



ZEEPod OVERVIEW

DOCUMENT NO.: ZEE-PMT-PCS-002

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1.0 INTRODUCTION

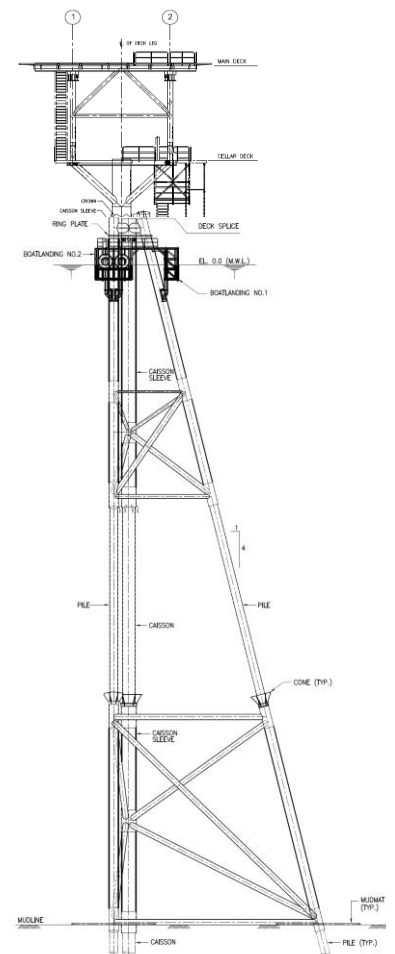
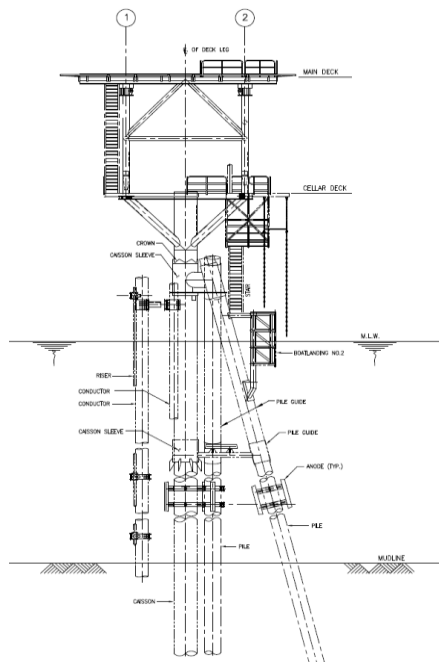
In year 2000 PT Maxus South Sumatra (MAXUS), an Indonesian major Offshore Operator wished to have a standard Minimum Facility Platform (MFP) design for the development of Marginal Fields. The MFP project was awarded to ZEE engineering. ZEE carried out an in-depth study on the various options available, which included Braced Monopod, Guyed Caisson, Tripod, Isolated wells, Template, Remote wells and Mini FPSO. This study resulted in the recommendation of a Hybrid Monopod (HM). For the want of a better name this Platform was called Y2K Platform as this was conceptualized in year 2000.

Currently over 40 such platforms exist in Indonesian waters.

2.0 ZEEPOD

In Indonesia the HM has been installed up to a water depth of 60 meters. By adopting a novel sub-sea template the HM system water depth limitation has been increased to 90 meters. ZEE Engineering has patented this system under the name of ZEEPod.

3.0 SYSTEM COMPONENTS



The ZEEPod consists of the following components

- Main Caisson supporting the deck structure,
- Raker Piles driven through a sleeve,
- Boat landing, Conductor protector,
- Deck
- For deeper water depth
Sub-Sea Template.

4.0 DESIGN

Each platform shall be designed to suite the particular site and load conditions and shall be designed to API RP2A for the 100 year storm condition.

The topside deflections shall be kept to acceptable values and the natural period shall be kept below 3 seconds.

5.0 LOW CAPEX

The overall cost of the platform is kept low by adopting simple designs and using minimum offshore spreads for installation. Each component weight is kept below the capacity of the available Crane Barge (single hook lifts)

6.0 NIL OPEX

The system does not require any periodic maintenance hence the OPEX is zero.

7.0 RAPID DEPLOYMENT

The ZEEPod system can be designed fabricated installed and commissioned rapidly. Award to commission can be as low as six months.

8.0 DECK LOAD

The typical operating (testing) deck load is approximately 500 tons, however heavier decks approximately 850 tons has been implemented.

9.0 LIMITATIONS

Technically ZEEPod can be installed in deeper water depths. The water depth limitation is due to logistics such as;

- Hammer for pile driving
- Welding of thicker (more than 2 inch) tubular steel

With the available equipment, we are confident that 90m water depth is the limitation. This can be verified with engineering.

The other limitation is the topside weight. Our current single ZEEPod design can support topside weight of up to 850 tons operating weight.

10.0 ZEEPOD BOAT IMPACT AND BOAT ACCOMMODATION

ZEEPOD is designed for boat impact during operation as well as accidental case and soft mooring criteria as per Petronas Technical Standard (PTS). For boat impact, ZEEPOD has been designed to accommodate boat size (anchor handling tug/supply (AHT/S) or Supply Vessel (SV)) for up to 1000 MT displacement as per PTS.

11.0 RELATED DOCUMENTS

Doc No ZEE-PMT-PCS-001: Marginal Field Platform Hybrid Braced Monopod