

# **CURRICULUM VITAE OF MARK V. SUTHERLAND, PE, CFEL, CVFI, CFII**

## **I. GENERAL INFORMATION**

Sr. Electrical Engineer-President  
Expert Forensic Engineers  
1400 FM 586E  
Brownwood, TX 76801  
325-646-4156

## **II. PROFESSIONAL SUMMARY**

### **A. EDUCATION:**

Bachelor of Science in Electrical Engineering, May 1983  
University of Texas  
Austin, Texas

### **B. CERTIFICATIONS:**

Licensed Professional Engineer, State of Texas, License No. 99462  
Licensed Professional Engineer, State of Oklahoma, License No. 30140  
Certified Fire and Explosion Investigator, NAFI  
Certified Vehicle Fire Investigator, No. 8637-3597v  
Certified Fire Investigation Instructor, No. 8637-3597i  
Instrument Rated Private Pilot, FAA  
Repairman Experimental Aircraft Builder, FAA

### **C. EXPERIENCE:**

I have been engaged in the design, development, marketing and troubleshooting aspects of electrical engineering since 1983, and in the more specialized practice of forensic engineering since 2002. During that time, I have received specialized training and certification in the field of fire and explosion investigation, and have performed over 1,000 investigations.

I have performed assignments involving numerous types of electrical systems, gas systems and electronic appliances including: structural branch wiring, circuit breakers, HVAC systems, water heaters, lights, switches, receptacles, stoves, ovens, refrigerators, dishwashers, toasters, coffee makers, various other kitchen and small appliances, extension cords, relocatable power taps, computers, televisions, stereos, fans, battery chargers and irons. I have performed scientific and engineering evaluations of medical devices. I have performed scientific and engineering evaluations of the fires alleged to have been associated with vehicles including: cars, trucks, tractor-trailers, recreational vehicles, farm and construction equipment, golf carts and ATVs including after-market items on vehicles. I have been retained to investigate cases involving asphyxiation, electric shock

and electrocution cases. I have extensive experience working with the OSHA and NESC standards. I have performed scientific and engineering evaluations involving electric utility equipment failure analysis and wildfires. I have investigated explosions at oil and gas production facilities.

I have been retained by ATF and other government agencies to perform electrical evaluations of fire scenes.

I have been permitted to offer expert opinion testimony in both state and federal courts in matters involving engineering principles and practice, engineering design and manufacturing practices, as well as fire and explosion investigations.

Electrical Engineer - President  
Expert Forensic Engineers, division of Sans Peur Inc.  
January 2008 to present

I am president of Sans Peur Inc. d/b/a Expert Forensic Engineers, an engineering and technical services firm.

Sr. Electrical Engineer  
Verité Forensic Engineering, LLC.  
April 2002 to December 2007

Forensic engineering analysis of disaster related incidents / accidents.

Regional Director  
Portal Software  
January 1999 to April 2002

Responsible for the design, development and deployment of Portal's customer management and billing software for providers of communication services, including ISPs, phone carriers, and cable and satellite companies.

Regional Manager  
IBM/Tivoli  
1997 to 1999

Responsible for the marketing and implementation of IBM subsidiary Tivoli Systems' software for managing computer networks that incorporate mixed platforms and computers ranging in size from laptops to mainframes.

Manager  
Oracle  
1990 to 1997

Worldwide Manager of Telecom Business Partners, responsible for a worldwide team focused on recruitment and management of the Telecom Independent Software Vendors and System Integrators. I was responsible for designing and implementing Oracle's first Telecom Operational Support System (OSS) suite of software used by Telco operators across various lines of business (e.g. fixed line, wireless, broadband, ISP, 2.5G).

Electrical Engineer  
Harris Corporation  
1983 to 1990

Responsible for designing, developing and implementing Harris Computer System products for CAD/CAM and Aerospace applications.

In 1983 I was responsible for the design and implementation of the first finite element analysis system for vehicle structural analysis at General Motors.

In 1985 I moved to Dallas, Texas to join the Harris Real-time Systems Group supporting General Dynamics F-16 Fighter Program. Models included: 3-D Earth Terrain Model, Navigation Pod Model, Nav-Pod Coupler Support Model, and Fire Control Radar Model.

**D. SOCIETY MEMBERSHIPS:**

National Fire Protection Association (N.F.P.A.)  
National Association of Fire Investigators (N.A.F.I.)  
Society of Automotive Engineers (S.A.E.)  
International Association of Arson Investigators (I.A.A.I.)  
Central Texas Fire Investigators' Association (C.T.F.I.A.)

**F. INSTRUCTION:**

- “Electrical Aspects of Fire Investigation,” East Texas Arson Investigators Association, 2002
- “Vehicle Arson and Live Burn Training,” Nationwide Insurance Company and North Texas Fire Investigator’s Association, September 2008
- “Fire Investigator Vehicle Burn Class,” San Antonio Fire Department and Bexar County Marshal’s Office, November 2008
- “Vehicle Arson and Live Burn Training,” Nationwide Insurance Company and North Texas Fire Investigator’s Association, October 2009
- “Arson Investigation Class,” USAA and Temple Fire Department, April 2010
- “Vehicle Fire Investigation Class,” Nationwide Insurance Co. and Harris County Fire Department, November 2010.
- “Advanced Live Vehicle Burn Investigation,” Nationwide Insurance Co. and San Antonio Fire Department, Arson Bureau, February 2013.

**F. CONTINUING EDUCATION AND SEMINARS ATTENDED:**

2002 National Fire, Arson, and Explosion Investigation Training Program  
 2002 National Seminar on Fire Analysis Litigation  
 2002 Investigation of Gas and Electric Appliance Fires  
 19<sup>th</sup> Annual East Texas Arson Conference, 2002  
 April 2004, I.A.A.I. Fire Investigation Technologies Seminar  
 April 2006, “Feel the Heat” Fire Seminar  
 December 2006, Electrical Fires 102 Training Program  
 July 2008, Central Texas Fire Investigators Training Session  
 December 2009, Scientific Protocols for Fire Investigations Training  
 July 2010, Applying the Scientific Method to Fire & Explosion Investigations  
 January 2011, NFPA-921 Beyond the Bookshelf  
 April 2012, Investigation of Gas & Electric Appliance Fires  
 December 2012, Applied Fire Dynamics for Fire Investigators  
 February 2013, Advanced Live Vehicle Burn Investigation  
 April 2014, I.A.A.I. International Training Conference  
 March 2015, Certified Fire Investigation Instructor Training  
 August 2016, Understanding Battery & Vehicle Electrical Fire  
 April 2017, Arc Mapping Basics  
 January 2018, Residential Electrical Systems and Basic Electricity  
 May 2018, 2018 ITC Tomorrow’s Investigations  
 May 2018, ITC A Decade of CSST  
 September 2019, Vehicle Fire Investigating Training Program  
 August 2020, 10-Hour OSHA Training for the Construction Industry  
 February 2022, Electric & Hybrid Vehicle Design Basics, Photovoltaic Cells & Systems, Lithium-Ion Battery Fires, Emerging Technologies in Fire Investigation.

**G. COURT QUALIFIED:**

Qualified as an expert witness on numerous occasions in both state and federal courts.