

PROFESSIONAL RESUME

Frank van Hoorn

EDUCATION / DEGREE

M.Sc. Naval Architecture - University of Technology, Delft, the Netherlands.

CAREER SUMMARY

1992-Present ARGONAUTICS MARINE ENGINEERING, INC, Windsor, Ca, USA
www.argonautics.com

President / Naval Architect

Responsible for the operation of the Company. Argonautics Marine Engineering, Inc. specializes in marine heavy-lift transportation engineering, marine salvage, marine surveys, ship/barge stability and motion response studies, loading and offloading procedures and supervision, structural analyses of cargoes, securing of cargoes, accident and root cause analyses, damage surveys, newbuilding support, etc. A sample of some of the Company's recent activities:

- 2009** Detailed FE analysis of a large floating shear leg crane during dry transport from Korea to Turkey;
- 2009** Survey of stowage and securing of 15 Foster Wheeler modules during an inland tow on river hopper barges, followed by an offshore tow on a large cargo barge from New Orleans to Benicia. Modules were lifted on, transferred with a floating crane, and lifted off and then moved with trailers. Design criteria for the lashings were specified;
- 2009** On-site assistance with the rolling on of the dredge *Sam Houston* onto the *Explorer*, using trailers and locally rented Ro/Ro ramps, which required reinforcing;
- 2009** Pre- and post-launch surveys of a new hopper barge and trip and tow survey for the tow of the barge from Portland to San Francisco;
- 2008** Survey of the tug, barge, crane, and its securings and reinforcements for the relocation of 4 used container cranes by barge from Los Angeles to Jacksonville;
- 2008** Peer review and on-site assistance during the lift test for the temporary catamaran crane barge assembled for lifting the new I35W bridge sections in Minneapolis;
- 2007** Transportation engineering for the T1 footing, transported from Ingleside to Oakland by cargo barge. Engineering included feasibility of barge, detailed design of grillage and seafastening, preliminary load-out calculations, and specification of new quay height required for load-out of footing;
- 2007** Root cause analysis for the collapse of 2 modules during a barge tow from Thailand to Vietnam;
- 2006** Transportation engineering for the two E2 footings, transported from Portland to Oakland by cargo barge. Engineering included feasibility of barge, detailed design of grillage and seafastening, load-out calculations, and on-site assistance during loading and offloading;
- 2006** Transportation engineering for the two Skyway tub sections, each separately transported from Portland to Oakland by cargo barge. Engineering included feasibility of barge, detailed design of grillage and seafastening, load-out calculations, and on-site assistance during loading and offloading, which included a 90 deg rotation on the barge, using trailers;
- 2006** Salvage master for the recovery of a broken hopper barge in the San Francisco Bay. Upon completion of the salvage, a root cause analysis was performed to explain the breaking of a new barge;
- 2006** Detailed engineering for the tow-out of a large semi-submersible, using a cargo barge to lift the unit 3 ft in order to provide clearance under its DP thrusters. Rig was successfully towed out from Ingleside to deep water in April 2006;
- 2005** All engineering for the transport of 2 rubber tire gantry cranes and 2 large forklifts by barge from Long Beach to Seattle. All seafastening structures were designed based on design weather criteria and resulting design barge motions. Ballast calculations were provided for loading and offloading of the units. A FE analysis of the cranes was performed and suitable reinforcements were designed;
- 2004** Superintendent services for the loading and securing in China and offloading in India of two each 4-th generation container cranes, transported by heavy-lift ship;
- 2003** Involvement with the transportation of the 24 deck sections for the new Carquinez suspension bridge from Japan to San Francisco by ZPMC vessels. Design weather criteria was provided for the transports, various heavy-lit ships were compared, including the effect of

- cargo overhang and possible immersion in beam seas, and the IHI calculations were reviewed;
- 2002** Barge selection and all ballast calculations for the lifting and roll-off of the San Francisco 4-th street bridge. On-site support during actual operation;
 - 2001** Design criteria and motions for the transportation of 9 large container cranes from China to Amsterdam, using 3 different ZPMC ships;
 - 1998** Providing superintendent services and supervision of all engineering and preparations related to the mating of the *Molikpaq* gravity base drilling platform onto its new support ring structure at the Daewoo yard in Korea;
 - 1997** Review of the ZPMC transport calculations for the transport of 3 container cranes by heavy-lift vessel from China to Oakland;
 - 1996** Provide complete transport engineering for the transport of a partly disassembled bauxite unloader, transported from central to northern Brazil. Scope included FE analysis of the unloader, design of grillage and seafastenings, and detailed loading, offloading, and re-assembly procedures, including on-site supervision at each end;
 - 1996** Structural analysis of large 1941 built luffing type crane to be transported by heavy-lift vessel from Long Beach to Panama. Detailed FE model was based on survey of the crane which included sizing of all relevant members;
 - 1995** Provide complete transport engineering for the transport of 2 luffing type shipunloaders, transported from Brazil to Chile. Scope included FE analysis of the cranes, design of grillage and seafastenings, and detailed loading and offloading procedures, including on-site supervision at each end;
 - 1994** Failure analysis of shipunloader, damaged during a transport by towed barge from Middletown to San Diego;
 - 1993** Deflection analysis for heavy-lift ship *Este Submerger* loaded with pressure vessels.

1985-1992 WIJSMULLER TRANSPORT B.V., IJmuiden, the Netherlands (now **DOCKWISE**).

1990-1992 General Manager Research and Development

Responsible for the engineering for complex transports. Provided on-site assistance during critical marine operations. Initiator of a study on the correlation between the predicted environmental conditions and corresponding design motions and the actual encountered environmental conditions and experienced vessel motions.

1986-1990 Manager Research and Development

Responsible for expanding the use of the ships for alternative activities, such as transportation and launching of jacket structures, in situ dry docking of (damaged) rigs and ships.

1986-1990 Manager Research and Development cont.

Responsible for the engineering and on-site operational assistance for the more complex transports. Responsible for the development of the inhouse suite of operational software for assessment of transport feasibility as well as final Transport Manual calculations. Suite includes programs to calculate the loading condition, design environmental criteria, vessel motion responses, transport forces, seafastening loads, cribbing pressures, slamming, etc. Responsible for educating the marine and offshore industry on the possibilities of the heavy-lift vessels by means of presentations and papers.

1985-1986 Project Manager

Responsible for feasibility studies (including model testing), final calculations and approval by Clients and Marine Warranty Surveyors of exceptional heavy-lift transports by means of the Company owned self-propelled semi-submersible ships.

1983-1985 WIJSMULLER ENGINEERING B.V., IJmuiden, the Netherlands.

Project coordinator

Involved in ship design, ranging from small pilot boats to multi-purpose harbor tugs. Provided consulting services to the Salvage Division and the Transport Division, including engineering assistance for the more complex heavy-lift transports. Prepared and gave inhouse courses on stability and motion responses of heavy-lift barges and ships.

PROFESSIONAL AFFILIATIONS

Member of the Society of Naval Architects and Marine Engineers (SNAME)