



DAVID HINES, P.Eng., CFEI, SMIEEE

SENIOR FORENSIC ENGINEER

CONTACT

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EDUCATION

Bachelor of Electrical Engineering
Lakehead University
2006

Electrical Technology Diploma
University College of Cape Breton
2004

ASSOCIATIONS

- Association of Professional Engineers and Geoscientists of Alberta (APEGA)
- International Electrical/Electronics Engineers (IEEE)
 - Industrial Applications Society (IAS)
 - Power and Energy Society (PES)
- National Fire Protection Association (NFPA)
- National Association of Fire Investigators (NAFI)
- Fire Investigation Association of Alberta (FIAA)
- The Insurance Institute of Southern Alberta (IISA)

PROFILE

Over 19 years experience in the Engineering industry with extensive experience in forensic investigations: Fire Origin & Cause (Structural: residential, commercial, & industrial; Vehicles: heavy equipment, commercial transport, & passenger vehicles), and Failure Analysis of Electrical Systems (low/medium/high voltage, distribution, transmission, electronics, controls, & consumer products). David Hines has led hundreds of investigations to date with multifaceted teams for adjusters, insurers, and legal counsel. Strong multi-disciplinary background with well-rounded job experience including: design, hands-on field installation, commissioning & start-up jobs, and troubleshooting roles. Excellent knowledge of codes, IEEE standards, and maintenance planning.

PROFESSIONAL EXPERIENCE

Senior Forensic Engineer, P.Eng May 2018 – Present
Certified Fire and Explosion Investigator, CFEI
Orata Engineering, Calgary, AB

Senior Forensic Engineer role (*see Jensen Hughes description below*) with the additional responsibility of structuring a multi-disciplinary forensic engineering team.

Senior Forensic Engineer, P.Eng Oct 2017 – May 2018
Certified Fire and Explosion Investigator, CFEI
Jensen Hughes, Calgary, AB

Senior Forensic Engineer and Team Lead for the Calgary office. Same role as SAMAC Engineering experience described below with the addition of multiple direct reporting engineers from varying disciplines.

Forensic Engineering Consultant, P.Eng 2010 – 2017
Certified Fire and Explosion Investigator, CFEI
SAMAC Engineering Ltd. Calgary, AB

Lead Forensic Engineer responsible for Fire Origin & Cause investigations, and Electrical Failure Analysis. Conducted hundreds of fire investigations from residential to industrial structural fires, various heavy equipment fires (excavators, combines, tractors, forest mulchers, landfill machinery, etc), and commercial vehicle fires (transport trucks, street sweepers, snow clearing equipment, etc).

Extensive experience with failure analysis of electrical systems, including: power systems (distribution lines, transformers, switchgear, overcurrent protection devices, etc.), consumer products (electronic circuits, internal components, wire routing, etc.), and instrumentation & controls failures. Also contributed to repair work with regards to design, planning, and code compliance.

PROFESSIONAL EXPERIENCE

Electrical Instrumentation Coordinator, Field Technician 2009 – 2010

MMR Constructors, Fort McMurray, AB

Electrical and instrumentation coordinator on Albian Sands Expansion 1 (80,000 bopd). Supervised specialized group of Electrical/Mechanical/Instrumentation pre-commissioning & construction teams focusing on eliminating deficiencies. Performed electrical pre-commissioning: verification of all power and control wiring, including MPs, JBs, MCC buckets, protection relays, and fiber optic ENMCS.

Electrical Engineer, Project Manager 2006 – 2009

Chamco Industries, Calgary AB

Designed electrical systems and instrumentation for Fire Pump and Instrument Air Compressor packages shipped locally and internationally. Designed electrical systems in accordance with applicable local and international electrical standards and the National Fire Protection Association (NFPA) standards. Commissioning/troubleshooting on site, and electrical advice to field staff. Supervised field testing of power and control systems. Managed a \$1 million Fuel Module project for Doris North Mines, including electrical design and supervision of on-site commissioning & start-up.

