

RESUME

Frank van Hoorn

EDUCATION / DEGREE

MSc Naval Architecture - University of Technology, Delft, the Netherlands, 1983.

CAREER SUMMARY

1992-Present **ARGONAUTICS MARINE ENGINEERING, INC**, Windsor, Ca, USA
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 past activities:

- 2017** Review engineering documents and on-site survey of seafastening of three ZPMC STS container cranes to be transported from Shanghai to the Port of Houston;
- 2016** Review of design details and providing preliminary motions and pile loads for the new WETA maintenance pier floats in Alameda;
- 2015/16** Responsible for the project management and related to the dry transport of the Statoil *Gina Krog* modules by module carriers *Mega Caravan* and *Mega Caravan 2* from Korea to the North Sea;
- 2015** Provided motion simulations for the SpaceX autonomous drone barge *Off Course I still Love You* used for landing of the first stage of the rocket;
- 2013/14** Responsible for the project management and engineering related to the dry transport of the Chevron *Wheatstone* SGS by heavy-lift ship *Mega Passion* from Korea to Australia;
- 2014** Provided engineering for the seafastening for the relocation by barge of 2 Kocks cranes from Savannah to Port Canaveral. Provided ballast plans and on-site ballast supervision during loading of the cranes;
- 2013** Reviewed the ballast procedures and provided on-site assistance during the ballast trials of the MLP-1 USNS *Montford Point*;
- 2012** Design the support cribbing arrangement and seafastening arrangement for the relocation by barge of two harbor tugs from San Francisco to Seattle;
- 2012** Provided the engineering for the transport of four barge loads of coated pipe sections between various ports of the US Gulf;
- 2011** Provided all naval architecture calculations for all marine equipment involved in the construction of the Lake Champlain replacement bridge. Stability of various sectional barges, loaded with crawler cranes was checked with the anticipated lifts;
- 2011** Review of procedures and on-site surveys for the seafastening and barge tow of the *Corocoro* CPF deck from the fabrication site to the mating site offshore Venezuela;
- 2010** Provided all engineering and on-site assistance required for the transport by barge of two used low-profile cranes plus four rubber tire gantry cranes from Oakland to Boston. FE analysis was used to check the crane structures and design the seafastening bracings;
- 2010** Review of procedures, vessel approval and on-site surveys for the transport of jumpers with supply vessels from the jumper assembly site to offshore Ghana;
- 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;
- 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;
- 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 degrees rotation on the barge, using trailers;
- 2006** Detailed engineering for the tow-out of the large semi-submersible *Development Driller I*, using a cargo barge to lift the unit 3 ft 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 two rubber tire gantry cranes and two 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;
 - 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-lift ships were compared, including the effect of cargo overhang and possible immersion in beam seas, and the IHI calculations were reviewed;
 - 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;
 - 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 two luffing type ship unloaders, 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 both ends;

1985-1992 **WIJSMULLER TRANSPORT BV**, IJmuiden, the Netherlands

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. 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 BV**, 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.

SOFTWARE CAPABILITES

Experienced user of MS Office Suite, MS Project, AutoCAD, MOSES, HECSALV, FEMAP/Nastran, SACS.

OFFSHORE SURVIVAL TRAINING

Completed the OPITO approved 3-day Basic Offshore Safety Induction & Emergency Training (BOSIET), including HUET and EBS at the Maritime Safety Training Center in Lafayette, LA. in 2011. Completed the 1-day Refresher Course in Houston, TX. in 2015.

PROFESSIONAL AFFILIATIONS

Member of the Society of Naval Architects and Marine Engineers (SNAME) since 1987.