

November 2017

In this issue:

- Poster Presentation - Assessing both physical and Electrochemical technique for measuring CUI
- CUI and the role of Oil and Gas Technology Centre
- Assessing the latest tools and techniques available to measure and analyze CUI

Forth coming events:

Tuesday 30th **January** 2018
Retrofit CP monitoring to reduce inspection frequency (Aquatec group)
Impressed Current CP retrofit strategy in the North Sea (TAQA)

Tuesday 27th **February** 2018
Function -related dosage of corrosion inhibitors; the development of an on-site operator deployable technology (LUX Assure)

Tuesday 27th **March** 2018
Industrial visit to Element new H2S / Sour Service lab (Element Material Technology)

Tuesday 24th **April** 2018
New method for subsea pipeline inspection (Deepwater)
A newly built corrosion management strategy (BP/Oceaneering)

Tuesday 29th **May** 2018
Industrial visit to Sonomatic (Sonomatic Ltd)

Corrosion Under Insulation (CUI) Evening

The key topic under discussion was Corrosion under Insulation (CUI). This is a major issue for not only the oil and gas sector, but industry in general, with an estimated annual cost to the UK of £28 billion.

The event started with a buffet and a poster presentation from Tianyang Lan, a MSc student from Northampton University, who presented the experimental work that he had been undertaking, assessing both physical and electrochemical techniques for measuring CUI. Two physical methods and two electrochemical methods were used in this test work, Eddy Current Testing (ECT), IR Thermography (IRT), Electrochemical Impedance Spectroscopy and Electrochemical Noise Method (ENM). The samples used to conduct the experiments were carbon steel panels at different corrosion stages, used to simulate the pipe condition, with standard maintenance organic coatings and insulation tapes representing the pipe insulation. Results have indicated that EC/IRT [EC - Eddy Current, IRT - IR Thermography] could not discriminate rusting beneath a coating when it was greater than about 250microns thick however the electrochemical methods showed immense promise. Insulation of course covers all signs of corrosion.



The packed meeting room for the joint event with MIS and IOM3

MIS, with IOM3 Oil and Gas Division, had arranged two technical presentations. The first was given by Rebecca Allison of the Oil and Gas Technology Centre, (OGTC, a public / private initiative), who introduced the topic of CUI and the role of the OGTC in addressing the challenges of CUI. Rebecca provided an overview of new technologies being supported by the OGTC and got comprehensive feedback from the audience on these, however she highlighted that addressing CUI is not just about technology, a holistic approach including working practices, procedures, competency, human factors and data management is required.

Bill Brown and Mike Dixon of TRAC Oil & Gas Ltd [<http://www.tracoilandgas.com/>] then built on the overview provided by Rebecca with a presentation providing results from their field and yard trials assessing the latest tools and techniques available to measure and analyze CUI, which included developments with pulsed eddy current and digital radiography. Field and yard work highlighted key issues for practitioners to be aware of.

The Oil & Gas Industry has experienced many challenges when inspecting for Corrosion under Insulation (CUI), assessing the condition of steel components under Engineered Composite Wraps and the minimum remaining wall thickness under surface scabs / blisters. The aim of their OGTC supported project is to try and determine the limitations of the available NDT methods relative to each application. TRAC plans to share the ongoing research and development overview obtained to date.



Bob Laird of the Mining Institute of Scotland (MIS) delivers the vote of thanks

At closing, a warm vote of thanks to all the presenters was made by the new MIS President Bob Laird for their valuable contributions which were very much appreciated by all those in attendance. Next year's joint meeting is already scheduled for 27 November 2018 at the Palm Court.

Contact Us:

For information about the Aberdeen branch activities please contact our branch chair, Dr. Yunnan Gao, ICorrABZ@gmail.com. Alternatively a calendar of local events of interest to corrosion professionals in the Aberdeen area and the opportunity to sign up to the branch mailing list is available at <https://sites.google.com/site/icorrabz/home>.

Information about all forthcoming Aberdeen branch activities can be found on the diary page of the magazine and on the Institute website, a calendar of local events of interest to corrosion professionals in the Aberdeen area and the opportunity to sign up to the branch mailing list is available at <https://sites.google.com/site/icorrabz/home>.

Aberdeen Branch have also established their new Media Centre on LinkedIn, which can be found at <https://www.linkedin.com/in/aberdeen-icorr/recent-activity/>

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