

**Professional Resume
of
TED F. HUTCHINSON, P.E. CFEI**

March, 2019

I. General Information

Project Engineer - Electrical
Schaefer Engineering, Inc.
6 Quality Court
Wentzville, Missouri 63385
(636) 332-6464
Ted@SchaeferEng.com

II. Professional Summary

A. Education: Bachelor of Science Degree
Electrical Engineering (Power Option)
Brigham Young University
Provo, Utah
June 1988

B. Experience

January 2009 to Present
Position: Project Engineer - Electrical
Schaefer Engineering, Inc.
Wentzville, Missouri

Responsible for electrical engineering projects including failure analysis of electrical components and systems, analysis of electrical equipment and appliances to determine their role in an incident, evaluation of electrocution/electrical shock incidents, and electrical equipment evaluation involving lightning. Conduct arc mapping to aid in fire origin and cause analysis.

Experience (continued):

October 1997 to January 2009

Position: Manufacturing Systems Engineer
3M Company
Columbia, Missouri

Focused on the design and manufacturing process development of electrical circuits and electrical connector components. Emphasis on laser machining and motion control. Supervised projects to improve material control and shipping effectiveness. Trained in lockout-tagout, blood borne pathogens, and CPR.

June 1988 to October 1997

Position: Electrical Product Development Engineer
3M Company
Austin, Texas

Designed, built, tested and evaluated high voltage and high current devices. Created product designs, specifications, and prototypes. Designed implemented and conducted tests to meet industry standards. Designed and built a lightning simulator. Conducted failure analysis on prototypes and assisted in failure analysis of failed product from customers. Performed electrical field analysis on products and designs to indicate likely failure modes.

January 1983 to June 1988

Position: Maintenance Worker for Municipality
American Fork City
American Fork, Utah

Performed a wide range of maintenance tasks at two municipality swimming pools systems including electrical, plumbing and mechanical repair. Investigated and resolved 3 instances of electrical shock to swimmers. Updated underwater electrical system. Added emergency overhead lighting for indoor pool.

III. Professional Accomplishments

Holder of four US patents

Published twice: **Automation of the ANSI C119.4-1991 Connector Test** (IEEE Transactions on Power Delivery), **Stray Magnetic-field Response of Linear Birefringent Optical Current Sensors** (Applied Optics)

IV. Professional Registration

Registered Professional Engineer in the State of Missouri, Illinois, Arkansas, Iowa, Kansas and Nebraska

V. Professional Affiliations

Institute of Electrical and Electronics Engineers (IEEE)
National Fire Protection Association (NFPA)
National Association of Fire Investigators (NAFI)
International Association of Arson Investigators (IAAI)
 Missouri Chapter IAAI
 Illinois Chapter IAAI
 Arkansas Chapter IAAI
 Kansas Chapter IAAI
 Iowa Chapter IAAI

VI. Continuing Education

1992 - Managing Total Quality.
1992 - Intensity-Based Fiber Optic Systems
1992 - Introduction to Interferometric Fiber Optic Sensors
1993 - Introduction to Optics
1995 - Protective Relaying Texas A&M
1998 - Design of Experiments I
1999 - Fundamentals of Experimentation
2000 - Java for Structured Programmers
2002 - JD Edwards System Administration
2003 - Electrical Safety 3M
2004 - Lockout Tagout 3M
2005 - Six Sigma Green Belt Training
2006 - New Product/System Introduction
2007 - Lean Manufacturing Basics
2009 - Investigation of Electrical Appliance Related Fires, IAAI /AHAM
2009 - Cognitive Interviewing Method for Victims and Witnesses
2009 - Fire Origin and Cause Determination Per NFPA 921 1033 Sections 1-3-8
2009 – Electrical Investigations and an Update to Arc Mapping

