

PRACTICAL HYDROCARBON DEW POINT SPECIFICATION FOR NATURAL GAS TRANSMISSION LINES

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ABSTRACT

Hydrocarbon liquid dropout can cause a number of problems in gas transmission lines, including increased pressure drop, reduced line capacity, and equipment problems such as compressor damage. To avoid liquid dropout, most current operating specifications for gas transmission lines require that the lines be operated above the hydrocarbon dew point (HDP) or cricondentherm hydrocarbon dew point (CHDP). The HDP may be determined either by direct measurement such as the Bureau of Mines chilled mirror method or by calculation using an equation of state (EOS) with a measured composition. This project (GPA Project No. 081) was undertaken to determine a practical hydrocarbon dew point specification allowing small amounts of liquids that have no significant impact on operations. Results from the project show that 0.002 gallons of liquid per thousand standard cubic feet of gas (GPM) has a negligible effect on pressure drop and should not disrupt pipeline operations. Calculation of an accurate HDP from a GC analysis such as typically available at a custody transfer point may be useful but is highly dependent on the characterization of the heavy fraction. An extended analysis of the heavy fraction is best. However, an empirical method has been developed to predict the C6, C7, C8, C9 and heavier composition when only a lumped C6+ fraction characterization is available.

Practical Hydrocarbon Dew Point Specification For Natural

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Handbook of Natural Gas Analysis James G. Speight, 2018-08-14 A comprehensive resource to the origin properties and analysis of natural gas and its constituents Handbook of Natural Gas Analysis is a comprehensive guide that includes information on the origin and analysis of natural gas the standard test methods and procedures that help with the predictability of gas composition and behavior during gas cleaning operations and use The author a noted expert on the topic also explores the properties and behavior of the various components of natural gas and gas condensate All chapters are written as stand alone chapters and they cover a wealth of topics including history and uses origin and production composition and properties recovery storage and transportation properties and analysis of gas stream and gas condensate The text is designed to help with the identification of quality criteria appropriate analysis and testing that fall under the umbrella of ASTM International ASTM is an organization that is recognized globally across borders disciplines and industries and works to improve performance in manufacturing and materials and products This important guide Contains detailed information on natural gas and its constituents Offers an analysis of methane gas hydrates ethane propane butane and gas condensate Includes information on the behavior of natural gas to aid in the planning for recovery storage transportation and use Covers the test methods that are applicable to natural gas and its constituents Written in accessible and easy to understand terms Written for scientists engineers analytical chemists who work with natural gas as well as other scientists and engineers in the industry Handbook of Natural Gas Analysis offers a guide to the analysis standard test methods and procedures that aid in the predictability of gas composition and behavior during gas cleaning operations and use **Natural Gas** James G. Speight, 2018-11-26 Natural Gas A Basic Handbook Second Edition provides the reader with a quick and accessible introduction to a fuel source industry that is transforming the energy sector Written at an introductory level but still appropriate for engineers and other technical readers this book provides an overview of natural gas as a fuel source including its origins properties and composition Discussions include the production of natural gas from traditional and unconventional sources the downstream aspects of the natural gas industry including processing storage and transportation and environmental issues and emission controls strategies This book presents an ideal resource on the topic for engineers new to natural gas for advisors and consultants in the natural gas industry and for technical readers interested in learning more about this clean burning fuel source and how it is shaping the energy industry Updated to include newer sources like shale gas Includes new discussions on natural gas hydrates and flow assurance Covers environmental issues Contain expanded coverage of liquefied natural gas LNG **Gas Engineering** James G. Speight, 2022-11-07 Volume 2 covers the constituents of gas streams and their properties The author presents the chemistry and engineering aspects of the methods and principles by which the gas streams might be cleaned from their noxious constituents The concept of gas condensate is also discussed as well as the methods which can be applied to the analysis of streams and condensate Vol 1 Origin and

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