

# OES HAD EPOCH-MAKING YEAR GLOBALLY IN 2010

*OES Pty., the Australian entity has completed the 40 million dollar EPC contract to engineer and install 6 high voltage power cables and two fibre optic cables across Botany Bay in NSW. The project included the horizontal directional drilling of 7 large diameter bore holes using environmental friendly drilling fluids through sand stone rock at the La Perouse land fall.*

## OES PTY AUSTRALIA

OES Pty Australia, well known world leader in subsea trenching systems won the project on the basis of its ability to trench the cables to 3 meter cover in sand and hard clay with its also environmental friendly innovated "Tiger Prawn V" liquefaction sled.

Another sled "Tiger Prawn VI" successfully trenched a trifold bundles section of cables in sand using liquefaction Trenchique that OES innovatively created causing little or no water turbidity and the cables are also backfilled at the same time.

All cable routes bore hole design and civil works were by Lincoln Consulting Engineers.

A seventy meter cable lay barge "Anaconda" equipped with 8 point mooring 1600 tonne cable storage tub, cable gantry and 8 tonne cable tensioner were designed and built by OES in Australia to Australian standards, OH&S, NSW maritime and marine warranty surveyor requirement.

Lincoln Consulting Engineers, OES subsidiary company, was responsible for the architectural structural and mechanical system and design of the barge including the mooring system and cable tensioner.

All deck equipment was fabricated in OES Victorian R&D facility. The barge construction was financed and is owned by OES Limited.

The barge will be outfitted with an innovative DP system designed by Lincoln consulting using process plant control valve technology combined with marine technology.

It is proposed for future flow line and umbilical laying and trenching for Macedon

## OES LIMITED INTERNATIONAL

OES Limited International out of Singapore won a contract in Angola to provide innovative trenching equipment, personnel and expertise, to trench subsea pipelines for the Angola LNG Alliance.

Previous attempts to trench the pipelines by plowing method failed because of the highly

variable soil condition which plows cannot cater for.

Soils consisted of sand/gravel hard clay and rocks. OES mobilised its high pressure (1000 psi) jet spread "White Jaguar" which is one of its six lead keel rolling machines.

The project also was characterised by a large ocean swell from the west nearly side on to the pipeline routes causing significant vessel rolling, surging and heaving.

The White Jaguar with 1000 psi cutting pressure and the 30 m<sup>3</sup>/min eductor capacity, easily handled the sand and hard clay. One pipeline was trenched to full depth 1.5 metre in a single pass.

The other two required several passes having hard clay and cemented sands.

The vessel roll surge and heave were easily handled in 2 to 3 metre swell with the OES heave compensator system designed and first implemented by OES in 2002 in Bass Strait.

For the rock, OES mobilised "Tiger Shark" machine, a lead keel machine that also employs two hydraulic powerful mechanical cutters in a unique system first developed by OES in Perth, Australia in 1985

## PT OES INDONESIA

PT OES Indonesia has moved its supply base has taken a ten year lease on a 5 acre waterfront property in Balikpapan complete with a 2,000 square metre shop facility.

OES will offer EPC ship building production facility and jacket fabrication, load out pipeline and cable construction.

The first project is an EPC contract to design and build a very innovative 24 metre long catamaran combined sailing, survey and diver support vessel.

The architecture and the structure allows for the 30 meter high sailing mast to be removed and replaced with a 10 tonne pedestal crane.

The vessel designed by Lincoln Consulting Engineers can be sailed to anywhere in the world and can save hundreds of thousands of dollars on fuel cost. The ship has been named the "Borneo Princess".

OES Indonesia has also purchased a 70 metre long, 10 tonne/m<sup>2</sup> cargo barge with drive on ramp and has converted it to the pipeline barge "Python".

The Python will be outfitted with a 100 tonne crane, 20 tonne pipe tensioner, 8 point mooring and an innovative Lincoln consulting designed floating stringer that does not connect to the barge but is gripped by the pipeline with hydraulic motors near the sea bed.

This allows many pipelines to be installed without tension, only floatation.

The concept was first engineered including the software development by John Lincoln in 1975 and although the software has been used extensively since then for subsea pipelines this is the first development of the innovative stinger

## OES CNG PTY LTD

OES CNG has been established to develop the market in Australia for Compressed Natural Gas (CNG) for vehicles in Australia. CNG is the fastest-growing sector of the automotive industry with an annual growth rate of over 30%.

The company has undertaken extensive research and development into gas compression and delivery systems and vehicle technology, and 2010 saw several landmark developments that have placed the company at the forefront of the industry in Australia.

In April 2010, OES CNG opened the first full public access CNG service station in Australia.

The station, at Aspendale Gardens in Melbourne, will refuel vehicles with Australia's cleanest, safest fuel in the same time as petrol, diesel and LPG, and at a cost saving of 50% to 65%.

Additional sites in Melbourne and regional Victoria are being assessed for additional service stations in 2011/12.

The company has also developed the world's most technically advanced and reliable gas compression appliance for domestic use.

These units, which will be available for the local market in mid-2011, will allow a motorist to fill his vehicle at home from the domestic gas supply in approximately 3 hours.

The units have already attracted enormous customer interest in Australia and overseas.

The first unit Mark I will fill a car in approximately 3 hours, the second unit Mark II comes with two storage cylinders enabling a car to be filled 75% in two minutes.

The third unit Mark III is a slightly larger compressor and with large storage capacity can fill 4 cars in a few minutes and then every 1.5 hour, ideal for small fleet owners like taxis and other small businesses.

OES also designs and install larger commercial stations using larger compressor supplier from overseas.

Vehicle manufacturers are constantly introducing new technologies to improve the environmental and economic performance of their engines and OES CNG has a continuous R & D program to ensure that our CNG technology keeps pace with those industry developments. ■