

CHRISTOPHER D. BARRY, PE

SUMMARY

Mr. Barry is an experienced naval engineer who has over the years gained extensive experience in the maintenance, overhaul, acquisition, design and construction of commercial and military ships and boats, offshore oil platforms and other floating equipment. He has handled matters that pertained to shipyards including but not limited to ship tests and inspections, as well as working with shipyard trades to develop design solutions, and performing and witnessing dockside and underway trials. Mr. Barry is well versed in the areas of hydrostatic, structural, hydrodynamic and mechanical engineering analyses of resistance, motion RAOs in waves, mooring systems, maneuvering, propulsors, stability, strength, and mechanical systems of cutters and boats including high speed planing craft, semi-displacement craft and displacement vessels. Mr. Barry's expertise also includes matters involving Corrosion, Welding, Rapid Field Response and New Vessel Capital Acquisitions. Mr. Barry has over the years gained certain skills for the effective management, budgeting and development of projects, including the handling of employees/contractors and the development of proper policy procedures, recommendations and quality assurances.

EDUCATION

Bachelor of Science in Mechanical Engineering/Naval Architecture – University of California, Berkeley; 1974

REGISTRATIONS & CERTIFICATIONS

Registered Professional Engineer:

- California #18536
- Maryland #41778
- Washington State #27127

PROFESSIONAL ASSOCIATIONS

Society of Naval Architects and Marine Engineers (SNAME); Fellow

- Chair: Small Craft Technical and Research (T&R) Committee
- Member: T&R Panel EC-15, Blue Economy
- Member: T&R Panels O-36, Ship Economics; O-51, Ferry and Marine Highway, SD-3, Stability, Professional Licensure Committee

American Boat and Yacht Council

NACE International (The Corrosion Society)

CONTINUING EDUCATION

Additional courses and certifications completed in the following areas:

- Contracting Officer's Technical Representative Certification: Defense Acquisition University
- Proposal Evaluation, Source Selection: George Washington University
- Specification Development: Fisher Maritime
- Proposal Preparation: Beveridge Assoc.
- Shipboard Corrosion Assessment Training (S-CAT) and certification: NACE International
- Federal Procedures and Ethics Courses, including DHS Emergency Response, Continuity of Operations
- Post Graduate Course in Finite Element Analysis: University of CA, Berkeley Extension
- ISO 9001 Implementation
- Human Factors Engineering (Coast Guard)
- Standards Technician: ABYC
- Vocational Welding Technology (two years, evenings): Laney CC, 900 Fallon St Oakland CA 94607
- Software applications courses in FEA structural analysis (MAESTRO, ALGOR, ANSYS) and MathCAD
- Admiralty Law for Marine Professionals: University of Washington Extension

- Level 1 Boating Accident Investigation (NASBLA)

CAREER HISTORY

FORCON international – Naval Architect Consultant

Conducting forensic investigations and expert witness services as it relates to his areas of expertise.

U. S. Coast Guard Surface Forces Logistics Center – Senior Naval Architect

Performed design, analysis, contract and technical management tasks in support of aluminum and steel boats and cutters involving hydrodynamics, hydrostatics, NAVSEA mooring systems, structure and mechanical engineering. Supervised cutter weight and stability, as well as salvage and damage control software databases and stability tests. Developed Computer Aided Lofting/Numeric Controlled Cutting system for Coast Guard YARD and trained YARD staff. Member of ISO 9001 Implementation Team. Developed Owner's Requirements Documents, specifications, technical evaluations, cost negotiations, Engineering Change Proposal negotiations and claim rebuttals for major boat and cutter acquisition programs. Member of several acquisition Technical Evaluation Teams, and acquisition Subject Matter Expert on others. Provided engineering support to acquisition Project Resident Offices, reviewed drawings, calculations and conducted tests and trials. Developed statements of work, evaluated proposals and provided engineering and design support for fleet support Engineering Changes (ShipAlts and BoatAlts) including vessel configuration management. Investigated accidents. Managed and participated in hydrodynamic model tests and research; projects included ship motions simulation software validation, RAO development, and hydrodynamic efficiency improvements. Boat Engineering Branch (ELC-024) Technical Team Lead / Acting Branch Chief, supervising, mentoring and providing technical guidance and workflow management for seven civilian engineers and technicians, and three senior enlisted military.

