

EDUCATION

1983 **Bachelor of Science in Naval Architecture**
University of California, Berkeley, California

EXPERIENCE

June 2016
to Present **Engineering Design & Testing Corp.**
Oakland, California

Consulting Engineer & Assistant Vice President / Naval Architect

Investigation of incidents involving commercial systems, industrial, and marine equipment. Damage evaluation and assessment. Project Management. Condition assessment of structures and machinery. Root cause investigation and analysis of mechanical damage to elevators, conveyors, generators, boilers, piping systems, ventilation, construction components, and materials, including fracture and failure analysis. Evaluation of appliances for material defects from manufacture. Vibration analyses of machinery and foundations. Preparation of repair and replace cost estimates. Specialized consulting in the evaluation and inspection of ship construction, stability, propulsion, ballast water treatment, vibrational analyses, and ship motion. Application and interpretation of international (International Maritime Organization (IMO), class society, and flag state), United States Coast Guard (USCG/CFR), and regional regulations/guidelines. Cargo loading plan review and verification. Cargo damage examination. Assessment and evaluation of photovoltaic installations.

Lead consulting engineer for Finite Element Analyses (FEA) at the Computational Analysis Hub of EDT. Capabilities: production of Computer Aided Design (CAD) models for analysis; static and dynamic load analyses; linear and non-linear material response; shock, impact, and impulse analyses; thermal stress and shock analyses; and vibration mode analyses.

January 2008
to May 2016 **Cobham SATCOM, Maritime Products (Sea Tel brand)**
Concord, California

Mechanical Engineer III

Projects included the analysis of acceleration data from antenna installations to explain damage. Antenna stabilization machinery design including analysis of joints and motion damping. Maintained corrosion test chamber (Singleton Model SCCH-22) and conducted corrosion tests of aluminum, stainless steel, and steel with various coating systems. Preparation of antenna installation guidelines, environmental testing of antenna systems, and the repair and upgrade of hydraulic hexapod motion simulator. Subject matter expert for ship motions, maritime electronic and electrical standards, and corrosion effects. Created environmental test plans in accordance with IEC 60068 for compliance with IEC 60945 and Mil-Std-810.

September 2004
to May 2016

**Lindholm Engineering Consultants
Concord, California**

Principal Engineer

As an independent consultant, provided Naval Architecture and Mechanical Engineering services to industry and government. Projects include analysis of environmental test specifications for electronics to assist testing of marine antennas, packaging design for water filtration equipment, finite analysis of lattice crane, proposal for use of a novel water filtration system for ballast water treatment, inclining experiments of USCG High Endurance Cutters, cargo damage surveys, machinery damage surveys, design of oily water treatment installation and design of ballast water segregation system.

February 1991
to September 2004

**Det Norske Veritas
Various Locales**

Station Manager and Senior Surveyor II (San Francisco, California)

Financial and operational oversight office activities in Northern California, Nevada, Utah, and Hawaii. Inspection, certification and test of diesel engines, generators, electric motors, switchgear, pumps, steam turbines, power boilers, heating boilers, valves, and materials. Damage assessment and repair oversight. Principal-in-charge of reflagging a passenger ship to U.S. flag. Principal-in-charge of reflagging a high-speed ferry to U.S. flag. Review, inspection and certification of elevators, pipe handling equipment, welding procedures and welders, cryogenic gas pumps, computer-controlled dynamic positioning systems, oil rig mooring equipment, and turbo-expanders. Safety/construction inspections of tankers, bulk carriers, container ships, yachts, passenger ships, and other ship types.

Surveyor II (Rotterdam, Netherlands)

Responsible for safety and construction inspections of ships. Subject matter expert on USCG regulations for Vapor Collection Systems (46 CFR 39).

Surveyor II (Houston, Texas)

Projects include safety and construction inspections of general cargo, bulk cargo, oil tanker, chemical tanker and liquefied gas tanker ships; certification of modifications to comply with USCG Vapor Collection System regulations; certification of installation of Global Maritime Distress Safety Systems (GMDSS) under SOLAS Part III; structural assessment of RO/RO cargo ship for U.S. reflagging; and certification of materials and components.

September 1989
to January 1991

**Ocean Systems Engineering (Oceaneering International)
Houston, Texas**

Senior Engineer

Managed the design and fabrication of tools and work packages for underwater Remotely Operated Vehicles (ROV). Provided preliminary design and cost estimates for proposals and Requests for Quotations. Acted as support engineer during testing of underwater trenching system delivered to Pacific Bell.

