intentions to address them and provide recommendations to the States.

Compliance with Category 1 requirements for large diameter (4 inches or greater) transition fittings:

You may recall PHMSA received a petition for reconsideration from the American Gas Association (AGA) on December 20, 2018,¹ shortly after the Plastic Pipe Rule was published, to exempt mechanical fittings with nominal pipe sizes of 4 inches or greater from the Category 1 requirements in 49 CFR 192.281 (e)(4)

§192.281 Plastic pipe.

(e) *Mechanical joints*. Each compression type mechanical joint on plastic pipe must comply with the following:

(3) All mechanical fittings must meet a listed specification based upon the applicable material.

(4) All mechanical joints or fittings installed after January 22, 2019, must be Category 1 as defined by a listed specification for the applicable material, providing a seal plus resistance to a force on the pipe joint equal to or greater than that which will cause no less than 25% elongation of pipe, or the pipe fails outside the joint area if tested in accordance with the applicable standard.

AGA raised issues with the commercial availability of fittings 4 inches or larger that meet the requirements. The biggest issue appeared to be with availability of transition couplings for plastic to metallic connections, particularly plastic to cast iron connections.

¹ Available on regulations.gov at <https://www.regulations.gov/document?D=PHMSA-2014-0098-0063>.

PHMSA provided a response to AGA on March 1, 2019, of its intentions to delay the compliance deadline for Category 1 requirements for joints between metallic and plastic pipe with a nominal size of 4 or greater until January 22, 2020. The date was intended to help provide additional time to develop and test larger mechanical fittings that can meet the Category 1 performance standard of §192.281 (e)(4), along with other requirements in newly incorporated fitting standards such as ASTM F1924 and ASTM F1948 invoked through §192.281 (e)(3).

While manufacturers have made progress in testing their large diameter fittings they could not quite get all tests completed by January 22, 2020. One manufacturer indicated they would complete all required tests for the full range of sizes by the week of February 3 and another indicated that they may need until August. Even with the fittings starting to be commercially available, AGA has communicated that it could take their members up to six months to train personnel and update procedures. Part of that timing includes time needed to receive fittings and swap out any non-compliant fittings in their inventory, such as Category 3 that were previously allowed prior to the Plastic Pipe Rule but no longer allowed post rule, in addition to the time needed to update procedures and provide training to staff on any design changes.

After consideration of the information presented, PHMSA is not intending to enforce the requirements of §§192.281 (e)(3) or 192.281 (e)(4) for joints between metallic and plastic pipe with a nominal pipe size of 4 or greater until August 31, 2020, and recommends States do the same.

Ideally operators would wait until the fittings are fully tested, available, and integrated into their supply chain, procedures, and training prior to being installed. If they don't install non-compliant fittings there is no enforcement issue. However, if operators do need to install fittings whose testing results are still being evaluated, they should implement a tracking and traceability program to know where those fittings are located. Such fittings must be replaced if the design subsequently fails testing by the manufacturer. In some cases, supplemental restraint may also be needed to meet the requirement. Operators should also obtain letters from their manufacturer on status of testing, availability of fittings, and any training and procedural changes anticipated.

Fusion Qualification: Considering Alternative Procedures to ASTM F2620 for Polyethylene (PE):

AGA submitted a petition on August 23, 2019 requesting PHMSA amend §§ 192.281 and 192.285 to allow alternatives to ASTM F2620 for qualifying joining procedures and joiners.

§192.281 Plastic pipe.

(c) *Heat-fusion joints.* Each heat fusion joint on a PE pipe or component, except for electrofusion joints, must comply with ASTM F2620-12 (incorporated by reference in §192.7) and the following:

§192.285 Plastic pipe: Qualifying persons to make joints.

(b) The specimen joint must be:

(2) In the case of a heat fusion, solvent cement, or adhesive joint:

(i) Tested under any one of the test methods listed under §192.283(a), or for PE heat fusion joints (except for electrofusion joints) visually inspected and tested in accordance with ASTM F2620-12 (incorporated by reference, *see* §192.7) applicable to the type of joint and material being tested;

The AGA stated many utilities have been using previously qualified heat fusion procedures developed by the industry and published by the Plastic Pipe Institute (PPI), such as PPI TR-33 “*Generic Butt Fusion Joining Procedure for Field Joining of Polyethylene Pipe*” and PPI TR-41 “*Generic Saddle Fusion Joining Procedure for Polyethylene Gas Piping*”, that deviate from ASTM F2620 in some aspects. Some operators also developed their own procedures. AGA noted that while the rule preamble talked about the potential for other procedures to be acceptable if an operator can demonstrate any differences are sound and provide an equivalent or superior level of safety compared to ASTM F2620, the actual rule language doesn’t appear to provide an option for alternative procedures.

In a November 18, 2019, response to the AGA, PHMSA indicated it will consider amending §§ 192.281(c) and 192.285(b)(2)(i) consistent with the discussion in the preamble of the Plastic Pipe Final Rule to allow the use of written procedures other than ASTM F2620 that are demonstrated to provide an equivalent or superior level of safety. PHMSA is also considering whether it would be appropriate to incorporate by reference the 2019 version of ASTM F2620, which includes a note that ties ASTM F2620 with the PPI procedures mentioned in the petition, in a future rulemaking.

In the interim until a rulemaking is proposed and ultimately finalized, PHMSA is planning to enforce this requirement consistent with the language in the preamble and recommends States do the same.

Sincerely,



Zach Barrett

Director, State Programs