

Perth Branch

Examples of Recent Innovations in Pipeline-Seabed Interaction

Wednesday 9th June 2010

Melbourne Hotel (John De Baun Room), Corner of Hay & Milligan Street, Perth

Registration / Bar Opens 5:30pm: Presentations Start at 6:00pm: Drinks and Canapés 7:30pm

Chaired by: **Ian Finnie, Director, Advanced Geomechanics**



Geotechnical analysis of seabed pipelines on soft soils

Prof. David White, ARC Future Fellow, Centre for Offshore Foundation Systems, UWA



This presentation will highlight recent advances in the geotechnical analysis of seabed pipelines. As offshore developments move into deeper waters, further from shore, the infield and export pipelines represent an increasingly significant component of the project infrastructure. New design philosophies including the use of controlled on-bottom buckling for thermal management and the allowance of large lateral movements during storm loading have increased the need for accurate characterisation of seabed-pipeline interaction. This presentation will present recent research conducted at UWA on this topic, highlighting the complementary roles of theoretical studies, physical model testing, numerical simulations and field observations. Aspects of this work have been incorporated in the SAFEBUCK guideline and other industry recommended practices, and are influencing design practice on the North West Shelf.

Subsea Trenching for Trunkline Stabilisation - Recent Developments with CTC's RT1 trencher

Marcus Hemsted, Technical Sales Manager, CTC Marine Projects



CTC's Subsea trencher "RT1" has recently completed trenching work scopes on the following projects:

- RT1 North Sea Trials – Located off the Northumberland Coast
- Pipeline trenching project located off the west coast of Ireland
- Trenching trials located on the North West Australian Shelf

The North Sea Trials were performed in an area of seabed identified by the British Geological Survey Regional Mapping as being composed of sand. Following completion of North Sea Trials, RT1 was deployed to a project which involved the trenching of an 20" pipeline with a 10" piggybacked pipeline attached. The soil conditions at the site consisted predominantly of medium dense to very dense sand with areas of cobbles and boulders.

RT1 has recently completed trenching trials on the North West Australian Shelf that were intended to gauge RT1 performance in the soil types commonly found on the NWS. The soils encountered along the trenching trial routes generally consisted of loose to medium dense sands and weak to strong calcarenite, calcirudite and sandstone.

This presentation will provide an overview of the RT1 trenching performance for each of these projects.

Proposed changes in engineering programmes at UWA

A short presentation will be made by UWA on the forthcoming changes to their engineering programmes



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