

## **OFFSHORE SUPPORT INDUSTRY**

**May 2023**

### **EXAMINERS REPORT**

#### **Question 1.**

Students were expected to produce a drawing of a Jack-up drilling rig and the sketch should provide sufficient detail to demonstrate understanding of the operating concept.

ie. sketches showing floating and jacked-up condition.

Description should include details relating to: Wet/Dry tows; general construction; drilling derrick & helipad locations; operational terms – Pre-load/ballasting/air gap, punch through etc.

Current details relating to fleet size, operational water depths, comparison with semi-sub and drill ships should be included.

Marks were awarded for correct labelling and description of the function of the equipment.

#### **Question 2.**

Students were expected to know the broad distinctions between the DP classes and describe the concepts in some details:

Class 1: No redundancy.

Loss of position may occur in the event of a single fault.

Class 2: Redundancy such that no single fault in an active system will cause the system to fail.

Used extensively by modern OSVs, PSVs AHTS, Survey vessels, ROV Support vessels and some DSVs.

Class 3: As Class2 but in addition has to withstand fire or flood in any one compartment without the system failing.

Used by High specification DSV's and construction vessels, drilling rigs/drillships and floatels.

#### **Question 3.**

Students were expected to demonstrate awareness of current PSV market situation.

Report format is important and sections should include:

PSV Market Fundamentals (demand summary/market prospects)

PSV Supply – by country/operator/fleet – historic/forecast

Level of class/type detail within fleet ie. DP/size/age

Newbuild – confirmed/speculative-forecast

Demand Drivers – platforms, rigs (historic/forecast)

PSV Demand – graphs – platforms/rigs - historic/forecast

PSV Utilisation – graphs - historic forecast

Supply/demand/utilisation overview/summary

PSV Dayrates – historic/forecast

Dayrates as function of type/age

Dayrate/utlisation overview summary

PSV Sensitivity to oil price

Supply/demand/utilisation variations with oil price – historic/forecast

Environmental issues (ECAs/IMO Tier 4/Climate Change lobby etc.)

Potential Diversification

OREI support (SOVs)

Survey/ROV

Conclusions - conclude with clear recommendation with reasoned projections.

#### **Question 4.**

A good answer will include the following:

Awareness of current market situation for each OSV sector.

General indication of spot and term rates globally.

General awareness of newbuild costs and recent S&P values for each sector.

General awareness of newbuild order book.

Understanding the significance of OCV/MPSV to subsea developments, the rapid expansion of offshore wind projects and the current utilisation of these vessels.

Awareness of implication of energy cost fluctuations for high-cost subsea developments.

Consolidation, mergers/acquisitions.

Political issues – conflict areas/sanctions

Environmental issues – ECAs, Clean Design Notation

Clear recommendation with reasoned projections.

#### **Question 5.**

Students should be able to include a number of the key considerations which would go into drafting rider clauses for the listed special activities:

Helicopter Operations: Helideck Loading; Re-fuelling; Helideck certification; Cost of certification; Non availability of helideck; Weather limits; HDA's/HLO's; Helicopter Communications.

Passengers: Maximum number; Cabin number and type; Catering standard; Laundry facilities; Pre planning passenger numbers; Number of hotel and catering staf/Owners or charter to provide; Cost schedule and accounting; Masters authority/interface/bridging documents.

ROV Operations: Number and type of ROV's; Modifications/reinstatement; Costs of installing, carrying and operating ROV's; Division of Responsibilities; Power Supply requirements and arrangements.

Sub-sea Crane Operations: Specification of Crane/Crane curves; Wire supply/testing/renewal/damage; Crane Drivers, number and supply; Division of responsibilities; Breakdown hire arrangements.

Saturation Diving Operations: Specification of Dive System; number of divers/support staff; Division of Responsibilities; Subsea operations insurance; Power supply requirements; Breakdown hire arrangements.

#### **Question 6.**

The student was expected to be aware that most OSVs normally feature multi-engine and multi-thruster propulsion arrangements for good station-keeping/ship handling and to ensure sufficient redundancy and understand the range of propulsion options for OSVs: Conventional Direct Drive; Diesel Electric; Hybrid

The key to answering well was to understand the major environmental issues and relevant codes and conventions:

The student should be aware of the Classification Societies issuing 'Clean' and 'Clean Design' notation

Key issues relating to the environment should be included covering emissions to air, discharges to sea and deliveries ashore.

### Question 7.

Students should understand the range of installations:

- Offshore wind (fixed and floating)

- Tidal systems

- Wave systems

Awareness that offshore wind dominates: –

- Mainly fixed installations

- Floating installations now appearing extending to deeper waters.

- Huge increase in turbine output: 2MW to 10MW machines installed.

- Designs for 12MW under construction – 18MW being developed.

- Understand scale of developments - Blade diameters 90m – 200m.

- Fixed installations - Steel jacket construction

- Floating installations – Spar and semi-submersible.

- Similar construction techniques to O&G but currently smaller scale.

Survey vessels/guard vessels undertaking similar roles to O&G.

Construction vessels/heavy lift – similar to O&G.

Anchoring/mooring systems.

Tidal and wave systems generally constructed onshore and towed to location and anchored.

Unmanned installations when operational.

No fuel or provisions and little maintenance requirement so much less attendance required in comparison to O&G.

Maintenance crews generally transported by Crew Transfer Vessels (CTV) – small workboats (often catamaran design) making fast transit from shore to location.

Boat Landing Stations (BLS) are specifically designed to interact with shaped fendering arrangements on CTV bows. (System sometimes referred to as ‘surfers’)

Industry generally accepted as working at a much lower operational cost level than O&G.

NW Europe and the China/Far East areas most actively involved in OREIs

### Question 8.

A contractual liability assumed by owner under terms of the CP outside of standard P&I cover.

Most contractual liabilities are for operations that owner is not normally legally liable

Examples: Knock for knock clauses, over-side working, sub-sea operations

Legal liabilities as well as contractual liabilities – accepted but normally excluded from P&I.

Example – pumping fuel, waste oil etc.

Consultation with P&I Club essential

Contractual Liability Extension as addition to standard P&I terms

Most P&I Clubs will have standard Contractual Liability Extension package

Benefit of standard package – to facilitate fixing without prior consultation

