

OFFSHORE SUPPORT INDUSTRY

May 2024

EXAMINERS REPORT

Question 1.

Students were expected to have a general understanding of cable/pipelaying operations including the basic sequence of: Surveying – PLGR/Boulder Clearance - Pipelay – Trenching - testing/commissioning.

A consequent understanding of range of vessel required to support operations.

Surveying the route and identifying obstacles.

Students should be aware of the distinction between a flexible cable/pipelaying and a rigid pipeline operation.

Cable/pipelaying generally 'free-lay' - laid on the seabed along the cleared pipeline route prior to trenching.

Vertical Lay System (VLS) / stern ramp systems limiting bending stress in the pipeline.

Loaded on large reels/carousels.

Loaded at a 'Spool base'.

No requirement for continual pipe replenishment by PSV.

Modern vessels monohull, self-propelled DP2/3

When reel/carousel is empty vessel returns to spoolbase/operations base to reload.

Understand the 'touchdown point' and importance for it to be continually monitored – use of survey vessels.

Importance of survey back up during cable/pipelay operations to ensure the pipe is initiated and terminated at the correct locations - subsea features/assets the cable/pipe route will traverse.

Trenching – usually performed by large AHTS fitted with A-frame for plough deployment.

Operation of subsea ploughs - trenching, burial and backfill are completed in one operation.

As laid surveys/Pipeline testing and commissioning – survey vessels.

Deployment of ancillary equipment – spools, manifolds etc.- OCV/DSV vessels

Question 2.

Students should demonstrate they are aware that number and type of vessels will be a function of many factors:

Distance from base-port to field location

Availability of vessels in the region

Existence of a spot market

Condition of the spot market (tight/soft)

AHTS + PSV or only AHT

Type of MODU used

Number of wells to be drilled

Type of wells to be drilled

Environmental considerations

Number of rig moves anticipated

Recognise that the period of the charters will be linked to the duration of the drilling campaign.

Duration of drilling will only be an estimate so need for contingency.

Determine requirements then decide on split between term and spot.

Question 3.

Marks were awarded for:

Correctly naming a National Oil Co. – one mark each

Correctly naming an Oil Major - one mark each

Correctly marking on the world map their respective primary areas of operation one mark each.

Explaining the differences between National Oil Co and an Oil Major. – 4 marks

Question 4.

Spudding in – the start of a drilling operation

HIPAP - High Precision Acoustic Positioning

TEMPSC - Totally Enclosed Motor Propelled Survival Craft

IMCA - International Marine Contractors Association

EPIC - Engineering Procurement Installation and Commissioning

CMID - Common Marine Inspection Document

A brief description of each was required.

Question 5.

Students should understand the main categories of cranes and vessel hull types:

Cranes: Shear Leg; Revolving Cranes

Single or dual crane configurations

Vessel hull types: Pontoon barge; Semi-submersible; Monohull; Jack-Up

Self-propelled or towed.

Use of DP

Barges: 4- or 8-point anchoring systems for station keeping; use of AHTs

Awareness of types of lifting and maximum capacities (latest 20,000t +) and type of units lifted:

Jackets; topsides; pipes; subsea equipment; etc.

Points for describing specific vessels.

Multifunction operations: Pipelaying vessels with large crane capacity/DSV spread/ROV spread

Benefit of large deck space so combined transport and lifting functions can be affected.

Awareness of proliferation of HL vessels in OREI industry over recent years:

Generally lower lifting capacity required than O&G industry (lighter foundations and WTG towers/blades/nacelles etc.

Understand subsea lifting/inter-action of an AHC crane with the vessels

DP system/redundancy (DP2/DP3) and computerised ballasting

systems to maintain the dynamic control of the vessel throughout the operations. (

Question 6.

5 marks each contract/CP

Typical CPs discussed:

Bimco Supplytime 89/2005/2017

Barecon 2001

Norwegian Saleform 2012

Towcon/Towhire 2008

Barge hire 2008

Shipman 2009

Question 7.

Students should explain that Classification Societies produce classification rules regarding the design, construction and survey of ships and understand that Class Notations indicate the specific rule requirements that have been met.

Notations cover:

- (i) Construction
- (ii) Type and service
- (iii) Navigation and operational areas
- (iv) Equipment and systems

Some typical notations should be referenced eg:

1A1, Supply Vessel, SF, TUG, EO, DYNPOS-AUTR, Comf – V (3), Clean Design NAUT OSV (A), DK (+), HELDK, OILREC, ICE (C)

Generally, two marks awarded for correctly identifying and briefly describing each notation up to a maximum of 10.

Question 8.

Students should demonstrate understanding of the operational issues involved:

Need to operate a marine dept. for own fleet.

Own fleet more beneficial if requirements are harder to predict/plan etc.

Economies of scale

Priorities relative to other clients

Size of company/number of installations supported/intervention – Field Development – IRM -

Platform supply

Current market conditions – term and spot

New build costs/delivery times.

Support Base location