

EXPERT WITNESS CURRICULUM VITAE

SCOTT STANLEY STEPHENSON

PROFESSIONAL SUMMARY

Senior Mechanical Design Engineer and Quality Assurance Expert with 20+ years of combined military and civilian experience in mechanical engineering, nuclear systems, advanced manufacturing, and quality control. SOLIDWORKS Premium perpetual license holder specializing in parametric modeling, finite element analysis, motion studies, and static/dynamic simulation. Certified in mechanical design (CSWA) and quality assurance (ASQ CQT).

Extensive background in technical documentation, failure analysis, design validation, and regulatory compliance. Available for expert witness consultation and testimony in cases involving:

- Mechanical Design & CAD Systems
- Manufacturing Processes & Quality Control
- Product Liability & Design Defects
- Failure Analysis & Root Cause Investigation
- Nuclear Systems & Safety Standards
- Solar Energy Structures
- Maintenance Standards & Procedures
- Technical Training & Certification

AREAS OF EXPERTISE

Mechanical Engineering & Design

- Parametric CAD modeling (SOLIDWORKS, Siemens NX)
- Finite element analysis (FEA) and structural simulation
- Motion studies and dynamic analysis
- Design for manufacturing (DFM)
- 3D modeling and rapid prototyping
- Solar energy structure design
- Mechanical systems integration

Quality Assurance & Standards Compliance

- Quality control methodologies and implementation
- ASQ Certified Quality Technician (CQT)
- Quality assurance inspection and documentation
- Regulatory compliance and certification
- Standards development and enforcement
- Manufacturing process validation
- Defect analysis and corrective action

Advanced Manufacturing

- Manufacturing curriculum development
- CNC machining and precision manufacturing
- Production workflow optimization
- Manufacturing technology assessment

- Workforce training and certification

Nuclear Systems & Machinery

- Naval nuclear propulsion plant operations
- Nuclear auxiliary systems maintenance
- High-pressure systems and components
- Heat transfer and thermal management
- Refrigeration and HVAC systems
- Machinery troubleshooting and diagnostics
- Safety protocols and procedures

PROFESSIONAL CREDENTIALS

Active Certifications

- SOLIDWORKS Mechanical Design Associate (CSWA)
- Certified Quality Technician (ASQ CQT)
- NAUI Advanced SCUBA Diver

Military Qualifications

- Navy Instructor Certification
- First-Line Supervisor (Nuclear) Leadership Development
- Quality Assurance Inspector
- Engineering Department Master Chief (EDMC)
- Engineering Watch Supervisor (EWS)
- SCUBA Diver (DV) and Diving Supervisor

Security Status

- Prior SECRET clearance (military service)
- Service-Connected Disabled Veteran (>30%)

EDUCATION

Bachelor of Science in Mechanical Engineering (Manufacturing Concentration)

University of Hartford • Graduated summa cum laude

- Minor in Entrepreneurial Studies
- Minor in Mathematics

Associate of Science in Mechanical Engineering Technology

Three Rivers Community College • Graduated summa cum laude

Naval Nuclear Power Training

- Nuclear Power Training Unit
- Naval Nuclear Power Training Command

CURRENT PROFESSIONAL POSITIONS

Mechanical Design Engineer | University of Hartford

July 2025 - Present

Provide integrated product design services for university engineering business partnerships, supporting both existing companies and start-ups with mechanical design, analysis, and prototyping solutions.

Chief Engineer | Graystone Gear, LLC

June 2023 - Present

Prospective partner, Chief Engineer, and CAD designer for solar energy structures. Co-inventor of the Sabal Solar Canopy system bringing resilient solar power infrastructure to the Bahamas. Responsible for mechanical design, structural analysis, and technical documentation for solar canopy systems.

PRIOR PROFESSIONAL EXPERIENCE

Independent Consultant | Governor's Workforce Council, State of Connecticut

May 2020 - May 2022

Served as advisor and subject matter expert for manufacturing-focused Computer-Based Training (CBT) implementation. Evaluated and provided recommendations for the 180 Skills Learning Management System (LMS) for state-wide workforce education.

Youth Manufacturing Coordinator | Three Rivers Community College

November 2018 - June 2023

Primary curriculum manager and liaison between colleges and Eastern Connecticut high schools under the Manufacturing Pipeline Initiative. Compiled and promulgated youth-focused manufacturing curriculum and assessment.

