

Speakers:

David Ruston Fugro GeoConsulting

and

Andy Mills AM Geomorphology

Date: 1st October 2015

Details: Tea / coffee: 17:30

Meeting Commences: 18:00

Location: Burlington House

Free to attend. Registration not required.

For further information, please contact:

Event Convenor: David Waring (BP) & Ray Hobbs (Offshore Engineering Society)

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Quantitative Risk Assessment of Geohazards in an Offshore Environment

A joint evening meeting between the Engineering Group of the Geological Society and the Offshore Engineering Society

Synopsis

As oil and gas developments move into deeper waters, exposure to geohazards may become an important project risk driver. Understanding the geohazard risk posed to a concept allows the project to be progressed via appropriate avoidance, mitigation or acceptance strategies. This presentation will begin by exploring data acquisition in an offshore environment. The primary datasets are seismic data to image the seabed and sub-seabed sediments, and sample data to provide geological and geotechnical characterisation and geochronological age dating.

Integration of these primary datasets, coupled with a geological understanding of the formative processes that have occurred at the site, allow the creation of a ground model. The second part of the lecture will describe the process of creating a ground model, including preparation of a stratigraphic framework and compilation of geohazard databases. The ground model conceptualises the present day site, incorporating past processes that have resulted in its present-day geometry and sedimentary composition.

Quantitative risk assessment is used to consider potential future geohazards during life-of-field and the possible consequences should they occur. The risk assessment should be underpinned by a robust understanding of geohazard magnitude and frequency, modes of ground behaviour and the damage and consequences that might result. The third part of the lecture will describe this process, which enables the project team to determine levels of geohazard risk and provides a basis for comparison with wider project risks.

Presentations by:

David Rushton has worked in offshore geotechnics for seven years, working for Fugro GeoConsulting Limited since graduating from Oxford University. David is now the leader of the Innovative Technology team within Fugro GeoConsulting Limited, a role which is dedicated to developing technology to both improve inhouse processes and operations as well as develop new techniques and services for Fugro's clients, with a specific focus on geohazard analysis.



Andy Mills has been involved with the assessment of subsea geomorphology in deepwater and shallow marine environments for eleven years. Following a PhD in landslide geomorphology, he joined Halcrow's geomorphology team in 2004. Over the subsequent ten years, he worked extensively on deepwater oil and gas developments, offshore wave and tidal schemes and ground condition assessments for onshore wind, including drafting of best practice guidelines for landslide risk assessment in peatlands. Andy set up AM Geomorphology Ltd, and he continues to provide geomorphological and geohazard risk assessment services to the power and energy industry.





