ARGONAUTICS
MARINE ENGINEERING, INC

specialists in marine heavy-lift transportation engineering
marine surveyors
naval architects

INTRODUCTION

Argonautics Marine Engineering, Inc. is a marine consulting company specialized in marine heavy-lift transportation engineering. It offers an exceptional mixture of engineering analyses and hands-on field experiences to organizations and companies involved in the design, construction and operation of ships, barges, and offshore structures, as well as to cargo owners, warranty surveyors, legal firms, etc. The company was founded in 1992 by Frank van Hoorn, a naval architect involved in marine salvage, ship design, and heavy-lift transportation since 1982. The company is incorporated in the state of California.

THE COMPANY MISSION

We strive to set higher standards in marine heavy-lift transportation. It is our objective to:

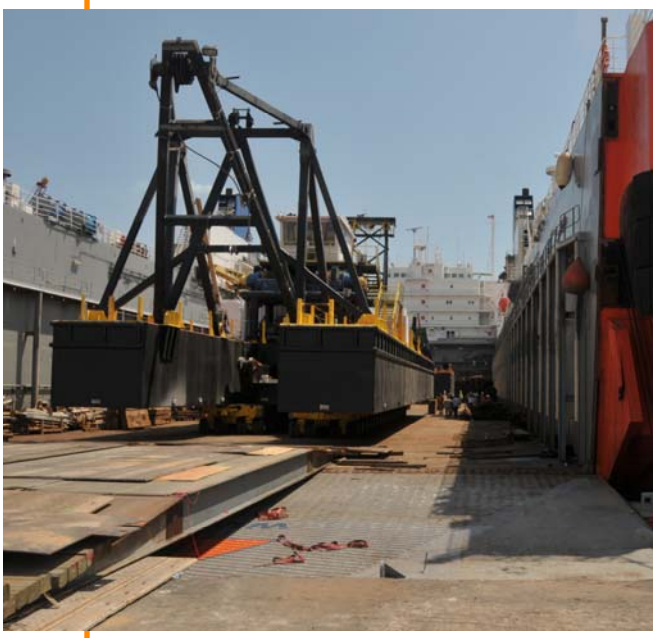
- Provide the highest quality of service at a competitive price;
- Deliver engineering results on time and within budget;
- Do things right - the first time;
- Offer innovative and practical solutions to reduce our client's overall cost;
- Utilize our extensive field experience and knowledge to expand the capabilities of our client's equipment;
- Minimize risks and safeguard the safety of all personnel and equipment throughout all phases of the project.

COMPANY PROFILE

Argonautics Marine Engineering, Inc. combines the classic art of naval architecture with modern computer technology and offers a unique mixture of theoretical know-how and extensive hands-on field experience, often resulting in very practical solutions. The company is flexible and can often be quickly mobilized for immediate problem solving or on-site assistance.

CLIENTS

We have been providing a wide range of services to the marine industry since its inception in 1992. Clients represent shipping, oil, drilling and engineering companies, surveyors, contractors, equipment manufacturers, law firms, and naval establishments from all corners of the world.



SERVICES

Our services are offered worldwide and range from theoretical desk-top studies and forensic analyses to on-site surveys and supervision of marine operations, such as cargo loading, cargo offloading, and barge surveys. These services encompass, but are not limited to:

- Heavy-lift transportation engineering;
- Feasibility studies;
- On-site support during marine operations;
- Legal engineering and support;
- Structural (FE) analyses;
- Marine salvage;
- Surveys;
- Training;
- Seminars;
- Other services.

