

Evening Technical Meeting: Subsea Electrical Technologies and Innovations in Pipeline Construction & Materials

Report on SUT Perth Branch Evening Technical Meeting
Wednesday 11th October 2017

By Mark Casey, Perth Branch Committee Member

The October 2017 SUT Technical Evening at the Parmelia Hilton was opened by SUT Perth Branch Chairman, Chris Saunders and chaired by SUT Committee Member Mark Casey. The event was kindly sponsored by ATV, DORIS, SHAWCOR and SPEC.

The four presentations given during the evening were designed to showcase new and innovative technologies whose benefits range from time saving during offshore construction to the potential to become economic enablers for projects in this region. The session Chair kicked off the night with a Wikipedia definition of the term “exnovation”, which is not very well known as the opposite of “innovation”.

The first presentation of the evening was given by Mathieu Beaujon, Regional Commercial Manager APAC at SERIMAX. Mathieu’s presentation provided an overview of a number of technologies that can ultimately contribute to an increase in productivity and pipeline integrity for CRA pipeline construction, from linepipe manufacture to final offshore installation. The “CleverScan” tool utilises laser technology to provide repeatable linepipe end matching for CRA pipes through pipe end laser dimensioning and sorting, resulting in increased productivity in combination with enhanced pipeline integrity. Other technologies presented to a very interested audience included the “Roxane” gas purging and monitoring system, and the “Scanvision” tool, all integrated onto the ILUC (Internal Line Up Clamp). Finally, Mathieu described “Cleverweld”, a fully automated integrity management solution designed for customizable, fit-for-purpose pipeline production reporting, including full traceability for welding, NDT, and field joint coating, and data storage that may be accessed remotely.

Our second presentation was by Marcos Mockel, Senior Manager, Global Technical Solutions, Pipeline Performance at SHAWCOR. Marcos’s presentation first provided a background to the conventional pipeline wet insulation technologies used by the industry for temperatures less than 150 °C, as well as the associated design process. The latest innovative wet insulation technologies were then discussed, including Thermotite®, ULTRA™ Solid and ULTRA™ Foam insulation materials as well as NEMO™ field joint coating as alternatives to traditional Polyurethane (PU) systems. Marcos then detailed a Case Study, which demonstrated how hybrid mixes of these new technologies could provide an optimum solution for wet insulation for subsea pipelines, before concluding by showing how these systems can be applied and tested in the factory. Marcos had arrived from Houston shortly before the presentation, so we appreciate his efforts in providing a comprehensive and informative presentation, despite his jetlag.

The third presentation of the evening was given by Benoit Lamourex, Director, Doris Engineering Australia Pty Ltd. Benoit began with the timeline for the development of Thermoplastic Composite Pipes (TCP), which began in the 1980’s. He then focussed on the technical and commercial differentiators between steel and TCP jumpers, with key advantages identified for TCP. The same comparison was then presented for flowlines, with some key differences identified, including on-bottom stability, limitations in size and cost as issues for TCP flowlines, with the conclusion that TCP pipe suppliers need to further develop/qualify the technology to meet demanding subsea development scenarios, such as ultra-deep water and high pressure and temperature. In conclusion Benoit summarised that TCP is considered to be a promising technology to enable cost effective field development, with some qualifications.

The final presentation of the evening was given by Peter Baker, Senior Subsea Engineer, SPEC Consultancy, addressing offshore and subsea electrical technologies as economic enablers. Peter initially presented an overview of subsea electrical technologies developed for subsea applications in recent years, including active electrical heating, all electric production systems, and subsea processing (including separation, boosting and compression), which have provided key advantages over traditional solutions. Peter concluded with details of other offshore technologies being developed currently, including long distance power transmission and distribution, as well as “gas to wire”, which involves the novel concept of converting offshore gas fields directly to electricity, and transmitting electricity to shore. It was nice to complete the evening with some thoughts for the future.

There were questions from the floor after each presentation that challenged the presenters and led to interesting discussion after the session closed. The presentations were very well received from the almost 100 attendees, many of which stayed afterwards to network and enjoy refreshments.

Thank you to the SUT members, new members and guests for their attendance during the evening. Also, to the four presenters that in their own time volunteered to speak at the event.

I would like to conclude by thanking again our ETM sponsors, ATV, DORiS, SHAWCOR and SPEC for providing continued backing. Events like these cannot be realised without key sponsorship and support.