- 2009 – Development of Joint Examination Protocols and Safety Plan Guidelines
- 2009 – Fire Investigation: Making Decisions from Scene to Courtroom
- 2010 - Electrical Fires
- 2010 - Burn Pattern Recognition and Evidence Collection
- 2010 - Understanding The Fireplace, Chimney and Venting Fire Scene
- 2010 – Basic Principles of Fire Investigation Oklahoma State University
- 2011 – 40 Hour Hazardous Materials Technician, IAAI
- 2011 – Recreational Vehicle Fires, Chris Bloom
- 2011 – Updates to NFPA 921, Cory Reeves
- 2011 – Combustion Explosions & High Explosives and Explosive Recognition,
Dr. John DeHaan and Jack Malooly
- 2011 – Fatality Fires, Dr. Elayne Pope
- 2012 – Joint Fire and Explosion Scene Investigations, M. J. Schultz
- 2012 – National Fire, Arson & Explosion Investigation Training Program, NAFI
- 2012 – Fundamentals of Motor Vehicle Fire Investigation, Society of Automotive
Engineers.
- 2012 – Health and Safety of the Fire Investigator, Missouri IAAI
- 2012 – Depositions of Investigators, Missouri IAAI
- 2012 – Litigation on Fire, Missouri IAAI
- 2012 – Investigation of Vehicle Fires Related to the Insurance Industry, Illinois IAAI
- 2012 – Cell Phone Forensics, Tracking and Digital Evidence Seizure, Iowa IAAI
- 2012 – Agricultural Fire Loss, Iowa IAAI
- 2012 – Corrugated Stainless Steel Tubing Fires, Arkansas IAAI
- 2013 – Load Tap Changer Fundamentals and Maintenance, SD Meyers, Branson, MO
- 2013 – Personal Productivity and Customer Relationship Management, T&T Training
- 2013 – Asbestos Operations and Maintenance, Environmental Safety Training
- 2013 – HAZWOPER Refresher, Environmental Safety Training
- 2013 – Basic Hybrid and Electric Vehicle Safety, Society or Automotive Engineers
- 2014 – Vehicle Fires, Illinois IAAI Terrence Hoyle Conference
- 2014 – Explosion Examinations, Illinois IAAI Buxton Mazzone Conference
- 2014 – Combining Fire Science, Circumstantial Evidence & Logic, Illinois IAAI
Buxton Mazzone Conference
- 2014 – Detecting Deception in Interviewing, Illinois IAAI Buxton Mazzone
Conference
- 2014 – CSST Fires, Missouri IAAI Conference.
- 2014 – Spoliation, Missouri IAAI Conference.
- 2014 – NFPA 921 and 1033 Updates, Illinois IAAI Conference
- 2014 – Fire Dynamics and Mass Ventilation Patterns, Illinois IAAI Conference
- 2014 – Asbestos Operations and Maintenance, Environmental Safety Training
- 2015 – HAZWOPER Refresher, Environmental Safety Training
- 2015 – Fire Scene Safety, Evidence Collection and Sampling, Kansas IAAI
Conference
- 2015 – Manage Large Loss, Illinois IAAI Buxton Mazzone Conference

2015 – Fire Scene Photography, Missouri IAAI Conference
2015 – Origins of a Kitchen Fire, Illinois IAAI Conference
2016 – Fatality Fires Fire Scene Evidence Preservation, Kansas IAAI Conference
2016 – HAZWOPER Refresher, ClickSafety.com
2016 – Investigating Explosives & Documenting a Fire Scene, Arkansas IAAI Conference
2017 – HAZWOPER Refresher, ClickSafety.com
2017 – Profile of Arson, Kansas IAAI Conference
2017 – Fire Scene Investigation 101, Central Illinois Fire Investigator’s Association
2017 – Hands on Electrical and Mechanical for Fire Investigators, Southern Illinois IAAI Conference
2017 – Spontaneous Combustion, Southern Illinois IAAI Conference
2017 – Small Appliance Fires & Evidence Collection, Missouri IAAI Conference
2017 – Finger Prints and DNA from a Fire Scene, Missouri IAAI Conference
2017 – Updates to NFPA 921 and NFPA 1033, Missouri IAAI Conference
2017 – Asbestos Operations and Maintenance Refresher, Environmental Safety Training
2017 – A2 Respirator Basics, ClickSafety.com
2018 – HAZWOPER Refresher, ClickSafety.com
2018 – Asbestos Operations and Maintenance Refresher, Environmental Safety Training
2018 – Fire Investigation Law, Honorable Mark McGinnis
2018 – Explosion Investigations, Jamie Novak
2018 – Fire Dynamics, ATF
2019 – HAZWOPER Refresher, ClickSafety.com
2019 – Asbestos Operations and Maintenance Refresher, Environmental Safety Training

VII. Classes Taught

Automation of the ANSI C119.4-1991 Connector Test – September 1996, IEEE Transmission and Distribution Conference, Los Angeles, CA.

Characteristics of Recessed Light Fixtures – January, 2011, I.A.A.I. Illinois North Chapter, Mokena, Illinois

Characteristics of Electrical Devices in Association with Cellulose Insulation – June, 2011, I.A.A.I. Missouri Chapter, Lake Ozark, Missouri

Electrical Investigation Topics – October, 2012, Illinois State Fire Marshall Training, Springfield, Illinois

Electrical Investigation Topics – November, 2012, Boone County Fire Protection District Training, Columbia, Missouri

Electrical Circuit Tracing for the Forensic Investigator – February, 2013, I.A.A.I. Kansas Chapter, Topeka, Kansas

Electrical Circuit Tracing for the Forensic Investigator – May, 2013, I.A.A.I. Missouri Chapter, Lake Ozark, Missouri

Electrical Fires – June 2013, Kansas City Claims Association, Overland Park, Kansas

Lightning. What it Does and What it Does Not Do – October, 2013, 2013 Claims Seminar, Cameron, Missouri

Lightning. What it Does and What it Does Not Do – August 21, 2014, KC Claims Association Luncheon, Leawood, Kansas

When to Call an Engineer and What to Expect. – Greater Kansas City Claims Association Luncheon, May 21, 2015 Leawood, Kansas

Electricity and Fire Investigation – Illinois Fire Service Institute, June 24, 2015, Champaign, Illinois

VIII. Subject Matter Expert

2013 – Fundamentals of Basic Electricity, CFITrainer.Net, IAAI

2013 – Residential Electrical Systems, CFITrainer.Net, IAAI

2019 – Introduction to Appliances, CFITrainer.Net, IAAI