Teaching Company Scheme

The Teaching Company Scheme is a two year collaborative project between PAFA Consulting Engineers and the University of Southampton, sponsored by the UK Department of Trade and Industry. The project has sought to examine the risk and reliability issues facing floating production systems, allowing PAFA Consulting Engineers to focus design development on areas of high risk. The main deliverables include:

- Qualitative and quantitative risk assessments of FPSOs.
- Documentation/software describing the loads and strengths that need to be designed in for FPSOs.
- Reports on the state of the art in FPSO design, collision, wave damage, long term degradation and operational dangers to FPSOs.

The TCS started in January 2001 and will run for two years. The TCS Associate is Edward Ballard, who recently completed a PhD. at the University of Southampton. The Industrial and Academic supervisors for the project are Philip Smedley of PAFA and Professor Ajit Shenoi of the University of Southampton, respectively. Professor Shenoi is Professor of Lightweight Structures in the Fluid Structure Interaction Research Group in the School of Engineering Sciences.

During the course of the TCS, much of the work has focused on the development of design guidance for structures subject to green water loading. Other aspects of FPSO risk and reliability that have been examined include the time dependent reliability of FPSO hull structures and the extent of damage arising from collisions between FPSOs and shuttle tankers during offloading operations.

Software has been developed which provides PAFA Consulting Engineers with the capability to undertake analyses of green water and collision damage.

Summary

- Collaborative project between PAFA Consulting Engineers and University of Southampton.
- Investigating risk and reliability issues relating to FPSOs in service.
- Design guidance for green water loading
- Reliability of FPSO hull structures

Clients

- PAFA consulting Engineers
- University of Southampton
- Department of Trade & Industry

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