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Standard Terminology Relating to Gaseous Fuels¹

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1. Scope

1.1 This standard defines the terms used in standards that are the responsibility of Committee D-3 on Gaseous Fuels. These terms are used in:

1.1.1 The sampling of gaseous fuels,

1.1.2 The analysis of gaseous fuels for composition and various other physical properties, and

1.1.3 Other practices related to the processing, transmission, and distribution of gaseous fuels.

2. Referenced Documents

2.1 *ISO Standard:*

ISO NP 14532 Natural Gas—Terminology²

3. Terminology

acid gas—natural gas containing high concentrations of hydrogen sulfide or carbon dioxide, or both, which is acidic when in contact with water or water vapor.

associated gas—natural gas, also known as gas-cap gas or dome gas, that overlies and is in immediate contact, but not in solution, with crude oil in a reservoir.

base conditions—temperature and pressure conditions at which natural gas volumes are determined for purposes of custody transfer. In natural gas measurement the properties of interest are temperature, pressure, and composition. Assuming ideal gas properties, for simplicity, tables of pure compounds can be prepared for use in calculating gas properties for any composition at "base conditions." These "base conditions" are chosen near ambient.

compressed natural gas (CNG)—natural gas that is typically pressurized to 3600 psi. CNG is primarily used as a vehicular fuel.

dew point—the temperature at any given pressure at which liquid initially condenses from a gas or vapor. It is specifically applied to the temperature at which water vapor starts

to condense from a gas mixture (**water dew point**), or at which hydrocarbons start to condense (**hydrocarbon dew point**).

dissolved gas—natural gas held in solution in reservoir liquids at the prevailing temperature and pressure of the reservoir.

dry gas—natural gas containing little or no water vapor.

hydrate—a solid, crystalline material composed of water and components of natural gas formed under pressure at temperatures above the freezing point of water.

hydrocarbon dew point—(see **dew point**)

inert components—those elements or components of natural gas (fuel gas) that do not contribute to the heating value.

lean gas—natural gas containing little or no hydrocarbons commercially recoverable as liquid products.

DISCUSSION—Water and recoverable hydrocarbons (ethane and heavier hydrocarbons) are customarily removed from natural gas to meet contractual or state statutory requirements.

liquefied natural gas (LNG)—natural gas that has been liquefied, after processing, for storage or transportation purposes. (This definition is from ISO NP 14532.)

natural gas—a naturally occurring mixture of hydrocarbon and nonhydrocarbon gases found in porous geological formations (reservoirs) beneath the earth's surface, often in association with petroleum. The principal constituent of natural gas is methane.

natural gas odorant—an intensively smelling organic chemical or combination of chemicals (for example, sulfur compounds), added to fuel gases to impart a characteristic and distinctive (usually disagreeable) warning odor so gas leaks can be detected.

natural gas, processed—a methane-rich commercial gaseous product derived from naturally occurring gas mixtures by processing (also referred to as merchantable natural gas).

nonassociated gas—natural gas not in contact with, nor dissolved in, reservoir liquids.

relative density (specific gravity)—ratio of the density of the gaseous fuel, under specified conditions of temperature and pressure, to the density of normal dry air,³ at the same temperature and pressure.

¹ This terminology is under the jurisdiction of ASTM Committee D-3 on Gaseous Fuels and is the direct responsibility of Subcommittee D03.92 on Definitions and Nomenclature.

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² Available from American National Standards Institute, 11 42nd St., 13th Floor, New York, NY 10036.

³ *Journal of Research*, National Institute of Standards and Technology, Vol 83, pp. 419, 1978.