
EDUCATION

- 2013 **Masters of Engineering, Mechanical**
University of Idaho, Moscow, Idaho
Robotics, Acoustics, Turbomachinery, Combustion Engine Systems, Human Factors in Engineering Design, Mechanical Engineering Analysis, Continuum Mechanics
- 2008 **Bachelor of Science, Mechanical Engineering**
Gonzaga University, Spokane, Washington

EXPERIENCE

- September 2016
to Present **Engineering Design & Testing Corp.**
Seattle-Tacoma, Washington
Consulting Engineer
Root cause analysis of incidents involving machinery, mechanical systems, and plumbing systems in residential, commercial, industrial, and maritime applications. Analysis of heating, ventilation, and air condition (HVAC) systems and their associated control systems. Cost estimation of damage to mechanical systems. Consultations including failure analysis, mechanical design analysis, construction evaluation, and damage assessment. Review and preparation of estimates for damaged mechanical equipment. Residential, municipal, and commercial water system investigations. Vehicle investigations. Gearbox investigations. Hydroelectric dam investigations. Residential, commercial, and industrial origin and cause fire investigations, including food processing equipment, heavy equipment, and vehicles.
- June 2008
to September 2016 **Puget Sound Naval Shipyard**
Bremerton, Washington
Senior Shift Test Engineer, Shift Test Engineer, Assistant Shift Test Engineer, Mechanical Engineer
Inspections, repairs, upgrades, and testing of nuclear power plant equipment and support systems onboard U.S. Navy submarine/aircraft carrier platforms. Systems included those used for heat generation, reactor cooling, auxiliary component cooling, pneumatic operation, hydraulic operation, steam, and electrical distribution. Experienced with heat exchangers, pumps, piping, steam turbines, valves, sensors, control systems, power distribution systems, and integrated reactor plant operations. Supervised reactor plant: startups, operation, and shutdowns. Performed hydrostatic testing, equipment operational testing, and reactor plant control certification testing. Led investigations and root cause analysis of electrical and mechanical problems. Trained submarine/aircraft carrier's crew on equipment upgrades, evolutions, and testing. Reactor plant casualty response training. Responsible for the safety of the reactor plant, its crew, the shipyard personnel onboard, and the surrounding local population. Evaluated the use/implementation of equipment operation and maintenance procedures by a submarine's crew. Performed personnel and equipment safety audits that resulted in the prevention of loss.

REGISTRATIONS and CERTIFICATIONS

Registered Professional Engineer in Hawaii (#18378)

Registered Professional Engineer in Idaho (#P-17193)

Registered Professional Engineer in Montana (#PEL-PE-LIC-48888)

Registered Professional Engineer in Nevada (#24809)

Registered Professional Engineer in Oregon (#92172PE)

Registered Professional Engineer in Washington (#51716)

Certified Fire and Explosion Investigator (CFEI #21963-12725v)

Certified Vehicle Fire Investigator (CVFI #21963-12725v)

National Council of Examiners for Engineering and Surveying (#14-820-38)

S6G (Los Angeles Class) Nuclear Reactor Plant Shift Test Engineer (2009-2013)

S6W (Seawolf Class) Nuclear Reactor Plant Shift Test Engineer (2011-2016)

SolidWorks Certified Professional (2007-2008)

SolidWorks Certified Technician (2007-2008)

PROFESSIONAL ORGANIZATIONS

American Society of Mechanical Engineers (ASME)

ASM International

National Association of Fire Investigators (NAFI)

National Fire Protection Association (NFPA)

Puget Sound Marine Claims Association (PSMCA)

PUBLICATIONS

2019 *"Renewable Energy: Pumped Storage,"* The Stress Point Blog, August 15, 2019.

2019 *"Freeze Seals,"* The Stress Point Blog, May 2, 2019.

2018 *"Renewable Energy: Wind Turbines,"* The Stress Point Blog, January 19, 2018.

2017 *"The Magic of Ferries,"* The Stress Point, March 2017, pp. 8-11.

PRESENTATIONS

2019 *"Vehicle Fires,"* presented at the EDT Annual Meeting.

2018 *"Determination of Cause: Evaluation of Losses in a Marine Environment,"* Presented at the Puget Sound Marine Claims Association April meeting in Seattle, Washington.

"Industrial Plant Process Controls," presented at the Engineering Design & Testing Annual Meeting.

"Unexpected Failures and Recoveries," presented at the National Association of Independent Insurance Adjusters Western Regional Conference in Portland, Oregon.

“User-related Failures: Ferry Loss of Propulsion,” presented at the Materials Science & Technology Conference in Columbus, Ohio.

CONTINUING EDUCATION

- 2019 *Basics of Insulation Resistance Testing*, EDT
 Construction Engineering: A Focus on the Use of Cranes in Construction Operation, EDT
 Quantitative Measurement of LP and Natural Gas Systems, EDT
 Subchapter M, EDT
 Vehicle Fires, EDT
- 2018 *Basic Fatigue Analysis*, EDT
 Brewing, Fermentation, and Common Problems in the Brewing Process, EDT
 Industrial Plant Process Controls, EDT
 Investigation of Gas and Electric Appliance Fires, Fire Findings LLC
 Manufacturing-Related Failures — Casting Failures, Annual Material Science & Technology Conference
 Manufacturing-Related Failures — Welding/Joining Failures, Annual Material Science & Technology Conference
 Metallurgy for the Non-Metallurgist and Its Use in Root Cause/Damage Assessments, EDT
 User-related Failures — Transportation, Annual Material Science & Technology Conference
 Vehicle Fire Arson & Explosion Investigation Science & Technology Seminar, NAFI
- 2017 *A Review of Typical Motorcycle-Vehicle Collision Scenarios*, EDT
 Ballast Water Management, EDT
 Determination of Cause, EDT
 HVAC Systems & Managing Power, EDT
 Maritime Casualty, EDT
 National Fire, Arson and Explosion Investigation Training Program, NAFI
 Principles of Failure Analysis, ASM International
- 2016 *3D Printing Basics*, Pierce County Library
 Adult and Pediatric First Aid/CPR/AED, American Red Cross
 OSHA Permit-Required Confined Space Entry, eTraining Inc.
- 2015 *S6W (Seawolf Class) Nuclear Reactor Plant Design/Operation — Qualification Maintenance*
 Puget Sound Naval Shipyard
- 2013 *S6G (Los Angeles Class) Nuclear Reactor Plant Design/Operation — Qualification Maintenance*
 Puget Sound Naval Shipyard
 S6W (Seawolf Class) Type II Nuclear Reactor Plant Control Design/Operation, Puget Sound Naval Shipyard
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- 2011 *S6W (Seawolf Class) Nuclear Reactor Plant Design/Operation*, Puget Sound Naval Shipyard
- 2010 *Adult and Pediatric First Aid/CPR/AED*, American Red Cross
- 2009 *Electrical Safe Work Practices*, Puget Sound Naval Shipyard
 Hydrogen Gas Monitoring, Puget Sound Naval Shipyard
 Nuclear Reactor Plant Materials, Physics, Chemistry, and Radiological Control, Puget Sound
 Naval Shipyard
 S6G (Los Angeles Class) Nuclear Reactor Plant Design/Operation, Puget Sound Naval Shipyard
- 2008 *Confined Space Gas Free Entry*, Puget Sound Naval Shipyard
 LEAN Manufacturing, Puget Sound Naval Shipyard
 Radiation/Contamination Worker, Puget Sound Naval Shipyard