

North Sea Flow Measurement Workshop 22nd-25th October 2002

Technical Programme

Day 1 - Tuesday 22nd October

1230 REGISTRATION

1230 – 1400 LUNCH

1400 – 1405 Welcome: *Michael Valente, NEL*

1405 – 1415 Opening Address: *Douglas Griffin, DTI*

SESSION 1

Uncertainty/Allocation

Chairman: R Paton

1415 – 1430 1.1 Handbook of Uncertainty Calculation – Ultrasonic Fiscal Gas Metering Stations
Per Lunde, Christian Michelsen Research AS

1430 – 1500 1.2 Production Measurement Management
Lex Scheers, Shell GS International

1500 – 1530 1.3 Determination of Measurement Uncertainty for the Purpose of Wet Gas Hydrocarbon Allocation
Chip Letton, Letton-Hall Group

1530 – 1600 1.4 Benefits Derived from the Application of Virtual Metering Production Simulation Software (VMSS3)
Bryan T Yocum, Ensys Yocum/Yocum Consultants

1600 – 1630 COFFEE

1630 – 1730 **Uncertainty/Allocation Discussion Session**
Introduction: Numerical Techniques for Uncertainty Modelling
Michael Boyd, Kelton Engineering Ltd

1830 – 1900 COCKTAIL RECEPTION

1900 DINNER

Day 2 – Wednesday 23rd October

SESSION 2 Calibration Chairman: L Coughlan

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| 0830 – 0840 | 2.1 | Qualification of Ultrasonic Flow Meters for Custody Transfer of Natural Gas Using Atmospheric Air Calibration Facilities
<i>Jim Hill, GE Panametrics Inc</i> |
| 0840 - 0915 | 2.2 | Operation of Ultrasonic Flow Meters at Conditions Different Than Their Calibration
<i>Jim Hall, Letton-Hall Group</i> |
| 0915 – 0945 | 2.3 | Proving of Multi-path Liquid Ultrasonic Flowmeters
<i>Terry Cousins, Taskflo Ltd and Don Augenstein, Caldon</i> |
| 0945 – 1015 | 2.4 | Analyses and Elimination of Disturbing Flowrate Deviations Between a 24" ANSI 600 Ultrasonic Meter and Vortex Meter in a Natural Gas Meter Station
<i>A Brummer, Kotter Consulting Engineers</i> |
| 1015 – 1045 | | COFFEE |

SESSION 3 Ultrasonics Chairman: A Jamieson

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| 1045 – 1115 | 3.1 | Evaluation of Clamp-on Ultrasonic Gas Transit Time Flowmeters for Natural Gas Applications
<i>Frank Ting, Chevron Texaco</i> |
| 1115 – 1145 | 3.2 | A New Ultrasonic Gas Flow Meter As a New Based For a Natural Gas Energy System
<i>Gunter Maurer, ABB</i> |
| 1145 – 1215 | 3.3 | Energy Flow and Wobbe Metering Based on Velocity of Sound Measurements and Using a Correlative Technique
<i>Henk J Pannerman, Gasunie Research</i> |
| 1215 – 1315 | | <i>Ultrasonic Discussion Session: Recent Developments in Ultrasonic Metering, Gregor Brown, NEL</i> |
| 1315 – 1415 | | LUNCH |

SESSION 4		Wet Gas	Chairman: J Ryan
1415 – 1445	4.1	New Compact Wet Gas Meter Based on a Microwave Water Detection Technique and Defferential Pressure Flow Measurement <i>Tore Loland, Statoil</i>	
1445 – 1515	4.2	Wet Gas Metering with V-Cone Meters <i>David Stewart, NEL</i>	
1515 – 1545	4.3	Field Installation of Smartvent Wet Gas Flow Meters at Bintang, Malaysia <i>Rick de Leeuw, Petrotech</i>	
1545 – 1615		COFFEE	
SESSION 5		Multiphase	Chairman: D Pinto
1615 – 1630	5.1	Multiphase Measurement <i>Ian Wood, Shell U.K. Exploration & Production</i>	
1630 – 1700	5.2	Multiphase Flow Metering Per Well – Can it be Justified? <i>Lex Sheers, Shell GS International</i>	
1700 – 1730	5.3	Background and Operational Experience of Multiphase Metering in the Safaniya Field – Offshore Saudi Arabia <i>Phillip Warren, Saudi Aramco</i>	
1730 – 1800		Multiphase Discussion Session Introduction: Kerr-McGee North Sea (UK) Limited – Gryphon Alpha FPSO – Monetary Application for Multiphase Meters <i>Jonathan Way, Kerr-McGee North Sea (UK) Limited</i> Use of Multiphase Meters in Process Control for Oil Feld Well Testing: Novel Level Controls and Resulting Performance Enhancement <i>Jack Marrelli, ChevronTexaco</i>	
1930		DINNER	

Day 3 – Thursday 24th October

0830 – 1230	FREE TIME
1230 – 1330	LUNCH

SESSION 6	CFD/Installation	Chairman: R Peters
1330 – 1400	6.1 Transit Time Simulations in a Turbulent-like Fully Developed Velocity Profile Using Ray-Tracing <i>Pamela Moore, NIST</i>	
1400 – 1420	6.2 The Effect of Varying Reynolds Number on a Zanker Flow Conditioner Plate <i>Neil Barton, NEL</i>	
1420 – 1440	6.3 CFD Analyses of the Influence of Flow Conditioners on Liquid Ultrasonic Flow Metering. Oseberg Sor – A Case Study <i>Anders Hallanger, Christian Michelsen Research AS</i>	
1440 – 1500	6.4 Investigation of Installation Effects on Ultrasonic Flowmeters and Evaluation of CFD Prediction Methods <i>Craig Coull, NEL</i>	
1500 – 1530	COFFEE	
SESSION 7	Gas Metering And General Topics	Chairman: A Smorgrav
1530 – 1600	7.1 An In Depth Analysis on the Selection Criteria for 4 Gas Metering Technologies: Orifice, Turbine, Ultrasonic, Coriolis <i>Tom Mooney, Daniel Europe</i>	
1600 – 1630	7.2 Development of a Diagnostics Tool for Gas Turbine Meters: the "Acculert G – II" <i>Bertrand Reeb, Gaz de France</i>	
1630 – 1700	7.3 Venturi Tubes: Improved Shape <i>Michael Reader-Harris, NEL</i>	
1700 – 1730	7.4 Recent Developments in the UK Regulatory Regime <i>Douglas Griffin, DTI and Einar Halvorsen, NPD</i>	
1730 – 1745	CLOSING SPEECH <i>Chairman, Norwegian Organizing Committee</i>	
1930	COCKTAILS	
2000	WORKSHOP DINNER	

Day 4 – Friday 25th October

0800	BREAKFAST
0900	BUSES LEAVE FOR AIRPORT