

ENGINEER: MECHANICAL

DAVID J. SHAMRELL, M.E., P.E., CFEI

Engineering Design & Testing Corp.

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EDUCATION:

2013 M.E., Mechanical Engineering
University of Idaho, Moscow, Idaho

Robotics, Acoustics, Turbomachinery, Combustion Engine Systems,
Human Factors in Engineering Design, Mechanical Engineering
Analysis, Continuum Mechanics

2008 B.S., 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 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. Conduct 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 Nuclear Test 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,

pipng, 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.

PROFESSIONAL ORGANIZATIONS:

American Society of Mechanical Engineers (ASME)
ASM International
National Fire Protection Association (NFPA)
National Association of Fire Investigators (NAFI)
Puget Sound Marine Claims Association (PSMCA)

CERTIFICATIONS:

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

S6G (Los Angeles Class) Nuclear Reactor Plant Design/Operation (2009-2013)
S6W (Seawolf Class) Nuclear Reactor Plant Design/Operation (2011-2016)

SolidWorks Certified Professional (2007-2008)
SolidWorks Certified Technician (2007-2008)

REGISTRATIONS:

Registered Professional Engineer in Washington (#51716)
Registered Professional Engineer in Oregon (#92172PE)
Registered Professional Engineer in Idaho (#P-17193)
Registered Professional Engineer in Montana (#PEL-PE-LIC-48888)
Registered Professional Engineer in Nevada (#24809)
National Council of Examiners for Engineering and Surveying (#14-820-38)

CONTINUING EDUCATION:

LEAN Manufacturing,
Puget Sound Naval Shipyard, 2008

Radiation/Contamination Worker
Puget Sound Naval Shipyard, 2008

Confined Space Gas Free Entry
Puget Sound Naval Shipyard, 2008

Hydrogen Gas Monitoring
Puget Sound Naval Shipyard, 2009

S6G (Los Angeles Class) Nuclear Reactor Plant Design/Operation
Puget Sound Naval Shipyard, 2009

Nuclear Reactor Plant Materials, Physics, Chemistry, and Radiological Control
Puget Sound Naval Shipyard, 2009

Electrical Safe Work Practices
Puget Sound Naval Shipyard, 2009

Adult and Pediatric First Aid/CPR/AED
American Red Cross, 2010

S6W (Seawolf Class) Nuclear Reactor Plant Design/Operation
Puget Sound Naval Shipyard, 2011

S6W (Seawolf Class) Type II Nuclear Reactor Plant Control Design/Operation
Puget Sound Naval Shipyard, 2013

S6W (Seawolf Class) Nuclear Reactor Plant Design/Operation – Qualification Maintenance
Puget Sound Naval Shipyard, 2015

3D Printing Basics
Pierce County Library, 2016

OSHA Permit-Required Confined Space Entry
eTraining Inc., 2016
Adult and Pediatric First Aid/CPR/AED
American Red Cross, 2016

Determination of Cause

Engineering Design & Testing, 2017

Maritime Casualty

Engineering Design & Testing, 2017

Ballast Water Management

Engineering Design & Testing, 2017

HVAC Systems & Managing Power

Engineering Design & Testing, 2017

A Review of Typical Motorcycle-Vehicle Collision Scenarios

Engineering Design & Testing, 2017

National Fire, Arson and Explosion Investigation Training Program

NAFI, 2017

Principles of Failure Analysis

ASM International, 2017

Industrial Plant Process Controls

Engineer Design & Testing, 2018

Brewing, Fermentation, and Common Problems in the Brewing Process

Engineer Design & Testing, 2018

Metallurgy for the Non-Metallurgist and Its Use in Root Cause/Damage Assessments

Engineer Design & Testing, 2018

Basic Fatigue Analysis

Engineer Design & Testing, 2018

Investigation of Gas and Electric Appliance Fires

Fire Findings LLC, 2018

Vehicle Fire Arson & Explosion Investigation Science & Technology Seminar

NAFI, 2018

User-related Failures – Transportation

Annual Material Science & Technology Conference, 2018

Manufacturing-Related Failures – Welding/Joining Failures

Annual Material Science & Technology Conference, 2018

Manufacturing-Related Failures – Casting Failures
Annual Material Science & Technology Conference, 2018

PUBLICATIONS:

“The Magic of Ferries.” The Stress Point, March 2017, pp. 8-11.

“Renewable Energy: Wind Turbines” The Stress Point Blog, January 19, 2018.