November 1987
to September 1989

**Civil Engineer Support Office, Construction Battalion Center
Port Hueneme, California**

Materials Engineer

Developed, reviewed, revised, and managed product purchase specifications for the U.S. Naval Facilities Command and the Construction Battalion - 'SeeBees.' Specific products include oil isolation booms; mooring bits, cleats, and chocks; steel sectional pontoon; anchors; and fenders.

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- December 1985
to July 1987
- AMETEK Offshore Research and Engineering Division**
Goleta, California
- Systems Engineer*
- Projects included principal design engineer for a towed underwater diver training platform, project engineer for an underwater submersible launch/recovery mechanism, hydrodynamic analyses of forces on towed underwater structures at 3 knot operational speed, hydrodynamic analyses on free-flooding submersible to validate test results, and stability/propulsion design of a free-flooding submersible.
- December 1984
to September 1985
- IMODCO Marine Engineering**
Los Angeles, California
- Naval Architect*
- Finite element analyses of foundations, mooring, and under-deck support for conversion of an oil tanker to a Floating Production, Storage and Offloading (FPSO) barge. Survey of candidate ship at shipyard to evaluate required repairs/conversion.
- September 1982
to November 1984
- Todd Pacific Shipyard**
San Pedro, California
- Junior Marine Engineer*
- Projects include design and analysis of steel supporting structural system to stabilize Destroyers and Frigates during elevation by new dry-docking system (Syncrolift™); structural analyses of various lightweight stiffened plate bulkhead systems; assisted in preparation of new Destroyer (DDG-51) construction bid response; and acted as engineering liaison to shipyard shops.

EXPERIENCE

Naval Architecture / Marine Engineering Investigations (partial list)

Vortex Marine Construction – Derrick Barge Sinking, Oakland, California

Determined the sequence of events leading to the sinking of a derrick barge in the San Francisco Bay and oversaw the salvage of the barge.

Summit Materials – Sand Dredge Foundering, Hendrix, Oklahoma

Analyzed claim receipts for fair and reasonable costs to recover foundered dredge. Researched available replacement dredges and estimated fair market value of foundered dredge.

Emir Avinon – Powerboat Sinking at Dock, Waukengan, Illinois

Determined cause of powerboat sinking while moored in a slip during diesel engine servicing while vessel was unattended.

Matson Lines – Fractured Twist-Locks, Oakland, California

Evaluated and determined cause of twist-lock fractures resulting in the loss of containers overboard at sea.

Naval Architecture / Marine Surveys (partial list)

Mærsk Shipping – Mast Damage, Oakland, California

Examined the extent of damage to the fore mast of a containership due to impact from a container crane.

Aalmar Surveys, Inc – Pre-purchase Survey, Richmond, California

Carried out a condition survey prior to potential purchase of an ungeared bulk carrier. Condition survey included machinery condition, hull condition including holds and ballast tanks, review of records, and accommodation condition.

Agrico Sales – Cargo Securing, Portland, Oregon and Vancouver, Washington

Reviewed cargo securing plans for grain loading equipment transported on barges. Surveyed securing arrangements for compliance with plans and industry practice.

Markel / Nationwide – Rental Watercraft Condition Evaluation, Various Locales

Examination of personal watercraft (PWC), ski boats, and pontoon boats involved in drownings or injury. Functional testing to rule out mechanical or maintenance issues as the cause.

Various Private Parties – Hull Ultrasound Gauging, Various, California

Thickness gauging of steel and aluminum yacht hulls using an ultrasonic thickness measuring instrument.

UK Mutual Steamship Assurance Association – Cargo Hold Fire, 'TOMINI LIBERTY,' Veracruz, Mexico

Survey of cargo hold and cargo of paddy rice to determine cause of grain fire in the hold after fumigation. Reviewed fire extinguishing efforts for proper mitigation of loss.

Private Party – Pre-Sale Condition Survey, M/V 'SACAJAWEA,' Oakland, California

M/V 'SACAJAWEA' is a 1934 built, converted river survey vessel. Conducted internal condition survey, machinery survey, and underwater hull examination using a drone ROV.

Mechanical Investigations (partial list)**Anchor Brewing Company – Damage to Mash Tun, San Francisco, California**

Determined cause of damage to recently installed mash tun for distilling line.

Kaiser Aluminum – Damage to Transfer Furnace, Los Angeles, California

Scope of damage, cause of damage, and cost to repair estimates for a molten aluminum transfer furnace.

TLC Child & Family Services – Damage to Fire Pump Engine, Sebastopol, California

Determined cause of damage and scope of repair to a fire pump diesel engine after routine testing of the engine.

Scuba Hut – Above Ground Pool Collapse, Chico, California

Determined cause of the collapse of custom above ground pool during initial filling.

Clean Focus – Photovoltaic Cabling Damage, Adelanto, California

Determined cause of damage to photovoltaic cabling resulting in loss of power and damage to inverters downstream at a utility level photovoltaic facility.

