

ASPE TechSymposium2021



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Paul Baker is a Senior Mechanical Engineer with Jacobs in Fort Worth, Texas. A graduate of Lehigh University in 1975, he has more than 40 years' experience in the HVAC and plumbing fields.

He has been an ASPE member since 2006 and is registered as a Professional Engineer in nine states.

Paul has written five articles on high-pressure natural gas distribution in Plumbing Engineer magazine as well as an article on natural gas at high altitudes. He also was the Technical Editor for ASPE PEDH Volume 4 in 2020/2021 and also has contributed to ASPE PEDH Volumes 1, 2, and 3.

Design of Sitewide Natural Gas Distribution Systems

NFPA 54 and the International Fuel Gas Code provide minimal guidance with respect to sizing and selecting pipeline materials and sizes on a campus setting. On some sites, like a military base or an industrial complex, natural gas arrives at a central “gateway” from the utility supplier, and it is up to the engineer to select all of the pipeline materials and pipe sizes. The codes do not provide charts or tables for selecting pipe sizes, and hardly any tables are published to compare with sizing results. This session will outline relevant code and reference materials, discuss gas pressure regulators and their purpose, review relevant piping materials, discuss the accuracy of various flow and pressure drop equations, and finally outline what items need to be discussed with the natural gas supplier.