NOTIFICATION

The following notification is being circulated in accordance with Article 10.6

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| **1.** | **Notifying Member:** UGANDA  **If applicable, name of local government involved (Article 3.2 and 7.2):** |
| **2.** | **Agency responsible:**  Uganda National Bureau of Standards  Plot 2-12 ByPass Link, Bweyogerere Industrial and Business Park  P.O. Box 6329  Kampala, Uganda  Tel: +(256) 4 1733 3250/1/2  Fax: +(256) 4 1428 6123  E-mail: [info@unbs.go.ug](mailto:info@unbs.go.ug)  Website: <https://www.unbs.go.ug>  **Name and address (including telephone and fax numbers, email and website addresses, if available) of agency or authority designated to handle comments regarding the notification shall be indicated if different from above:** |
| **3.** | **Notified under Article 2.9.2 [****],** **2.10.1 [****],** **5.6.2 [****X],** **5.7.1 [****], 3.2 [****], 7.2 [****],** **other****:** |
| **4.** | **Products covered (HS or CCCN where applicable, otherwise national tariff heading. ICS numbers may be provided in addition, where applicable):** Petroleum gases and other gaseous hydrocarbons. (HS code(s): 2711); Fuels (ICS code(s): 75.160), Natural Gas |
| **5.** | **Title, number of pages and language(s) of the notified document:** DUS 2523:2022, Standard Test Method for Determination of Water Vapor (Moisture Concentration) in Natural Gas by Tunable Diode Laser Spectroscopy (TDLAS), First Edition; (14 page(s), in English) |
| **6.** | **Description of content:** This Draft Uganda Standard covers online determination of vapor phase moisture concentration in natural gas using a tunable diode laser absorption spectroscopy (TDLAS) analyzer also known as a "TDL analyzer." The particular wavelength for moisture measurement varies by manufacturer; typically between 1000 and 10 000 nm with an individual laser having a tunable range of less than 10 nm.  Process stream pressures can range from 700-mbar to 700-bar gage. TDLAS is performed at pressures near atmospheric (700- to 2000-mbar gage); therefore, pressure reduction is typically required. TDLAS can be performed in vacuum conditions with good results; however, the sample conditioning requirements are different because of higher complexity and a tendency for moisture ingress and are not covered by this test method. Generally speaking, the vent line of a TDL analyzer is tolerant to small pressure changes on the order of 50 to 200 mbar, but it is important to observe the manufacturer's published inlet pressure and vent pressure constraints. Large spikes or steps in backpressure may affect the analyzer readings.  The typical sample temperature range is -20 to 65 °C in the analyzer cell. While sample system design is not covered by this standard, it is common practice to heat the sample transport line to around 50 °C to avoid concentration changes associated with adsorption and desorption of moisture along the walls of the sample transport line.  The moisture concentration range is 1 to 10 000 parts per million by volume (ppmv). It is unlikely that one spectrometer cell will be used to measure this entire range. For example, a TDL spectrometer may have a maximum measurement of 1 ppmv, 100 ppmv, 1000 ppmv, or 10 000 ppmv with varying degrees of accuracy and different lower detection limits.  TDL absorption spectroscopy measures molar ratios such as ppmv or mole percentage. Volumetric ratios (ppmv and %) are not pressure dependent. Weight-per-volume units such as milligrams of water per standard cubic metre or pounds of water per standard cubic foot can be derived from ppmv at a specific condition such as standard temperature and pressure (STP). Standard conditions may be defined differently for different regions and entities. The dew point can be estimated from ppmv and pressure. Refer to Test Method ASTM D1142 and ISO 18453. |
| **7.** | **Objective and rationale, including the nature of urgent problems where applicable:** Prevention of deceptive practices and consumer protection; Quality requirements |
| **8.** | **Relevant documents:**   1. ASTM D1142 Test Method for Water Vapor Content of Gaseous Fuels by Measurement of Dew-Point Temperature 2. ASTM D4150 Terminology Relating to Gaseous Fuels 3. ASTM D5503 Practice for Natural Gas Sample-Handling and Conditioning Systems for Pipeline Instrumentation (Withdrawn 2017)3 4. ISO 10715 Natural Gas Sampling Guidelines 5. ISO 18453 Natural Gas—Correlation Between Water Content and Water Dew Point |
| **9.** | **Proposed date of adoption:** To be determined  **Proposed date of entry into force:** Not applicable. |
| **10.** | **Final date for comments:** 60 days from notification |
| **11.** | **Texts available from: National enquiry point [****X]** **or address, telephone and fax numbers and email and website addresses, if available, of other body:**  Uganda National Bureau of Standards  Plot 2-12 ByPass Link, Bweyogerere Industrial and Business Park  P.O. Box 6329  Kampala, Uganda  Tel: +(256) 4 1733 3250/1/2  Fax: +(256) 4 1428 6123  E-mail: [info@unbs.go.ug](mailto:info@unbs.go.ug)  Website: <https://www.unbs.go.ug> |