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**Welcome to ICorr –
Institute of Corrosion
(ABZ), February 2022
Technical Event**



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CORROSION

Institute of Corrosion
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Intertek

22nd February 2022



“Implementation of Plan-Do-Check-Act review of an Onshore Oil and Gas Operator’s Corrosion Management Policy and Actions”

Leo Richards and Andy Duncan of Intertek



.....Part of our Continuing Education Programme

About the Presenters

Leo Richards is a Principal Engineer in the Production Chemistry department within Intertek's Production and Integrity Assurance group. He has worked in industry for over 13 years working on a wide variety of oil and gas projects including microbial souring investigations and mitigation laboratory studies, system assessment for carbon capture and sequestration projects, chemical treatment and corrosion studies for large seawater injection systems and operational and corrosion management systems reviews. Leo gained his BSc (Hons) in Chemistry from the University of Sheffield in 2006.



Andrew Duncan, Lead Consultant with Intertek Production and Integrity Assurance, is a Chartered Engineer and a Fellow of the Institute of Corrosion, with 40 years' experience in oil and gas, refining and petrochemicals industries across some 20 countries. Prior to joining Intertek P&IA 6 years ago, he worked for; BP, Associated Octel, CAPCIS and the UK Health and Safety Executive, where he led the External Corrosion project and the Key Programme 4 (KP4) on Ageing and Life Extension of offshore oil and gas production facilities. Andy is a member of the IOM3 Energy Transition Group, the IOM3 Corrosion Group and also the Energy Institute's Corrosion Management Committee. Andy is active in mentoring the engineers and scientists of the future, inside and outside of Intertek.



About the Topic



“Implementation of Plan-Do-Check-Act review of an Onshore Oil and Gas Operator’s Corrosion Management Policy and Actions”

About the Topic

Corrosion Management Guidelines were used as the basis for the audit of a large onshore Middle Eastern oil field. The purpose of the study was to perform a detailed review of the corrosion monitoring and mitigation systems and to promote any required upgrades to ensure world class/excellent asset integrity performance.

The approach taken to the study was to follow the UK Health and Safety Executive's guidance for 'Managing Health and Safety', HSG651 (2013), of PLAN-DO-CHECK-ACT, which considers both Technical and Systems approaches associated with managing assets safely.

This is a closed loop planetary model commencing with a high-level Corporate Policy for health and safety, under which there is a Policy and Plan for managing corrosion and integrity. The model ends with lessons learned which feeds back into the corrosion and integrity Policy and Plan to ensure risks are managed to 'As Low As Reasonably Practicable (ALARP).

The study highlighted a distinct pattern in the working practices of the operator with virtually all sections of the corrosion management system being shown to have some form of PLAN and DO however the implementation of the CHECK and ACT stage was missing from virtually all aspects.

Q&A

Presentation – “Implementation of Plan-Do-Check-Act review of an Onshore Oil and Gas Operator’s Corrosion Management Policy and Actions”

Questions and Answers – ICorr ABZ Technical Event, February 2022

Q1. What is the benchmark/ criteria to classify the plan, do, check, act, as meeting or needs improvement?

A1. HSG 65 Guidance + EI Guidance + Own Co. Standards and other Industry Standards.

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Q2. What are the current guidelines for internal coating integrity assessment, for in service pipelines which cannot be subjected to ILI?

A2. No current guidelines. Internal Linings are considered unreliable. e.g. FBE plugging up Valves and separators is a common problem.

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Q3. To what extent do you think the 'Act' can be 'Planned' e.g. what to do if the corrosion rate is high? or is each act too different.

A3. If a CR is too high can perform FFS for new req. Op. life and Test that a CI that can achieve req. rate. Also, confirmation measurement by ILI. If KPI being exceeded. First check if there is need to increase dosing. Monitor where you are, within the set boundaries.

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Q4. If Residual CI measurements are not possible, how can we check if CI inhibition system is working effectively?

A4. Residuals are always important. Next best test is having Corrosion Monitoring tools in the right place and orientation + Corrosion modelling + ILI options.

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Q5. Have you considered using numbers (such as 1,..4), instead of traffic lights in your score board?

A5. Generally, we have used Traffic Lighting to make it easier for Management to absorb. They will go for the Reds and consult with their employees. The human brain is better at picking up colours than numbers. Consider Human Factors – what causes people to fail. Usually, its the system fails not the person.

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Q6. You mentioned looking at the materials selection in the Introduction, but I didn't see this in your review at all. Were the materials actually suitable / fit for purpose?

A6. Yes, I would say overall from our study. All Front-Line Techs we found were very good but just working so hard to stand still. System itself was a problem and it inhibited their efficiency/performance. There was a lack of S/Ware support and working 70-80 Hrs a week which not sustainable.

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Q7. Many thanks Leo, an excellent talk. For RACI – do you agree that the Accountable person should also initially ensure that the SOW is correctly defined for performance by Retrievals Team ?

A7. Yes, generally we are in alignment with this additional responsibility as belonging to the Accountable person.

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Q8. Good evening panel and all. I think missed a greater part of the presentation due to my presence in another meeting which ended late. Is it possible to have the Slides shared?

A8. Yes, all Slides will be shared on the Institute of Corrosion Website (Aberdeen Page) and also on our ICorr ABZ 'You Tube Channel.

Slides of technical papers for Aberdeen branch events, along with their respective Q&A's can be found at: <https://sites.google.com/site/icorrabz/> and also at: [Aberdeen Branch - Institute of Corrosion \(icorr.org\)](https://www.icorr.org/abz) under Local Technical Programme. A library of event recordings may also be found at: https://www.youtube.com/results?search_query=ICorr+Aberdeen

Questions and Answers – ICorr ABZ / Energy Institute Joint Technical Event, February 2022

**Should you have any further questions related to
this Webinar,**

Please contact: Andy Duncan Intertek

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who will be very pleased to assist you. Thank you.

THANK YOU FOR ATTENDING

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