Italian Section

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SALA BARBARA
5° Palazzo Uffici - Eni E&P division
Via Emilia 1
SAN DONATO MILANESE

11:00

2008-2009 SPE Distinguished Lectures Series

THE SCARAB / SAFFRON FIELDS DEEP WATER GAS FIELDS DEVELOPMENT
INSTALLATION ASPECTS AND SUBSEA SYSTEM

By Wael F. Ellaithy – IPR Energy

➢ ABSTRACT

The Scarab/Saffron fields are located 90km far from shore in water depth up to 650m. The selected development concept is a long-distance direct subsea tieback of the wells to the shore with control by umbilicals. Scarab / Saffron tieback is one of the world's longest tieback lines. The total system comprises a large number of components, i.e. two large diameter export lines, a large PLEM, two manifolds, eight 10"in-field flow lines, umbilicals and their termination units, flying leads....etc. Variations in water depth (0 to 650 meter), in pipeline diameter (4" to 36") and the different types of umbilicals are the real challenges. No single marine vessel can perform all the installation activities for such a wide range of pipeline sizes and subsea system components. The technical challenges of designing a subsea system are to design a system that can manage the multiphase flow, distribute chemicals to the wells and control production and yet be installed and maintained at a depth beyond diver depths. One of the keys to a successful subsea development is the system's engineering. This discipline is important to all projects but is critical to deepwater subsea projects. Once installed, there is limited capability to intervene or to add additional functions unless this has specifically allowed for in the original systems or equipment design.

Lessons learned and areas for improvement in similar tieback are considered. Some of the lessons learned require immediate modification to the system, others yet to be captured in similar installations.

➢ BIOGRAPHY

Wael F. Ellaithy is working for Agiba Petroleum Co. as the Planning General Manager. Wael is a mechanical engineer, graduated in 1976. He has 30 + years of experience in the project management of onshore and offshore shallow water and deep-water oil / gas fields development. He worked as deep-water Projects General Manager for Burullus Gas Company during the engineering and construction phases of the first deep water gas development in the Mediterranean. Wael was the team leader in many pioneer applications in Egypt. This covers application of coiled tubing as pipelines, sub-sea completions in Egypt, and safe and friendly decommissioning of offshore structures.

Since his graduation, he worked in the oil and gas industry in the field locations and in the main offices.