

**Robert L. Cargill, P.E.**  
**Consulting Engineering Services**  
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## **Specialized Professional Competence**

Forensic engineering, including laboratory analysis of physical evidence; specialized expertise in vehicular accident reconstruction, including automobiles, motorcycles, bicycles, municipal buses, Light Rail Vehicles (LRVs) and Cable Cars; failure analysis and products liability litigation, including quantitative statistical analysis of product safety data, comprehensive technical support for discovery efforts, and expert witness services for attorneys; consulting engineering and expert witness services for the U.S. Air Force, the U.S. Army and the U.S. Department of Justice for Department of Defense / Federal litigation support..

Metallurgical and materials engineering; laboratory failure analysis with modern surface analysis techniques including electron microscopy, X-ray, chemical, and microstructural analysis; manufacturing process controls, including the design and development of manufacturing processes and production equipment; corrosion, welding engineering and analysis of product design / manufacturing issues. Projects include: failure analysis of commercial products, materials analysis for medical devices, accident reconstruction work for the Cities of San Francisco, Sacramento, Los Angeles, the Los Angeles Unified School District, the Sacramento Regional Transit District, American Honda Motor Company and BMW of North America.

## **Background and Accreditations**

- Licensed Professional Engineer, State of California No. MT1920
- B.S. Engineering, U.C. Berkeley, dual major in Materials Science Engineering and Mechanical Engineering with graduate study in Machine Design, Metallurgy, Fracture Mechanics, and Electron Microscopy
- American Welding Society Certifications in Metallurgy, Welding, and Advanced Welding Technology
- Numerous MIL-Spec Welding and NDE Certifications, including MIL-T-5021c (aircraft welding)
- Awarded three United States Patents and one Australian patent with a U.S. Patent Pending
- Member: ASM International, the Metallurgical Society, American Welding Society
- Member of The Society of Forensic Engineers and Scientists

## **Experience**

- 1984-pres.    **Principal, Cargill Engineering, San Jose & Trinidad, California**  
Consulting engineering services for legal clients and high-technology companies including laboratory failure analysis and manufacturing process development, forensic engineering, technical support for products liability litigation, and expert witness work.
- 1982-1984    **Principal Consultant, Materials and Fabrication Group, Nuclear Engineers, Inc., San Jose, California**  
Stress corrosion cracking in nuclear plants, lead engineer for the design and field supervision of welding repairs and safety upgrades for nuclear power plants; responsible for design review of nuclear plant modifications; project engineer of a multi-national research project for corrosion fatigue in offshore structures;
- 1980-1982    **Staff Engineer, Aptech Engineering, Palo Alto, California**  
Primary responsibilities were in-house electron microscopy and laboratory failure analysis, forensic engineering, vehicular accident reconstruction, and numerous litigation defense projects for Volkswagen and BMW of North America.
- 1971-1977    **Partner, McGrail Equipment Co., Inc., Parkesburg, Pennsylvania**  
Functioned as the technical officer of the company which specialized in the production of reusable shipping containers and material handling equipment for high-value military hardware; designed fixtures, tooling, and production equipment.