Instrumentation Technician 2006

Ledcor Industries, Fort McMurray AB

Responsible for installing pressure, temperature, and flow instruments on the Suncor Millennium Coker Unit.

Assistant Project Manager 2002 and 2005

New Dawn Enterprises, Sydney, NS

Feasibility study for power generation and electrical grid connections on proposed \$6M wind farm project. Managed installation of a 50m tall meteorological tower, including: procurement, shipping logistics, and supervising installation crew.

Electrical Technologist 2003

University College of Cape Breton, Sydney, NS

(Co-op Work Term) electrical technologist duties, including developing a proposed first year Electrical Technology curriculum for starting a sister program in Egypt. Designed new electrical laboratory layout.

Electrical Maintenance Technician 2003

Michelin Tire Canada, Granton, NS

(Co-op Work Term) troubleshooting and repairing failed production equipment at a large industrial plant. Developed procedures and processes to isolate, extract, and replace a high voltage cable.

Electrical Apprentice 2001 – 2004

Contracting and Renovations, Sydney, NS

Complete replacement of wiring in older residential and commercial units with code compliant installations. Included replacing outdated wiring and panels, such as knob and tube systems.

VOLUNTEERING / TEACHING

Institute of Electrical and Electronics Engineers (IEEE)	2012 - Present
Past Chair of joint Chapter: Power & Energy Society (PES) and Industrial Applications Society (IAS)	2017 - 2019
Fire Investigation Instructor	2019
Hot Wheels - Vehicle Fire Investigation Training, FIAA, Nisku, AB	
Electrical Instructor	2012
Calgary Fire Department (CFD)	
Electrical Instructor	2011 – 2012
EPIC, Calgary	

TECHNICAL TRAINING

- Hot Wheels - Vehicle Fire Investigation Training, Fire Investigation Association of Alberta (FIAA), 3 days, Nisku, 2019
- Fire Investigation Essentials Course, Fire Investigation Association of Alberta (FIAA), 3 days, Strathcona, 2019
- Lightning Protection & Transient Overvoltage, IEEE, 2015
- Fire Dynamics and Arc Mapping, 4 days, Cold Lake, 2015
- SCADA Systems, International Electrical/Electronics Engineers (IEEE), 2015
- Batteries and Chargers, International Electrical/Electronics Engineers (IEEE), 2015
- Renewables and Energy Storage, International Electrical/Electronics Engineers (IEEE), 2014
- Conductors and Raceway Design, International Electrical/Electronics Engineers (IEEE), 2014
- Medium Voltage Drives, International Electrical/Electronics Engineers (IEEE), 2014
- Fire Investigation Essentials, Fire Investigation Association of Alberta (FIAA), 3 days, Nisku, 2014
- Testimony for Expert Witnesses, 3 days, Jonathan Hak, Calgary, 2013
- Forensic Photography, 3 days, Phoenix, 2013
- Arc Flash / Short Circuits, 2 days, Calgary, 2013
- Certified Fire & Explosion Investigator (CFEI), 5 days, Toronto, 2012
- Advanced Fire Investigation, 1 day, Dr. DeHaan, Lethbridge, 2011
- Back to Basics (Fire Investigation), 3 days, Lethbridge, 2011
- Building Condition Assessment, EPIC, 3 days, Edmonton, 2011
- Electrical Grounding and Bonding, 2 days, Edmonton, 2011
- Effective Evidence Collection, 3 days, Edmonton, 2010
- Rockwell Automation control systems, 2 days, Calgary, 2009
- Medium and High Voltage Distribution and Grounding, 3 days, Edmonton, 2008
- CEC Master's Code and Applied Theory, Southern Alberta Institute of Technology (SAIT), 2007

CERTIFICATES

- CSTS/OSSA/WHMIS/PST (oil and industry safety certificates)
- First Aid & CPR