



Seminar

New Generation Anchor Handling

For Offshore Fields

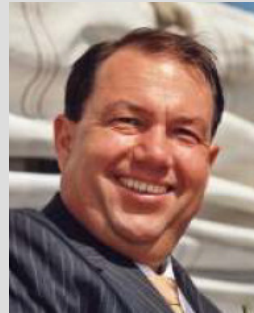
LEARN, UNLEARN & RELEARN
with Mr Bos's leading global expertise

Main topics include:

Anchor handling requires special equipment and skills, not only in performance of the anchor handling operations, but also in preparing the projects.

- **Establish** the best operational practices and methodical approach to the development of new generation Anchor Handling Tugs.
- **Demonstrate** positioning and station keeping.
- **Monitor** stability during anchor handling (the interaction between the towline force, direction of the force, connection point and propulsion power).
- **Accurately** specific control of the loads on winch, stoppers, deck.
- **Understand** environmental conditions and restrictions and learn how to determine the environmental restrictions.
- **Improve** and understand safety and equipment handling.
- **Learn** skills on deck and awareness (on the hazards) emergency and precaution measures.
- **Apply** hydrographic and nautical equipment for heading control and water depth key issues for anchor handling and the consequence for the connections on the FPSO or GBS.

Principal Course Facilitator



Mr A.J. (Ton) Bos
MSc. MBA. Eur.Ing.

Director HMC BV,
Netherlands

- ◇ Master of Science in Naval Architecture and Marine Engineering
- ◇ Master in Business Administration
- ◇ Eur.Ing.
- ◇ More than 30 years of industrial experience
- ◇ Lecturer at Delft University of Technology
- ◇ Worldwide project experience

Seminar Overview

Background

Anchor handling requires special equipment and skills, not only in performance of the anchor handling operations, but also in preparing the projects.

The course gives an overview of the necessary skills, technology and requirements. Hydrostatics, hydrodynamics, hydrography, naval architecture, nautical engineering and safety engineering are the sciences that play an important role in Anchor Handling operations and design of the AHT's, the procedures and connections.

The course will give a practical knowledge of the technologies especially pertaining to Anchor Handling:

- Technical basis of Ocean towing and Anchor Handling
- Safety of towing during tow out, ocean transit, positioning and installation engineering
- Warranty, safety and contingency planning



Registration and information

For more information or registration, please contact one of our offices:

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Day 1

The agenda for day 1:

Introduction into ocean towing and anchor handling:

- Modes of towing
- Special design aspect for Anchor Handling Tugs (AHT)
- Anchor handling operation and requirements for the winches and position of winches and tuggers on: AHT, FPSO and GBS
- Connection methods
- International rules and regulations
- IMO criteria
- Towing equipment
- Failure and effects
- **Case Study:** Accident with the 'Bourbon Dolphin'

Day 2

The agenda for day 2:

Safety of towing during tow out, ocean transit, positioning and installation engineering:

- Bollard pull calculations to meet the international guidelines
- Statistics to estimate the most probable downtime
- Mooring and station keeping of FPSO's and GBS
- Stability especially related to the combined
- Practical Engineering tools (Safetrans, MOSES)
- Case of tow out and positioning of a FPSO and GBS

Day 3

The agenda for day 3:

Introduction into ocean towing and anchor handling :

- How to prepare the necessary manuals for towing, installation and positioning including contingency planning
- Function of the warranty surveyor
 - ◊ Warranty surveys
 - ◊ HAZID / HAZOP
 - ◊ Contingency planning

Who should attend

The course is designed for oil and gas operators, vessel owners and shipbuilders who are involved in anchor handling:

Seminar primarily aimed at:

- Field managers and Superintendents
- Marine Operations managers
- Marine Superintendents and Supervisors
- Marine engineers
- Captains, Masters and Marine officers
- AHTS Deck leaders and Deck crew
- HSE Management and staff
- Emergency response team and medics

Attendees specific to the Oil & Gas industry would include:

- AHTSV Projectmanager
- Oil rig Projectmanager
- FPSO Projectmanager
- Naval Architects
- Marine Representatives
- Offshore Installation managers

Why you should attend

- To ensure that all objectives of the seminar matches yours, all HMC programs are developed after intensive and extensive research within the industry and the trainer's long time professional and practical experience in the field.
- Application and implementation of industry experience and knowledge are the drivers for our course design, not theoretical academic lectures.
- HMC training focuses on practical interactive learning and techniques including case studies, group discussions, scenarios, practical exercises during the course

Case studies & Practical sessions

- Bollard pull calculation for FPSO tow out and positioning
- Procedure for the tow out and positioning of a concrete gravity based structure
- Stability calculations for AHT including green water on deck
- Animation of the accident of AHT
- Deck lay out design, ins and outs and equipment position on deck
- Contents of emergency procedure, HAZID and HAZID exercise
- Anchor handling, retrieval and installation
- Design aspects of winches and connections





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TRAINER PROFILE — Mr A.J. (Ton) Bos

Mr Bos is a highly committed marine consultant, with over 30 years of experience.

