

# Status standardiseringsarbeid

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Endre Jacobsen

# Standardisering: Formål

- The main goal for standardization within the metering discipline are to ensure effective standards and method for conceptual design, engineering, specification, testing and operation/maintenance of fiscal, allocation and governmental controlled metering and analysis system.
- Effective use of standards also supports the company strategy for standardized technical solutions including technical requirements for project deliverables.



## EG IM Metering

EG IM Metering is responsible for the **NORSK I Metering standards**.

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#### Norsok standards

Organisation

Expert groups

PSA Regulations

Norwegian Oil and Gas Association Guidelines

## Petroleum

International (ISO/IEC) and European standards (CEN/CENELEC), form the basis of all activities in the petroleum industry. Experts from a wide range of Norwegian companies participate heavily in the development of international and european standards, in order to define safe and economical design and processes. However, Norwegian safety framework and climate conditions may require own standards, or additions and supplements to International Standards and European Standards. The

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# Status NFOGM 2015

- [Uncertainty model for the online oil metering calculator](#)
- [Fiscal Oil Metering Station Uncertainty](#)

BERGEN - 31.12.2015  
 Ref. No. CMR-15A14071-RA-1  
 Rev. 00



REPORT

**Handbook of uncertainty calculations for ultrasonic oil flow metering stations**  
 Documentation of uncertainty models and internet tool

ABOUT



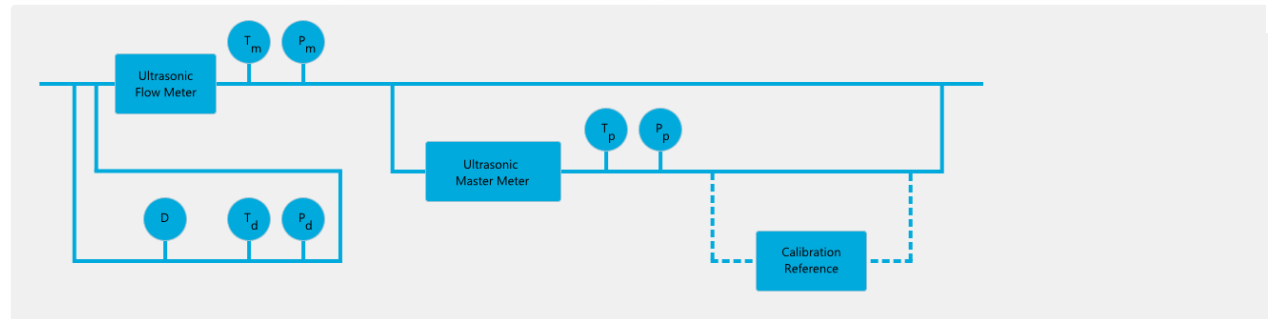
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Fiscal Oil Metering Station Uncertainty Tool  
 metering station

Configuration of the metering station

Station Name	04.03.2016	Description	
<b>Flow Meter</b>		<b>Stationary Prover / Master Meter</b>	
Flow Meter type:	Temperature	Type of device:	Temperature
Ultrasonic	Single	Ultrasonic	Single
	Pressure		Pressure
	Single		Single
<b>Densitometer</b>		<b>Densitometer</b>	
Densitometer:	Temperature	Densitometer:	Temperature
Single	Single	Single	Single
	Pressure		Pressure
	Single		Single



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Handbook of uncertainty calculations for ultrasonic oil flow  
 Ref. no. CMR-15A14071-RA-1  
 Rev. 00, 31.12.2015



# Status: ISO TC193 Natural Gas (1)

- Norge P-medlem -> årsmøte deltakelse (2015 v/ Steinar Fosse – 2016 på Kypros)
- ISO/TR 12748 Wet gas metering -> published Oct 15. NO-participation: Håkon Mostue & Eirik Åbro (initielt)
- ISO/DTR 14749 On-line gas chromatography for upstream area -> Draft TR has been accepted and final document shall be published after comments review and editorial check.
- ISO/TR 26762 Allocation of gas and condensate -> TC193 decided to restart revision
- ISO 10715 Sampling guidelines -> TC193 decided to restart revision.
- ISO 6976 (Ed 3) Calculation of calorific values, ....from composition -> vote end 2Q15 to be revised.

