

CURRICULUM VITAE OF SCOTT BUSKE M.Sc., P.E., P.I., CFEI
Licensed in California, Nevada, and Alaska



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AREAS OF CONSULTATION:

ENGINEERING

The investigation of equipment and machine failures including machine guarding. Electrical Control Systems analysis including electrical schematic review to determine failure mode. Heat generation calculations to determine potential for high resistance shorting. The investigation of plumbing failures including fire sprinklers, brass dezincification, corrosion, and material failures. Automotive investigations including pre-accident analysis and accident scene analysis. Trouble code and air bag control module reading, suspension, brake, and electrical analysis. All findings are compared to published codes, safety regulations, and signage requirements. Animations can be created using 3D analysis software that will show the failure process and loading (Finite Element Analysis).

FIRE ENGINEERING

Certified fire and explosion expert. Investigations into the causation of fires involving electrical and gas appliances. This includes electrical wiring and arc mapping. Fires involving heavy industrial machinery and manufacturing facilities as well as truck and automotive fires are examined. Engine Control Module downloading to determine the state of the engine and electronics prior to the fire.

PROFESSIONAL EXPERIENCE

Berkeley Research Company 600 Addison Street, Berkeley, CA 9/2007 to Present

Investigations include:

Wind Turbine Fires (Control Malfunctions)	Circuit Board Failures	Building Codes
Power Strips & Power Tap Fires	Power Surges	Electrical Codes
Heater Electrical Fires	Guarding & Signage	Mechanical Codes
Air Conditioning Systems	Chimney & Insert Fires	Plumbing Codes
Electric Motor & Fan Fires	Suspension & Brake Failures	Sprinkler Codes
Transformer Failures	Dryers, Washers & Dishwashers	Plans of Egress
Farm Equipment Failures	Lab Equipment Fires	
Bus and Truck Fires (Electronic Downloads)	Hydraulic Lift Fires	

Buske Engineering & Analysis, Tracy, CA 9/96 to October 2008

Owner

- Forensic Engineer specializing in product related failures and accidents.
- Render expert opinions, give depositions, and testimony for litigation support.
- Perform failure analysis of products and equipment.
- Develop and review product design, materials and process specifications.
- Providing mechanical and controls consulting services to a variety of clients in the fuel storage industry and to automated equipment manufacturers.
- Develop drawings, rendered models and animations to support theories.
- Finite Element Analysis (FEA) using Cosmos, ProE, Ansys, and Algor.

- Design and manufacture of machine safety enclosures for large automated production equipment. Shipping machine enclosures in the US and Europe meeting OSHA and CE requirements. Over 300 large machine enclosures manufactured.
- Designed fire rated fuel storage tanks, UL 2085 and UL 142
- Worked directly with UL to list new products and orchestrated many UL tests including fire, ballistic, vehicular impact, and corrosion testing.
- Designed fire rated sound rooms for Diesel Engines.
- Designed thermodynamic systems for ventilation and engine cooling.
- Designed fuel tanks to meet DOT and DMV requirements.
- Evaluated many wiring raceways for heat and adherence to the National Fire Code.

Power Automation Systems, 9/03 to 9/05
Engineering Manager

- Designing automatically guided vehicles and guided systems for automatic pallet delivery.
- Designing safety systems and controls for automated equipment.
- Design of electromechanical devices such as elevators, carousel systems and product transportation Vehicles including custom motors and electrical systems.
- Design of automatic storage and retrieval systems.
- Design of automatic sprinkler systems including ESFR and freezer applications and alarm systems.

Power Generation & Engineering Inc., Oakdale, CA 8/01 to 9/03
Engineering and Production Manager

- Designed fire rated fuel storage tanks, UL 2085 and UL 142
- Worked directly with UL to list new products and orchestrated many UL tests including fire, ballistic, vehicular impact, and corrosion testing.
- Designed electrical control panels to control power generation.
- Designed thermodynamic systems for ventilation and engine cooling.
- Designed fuel tanks to meet DOT and DMV requirements.
- Designed electrical raceways for heat and adherence to the National Electric Code.

Trine Labeling Systems, Turlock, CA 8/95 to 8/00
Engineering Manager

- Designed machine enclosures to meet OSHA and CE requirements.
- Designed improved guarding, clutches, and electrical systems for improved safety.
- Designed custom electric heaters and hot melt systems.
- Designed plastic and aluminum molds and tested many new materials.
- Setup manufacturing cells and kanban systems.
- Reduced manufacturing costs by 30%.
- Traveled to customer's facilities to investigate problems, evaluate quality and safety.

Pulver Genau, Tracy, CA 4/94 to 8/95
Project Manager

- Designed large gas fired ovens, both radiant and convection heating.
- Designed largest convection oven ever built at the time for Cloverhill Bakery.
- Designed automated equipment such as custom proofers, groupers, stackers, and loaders.
- Designed electrical panels for control of the various systems.

B&H Manufacturing, Ceres, CA 11/92 to 4/94
Design Engineer

- Worked as part of a design team to develop a new high speed labeling machine.
- Designed compact gear systems. Converted chain driven machines to serpentine belts.
- Optimized bearing, gear, and shaft life.
- Redesigned many parts for improved product control.

College Internships

Sunsweet Dryers, Yuba City, CA 5/91 to 1/92

- Designed and oversaw the manufacture of a large gas fired boiler used to clean fruit trays. Machine utilized a 5,000,000 btu/hr Maxon burner.
- Designed and modified various machines used in packaging to improve performance, reliability, and safety.

Systron Donner, Concord, CA 5/89 to 8/89

- Responsibilities included analyzing failed fire detectors used on commercial and military jet engines to determine cause of failures.

Awards, Published Papers, and Patents

2008 Spring Guest Lecturer at the National Association of Subrogation Professionals

2005 Guest Lecturer at the American Society of Mechanical Engineers 100th Anniversary Conference

2005 Lecturer at the Society of Forensic Engineers and Scientists

Published Papers

Computer Integrated Design and Manufacture of a Labeling Machine, ASME –IMECE05

Patents

Fire resistant base tank for mounting a generator Patent Number 7,246,717 B2

Automated Warehouse Row Cart and Lift (Automatically Guided Vehicle) Patent Number 7,073,634

UL Listed Products

UL 2085, Fire Protected Fuel Storage Tank

UL 142 Double walled Fuel Storage Tanks

- Conducted in over 50 product tests for UL Engineers to witness for product safety and UL conformance including:
 - Fire exposure tests
 - Vehicle impact test
 - Load tests
 - Pressure vessel tests
 - Thermal insulation tests
 - Fire hose water spray tests
 - Ballistic testing on products

Education

B.S. Mechanical Engineering, California State University; Sacramento, Fall 1992

M.S.M.E Concentration in Electrical Controls, California State University; Sacramento, Spring 2005

University of Alaska, Anchorage -Arctic Engineering (frost heave, ice formation, ice hydraulics) 2008

Professional Affiliations

Member, American Society of Mechanical Engineers (ASME)
Member, Society of Forensic Engineers and Scientists (SFES)
Member, California Society of Professional Engineers (CSPE)
Member, National Society of Professional Engineers (NSPE)
Member, ASM International, (The Materials Information Society)
Member, Minerals, Metals, and Materials Society, (TMS)
Member, Society of Manufacturing Engineers (SME)