Munson Manufacturing – Chief Naval Architect

In charge of all design and engineering tasks for a builder of aluminum high-speed commercial and military boats including fast ferries, oil spill recovery vessels, and Navy and Coast Guard patrol boats. Responsible for all engineering tasks, supervised design and engineering staff. Developed and implemented Computer Aided Lofting/Numeric Controlled Cutting hull manufacturing system and trained staff in its use. This system increased profits by 300%. Developed more than 16 complete boat designs in one year, including CNC code.

Elliott Bay Design Group – Senior Naval Architect

Engineering support of various projects in support of ferry, tug, merchant ship, fishing vessel and yacht newbuilding and modification. Projects included ferry design, upgrade, and stability studies, proposal preparation, supertanker structural modification, design and stability analysis tasks for fishing vessels, tug, freighter, and excursion passenger vessels, contract designs and proposals for research vessels and patrol craft, lines fairing and numeric lofting for steel, aluminum and Fiber Reinforced Plastic (FRP) ships, super yachts and working and recreational boats.

FMC Corp. (Ground Systems Division) – Principal Engineer/Naval Architect

Responsible for all naval architecture and hydrodynamics for amphibian and swimming armored vehicles (Bradley M2/M3, AAV7A1, LAV-AD, M113A1, AFAS) including development of High Water Speed Test Bed/AAAV for U.S. Marine Corps. Tasks included concept and detailed design development, vendor interface, proposal preparation, hydrodynamic model and full scale testing, fluid flow analysis; and hydrostatic, hydrodynamic, and infrared signature simulation software development.

Arneson Marine Inc. – Applications Engineer

Responsible for marketing, analytic and design tasks in support of application of innovative surface piercing high-speed marine drive systems to high-speed ferries, military, and recreational vessels. Tasks included certification liaison with ABS, DnV & Lloyds Register, development of hydrodynamic computer programs.

Harborside Marine (formerly Lee Engineering Corp.)

- **Chief Engineer (Harborside)** – Responsible for all engineering and design tasks in support of newbuilding in FRP and repair/renovations in FRP, steel, aluminum and wood to vessels up to LCM-8 class for U.S. Navy, U.S. Coast Guard, and various fishing/utility work vessels and fiberglass recreational boats including tooling

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design. Responsible for design and installation of floating marina and dock structures in Mexico and the U.S. Responsible for Coast Guard recreational boat safety test program.

- **Vice President of Engineering (Lee)** – Responsible for all engineering for marine projects in ship design firm. Projects included: Coast Guard recreational boat safety certification (33 CFR 183) survey program; preliminary design and initial drawing package for Navy 42PRMK4 aluminum aircraft rescue boat; design of a 65' catamaran passenger vessel; renovations of debris boats and tug for Army Corps of Engineers; design of various modifications to Matson containership Lurline; sail and motor recreational vessel designs; and Navy Ship Selected Records maintenance support. Supervised 13 engineers and technicians.

Earl & Wright, Consulting Engineers, Inc.

- **Naval Architect** – Project responsibility for hydrodynamic, hydrostatic, upending and stability, seakeeping, offshore mooring, ice force, structural and fatigue analyses and software development in support of domestic, international and Arctic offshore oil projects. Alexander Kielland; forensic analysis of accident; North Rankin platform; installation design tasks for platform, flare tower; SEDCO 711 class; hydrostatics, motions; Claymore North Sea FPP; hydrostatics, motions, API RP multi-point mooring system analysis; SEDCO Staflo improvements to semisubmersible seakeeping; J class semisubmersible rigs; fleet support for fatigue, motions, hydrostatics; Other: computer simulation of offshore construction projects including hydrostatics, strip theory motion analysis and CFD motion analysis; Kulluck arctic drill barge; project naval architect for ice-breaking, designed API RP multi-point mooring system for ten foot ice ridges, open water motions prediction, ice breaking model tests. Supervised three engineers.

Joint Venture Project with John Brown in the United Kingdom, acted as Senior Naval Architect –

Project responsibility for analysis of hydrostatics, stability, seakeeping and various hydrodynamic analyses in support of North Sea offshore oil projects. Tasks included: survey of UK DoEn research for regulations; owner liaison support, weight control and float-out for SEDCO 713; upending and transport motion RAOs of North Alwyn B jacket and modules; mating sealoads for Beryl B, Thomeliten and Norske Hydro Waterflood jackets and subsea templates; proposal support, CONOCO TLP; and development of various hydrodynamic simulation computer programs.

