

ICorr Aberdeen Q1 2021 Newsletter

The Aberdeen Branch has maintained a full and varied programme of Events during the first quarter of 2021.

A total of 7 Webinars were planned for the Q1 Period and for the 6 Webinars held to date, a combined audience of over 350 have enjoyed these Online presentations.

All these are now available on <https://www.icorr.org/aberdeen/> along with their respective Q&A sessions.

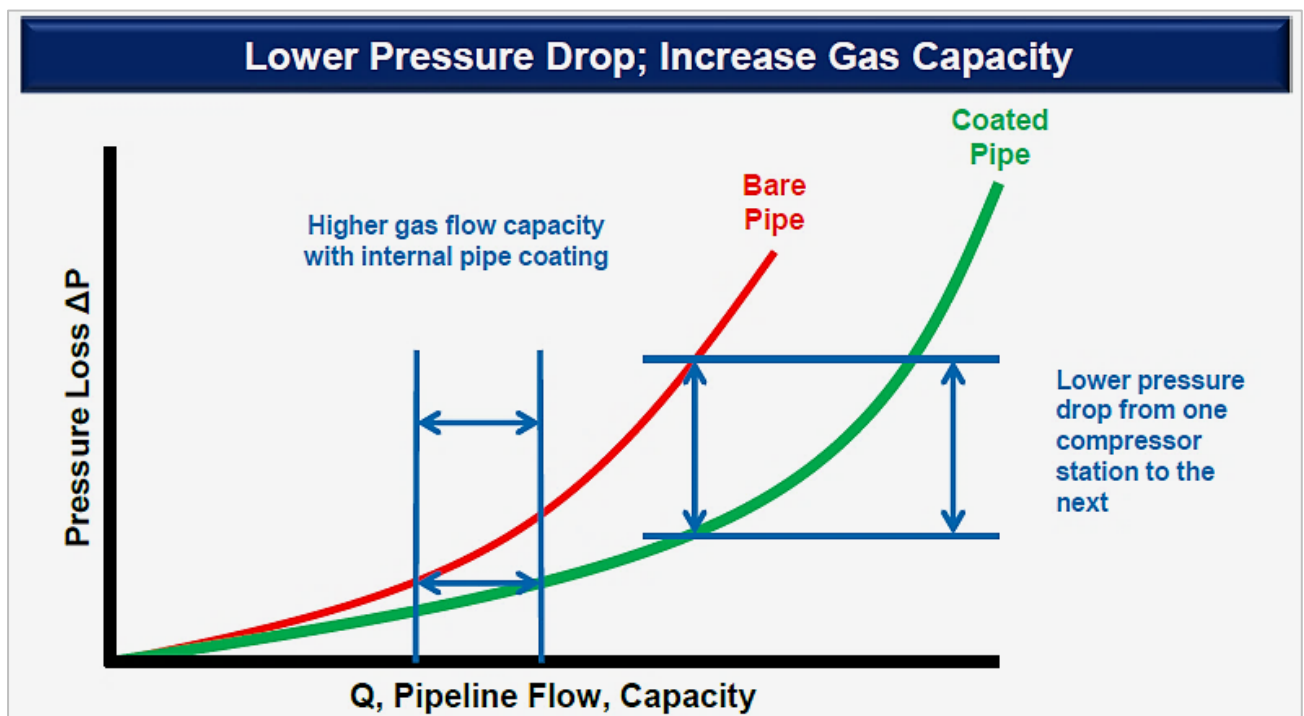
Many thanks go to the dedicated members of the Aberdeen Branch Committee for all their behind the scenes work and to Debbie Hardwick at Square One for loading of these extensive Educational records.

Q1 Events

In January we joined forces again with the Marine Corrosion Forum (MCF) to provide a series of Lunchtime Webinars focussing on Cathodic Protection Safety and a range of FBE and Polymer coatings and linings for Pipeline Applications.