He attained the titles Master of Science in Naval Architecture and Marine Engineering, Master of Business Administration and European Engineer. The title of European Engineer is an award for high level of knowledge and practical experience.

In 1978 Mr Bos started as an apprentice at the Wijsmuller Group of companies which is a company renown for salvage and towing. In 1982, he graduated as naval architect and marine engineer from the Delft University of Technology in the Netherlands.

Since 1978 Mr Bos is involved in towing, salvage and heavy transport operations. In 1986, Mr Bos established Hydrographic and Marine Consultants (HMC) as an independent engineering company in the field of offshore transport, towing, salvage and anchor handling. HMC's main services are geared towards improving the safety, quality and efficiency of maritime operations, improving economics of operations and supporting policy decisions.

He has a vast experience as warranty surveyor and has a proven track record as independent marine warranty surveyor:

- Engineering and warranty surveys for ocean towage of floating equipment and 'dry transport' of offshore and industrial plant equipment
- Pre- and post towage inspections
- Condition and suitable surveys
- On- and Off hire surveys
- Issuing of certificates of approval pertaining to the surveys and inspections

Dedicated to sharing his knowledge and experience, amongst others, Mr Bos lectures at the Delft University of Technology, teaches several maritime courses at a Nautical college.

Furthermore, Mr Bos is vice-president of the DNV working group Heavy transport and lift and president of the subcommittee Designers.

Besides Ocean transportation and design, Mr Bos' expertise lies in other marine projects and operations such as:

- Salvage
- Anchor handling
- Towage, positioning and installation of FPSO's and GBS's
- Semi-submersibles
- Jack-up rigs
- Modules
- Float over
- Inclination tests
- Ship recycling
- Model tests—tank tests TU Delft
- Spar
- Topsides jackets
- Launching—Chemical tankers
- Barges

Publications:

- The "Marine Quality Kit", a tool to monitor accelerations, velocities and motions in arbitrary locations on floating objects, A.J. Bos M.Sc. MBA Eur.Ing, Almere, Holland, 6 May 1996. Paper for the Offshore Technology Conference, OTC paper 8161.
- Cursus scheepsbouw voor niet scheepsbouwers, (Course naval architecture for non naval architects), Almere, Holland, October 2000.
- Marine Services Tool based on satellite observations, Project executed within the framework of the NIVR, Netherlands Agency for Aerospace Programmes, RP_A262, NIVR 52302AR, A267, A.J. Bos M.Sc. MBA Eur. Ing. e.a., 11 August 2004.
- "Strain Analyses and Fatigue Engineering in heavy lift transportation and towages (SafePlan)", A.J. Bos M.Sc. MBA Eur.Ing, Hydrographic and Marine Consultants BV (HMC), The Netherlands together with Capt. L.M. Leusink, Fairmount Marine BV, The Netherlands and F.J. Melger, M.Sc., Argoss, The Netherlands; the Netherlands, August 2005; Paper presented during RINA conference on Heavy Transportation, Londen, September 2005
- "Measurement campaign for validating the motion response calculations of heavy transport vessels and fatigue monitoring", A.J. Bos M.Sc. MBA Eur.Ing, Hydrographic and Marine Consultants BV (HMC), The Netherlands, January 2008; Paper presented during RINA conference on Heavy Transportation & Lift, Londen, 27- 28 February 2008
- "Detailed analyses of the tow line behaviour in single, double and triple towages in case of emergency stop and catenary", A.J. Bos M. Sc. MBA Eur. Ing. Director, Research, Development and Innovations, R. Heemskerck D Sc.Product Development HMC, Almere, the Netherlands, Proceedings of the 30th International Conference on Ocean, Offshore and Arctic Engineering OMAE30, OMAE2011 – 50327, June 19-24, 2011, Rotterdam, the Netherlands.
- Influence of ocean transport on the design of onshore and offshore constructions, modules, topsides, jackets and towage on FPSO design", A.J. Bos M. Sc. MBA Eur. Ing. And T.M. Ligterink M Sc. B.Eng., Proceedings of the 31th International Conference on Ocean, Offshore and Arctic Engineering OMAE31, OMAE2012 – 50327, July 1-6, 2012, Rio de Janeiro, Brasil.
- And many more.....