Engineering Officer and Rating Lead | Submarine Learning Center Headquarters, U.S. Navy

June 2016 - August 2018

Senior advisor and subject matter expert for nuclear-trained technicians and supervisors. Managed Submarine Force enlisted and officer career development, Fleet liaison, curriculum development, and training implementation for 6 global training sites, 1,300 staff, and 120,000 students annually.

Assistant Engineering Department Chief | USS NEW HAMPSHIRE (SSN 778), U.S. Navy

February 2013 - April 2016

First-line supervisor for nuclear-trained machinery technicians. Managed 14 Machinery Division personnel in maintenance and operation of nuclear power and propulsion plant. Achieved \$65,000+ in cost savings and maintained 95% operational tempo during 6-month overseas deployment.

Machinery Division Leading Chief | Performance Monitoring Team New London, U.S. Navy

September 2011 - February 2013 & May 2005 - May 2008

Hand-selected NAVSEA representative developing new maintenance techniques and providing troubleshooting support. Achieved combined cost savings of \$1.14M+ and prevented multiple mission execution failures through advanced diagnostics.

Senior Chief Machinist's Mate (Nuclear) | U.S. Navy

January 1998 - December 2018

20+ years of naval service including multiple submarine deployments, nuclear propulsion plant operations, diving operations, and technical leadership roles.

REPRESENTATIVE PROJECTS & ACHIEVEMENTS

Solar Energy Infrastructure

- Co-inventor of Sabal Solar Canopy system for resilient solar power in the Bahamas
- Designed 400kW solar parking lot layout with integrated electrical systems
- Developed structural analysis and load calculations for hurricane-resistant solar canopy systems

Cost Savings & Problem Resolution

- Saved \$978,000 and prevented 7 mission failures through advanced maintenance diagnostics
- Achieved \$164,000 in cost savings through improved troubleshooting procedures
- Saved \$65,000 during 6-month submarine deployment through preventive maintenance

Training & Curriculum Development

- Developed and implemented manufacturing curriculum for state-wide workforce initiative
- Managed training programs for 120,000 students across 6 global sites
- Synchronized youth and adult manufacturing certification programs

EXPERT WITNESS SERVICES

Available for consultation and expert testimony in cases involving:

Mechanical Engineering & Design

- Product design defects and liability
- CAD modeling standards and best practices
- Structural integrity and failure analysis
- Design validation and verification
- Manufacturing feasibility assessment
- Material selection and specifications

Quality Assurance & Manufacturing

- Quality control standards and procedures
- Manufacturing defects and process failures
- Equipment maintenance and reliability
- Safety protocol compliance
- Technical training adequacy
- Industry standard adherence

Nuclear & Maritime Systems

- Naval nuclear systems operations
- Submarine machinery and equipment
- High-pressure system failures
- HVAC and refrigeration systems
- Maintenance procedure compliance
- Safety standards and regulations

Solar Energy Systems

- Solar structure design and installation
- Load calculations and structural integrity
- Electrical system integration
- Hurricane and weather resistance
- Industry standard compliance

Documentation & Investigation Support

- Technical document review and analysis
- Engineering drawing interpretation
- Maintenance record evaluation
- Failure investigation and root cause analysis
- Expert report preparation
- Deposition and trial testimony

TECHNICAL PROFICIENCIES

CAD & Design Software

- SOLIDWORKS Premium (parametric modeling, motion studies, FEA, CFD, rendering)
- Siemens NX (formerly NX Unigraphics)
- Autodesk Fusion 360
- Technical documentation and specification development

Engineering Analysis

- Finite element analysis (FEA)
- Static and dynamic simulation
- Thermal analysis
- Structural load calculations
- Motion studies and kinematics
- Failure mode analysis

Manufacturing & Quality

- Quality control methodologies
- Statistical process control
- Root cause analysis
- CNC programming and operations
- Rapid prototyping and 3D printing
- Production workflow management

LANGUAGES

- English: Native
- Spanish: Conversational
- Hebrew (Modern): Basic

CONTACT INFORMATION

Available upon request through JurisPro platform

This curriculum vitae is prepared for use as an expert witness resource and may be updated periodically to reflect current qualifications and experience.