Morris Guralnick Associates – Naval Architect/Marine Engineer

Performed various design and analysis tasks in naval and maritime ship newbuilding, modification and renovation included hydrodynamics, deepwater mooring, stability, inclining tests, heat balance, piping design, structure design and analysis and hydrodynamics. Projects included tasks on floating energy production platform OTEC EOTP 1MWe, research vessels, commercial tankers, Navy combatants, Navy fleet combat support ships, cable layers, cryogenic liquid carriers, dry dock certifications, tugs, motor yachts and sailing yachts.

SPEAKING ENGAGEMENTS

Guest lectures and mentoring to Naval Academy naval architecture major cadets in Capstone team ship design projects.

E-Marine Training Brooklin, ME: Instructor/Developer, on-line propeller matching course.

Bay Area Marine Institute Pier 66 San Francisco CA: Volunteer instructor in lofting, structure, and naval architecture.

PATENTS

US Patents No. 4,974,539 “*Integrated Propulsion ... System*”; 5,134,954 “*Asymmetric Hydrofoil...*”; 10,184,445 “*Linear Array of Wave Energy Conversion Devices*”

PUBLICATIONS

“*Beyond Matching: Notes On Small Craft Propulsion Applications*”, 1st IBEX Symposium 2019, SNAME, Sept. 2019

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"On the Design and Construction of Military and First Responder Aluminum Boats", MACC 2018, Baltimore MD, July 2018

"Opportunities for Marine Sequestration of Carbon Dioxide", IMAREST / SNAME New York Section, March 20 2018

SNAME Chesapeake Section, December, 2018

"Matching Small Craft Propellers: A Short Workshop", IBEX / SNAME Super Session (one day course), Tampa FL, Oct. 2, 2016

"Some Notes on Aluminum ... Design and Construction", 5th Chesapeake Power Boat Symposium, Annapolis MD, June 2016

"Forensic Engineering ... PWC Off-Throttle Steering Accidents", NAFE Winter Meeting, Tampa FL, Jan 2016 (co-author)

"Adsorbed Natural Gas; What Is It ... ", NTRB 96th Annual Meeting, Jan 2016

"An Overview of Wave Energy Conversion", WMTC, Providence R.I., SNAME, Nov. 2015 (co-author)

"Naval Ship Structure Service Life Considerations", Fleet Maintenance and Modernization Symposium, Virginia Beach VA, 2015; Naval Engineer's Journal, Sept 2015, ASNE, (co-author)

"Designing and Testing for Stability: ... Powerboat Designs", IBEX / SNAME Super Session (one day course), Tampa FL, Sept 29, 2014

"Comparison of Stability Standards for Military, Paramilitary and Other First Responder Small Craft" (co-author); Short Course: "Propeller Matching for Small Craft", 4th Chesapeake Power Boat Symposium, Annapolis MD June 2014

"Adsorbed Natural Gas: ... Marine Industry", Global GreenShip 2013, Washington DC, Sept 2013"

"The San Francisco 'Monterey Clipper' Fishing Boat: A Small Appreciation", SNAME Annual Meeting, Providence RI, 2012

"Evaluation of High-Speed Craft Designs for Operations in Survival Conditions", (co-author);

"Composite Techniques ... Yacht Construction...", 3rd Chesapeake Power Boat Symposium, Annapolis MD June 2012

"Carbon Sequestration Facilities", Offshore Alternatives 2012, Washington, DC

"Stability Standards ... Military ... Small Craft", Multi Agency Craft Conference, Little Creek, VA, June 2011 (co-author)

"On the Stability of Powerboats", 2nd Chesapeake Power Boat Symposium, Annapolis MD Mar 2010

"An Overview of Ocean Renewable Energy", SNAME Website Featured Paper, June 2010 (co-author)

AWARDS AND RECOGNITIONS

U.S. Coast Guard Meritorious Team Commendations, Flag Commendation Letters, Spot Cash Awards, Quality Step Increases.

FMC Technical Innovation Award, Society of Naval Architects and Marine Engineers 1997 Elmer Hann Award (Ship Production)