

Day One

08:00 - 09:00 Registration

09:00 - 09:10 Introduction by Mark Dixon ESD Simulation Training

09:10 - 09:30 Welcome address by Andy Redman, IChemE Aberdeen

09:30 - 10:05 Paper One

HOERBIGER KOMPRESSORTECHNIK EUROPA SERVICES GmbH

Presenter: Herve Ferraris

Paper title: Reciprocating compressors conversions to meet new operating conditions

Outline: During the lifetime of reciprocating compressors, the process and operation requirements are changing and in some case integrity becomes a critical issue. What are the alternative to fulfil new process condition or new operating requirement? What are the benefits of a compressor conversion in comparison to other solutions?"

10:05 - 10:40 Paper Two

THOMASSEN COMPRESSION SYSTEMS BV

Presenter: Hans Bongers

Paper title: Increasing reliability and availability for reciprocating compressors

Outline: Reciprocating compressors for refinery and oil- and gas services are designed to operate for 16000 to 24000 hours without maintenance. These expected running times are not always met in the field, having an adverse effect on the availability and reliability of compressors. A number of items are responsible for such unplanned stops; these are the major wearing parts of the compressor and the effect of the process system on these parts. A performance maintenance agreement is a tool to improve the reliability and availability of compressors.....

This technical paper describes a case history of the NAM-TCS maintenance agreement were all the above issues will be highlighted.

10:40 - 11:10 Coffee

11:10 - 11:45 Paper Three

JOHN M CAMPBELL & CO.

Presenter: Mahmood Moshfeghian

Paper title: Effect of gas molecular weight on centrifugal compressor performance

Outline: In this paper we will present the results of several case studies showing the effect of gas molecular weight on the performance and efficiencies of centrifugal compressors. We have considered several "what if" scenarios such as variation of compressor speed as a function of molecular weight, while maintaining the same suction and discharge pressures and mass flow rate.

Variation of discharge pressure as a function of gas molecular weight for a given suction pressure, compressor speed and mass flow rate has also been studied. In addition, the impact of thermodynamic properties package has been studied.

Day One continued...../

Day One continued...../

11:45 - 12:20 Paper Four
XODUS GROUP (Oil & Gas Division) LTD
Presenter: Andrew Jones
Paper Title: Improved management of machinery - an integrated solution

Outline: Improvements in operation and performance of fluid machinery often involve technological advances in equipment design and process technology. However, it is possible to achieve significant improvements for existing machinery, through improved monitoring techniques such as remote monitoring, made possible by the rapid growth of information technology and the availability of real-time data in plant historians.

Existing remote monitoring systems have historically been developed in isolation by specific disciplines. By developing a multi-disciplinary approach, a single, integrated application can be developed to provide a holistic view of a machine's performance and operations. An example of such an application is described in this paper.

12:20 - 13:20 Lunch

13:20 - 13:55 Paper Five
PI ENERGY & EMISSIONS LTD
Presenter: Dr Mike Guinee
Paper title: Reducing Emissions from Gas Turbines "Towards a Greener Planet"

Outline: Presentation will be based on reducing load on plant, options to increase efficiency inc monitoring and Dry Low NOx technology (Advantages and disadvantages)

13:55 - 14:30 Paper Six
TREC
Presenter: Bob Robertson
Paper Title: Turbine Derating

Outline: Looking at the operational degradation of gas turbine engines

14:30 - 15:00 Coffee

15:00 - 15:35 Paper Seven
COMPRESSOR PRODUCTS INTERNATIONAL (CPI)
Presenter: Robin Wilson
Paper title: Reciprocating Compressors : Valves for reliable operation?

Outline: The trend towards higher running speeds, especially for packaged natural gas compressors used in both onshore and offshore oilfields, has demanded improvements in valve design and predictability of dynamic behaviour. This paper shows examples of successful installations and demonstrates how reliability has been achieved using a modern, sophisticated valve dynamics program

Day One continued...../



Conference Programme

Day One continued...../

15:35 - 16:10 Paper Eight
PROGNOST SYSTEMS GmbH

Presenter: Christian Steinkamp

Paper title: Detecting Material Fatigue of a Piston Rod on a Reciprocating Compressor with Modern Methods

Outline: Avoidance of major secondary damage by early failure detection of a broken piston rod.

