

**North Sea Flow Measurement Workshop
 24 – 27 October 2006**

Technical Programme

Day 1 – Tuesday 24 October

1200	REGISTRATION	
1200 – 1300	LUNCH	
1300 – 1315	Welcome Address: Michael Valente, Managing Director, TUV NEL	
1315 – 1345	The Impact of SO_x Compliance on Hydrocarbon Accounting James Arthur, Smith Rea Energy Limited - UK	
SESSION 1	FLUID PROPERTIES	Chairman: Richard Paton
1345 – 1415	Density and Calorific Value Measurement in Natural Gas Using Ultrasonic Flow Meters. Results from Testing on Various North Sea Gas Field Data Kjell-Eivind Frøysa and Per Lunde, Christian Michelsen Research AS (CMR) - Norway Anfinn Paulsen, Gassco AS - Norway Endre Jacobsen, Statoil ASA - Norway	
1415 – 1445	The Use of Process Simulation Models in Hydrocarbon Allocation Systems Phillip Stockton and Alan Spence, Smith Rea Energy Limited - UK	
1445 – 1530	COFFEE	
SESSION 2	GAS ULTRASONICS	Chairman: Eddie Spearman
1530 – 1600	5 Years Offshore Operational Experience of 3-Path Gas Ultrasonic Flowmeters in Custody Transfer & Allocation Measurement Systems Mark Sinclair, BP - UK	
1600 – 1630	Investigations on an 8 Path Ultrasonic Meter - What Sensitivity to Upstream Disturbances Remain? John Lansing, Volker Herrmann and Toralf Dietz, SICK MAIHAK GmbH - Germany Steve Caldwell, CESSI - USA	
1630 – 1700	Operating Gas Ultrasonic Meters After The Project Team Goes Home Keith Roberts, Emerson Process Management Asia Pacific Pte Ltd - Singapore	
1930	DINNER	

**North Sea Flow Measurement Workshop
 24 – 27 October 2006**

Technical Programme

Day 2 – Wednesday 25 October

SESSION 3	PIPELINE INTEGRITY	Chairman: Andy Jamieson
0830 – 0900	A Review of Pipeline Integrity Systems Norman Glen, TUV NEL - UK Jim Ryan and Ted Findlay, Ineos - UK	
0900 – 0930	Inoe's Experience in Pipeline Leak Detection Using Flow and Pressure Measurements Jun Zhang and Keefe Murphy, ATMOS International Limited - UK Michael Thomson, Ted Findlay and Jim Ryan, Ineos - UK	
0930 – 1000	Field Data of an E-RTTM Based Leak Detection System Hilko den Hollander and Berthold Bollermann, KROHNE Oil & Gas - The Netherlands Gerhard Geiger, University of Applied Sciences Gelsenkirchen - Germany	
1000 – 1030	COFFEE	
1030 – 1300	Poster & Manufacturer's Sessions / Clinic	
1300 – 1400	LUNCH	
SESSION 4	ENVIRONMENTAL	Chairman: Lol Coughlin
1400 – 1410	Measurement Issues Associated with the Discharges and Re-injection of Produced Water Offshore Angus Laurie, DTI Oil & Gas Directorate - UK	
1410 – 1440	There's Oil In That There Water! – Impact of the OPPC 2005 Regulations; An Operators Response David Beecroft, TYCO Fire & Engineering Solutions - UK Lol Coughlan, Shell UK Ltd - UK Gwilym Foulkes, FlowMAC - UK	
1440 – 1510	Flow Measurement Field Calibrations by Radioisotope Tracers in Off-shore, Oil and Gas Industry Risto Kuoppamäki, Indmeas Oy - Finland	
1510 – 1540	A Novel Infrared Absorption Technique for Measuring Flare Gas Flow Jeff Gibson, TUV NEL - UK John Hyde, Perception Sensors & Instrumentation – UK	

**North Sea Flow Measurement Workshop
 24 – 27 October 2006**

Technical Programme

1540 – 1610	COFFEE	
SESSION 5	WET GAS	Chairman: Alan Downing
1610 – 1640	Critical Review of Wet Gas Definitions Gioia Falcone, Texas A&M University - USA Claudio Alimonti, University “La Sapienza” of Rome - Italy	
1640 – 1710	Flow Data for Natural Gas with Water and Hydrates Jeffrey Savidge, CEESI - USA	
1930	Dinner	

Day 3 – Thursday 26 October

SESSION 6	MULTIPHASE	Chairman: Douglas Griffin
0930 – 1000	Multiphase Flow Metering – An Authority Perspective Steinar Fosse, The Norwegian Petroleum Directorate - Norway	
1000 – 1030	Two-phase (Gas/Liquid) Flow Metering of Viscous Oil Using a Coriolis Mass Flow Meter: A Case Study Manus Henry, Michael Tombs and Mihaela Duta, Oxford University - UK Frank Kenyery, Universidad Simon Bolivar - Venezuela Joe Shen and Martin Morles, Chevron – USA Carlos Garcia and Robbie Lansangan, Invensys Foxboro - UK	
1030 – 1100	COFFEE	
1100 – 1130	Neftemer - A Versatile and Cost Effective Multiphase Meter Vladimir Kratirov and Andrew Jamieson, Neftemer Ltd - UK Hoi Yeung and Stephen Blaney, Cranfield University - UK	
1130 – 1200	The Use of Multiphase Sampling Kit to Improve Multiphase Flow Measurement Through Accurate Phase-Behaviour Characterization at the Well Site Bruno Pinguet, Paul Guieze, Nadege Hopman, Graham Birkett and John Nighswander, Schlumberger - Norway	
1200– 1300	LUNCH	

**North Sea Flow Measurement Workshop
 24 – 27 October 2006**

Technical Programme

SESSION 7	WET GAS (Cont)	Chairman: Alan Downing
1300 – 1330	Venturi-Tube Performance in Wet Gas Using Different Test Fluids Michael Reader-Harris, David Hodges and Jeff Gibson, TUV NEL - UK	
1330 – 1400	A Discussion on Horizontally Installed Differential Pressure Meter Wet Gas Flow Performances Richard Steven, CEESI - USA	
1400 – 1430	COFFEE	
SESSION 8	LIQUID METERING	Chairman: Einar Halvorsen
1430 – 1500	The Expanding Use of LNG From Natural Gas To Satisfy World Energy Demand Can Use Technologically Superior Ultrasonic Cryogenic Liquid Flow Metering, and Ultrasonic Gas Metering for Process and Custody Transfer Operations Jacob Freeke, James Matson and Michael Scelzo, GE Sensing (Panametrics) - The Netherlands	
1500 – 1530	Oil/Water Tests on a 4-Path Ultrasonic Meter at Low Flow Velocities Gregor Brown, Terry Cousins and Don Augestein, Caldon Ultrasonics, - UK Mike Almeida, Amerada Hess - UK	
1530 – 1600	Qualifying a Coriolis Condensate Export Metering Station for Fiscal Use for Ormen Lange Using 12” Coriolis Meters Trond Folkestad, Norsk Hydro ASA - Norway	
1600	CLOSING SPEECH	
1930	PRE-DINNER NETWORKING	
2000	WORKSHOP DINNER	

Day 4 – Friday 27 October

0800	BREAKFAST
0900	BUSES LEAVE FOR AIRPORT