

ISO17089-3 update on ultrasonic flare meters for emission monitoring and reporting

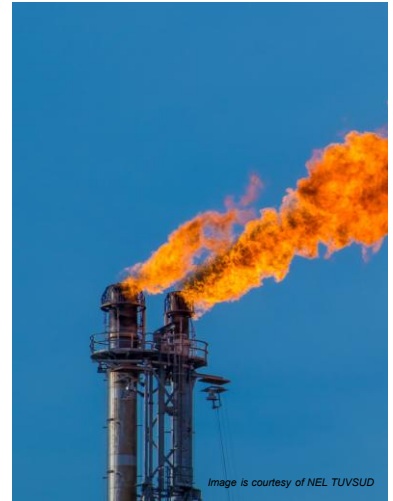
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Flare flow measurement – on a journey to a ‘fiscal mindset’

NEW STANDARD DEVELOPMENT: ISO 17089-3

Measurement of fluid flow in closed conduits -- Ultrasonic meters for gas
Part 3: for emission monitoring and reporting associated with flaring and venting



Focus is on **Methane** Emissions. (Global Methane Pledge - COP25 Glasgow)
 Flaring is an important part of that. Methane has **28x** higher global warming potential compared to CO₂. (United Nations, World bank)
 Does all the flare gas get fully burned? Are there any uncombusted hydrocarbons left (Methane)
 Basis for reporting is the assumption is 98% Combustion Efficiency, so 2% methane uncombusted.
 But what is the actual value? Can emissions be measured real-time and accurately?

SCOPE:

Supporting the emerging global rules and regulations on emission monitoring covering flaring and venting, a specific and unique application of ultrasonic flowmeters which brings a unique set of challenges (as rangeability of 1:4000, installation effects, undeveloped flow profile, low pressure, large pipe, contamination, varying composition, wet / saturation)

THREE STAGED APPROACH

1. Actual Volumetric flow rate (primary measurement)
2. Standard volumetric flow rate (adding secondary measurements like, T, P and Z)
3. (Methane) Emissions in CO₂ eq per hour (adding tertiary measurement) in liaison with ISO/TC67/SC9

- Aims to develop a **type approval** specific for ultrasonic flowmeter technology **regulatory acceptance** – as it covers the majority of the flare measurement market. (next to thermal and venturi)
- Practical approach. Starting with improving the actual **volumetric flow rate accuracy** (low hanging fruit such as installation effects, Reynolds effects, calibration, CFD)

Simcenter STAR-CCM+

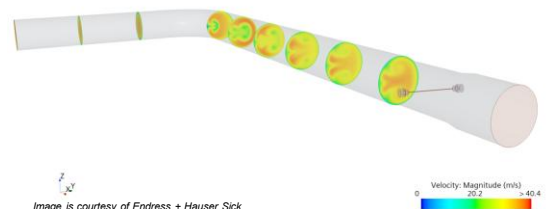


Image is courtesy of Endress + Hauser Slick

RULES & REGULATIONS

Supporting the global methane regulations including the **2024/1787 EU regulation on the reduction of methane in the energy sector** and other similar international regulations such as Inflation Reduction Act (IRA) in the USA and Regulatory Framework for Reducing Oil and Gas CH₄ Emissions in Canada.

TIMELINE

Fast track project – aims to have CD ready by Dec 2025, and publication by 1st half of 2027.