Travelers – Damage to Diesel Driven Electric Generators, Various Locales

Determine cause of damage, scope of damage, and options for repair to stand-by diesel engine driven electric generators. Evaluated generator sizes from 250 kilowatts to 3 megawatts.

Yavapai Regional Medical Center – Leakage from Fuel Storage Tank, Prescott, Arizona

Determined cause for overflow from diesel engine driven emergency generator day tank due to controller programming error.

Land O'Lakes – Damage to Natural Gas Fired Boiler, Tulane, California

Determine cause of steam generating pipe fractures and leakage within a natural gas fired boiler due to poor water chemistry and improper flame adjustment after repairs.

Google – Reoccurring HVAC Fan Damage, *Mountain View, California*

Determined cause of reoccurring damage to HVAC fan bearings after maintenance at four (4) buildings within an office campus. Vibration analysis of fans to determine cause.

State of California – Faulty Sliding Gates, *Crescent City, California*

Determined cause and suggested remediation for faulty operation of sliding vehicle gates at the recently constructed Highway Patrol station in Crescent City, California.

Grosvenor USA Limited – Fire Sprinkler Release, *San Francisco, California*

Determined cause of unintended release of heat activated sprinkler in commercial building. Solder type pendant sprinkler released due to ‘solder creep’ in heat cup.

Besse Forest Products – Wood-fired Boiler Explosion, *Rice Lake, Wisconsin*

Determined cause of an explosion within the firebox of a wood-fired boiler. Assisted in claim analysis and researched repair/replacement costs.

Nor-Cal Beverage – Bottling Valve Malfunction, *Anaheim, California*

Determined the cause of a two-way bottling valve malfunction leading to contamination of packaged beverages at a bottling plant.

City of Sacramento – Cooling Tower Vibration Studies, *Sacramento, California*

Pre-and post- modification vibration analyses of the isolation mounting for cooling towers to document changes in transmitted noise into the building structure at a convention center. Power Spectral Density analysis of vibration recordings to illustrate key harmonic frequencies.

Thermalsun – Glass Furnace Overheat, *Santa Rosa, California*

Worked with tempered glass manufacturer to determine cause for a newly installed tempering furnace underperforming and becoming damaged from excessive burner heat. Explored air flow issues and localized overheating from incorrectly sealed forced draft fans.

FM – Water Release from Water Source Heat Pumps, *Berkeley and San Francisco, California*

Determined causes of water release from two different brands of water source heat pumps (WSHP). Suggested additional modifications to the insured to prevent re-occurrence of the water release.

Various Insurers – Chiller Damages, *Los Angeles and San Diego, California*

Investigated root cause for chiller damage from condenser water leakage into refrigerant. Provided claim analysis support, review of costs, and scope of repair.

State Farm and Travelers – Residential Appliance Damages, *Various Locales*

Examined, tested, and evaluated root cause for damages stemming from leaking appliances, plumbing fixtures, and HVAC leakages in residential settings.

Legal Consultations (partial list)**CNA Insurance – Injury from Sliding Gate, *Sunnyvale, California***

Provided opinion to retained counsel on injury arising from a person transiting through a sliding vehicle door.

Wilson, Elser, Moskowitz, Edelman, & Dicker – Injury from a Dock Cleat, *Crescent City, California*

Investigated and provided opinion on the fracture of a dock cleat resulting in injury.

CNA Insurance – Washing Machine Overflow, *Brentwood, California*

Investigated and provided opinion to retained counsel on the cause of water overflow from a clothes washer resulting in injury.

Gibson, Robb, & Lindh – Injury from Gangway Collapse, *Martinez, California*

Investigated and provided opinion on the cause of unanticipated sliding of gangway end ladder after modification.

Wilson, Elser, Moskowitz, Edelman, & Dicker – Slip and Fall, *At Sea*

Investigated and provided opinion as to the effort to comply with regulations on handicapped accessible bathrooms (heads) on a foreign flagged cruise ship.

Collins & Lacy, PC – Slip and Fall, *Charleston, South Carolina*

Investigated and provided opinion on the appropriate measures taken to assist persons off of a foreign flagged vessel presented as a moored attraction vessel during a festival.

Bradley Arant Boult Cummings – Seismic Node Mispositioning, *Houston, Texas*

Consulted and reported on the root causes for gross mispositioning of ocean bottom nodes prior to seismic survey of an offshore oil field, resulting in an inaccurate field survey. Opined on the use of inappropriate ultrashort baseline hardware with insufficient resolution for the contracted task.