The Key Speakers for these 4 Lunchtime Events were:


- **Dr Jeffrey D. Rogozinski**, Global Product Director of Sherwin Williams who spoke very authoritatively on High Temperature FBE external corrosion protection and Internal Flow Efficiency Coatings for Natural Gas Transmission.



- **Dr Patrick Lydon**, Director of IACS Corrosion Engineering Limited who gave us a very timely reminder of Safety and Design Considerations for CP of Marine Structures and Pipelines.

Can get short circuit from pig scaffolding, testing with CP equipment and tools shorting flange I/F.

AC or DC voltages each side of I/J can create spark

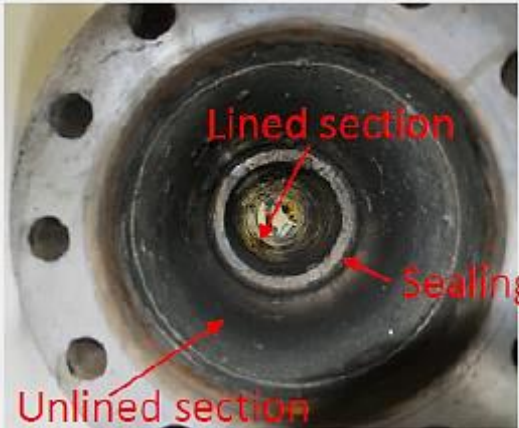


0V AV Dead side of I/J

15V AC pipeline line of I/J

IACS

- **Dr Maria-Eleni Mitzithra**, Senior Project Leader-Corrosion of TWI Ltd who presented on Exposure Tests of various polymer lined carbon steel pipe sections to a sour-service, hydrocarbon fluids at a maximum service temperature's.



- A total length of 914mm with approx. 500mm lined pipe.
- 4 Liners (10-11mm thick):
 - Polyamide (Type 1 and 2)
 - PE-RT
 - PVDF

All the ICorr/MCF Webinars were very well attended and we are most grateful to all the Presenters for all their contributions and to Lewis Barton and Phil Dent of MCF who hosted these Events.

Also in January we welcomed EI for our Annual Joint Event this time focussing on CUI with the aptly named title: **Corrosion Under Insulation – why are we still talking about this?**



Rebecca Allison (OGTC – Oil and Gas Technology Centre), opened proceeding with a passionate plea to stop talking about it and start implementing the solutions now !

Many solutions are now readily available and include specialised coatings, advanced NDT and new corrosion and moisture sensing devices (buried within the insulation).

Parts 2 and 3 of this presentation looked at the continuing CUI challenges and how we can make inroads into changing the future of CUI management and deploy new technologies such as Focused Stress Concentration Tomography (FSCT) and TeraHertz sensing technology.

