



# National Transportation Safety Board

Washington, D.C. 20594

## Safety Recommendation

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**Date:** June 8, 2006

**In reply refer to:** P-06-5

Mr. Stephen Boros  
Technical Director  
Plastics Pipe Institute  
1825 Connecticut Avenue, N.W.  
Suite 680  
Washington, D.C. 20009

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The National Transportation Safety Board is an independent Federal agency charged by Congress with investigating transportation accidents, determining their probable cause, and making recommendations to prevent similar accidents from occurring. We are providing the following information to urge your organization to take action on the safety recommendation in this letter. The Safety Board is vitally interested in this recommendation because it is designed to prevent accidents and save lives.

This recommendation addresses the Plastics Pipe Institute's (PPI's) butt-fusion procedure. This recommendation is derived from the Safety Board's investigation of the August 21, 2004, leak, explosion, and fire in DuBois, Pennsylvania, and is consistent with the evidence we found and the analysis we performed.<sup>1</sup> As a result of this investigation, the Safety Board has issued five safety recommendations, one of which is addressed to PPI. Information supporting this recommendation is discussed below. The Safety Board would appreciate a response from you within 90 days addressing the actions you have taken or intend to take to implement our recommendation.

On August 21, 2004, about 8:54 a.m., a natural gas explosion destroyed a residence located at 48 Woodland Lane in DuBois, Pennsylvania. Two residents were killed in this accident. The Safety Board determined that the probable cause of the leak, explosion, and fire in DuBois, Pennsylvania, on August 21, 2004, was the fracture of a defective butt-fusion joint and the failure of the National Fuel Gas Distribution Corporation to have an adequate program to inspect butt-fusion joints and replace those joints not meeting its inspection criteria.

As you know, PPI is the major trade association representing the plastics piping industry. PPI publishes universal fusion procedures that are widely accepted throughout the pipeline industry. PPI's current butt-fusion joint procedure, published in late 2005, recommends that the

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<sup>1</sup> For additional information, see National Transportation Safety Board, *Natural Gas Pipeline Leak, Explosion, and Fire, DuBois, Pennsylvania, August 21, 2004*, Pipeline Accident Brief NTSB/PAB-06/01 (Washington, DC: NTSB, 2006).

drag force<sup>2</sup> be determined on a case-by-case basis. The PPI procedure does not address the joining of coiled pipe or the avoidance of mitering. The PPI procedure includes an illustration of a properly made butt-fusion joint, but it does not specifically address inspecting the finished joint. The PPI universal butt-fusion procedure is widely accepted throughout the United States. Therefore, it is essential that the procedure be as complete as possible.

The National Transportation Safety Board therefore makes the following safety recommendation to the Plastics Pipe Institute:

Revise your butt-fusion joining procedure for plastic gas pipe to (1) stress the importance of inspecting the finished joint, (2) include guidance on the joining of coiled pipe, and (3) include a requirement for the avoidance of mitering. (P-06-5)

The Safety Board also issued safety recommendations to the Pennsylvania Public Utility Commission, National Fuel Gas Distribution Corporation, and USPoly Company. In your response to the recommendation in this letter, please refer to Safety Recommendation P-06-5. If you need additional information, you may call (202) 314-6177.

Acting Chairman ROSENKER and Members ENGLEMAN CONNERS, HERSMAN, and HIGGINS concurred in this recommendation.

*[Original Signed]*

By: Mark V. Rosenker  
Acting Chairman

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<sup>2</sup> The fusion of a long or heavy segment of pipe is different from the fusion of two small segments of plastic pipe. *Drag force* is the force required to move the pipe to be joined. If this drag force is not added before applying the joining force, the proper joining force may not be applied.