



MAERSK
TRAINING

Competence assurance through Offshore training and simulation

By Capt. Tonny Moeller

Maritime

13 October 2010

The existing Anchor Handling simulator

10 years anniversary

- Conducted a total number of offshore related courses (not incl. DP courses) 2000-2009:

234 courses

- Still going strong due to updates and new DP software.
- MT and the Norwegian “Anchor handling operation competency”, (AHOC) have been and are in dialog regarding competence assurance.



AH simulation in Bridge K

The “new” Anchor Handling simulator

Status

Phase #1, completed

→ Vessel models

- Generic DP training vessel
- A-class new building with DP, LOA 90m.
- T-Class new building with DP. LOA 73m
- Developer (DSS21) SEMI new building with DP.
- Tankers R – Jiangnan - B-class
- Container vessels PS class - PM class

New vessels models available in 2-3 months





Phase #1, completed

Functionalities

Main AH functionalities, Chaser, Insert wire, Buoy
Main DP functionalities
Ship Handling offshore vessels
Ship Handling large vessels
Ship Handling Semis
1-4 AH vessels and one rig in one exercise.

Equipment

Electrical winches,
4 drum sizes, from 883- to 18.000 meters 3 inch wire
Wire 50-135 mm
Chain, Poly rope,
Dual Triplex Shark Jaw



Phase #2, completed

→ Hardware:

Installation of Rolls Royce Manoeuvring / Winch chair,

→ Vessel models

Maersk Resilient, Jack Up new building, 350 ft jacking.

→ Functionalities

Towing of Semi Sub and Jack Up

Jacking operation on Jack Up.

Grapnel

J-hook

Torpedo Anchors.

Stew Manta Anchors.

Piggy bag anchors



Phase #3, completed:

→ Hardware:

RRM chair Manoeuvring chair
C-Joy-stick on Bridge D

→ Functionalities

C-Joy-stick on Bridge D with “DP” functionalities”

→ Equipment

Knuckboom Crane for vessels and rigs.





Phase #4, primo 2011:

→ Functionalities

Ploughing, Cooperation with CTC.
Laybarge operations, Cooperation with Saipem.
Denla Anchors.
Student controlled Jacking station for Jack-Up.
Student controlled Anchor winches for Semis.

→ Equipment

A-frame
Hydraulic winches



Possible Training

→ **All:**

DP Basic, DP Simulation, DP refresher, DP Seatime reduction,.

→ **Anchor Handling (AH) vessels:**

AH Basic, Advanced, Special operations
Ship handling with DP
One rig and 4 AH vessel in one exercise.

→ **PSV**

Ship handling with DP

→ **Rig**

Towmaster simulation for both Semi Sub and Jack Ups
Rigmove simulation for OIMs
DP drilling and emergency response
Winch operator



Anchor Handling Operation Competencies

→ Accreditation:

MT has chosen to have Nautical Institute (NI) to accredit our AH courses as independent party.

→ Anchor Handling vessels:

AH Basic, including winch operation training

AH Advanced, including winch operation training

AH Special operation, incl towing of JU and Semi subs

Stability for offshore vessels

→ Deck Crew

Best practice course

→ Rig

Towmaster simulation for both Semi Sub and Jack Ups

Rigmove simulation for OIMs

Winch operator



DP Accreditation, Certification and MT competence assurance

→ The Nautical Institute

- DP Basic and Simulation (Advanced)
- DP refresher and emergency response
- DP Seatime reduction
- AH Basic Course
- AH Advanced Course
- AH Special Operation Course



Future

- Synergy in finding best practice in different offshore operation for the safety of the industry.
- Knowledge sharing in a safe environment.
- Economy in training,
 - Optimization of rig moves
 - Optimization of multi vessels operation
 - Optimization of DP Operations
 - Project Specific Simulator Training
- Simulation of extreme situations without human, environmental or economical risk





Rig:

Leg Extension (L _{EXT}) (m)	RPD _{max}
All leg extension	70mm

Severity Factor	Color
0 < RPD ≤ 75%	Green
75% < RPD ≤ 95%	Yellow
95% < RPD	Red

Future

- Simulation of Rig moves.
- Simulation of tow out and hook up of offshore installations
- “Proof reading” of rigmove procedures by simulation
- Special vessel training requirement
- Wind turbine installation and maintenance,

