Public Executive Summary

Title: Coil Tubing Drilling & Intervention System Using Cost Effective Vessel

Name of Offeror: Nautilus International, LLC
Project Director/Principal Investigator: Charles Yemington

Additional participants: GE Oil & Gas; NOV CTES; INTECSEA; Tidewater Marine, LLC; General Marine Contractors; The University of Tulsa; Texas A&M University

Solicitation Number: RFP2008DW1502 (08121-1502-01)

Project Start Date: October 1, 2009
Project End Date: April 1, 2011

Total Estimated Cost:	$ 1,025,000.00
RPSEA Maximum Share:	$ 820,000.00
Nautilus International Cost Share:	$ 205,000.00

Nautilus International LLC has assembled a team including GE Oil & Gas, INTECSEAI, Tidewater, NOV CTES, General Marine Contractors, University of Tulsa, and Texas A & M University, with support from well known operators and contractors.

The primary objective of this project is to provide the basis for detailed design of a cost-effective deep water Coil Tubing (CT) system for down-hole work in deep water Gulf of Mexico (GOM) satellite wells without need for a Mobile Offshore Drilling Unit (MODU). This work will facilitate improved resource recovery from existing satellite wells and make it practical to develop reservoirs that would otherwise not meet economic hurdles.

An effective, reliable deep water CT system consists of a vessel, CT equipment, and a riser to bridge the gap between the deck and the seafloor. The system to be used as the starting point consists of conventional CT equipment, a vessel of opportunity, and a modular, reusable Self Supporting Riser (SSR). The system accommodates heave of a small vessel and allows a large watch circle. Fabrication and installation of a suitable modular SSR has been demonstrated by the contractor team. A seafloor injector to boost the total depth is presented along with a simple control system to coordinate two injectors and the tubing reel.

The system is suitable for currents and conditions in the central GOM. A purpose built work-deck supported above a small moon pool by a low cost heave compensation system allows low day rate vessels to work in relatively high seas for 90% availability. Overall cost to deploy and operate the system is less than half the projected cost of a MODU. Tubing fatigue life is better than conventional onshore CT systems. Earlier work with regulators, contractors, and operators led to incorporation of load testing and pressure testing of the riser, seafloor shutoff, and protection from upset conditions, weather extremes, and current. Preliminary designs to improve performance and total well depth are presented for consideration.

The multi-phased, gated development approach will lead to a cost effective system. Tasks and deliverables include specification of equipment, identification and assessment of hazards and failure modes, and a comprehensive report including a plan and design basis for detailed design in Phase 2. The team is committed to early commercialization to extend the life of existing wells and develop resources that would otherwise be unavailable. Leading operators have expressed enthusiastic support for development and commercialization.

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