

WALTER S. LAIRD, PE, CMI, CFI

## **FORENSIC INVESTIGATION AND TECHNICAL EXPERTISE SUMMARY**

Walter's experience and expertise include a wide array of fields, including but not limited to the following areas:

- Motorcycle crash and causation analysis with over 30 years of operating experience
- Construction and heavy equipment accident reconstruction and analysis
- Vehicle materials, parts, and mechanical system failures
- Vehicle/Equipment fire origin & cause
- Carbon Monoxide poisoning cause analysis
- Furl gas equipment failure analysis
- Welding failures and analysis
- Power tools and consumer equipment accident analysis
- Marine vessel and equipment analysis
- Product liability
- Amusement Park Rides
- Corrosion failure analysis
- Failures of plastic and metallic plumbing components
- Fatigue related failures
- Exercise Equipment

## **EDUCATION**

B.S. Naval Architecture and Marine Engineering, Massachusetts Institute of Technology  
M.S. Materials Science and Engineering, Johns Hopkins University  
M.S. Ocean Systems and Shipbuilding Management, Massachusetts Institute of Technology  
Naval Nuclear Power School, United States Navy  
Command and Staff Management Diploma, United States Naval War College  
Naval Surface Warfare Officer's School  
Naval Surface Ship Department Head School  
Marine Accident Investigation; American Boat and Yacht Council  
Boating Accident Investigation: National Association of State Boating Law Administrators  
GPS Forensics; National Association of State Boating Law Administrators  
Marine Accident Investigation; National Transportation Safety Board  
Applied Marine Accident Investigation Certificate; Cranfield University  
Diploma in Marine Accident Investigation (with Distinction); National Maritime Training Centre, North Kent College and Lloyd's Maritime Academy  
Protective Coatings and Linings, National Association of Corrosion Engineers  
Traffic Accident Reconstruction, Northwestern University  
Investigation of Vehicle Fires, Lee S. Cole & Associates, Inc.  
Advanced Fire & Explosion Investigation, University of Eastern Kentucky  
Vehicle Fire, Arson & Explosion Investigation, National Association of Fire Investigators

## **PROFESSIONAL REGISTRATIONS & CERTIFICATIONS**

- Registered Professional Mechanical Engineer in Alabama, District of Columbia, Georgia, Maryland, North Carolina, South Carolina, Virginia and West Virginia.

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- Certified Marine Investigator
- Cranfield University Certificate in Applied Marine Accident Investigation
- Diploma in Marine Accident Investigation
- Merchant Mariner Credential
- IAAI Certified Fire Investigator
- NFPA Certified Fire and Explosion Investigator
- ABYC Certified Marine Technician
- ABYC Certified Technician in Marine Systems
- Transportation Worker Credential
- American Welding Society Certified Weld Inspector
- United States Sailing Association Offshore Safety Certificate

## **PROFESSIONAL MEMBERSHIPS AND AFFILIATIONS**

- National Society of Professional Engineers
- International Association of Marine Investigators
- International Association of Arson Investigators
- American Boat & Yacht Council
- National Association of Fire Investigators
- National Academy of Forensic Engineers-Senior Member
- National Society of Professional Engineers

## **KEY EXPERIENCE SUMMARY**

Lead Forensic Engineer for FORCON International for over 20 years conducting investigations and providing expert testimony in areas of noted expertise.

Program Engineer for U.S. Coast Guard vessel construction cost analysis; advanced underwater hull maintenance tool development for U.S. Navy; Engineering for Reduced Ship's Maintenance programs for U. S. Navy including coating systems analysis and evaluation, materials evaluation, corrosion and failure analysis, test program development.

Directed the maintenance of electrical and engineering infrastructure for Six Flags Great Adventure, the second largest amusement park in the U.S. Developed improved maintenance and corrosion control procedures; conducted engineering feasibility analysis for new ride installations and modifications.

Senior Project Engineer, Auxiliary Systems and Materials Engineering for a major naval architecture and marine engineering firm, M. Rosenblatt & Son, Inc.

Lead Engineer in charge of two year investigation of vehicle axle and wheel end component failures.

Program Engineer for multi-million dollar amusement ride development and installation at Universal Studios Florida and attractions at the MGM Grand Hotel Theme Park in Las Vegas. Conducted engineering development and reviews regarding materials and systems integration.

Materials Research Engineer for establishing new research programs which carried out contracted engineering testing and development of materials and processes that minimize corrosion. Managed entire research programs - metastable thin film development and testing, fastener protection systems

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evaluation and development, materials development and testing, welding analysis, marine corrosion training programs.

Operations Officer, USS CONNOLE (FF-1056). Developed ship's operational and training schedule. Directed operation and maintenance of all electronic Combat Information Systems. Developed ship's overhaul and maintenance programs.

Chief Engineer for Mechanical Systems, USS TEXAS (CGN-39). Directed overhaul of nuclear reactor, steam propulsion, and electrical plant mechanical systems during three year complex overhaul. Managed division responsible for reactor plant chemistry, personnel monitoring and exposure control, reactor plant waste management, and radiological casualty response.

U.S. Naval Academy Faculty. Directed the Material Science curriculum. Developed state of the art computer teaching methods for faculty. Materials Laboratory Manager.

Eaheart Industrial Service Inc. - Operator Safety Training - Forklifts

## **AWARDS**

National Defense Science and Engineering Fellow at Johns Hopkins University providing scholarship to attend The Johns Hopkins University and conduct materials applications research.

Graduate Fellowship funded by the U.S. Coast Guard at Massachusetts Institute of Technology for conducting research in oil spill response, containment, and clean up.

## **HIGHLIGHTED INVESTIGATIVE EXPERIENCE BY CATEGORY**

### **Construction and Heavy Equipment**

- Analyzed construction and heavy equipment for fire causation, hydraulic failures, component failures, structural failures, weld failures, maintenance related problems, code and standard compliance, product liability claims, operational incidents, flood damage, and corrosion related problems.
- Equipment types include excavators, forklifts, backhoes, dozers, wheel loaders, feller bunchers, forest machines, skidders, harvesters, cotton pickers, knuckle boom loaders, material handlers, motor graders, paving equipment, skid steer loaders, telehandlers, wheel tractor scrapers, cranes, aerial work platforms, and man lifts.
- Manufacturers include Caterpillar, John Deere, Komatsu, JCB, Case, Manitou, New Holland, Barko Hydraulics, Mitsubishi, Link Belt, Timber King, Kodiak, Prentice, JLG, as well as others.

### **Fuel Gas**

- Investigations regarding fuel gas fires, explosions, and carbon monoxide poisoning ranging from propane grill fires to industrial fuel facility explosions including investigations with the ATF, FBI, and CSB.

### **Amusement Rides**

- Analyzed amusement rides for injury causation, fires, hydraulic failures, component failures, structural failures, weld failures, maintenance related problems, code and standard compliance, product liability claims, operational incidents, flood damage, and corrosion related problems.
- Equipment types include:
  - Rollercoasters
  - Flat rides

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- Carnival rides
- Gravity rides
- Inflatable amusement devices
- Playground equipment
- Patron controlled rides
- Rocking ship pendulum rides
- Exercise equipment

## Motor Vehicles

- Analyzed hundreds of motor vehicles for injury or property damage causation including fires, component failures, and carbon monoxide poisonings. Types of vehicles include passenger cars, commercial trucks, motorcycles, off road, ATV, and recreational vehicles.