

What do we really know about subsea materials ?

Wednesday 8th February 2012

Ibis Hotel (Salt Room), **Murray Street, Perth**

Registration / Drinks 5:30pm: Presentations Start at 6:00pm

Drinks, Canapés & Networking 7:30pm - 9pm

Chaired by: Brett Silich, CEO, Velocious

Material Selection Drivers, Fabrication and Pre-Commissioning Risks for Subsea Components.

James McKechnie, Lead Materials Engineer, Gorgon Upstream, Consultant to WGIM

Material selection for subsea components presents its own unique challenges and risks. The presenter will review some of the main drivers for material selection and present details of some of the most common decisions and selections used. The presentation will cover the following areas:

CRA Material Selection. Selection drivers for clad CRA versus solid CRA's eg duplex SS., Common manufacture issues, Quality control issues, Inspection risks, Fabrication risks, Pre-commissioning risks.

Subsea Sealing Materials – Application, Analysis, Answers **Gavin Taylor, Managing Director, Chesterton Custom Seal**

The presentation will be broken down into 4 key areas as follows:

- Subsea Influences – What influences seals for subsea applications.
- Materials – Discussion on the 6 most applicable materials for subsea applications, including the introduction of the new High Glycol Tolerant (HGT), which is unmatched globally.
- Seal Selection – Discussion on comparison of seals against different materials/applications.
- Production – Strengths and limitations of manufacturing depending on seal selection/materials/application.

Materials and Failure Analysis for Sub-Sea Applications **Dr. Paul Huggett, CMP, Materials Solutions Pty Ltd.**

Sub-sea equipment requires the use of specific materials that often have to operate in very challenging environments involving corrosion, wear and variable temperatures and pressures. Materials traditionally used have been based on either high performance stainless steel, or non-metallics such as polymers and composites. Working at depth requires operation in high pressure environments, and the change in environments can often lead to different corrosion mechanisms. When studying component failures, the analysis of the types of failures is difficult due to the problems in understanding and modeling the actual operating conditions. Equipment retrieval and the damage often caused through the retrieval process also can make the process of failure analysis difficult. Some examples of failure analysis for sub-sea applications will be provided.

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