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Track record

Customers:

- Chevron (USA)
- DNV (Norway)
- Dockwise (Worldwide)
- Fairmount Marine (The Netherlands)
- Fairstar Heavy Transport
- Marin (The Netherlands)
- MODEC (Singapore)
- Rockwater (United Kingdom)
- Royal Shell (The Netherlands)
- SBM Offshore (Monaco)
- Tideway (Germany)
- Total (France)

(Above list is only a subset of the complete list of customers)



Projects:

- Chevron / Rockwater (USA): Provision of marine co-ordinator and tow master for the Chevron Alba oil field development, comprising a CDTM pipeline bundle launch, tow and installation and towage of the Alba FSU from NW-Spain to the Alba field plus subsequent FSU hook-up.
- DNV (Norway): Member of hearing committee for new rules and regulations in the field of heavy transport and lift. / Member of the working group of heavy transport and lift.
- Dockwise (Worldwide): Transport engineering and warranty surveys of various tows of different floating objects a.o. floating dry-docks and floating cranes. / Supervision of load out of one tug and one barge onto the semi-submersible heavy lift vessel.
- Fairmount Marine, feasibility study for long haul towage of SPAR buoy of 200 [m]. / Bollard pull calculations for almost all Fairmount tows / After the accident with the Bourbon Dolphin the Norwegian Inspectorate imposed new legislation upon operation with Anchor Handling Tugs (AHT). The rules were worked out for the Sherpa class of AHT
- Fairstar Heavy Transport: Transport engineering Dry-tow from Kakinada to Sharjah for Perro Negro 3. / Transport engineering including fatigue analyses of the transportation of the Halfdan B jacket, piles and pipe crossing bridge. Conducting the load out. / Transport engineering for the transport of the Perro Negro 8 from Visakhapatnam to Sharjah, including conducting the loading operation. / Installation of the MQK and FAMON for fatigue analyses during the transport of Halfdan B Jacket from Shenzhen, China to Halfdan, offshore Denmark. / Transport of Jacket and Topside modules for the Halfdan B field Works included ballast plan for 2 skidding operations onto Fjord and Fjell respectively. Transport engineering, finite element calculations, and fatigue analyses. Whole physical operation was conducted by HMC. / Dredge equipment from Jeddah to Sharjah. Whole physical operation was conducted by HMC. / Transport engineering for the transport of the Perro Negro 3 from Visakhapatnam to Jeddah Whole physical operation was conducted by HMC. / Launching of Chemical Tanker by rolling onto the semi submersible heavy transport vessel Fjell and float off. Works included the engineering for the repositioning of buoyancy casings and obtaining approval thereof from DNV. Whole physical operation was conducted by HMC. / and several other projects.....
- Marin (The Netherlands): Seamanship Support System (SSS). Development of a system supplying essential information and predictions with regard to on line weather forecasts for a specific location; actual weather conditions and vessel motions; relations between weather, governing motions and related phenomena; criteria for maximum allowable motions or related phenomena. This information system combined with the experience of a master or superintendent is to provide a powerful tool to improve safety and efficiency of special transports and operations at sea. /
- MODEC (Singapore): Speed assessment for PSVM FPSO and tow wire catenary and risk assessment / Tow line catenary analyses PSVM
- Rockwater (United Kingdom): Provisions of marine co-ordinator and tow master for the Conoco Heidrun field development CDTM pipeline bundles launch, tow and installation. / Provision of marine co-ordinator and tow master for the Chevron Alba oil field development, comprising a CDTM pipeline bundle launch, tow and installation and towage of the Alba FSU from NW-Spain to the Alba field plus subsequent FSU hook-up. / Provision of marine operation management for the launch, tow and installation of a 5-km long Duplex steel pipeline into Phillips Petroleum's (PPCON) Embla Field, using the CDTM method. Management included planning, estimating, contracting and superintendence of the marine operations.
- Royal Shell (The Netherlands): Installation of wind turbine parks, SafeTrans participation, Towages.
- SBM Offshore (Monaco): Feasibility of the transportation of the Deep Panuka MOPU from various load out port in the Far East and Middle East to NW Europe and from NW Europe to offshore Canada. Transport weight 17000 ton / Feasibility of the transportation of the Mopu Talisman Yme weighing 12000 ton from various load out port in the Far East and Middle East to NW Europe and from NW Europe to offshore Canada
- Tideway (Germany): Provision of operations management, towmasters, launch engineer and surveyors during the launch, tow and installation of the Manslagt Z1 pipeline bundle.
- Total (France): Float-overs and towages of FPSO's (Dalia, Akpo)

(Above list is only a subset of the complete list of projects)