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HEAVY-LIFT TRANSPORTATION ENGINEERING

Argonautics Marine Engineering, Inc. is specialized in marine heavy-lift transportation engineering. Some of the services offered in this field are:

- Marine transportation feasibility studies;
- Preparation of complete Transportation Manuals, including documentation of:
  - vessel/barge suitability study;
  - stowage arrangements;
  - deck strength verification;
  - stability calculations;
  - design environmental criteria;
  - design motion and acceleration calculations;
  - grillage/cribbing arrangements;
  - seafastening arrangements;
  - loading and offloading procedures.
- Structural (FE) analyses of cargoes subjected to dynamic forces during transportation;
- Time domain analyses of non linear processes;
- Review of loading and offloading procedures;
- Site surveys for suitability of proposed loading or offloading operations;
- Specification of model testing and on-site assistance;
- Longitudinal bending of vessel/barge hull in still water and waves.

ON-SITE SUPPORT DURING MARINE OPERATIONS

Our services can be provided worldwide on-site. Such on-site services include, but are not limited to:

- Supervision of loading and offloading of heavy cargoes, including:
  - site surveys to verify suitability for proposed operations;
  - supervision of ballast operations;
  - supervision of seafastening operations;
  - coordination of the various on-site activities;
- Surveys of damaged heavy-lift cargoes;
- Survey of (older) heavy-lift cargoes to be moved;
- Training of local crews for complicated ballast operations;
- On-site assistance during marine salvage operations;
- Facilitate HAZOP/HAZID sessions for critical marine operations.

LEGAL ENGINEERING AND SUPPORT

Argonautics Marine Engineering, Inc. can provide legal assistance for court cases and arbitrations. Services offered include:

- Root cause analyses of accidents;
- Accident reconstruction engineering;
- Review of the case documentation;
- Rule 26 reports;
- Expert witness testimonial.

MARINE SURVEYS

Argonautics Marine Engineering can provide cargo surveys, on– and off-hire surveys, and marine warranty surveys worldwide.

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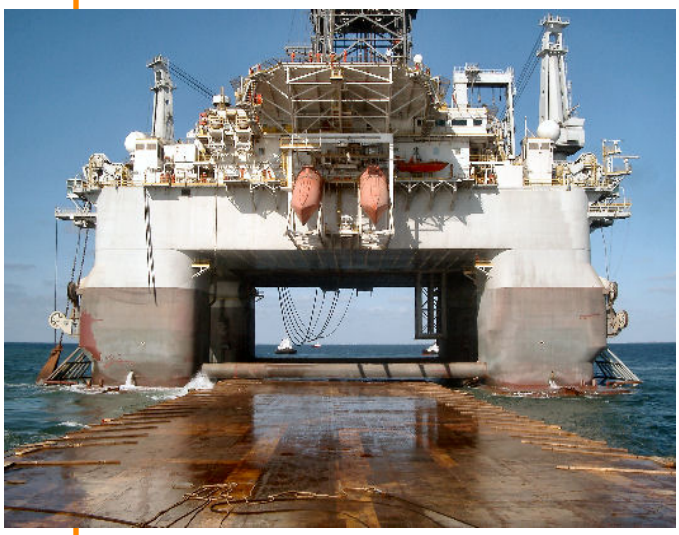
MARINE SALVAGE

Argonautics Marine Engineering, Inc. provides a number of services to the marine industry, including marine salvage. We can provide both in-office engineering and on-site assistance for marine salvage operations and wreck removals. Computer models of the casualty can be made and step-by-step simulations of the salvage operation can be performed. Salvage services offered include:

- On-site survey of the casualty;
- Estimation of forces required to re-float or upright a stranded or capsized vessel;
- Check stability at all phases of re-floating;
- Structural analysis of the damaged hull;
- Design of special attachments for the salvage operation;
- On-site assistance during the actual salvage operation.



OTHER SERVICES

We also offer the following services:

- Structural analyses of cargoes subject to vessel motions and consequent design accelerations;
- Stability analyses;
- Motion response calculations (freq./time domain);
- Barge and vessel deflection analyses;
- Detailed loading and offloading procedures;
- Lightship surveys and inclining experiments;
- Tow procedures, preparations, and surveys.

CONTACT US

Argonautics Marine Engineering, Inc. is based in the San Francisco greater bay area. For more information on the company or for specific project inquiries, please check our web site or contact us at our of-

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