# Status: ISO TC193 Natural Gas (2)

- ISO 6974 (1-6) Determination of composition and associated uncertainty by gas chromatography -> WG revision work ongoing
- ISO 15112 Natural Gas – Energy Determination -> Systematic review due for 2016
- ISO 15970 Measurement of volumetric properties: density, pressure, temperature and compression factor -> Systematic review due for 2016
- NP 20676 H<sub>2</sub>S determination by laser method ->New item proposal SC 3 WG6
- Wet gas Sampling document is under development under SC 3 WG5– ref Phil Lawrence

# Status: ISO TC30 Measurement of fluid flow in closed conduits

- ISO 17089-1 Ultrasonic meters for gas -> Under revision
- ISO 5167-5 Cone meters -> Out for ballot (FDIS)
- ISO 5167-6 Wedge meters -> New work item, WG17 established
- ISO 11631:1998 Methods of specifying flowmeter performance -> UK propose revision and call for experts– Convenor Gregor Brown (Cameron)
- ISO/DTR 15377 Guidelines for the specification of orifice plates, nozzles and Venturi tubes beyond the scope of ISO 5167 -> voting closed feb 16
























# Status: ISO TC28/SC02 Measurement of petroleum products and related product














- WG 7: New work item has been prepared for the development of an ISO multiphase standard -> Call for experts (ongoing) – ref M. Reader Harris (NEL)

# Back-up

# Struktur ISO/TC 193 Natural Gas

Type	Name
 TC	ISO/TC 193 "Natural gas" ▾
 SC	ISO/TC 193/SC 01 "Analysis of natural gas" ▾
 WG	ISO/TC 193/SC 01/WG 13 "Thermodynamic properties" ▾
 WG	ISO/TC 193/SC 01/WG 17 "Revision of ISO 6974 (except parts 1 & 2)" ▾
 WG	ISO/TC 193/SC 01/WG 18 "Revision of ISO 6976" ▾
 WG	ISO/TC 193/SC 01/WG 19 "Liquid formation" ▾
 WG	ISO/TC 193/SC 01/WG 20 "Revision of ISO 10715" ▾
 WG	ISO/TC 193/SC 01/WG 21 "Revision of ISO 10101" ▾
 WG	ISO/TC 193/SC 01/WG 22 "Sulfur micro coulometry" ▾
 WG	ISO/TC 193/SC 01/WG 23 "Oxygen" ▾
 WG	ISO/TC 193/SC 01/WG 24 "Sulfur UV Fluorescence" ▾
 SC	ISO/TC 193/SC 03 "Upstream area" ▾
 WG	ISO/TC 193/SC 03/WG 01 "Allocation and measurement" ▾
 WG	ISO/TC 193/SC 03/WG 02 "Wet Gas measurement" ▾
 WG	ISO/TC 193/SC 03/WG 04 "Online Gas Chromatography (OGC) applications" ▾
 WG	ISO/TC 193/SC 03/WG 05 "Wet gas sampling" ▾
 WG	ISO/TC 193/SC 03/WG 06 "Hydrogen sulfide" ▾
 WG	ISO/TC 193/WG 02 "Quality designation" ▾
 WG	ISO/TC 193/WG 04 "Terminology" ▾
 WG	ISO/TC 193/WG 05 "Odorization" ▾
 WG	ISO/TC 193/WG 07 "Energy determination" ▾

# Struktur ISO/TC 30 Measurement of fluid flow in closed conduits

Type	Name
	ISO/TC 030 "Measurement of fluid flow in closed conduits" ▾
	ISO/TC 030/CAG "Chairman advisory group" ▾
	ISO/TC 030/SC 02 "Pressure differential devices" ▾
	ISO/TC 030/SC 02/WG 11 "Guidelines for the specification of orifice plates, nozzles and Venturi tubes beyond the scope of ISO 5167 (Revision of ISO/TR 15377;2007)" ▾
	ISO/TC 030/SC 02/WG 16 "Measurement of fluid flow using cone meters" ▾
	ISO/TC 030/SC 02/WG 17 "Measurement of fluid flow using wedge meters" ▾
	ISO/TC 030/SC 05 "Velocity and mass methods" ▾
	ISO/TC 030/SC 05/WG 01 "Ultrasonic flow measurement for gas" ▾
	ISO/TC 030/SC 05/WG 04 "Coriolis flowmeters" ▾
	ISO/TC 030/SC 05/WG 05 "Electromagnetic flow measurement for conductive liquids" ▾
	ISO/TC 030/SC 05/WG 06 "Vortex shedding flowmeters" ▾
	ISO/TC 030/SC 07 "Volume methods including water meters" ▾
	ISO/TC 030/WG 02 "Methods of specifying flowmeter performance" ▾

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