BP Chemicals (Pasadena TX, USA) operates several reciprocating compressors in ethylene service. Six compressors are equipped with online Asset Performance Management systems since early 2000s. One of the many diagnostic capabilities of the system recently avoided major and cost-intensive damages of one compressor: the permanent piston rod position monitoring detected a broken piston rod caused by material fatigue. The machine could be stopped in time and consequential damages have been avoided.

The case study describes this event and the specific diagnoses that are necessary to detect damages of piston rods in early stages.

This case study was initially set up and provided for PROGNOST Systems by BP Reliability Engineer Chris Lopez.

16:10 - 17:00 Discussion Groups

17:00 - 19:00 Reception & Whisky Tasting

Day Two

08:00 - 08:30 Coffee

08:30 - 09:05 Paper Nine
KLUBER LUBRICATION GB LTD
Presenter: Paul Martin
Paper Title: Healthcare for your gas compressor

Outline: The paper will cover the importance in selection of compressor lubrication whether you are operating rotary screw or reciprocating gas compressors, highlighting the importance of taking into account compressor type, operating parameters, gas stream and the effects these have on the lubricating oil for reliable operation and improved production uptime.

09:05 - 09:40 Paper Ten
FUCHS EUROPE SCHMIERSTOFFE GmbH
Presenter: Dirk Broska
Paper Title: New Developments in Compressor Lubricants

Outline: The paper covers the current status of lubricants for compressors, and details new work in development of higher performance fluids to meet latest demands.

09:40 - 10:15 Paper Eleven
PPE (Precision Polymer Engineering)
Presenters: John Kerwin, PPE and Chris Stretton/Doug Smith, Maersk Oil North Sea Ltd
Paper Title: Diesel Compressor Case Study

10:15 - 10:45 Coffee

10:45 - 11:20 Paper Twelve
NAVITAS (UK) LTD
Presenter: Lee Alexander
Paper Title: Improving Reciprocating Compressor Reliability using Acoustic Emission Data from Online and Offline Systems

Outline: Identifying compressor components yielding highest improvement in reliability. Identifying reasons for failure and failure modes of reciprocating compressor valves. Technology selection to detect early valve failure. Characteristic compressor operation illustrating model valve acoustic signatures. Time domain representation of acoustic signatures illustrating cross talk. Failure modes of valves using models and case study. System requirements for condition monitoring systems implementing acoustic emission technology.

Day Two continued...../

Day Two continued...../

11:20 - 11:55 Paper Thirteen
SIEMENS
TBA

11:55 - 12:30 Paper Fourteen
PI MINERVA

Presenter: Howard Thomas

Paper title: Continuous Gas Compressor Optimisation

Outline: In the blind pursuit of volume at all costs the oil industry has forgotten about the art of optimisation. If the only tool you have in your box is a hammer, every problem looks like a nail. Not all constraints require a project to modify equipment, major step changes in volume can be achieved by applying the simplest of techniques.

12:30 - 13:30 Lunch

13:30 - 14:05 Paper Fifteen

ESD Simulation Training

Presenter: Robert Hodder

Paper Title: Screw compressors: Towards higher discharge pressures.

Outline: This paper discusses how the problem of discharge pressure limitation has been resolved in the design of modern Screw Compressors.

14:05 - 14:40 Paper Sixteen

FRAMO ENGINEERING AS

Presenter; Nils Arne Solvik

Paper Title: A true wet gas compressor designed for subsea gas compression applications

Outline: The Framo WGC is wet gas compressor technology specifically designed for operation on unprocessed well stream.

This presentation will address the following:

- The working principle of the wet gas compressor
 - The status of the technology
 - The system impact of the compressor
- Application examples with the Framo WGC

The system impact of the WGC design is very attractive, especially for subsea applications where simplicity and robustness is extremely important. The presentation will give an overview of what are the mechanical and hydraulic features that enables us to make a compressor system without an upstream scrubber/processing system, without a fast acting anti-surge system, condensate pumps, etc.

The WGC design provides the possibility to utilize the system solutions, with respect to electrical power supply, control and auxiliaries supply that are well known from existing subsea rotating machinery installations. The presentation will provide details on the total system design from the important aspects, when building, installing and operating a subsea wet gas compressor system.

Day Two continued...../



Conference Programme

Day Two continued...../

14:40 - 15:10 Coffee

15:10 - 15:45 Paper Seventeen
SHELL UK LTD
Presenter: Willem Stam
Paper Title: Ormen Lange Subsea Gas Compression

15:45 - 16:30 Discussion Groups

16:30 Close