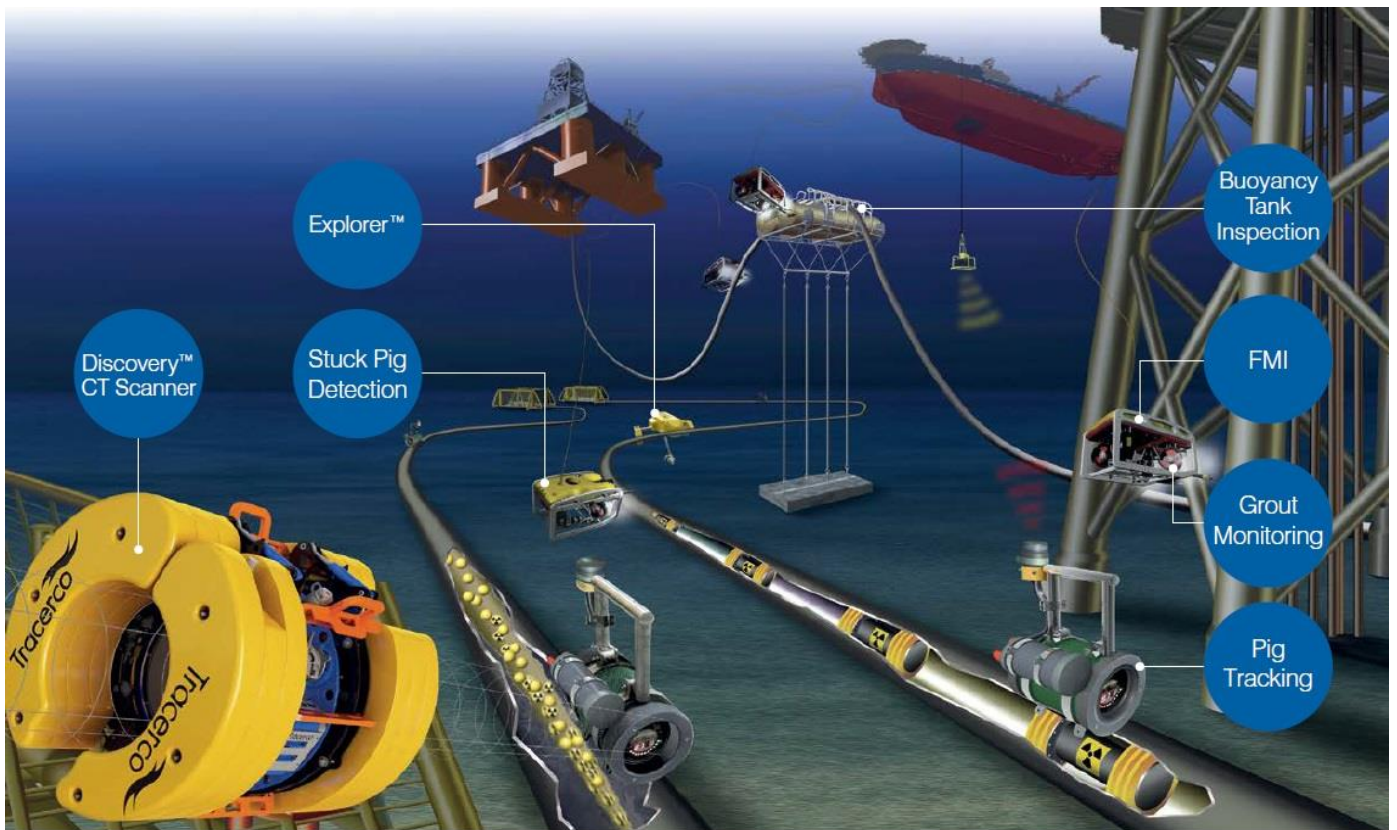
- **Yvonne Onuegbu** (EI Aberdeen Highlands and Islands) and **Jim McNab, Non-Destructive Testing SME** of Oceaneering International brought us these further insights with an extensive Q&A following.

Our February event took us on a fascinating journey through the subsea world and the complexities of deep-water integrity inspections of pipelines and seabed structures. Rob Hardy the Commercial Manager for Tracerco illustrated in tremendous detail, how medical diagnostics techniques have been further developed to assist North Sea Industries and to provide high resolution images from very remote locations.

The principle behind their CT scanner named Discovery™ is relatively simple – the CT beam passes through a material and the density of this material can then be calculated by how much the beam is weakened giving the attenuation coefficient of the material.

Different materials have different attenuation coefficients and therefore weaken the beam by different amounts. Tracerco subsea scanners take multiple 'line-of-sight' measurements of complex subsea equipment providing multiple data points of the item's attenuation coefficients and corresponding to grid points for the item.

Reconstruction models then take all this information and use it to generate an accurate image of the scanned item.



Aberdeen ICorr maintain an ongoing relationship with local Universities and students of both Aberdeen and Robert Gordon Universities were invited to this special event. We were very pleased to welcome over 20 under-graduate and post-graduate attendees on the night.

The interesting relationship between the latest North Sea Inspection CT technologies and Medical CT development and applications can be further explored in the following links:

<https://www.bbc.co.uk/news/uk-scotland-north-east-orkney-shetland-56217687>

<https://www.nhs.uk/conditions/pet-scan/>

<https://www.nhs.uk/conditions/ct-scan/>

On March 30th 2021 we will welcome a valuable update on Corrosion Protection to Reinforced Concrete utilising Galvanic Anodes.