REGISTRATIONS and CERTIFICATIONS

Registered Professional Engineer in Alaska (M-124768 / NM-124769) ✕ ⚙

Registered Professional Engineer in Arizona (64187) ✕

Registered Professional Engineer in California (M25488) ✕

Registered Professional Engineer in Colorado (PE.0062019)

Registered Professional Engineer in Florida (83691)

Registered Professional Engineer in Hawaii (17306-M) ✕

Registered Professional Engineer in Louisiana (PE.0041872)

Registered Professional Engineer in Mississippi (28523)

Registered Professional Engineer in Nevada (24967) ✕ ⚙

Registered Professional Engineer in New Mexico (28501) ✕

Registered Professional Engineer in Oregon (80245) ✕ ⚙

Registered Professional Engineer in Texas (124337)

Registered Professional Engineer in Utah (11544967-2202)

Registered Professional Engineer in the Commonwealth of Virginia (0402058298)

Registered Professional Engineer in Washington (54030) ✕ ⚙

Registered Professional Engineer in Wisconsin (47651-6)

For Boards which specify the Registered Engineer's discipline:

✕ _____ Mechanical Engineering Discipline

⚙ _____ Naval Architecture and Marine Engineering Discipline

[Blank] _____ No engineering discipline specified by Board

National Council of Examiners for Engineering and Surveying (NCEES) Record (#16-789-53)
North American Board of Certified Energy Practitioners (NABCEP) Photovoltaic Entry Level Certificate of Knowledge (E1005-7)
National Association of Marine Surveyors (NAMS), Certified Marine Surveyor (105-1085)
Project Management Institute (PMI), Project Management Professional (1719679)

PUBLICATIONS

“Subchapter M – What it is and how it is useful to you,” Stress Point, December 2018, EDT, Columbia, South Carolina

“Ballast Water Management: History, Application, and Legislation,” EDT Website, March 21, 2018; www.edtengineers.com

“Fuel Oils: Handling, Mis-handling, and Contamination” (3 part blog); EDT Website, October-November 2018; www.edtengineers.com

“Ballast Water Management - An Update on Requirements,” EDT Website, April 11, 2019; www.edtengineers.com

“Diesel Fire Pump Damages,” EDT Website, April 26, 2019; www.edtengineers.com

“To TSMS or Not to TSMS – Towing Vessel Safety Management for the Small Guy,” EDT Website; July 11, 2019; www.edtengineers.com

“A ‘Tun’ of Fun – Beer Making & the Failure of a Mash Tun,” EDT Website, August 8, 2019; www.edtengineers.com

“Nautical Origins of Common Phrases,” EDT Website, October 17, 2019; www.edtengineers.com

“The Impact of VIDA 2018 on Ballast Water Management,” SNAME Maritime Conference Proceedings; October 2019

“Case Study in Marine Forensics: Barge Foundering,” EDT Website/Linked-In Blog, September 24, 2020; www.edtengineers.com

“Subchapter M: Two Years in from the TPO Standpoint,” SNAME Maritime Conference Proceedings, September 2020

“A Balancing Act, Part 1: Vibration Analysis of Machinery,” EDT Website, November 12, 2020; www.edtengineers.com

“A Balancing Act, Part 2: Vibration Analysis of Structures,” EDT Website, April 15, 2021; www.edtengineers.com

“Demystifying Measurements – Or, Which Ton are you Talking About?,” EDT Website, September 22, 2022; www.edtengineers.com

“Engineering to Avoid Disaster: Learning from the Titan Implosion and Other Tragedies,” EDT Website (co-authored with Taylor Russell, PE, CAP, CFEI), June 17, 2024; www.edtengineers.com

PRESENTATIONS

Actors in a Maritime Casualty, San Francisco Marine Claims Association, March 2017

Inspected versus Uninspected Vessels, Marine Insurance Association of Seattle, April 2018

The Practice of Forensic Engineering, National Association of Marine Surveyors 57th Annual Conference, Vancouver, Washington, March 2019

The Impact of VIDA 2018 on Ballast Water Management; Society of Naval Architects and Marine Engineers Maritime Conference 2019, October 2019

Subchapter M: Two Years in from the TPO Standpoint; Society of Naval Architects and Marine Engineers Maritime Conference 2020 – A Virtual Event, September 2020

Using Finite Element Analysis (FEA) to Pinpoint Root Cause in Complex Mechanical Failures, EDT Webinar, October 2025

PROFESSIONAL ORGANIZATIONS

American Society of Mechanical Engineers (ASME)

ASM International

National Association of Fire Investigators (NAFI)

National Association of Marine Surveyors (NAMS)

National Fire Protection Association (NFPA)

San Francisco Marine Claims Association (SFMCA)

Society of Naval Architects and Marine Engineers (SNAME)