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## **Deepsea Floating Wind System**

I directed the development of the Multi-Purpose Semi-Submersible,MPSS, in Glasgow and London between 1978 and 1988 to provide an immobile platform for drilling in deep sea. It was approved by Conoco and Shell in 1989 for North Sea. It is now "the standard semi-submersible", approved by LR, ABS and DnV. Widely used since its first application for Shell Na Kika in Gulf of Mexico in 2002. Its immobility in all but the highest waves, provides uptime of 100% in drilling and oil/gas separation for 100%. Examples are Shell Appomattox and CNOOC Shenhai -1.

Our intent is to build on this experience to generate massive amounts of renewable clean power from wind and current turbines.

Additional submitted attachment is included below.

### OUR COMPANY . . . . . .

was formed by its two Directors, both with extensive experience of some of the major existing floating production systems currently operating in the hostile waters of the North Sea. The company initially provided consultancy services to operators who were themselves actively involved in the design and construction of floating production systems. Noteably North Sea Sun Oil's Balmoral FPV, Conoco's TLP, Dome Petroleums Sovereign Explorer, B.P.'s Buchan Alpha, & the Santa Fe Reel Ship Apache.

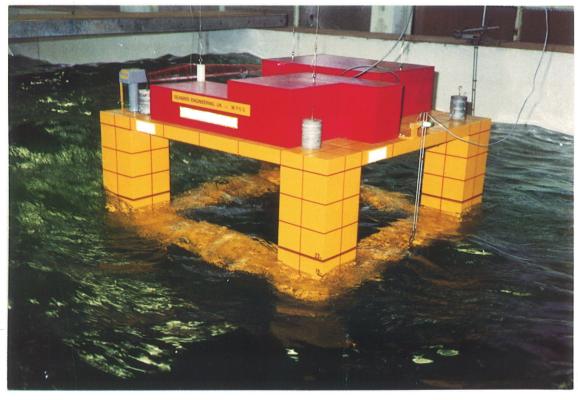
As a direct result of our involvement in those projects and the unique experience gained, we have applied the many lessons learnt to the evolution and design of the Seaways Engineering Multi-purpose Semi-Submersible (M.P.S.S.)

The M.P.S.S. will become the role model for future marginal field development.

The design is protected by patent and has undergone successful comprehensive tank testing. The Seaway M.P.S.S. design emphasises simplicity, whilst paying attention to sound engineering judgement, and cost effectiveness.

The Seaways M.P.S.S. is but one of a number of designs, whose implementation will radically change operators views and will prompt a serious re-examination of old tired concepts. It will re-vitalise the industry. It will breathe new life into the British shipbuilding industry. It will provide employment for many over the coming years.

. . . . . . . It is the light at the end of a very long dark tunnel.



THE M.P.S.S. UNDERGOING TANK TESTING

# **INTRODUCING**

Barry R. Ryan Managing Director

Craig Lang BSc(Eng) PE
Technical Director



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MULTI PURPOSE SEMI – SUBMERSIBLES

THE CHALLENGE.....

"There are many small oilfields in the North Sea which taken together can, if developed, make a major contribution to our future production . . . . I consider the development of small marginal fields vital to Britain's continuing role as a major oil & gas producer.

..... Our North Sea future is becoming increasingly dependant upon more and more smaller fields. I am fully aware that these smaller fields will not be brought on stream at all, unless they can be developed by economical methods which depart from traditional "Big Field" thinking.

.....l want to see the fullest possible development of Britain's marginal fields .....Oil Companies should not hesitate to put foreward new ideas for marginal field developments and phased programmes for my approval.

..... I intend that every effort should be made to help the Industry bring foreward more marginal and phased developments."

Hon. PETER MORRISON M.P. MINISTER OF STATE FOR ENERGY. SEPTEMBER 29 1987

THE RESPONSE .....

As a result of the collapse of the oil price in 1986 and the slow recovery since, it is clear that it will be sometime yet before prices approach those of the levels previously reached.

Consequentially, no producer, or those contemplating production of hydrocarbons from Offshore Marginal or Deepwater Fields can afford the cost of a fixed platform.

With the current oil price scenario, the trend is now very definitely towards floating production.

Early question marks over this new technology and its economic projections held the industry back, but now that the concept is technically mature, this confidence has provided the final impetus to their more general adoption.

North Sea and other operators around the world, are now having to look at smaller, more marginal fields, which require cheaper and simpler production systems for their development.

Virtually every operator with a proposed field development, has a floating production system under consideration.

The industry is seeking the key to un-lock the secret of rapid, economic, marginal field development . . . . . . .

. . . . . SEAWAYS ENGINEERING HAS THAT KEY !!!

OUR AIMS .....

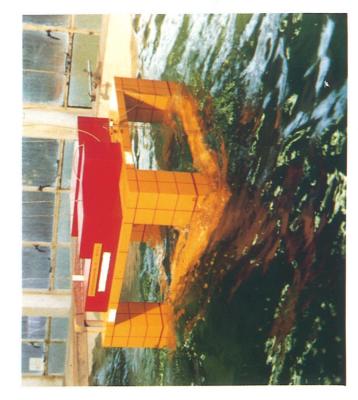
- to provide clients with a cost effective and efficient vessel
- to utilise existing knowledge
- to return to simplicity
- to re-vitalise British shipbuilding
- to create employment

# OUR CAPABILITY

is reflected by our design. We have the ability to provide operators with the primary vehicle to develop their offshore resources rapidly and far more economically than they previously thought possible.

Seaways Engineering are currently developing a range of semi-submersibles that will out-perform any existing vessel today in terms of adaptability, operational flexibility, deck carrying capacity, speed of build and cost, including tanker and rig conversion.

The Seaways M.P.S.S. and her sister vessels will provide the key to deepwater marginal field development for years to come. They are what others are not



. . . . . SIMPLE AND ECONOMIC!