Our speaker will be **Dr George Sergi, CEng, BSc, MSc, PhD, FICorr, FIMMM**, Cathodic Protection Specialist and Technical Director of Vector Corrosion.

TITLE: Galvanic Corrosion / CP Control of Reinforced Concrete; Lessons learnt from 20 years of Site Trials.

ABSTRACT: Sacrificial anodes have been used in reinforced concrete structures for up to 20 years. This presentation will review the performance of the oldest set of anodes used in enhanced patch repairs where anodes were placed at the periphery of the patch at around 600 mm spacing on centre. It will demonstrate, from results of current output and steel depolarisation levels that the repair system is still functioning adequately. These prototype anodes, designed for a 10-year life, have continued to deliver a reduced but significant current complying with currently accepted criteria. The overall reduction in current has been found to be adequately described by an '**anode aging**' model where the current delivered is halved over constant time intervals, enabling determination of an 'aging-factor'.

AUTHOR: Dr George Sergi is Technical Director at Vector Corrosion Technologies heading the Research and Development Department which develops products for durability of concrete and steel reinforcement protection and offers corrosion mitigation techniques for the Civil Engineering and Construction Industries. He is author of several international patents and has developed noble products for corrosion protection of steel reinforcement. He was formerly Technical Director and Head of Corrosion at the Building Research Establishment, UK and Technical Director at Aston Material Services Ltd. He had originally spent 20 years researching the fundamentals of concrete durability and corrosion as applied to steel reinforced concrete at Aston University. Dr Sergi is Editor of the Construction and Building Materials Journal. He is a member of Cathodic Protection Committee GEL/603 assisting in the editing and publication of BSI and EN Standards.

Registration is now open for this Event, please contact: amirattarchi@gmail.com

Giving your Full Name

Stating - ICorr Member or Non-Member

Event Programme:

17:50 – 18:00 Webinar Login

18:00 – 18:10 Introductions ICorr

18:10 – 19:00 Technical Presentations

19:00 – 19.20 Q&A Session

19:20 – 19.30 Closing Remarks ICorr.

Our extensive Technical Programme is offered free and is open to all, **courtesy of our many loyal Branch Supporters listed below.**

Finally, we would like to invite you to give a presentation during our next 2021/2022 Session.

The events normally are held at 6 pm on the last Tuesday of the months from September 2021 till May 2022, excluding December 2021.

Please note that currently all the ICorr Aberdeen branch meetings are held virtually however, depending on the COVID19 restrictions during the next session we will try to move back to the face to face meetings although both options will be available based on the speakers' preference.

Topics on Pressure system, pipelines, structural integrity management with regards to the material selection, welding, corrosion control and monitoring, inspection techniques and data analytics are acceptable. Past case studies, project experiences and emerging technologies have proved popular and interesting to members.

If interested, please contact ICorr Aberdeen Branch Vice Chair, Hooman Takhtechian, via htakhtechian@oceanengineering.com.

The deadline of the submission is 30/04/2021.

ICorr Aberdeen committee will approach the successful presenters in May 2021 to work out the event programme and announce it by June 2021. An early submission of your proposed presentation is highly preferred.

Many thanks for your support to us. We look forward to your soonest submission.

If you would like to join ICorr Aberdeen Group to receive ICorr Aberdeen event communications timely, typically at ~3 emails/month, please send an email to icorrabz@gmail.com.

ICorr Aberdeen Branch Supporters



ICorr Gold Sponsors (Nominating Aberdeen Branch) - Corrpro Companies Europe Ltd, Helvetica Technical Consulting Sagl, Midis Energy Services Ltd, Miller Fabrications Ltd, Pipeline Technique, Pittsburgh Corning.

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Thank you on behalf of the Aberdeen ICorr Committee.