

## James Graf | Forensic Electrical Engineer, P.E., CFEI, CVFI

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### Professional Summary:

James Graf, P.E. has extensive knowledge and experience in residential, commercial, and heavy industrial design and installation of electrical systems. Mr. Graf has 22 years of engineering experience and 15 years of experience as an electrician prior to that. He is a subject matter expert in electrical building system design and installation, electrical project cost estimating, electrical system failures, troubleshooting electrical controls for building systems and machines, and other areas. His previous experiences include work in the following industries: commercial and industrial (steel mills) electrical system design and installation. His past forensic projects have included, product failure analysis, electrical fires, lightning strike damage, battery failures, water damage to electrical systems, and vehicle electrical systems. He has provided repair recommendations and estimates for building electrical systems. He has extensive expertise in the National Electrical Code (NEC), National Safety Code (NESC), and a working knowledge of the International Building Code.

### Areas of Expertise:

- Electrical System Failures
- Lighting Strike Damage
- Water Damage to Electrical Building Systems
- Underground Wiring Failures
- Electrical Motor and Transformer Failures
- Electrical Fire and Origin Cause

### Licenses and Certifications:

Professional Engineer, State of Connecticut, License #3588

Professional Engineer, State of Delaware, License #27296

Professional Engineer, Indiana, License # PE11200604

Professional Engineer, State Kansas, License #22629

Professional Engineer, State of Kentucky, License #28761

Professional Engineer, State of Maryland, License #43278

Professional Engineer, State of Michigan, License #6201059443

Professional Engineer, State of New Hampshire, License #14040

Professional Engineer, State of New York, License #91853

Professional Engineer, State of Ohio, License #E68185

Professional Engineer, State of Pennsylvania, License #PE077745

Professional Engineer, State of Rhode Island, License #14392

Professional Engineer, State of Vermont, License #018.134963

Professional Engineer, State of Virginia, License #0402065418

Professional Engineer, State of West Virginia, License #19928

Professional Engineer, State of Wisconsin, License #48533

Professional Engineer, District of Columbia, License #PE40000683

Certified Fire and Explosion Investigator (CFEI) and Certified Vehicle Fire Investigator (CVFI),  
National Association of Fire Investigators, license # 19136-10779V

Fire Protection License, State of Ohio, License # 54.18.2432

### Project Experience:

#### **Confidential Client, Ohio**

##### **Electrical fire investigation for a multimillion-dollar business loss.**

On-site field investigation and subsequential joint studies determined the client's safety devices were not properly connected.

#### **Confidential Client, West Virginia**

##### **Electrical fire investigation of a residential house.**

An electrical junction box was found in the area of fire origin, and it exhibited excessive melting and heat damage. The box was sent to a laboratory for chemical analysis, and it was determined materials used for exothermic welds were present in the electrical box. The materials were not reported to have been in the house.

#### **Various Clients, Multiple states**

##### **Determine if house wiring, appliances, heating, ventilation, and cooling (HVAC) systems were damaged due to a lightning strike.**

Project activities included insulation and resistance testing of building wiring and motors. Obtaining and analyzing independent lightning strike reports. The final report indicates what electrical items are damaged by lightning or other causes.

#### **Confidential Client, Ohio**

##### **Electrical fire in the HVAC system.**

Analyzed control wiring in the unit and determined the safety devices in the unit were previously disconnected, which caused the fire.

#### **LTV Steel, Cleveland, Ohio**

##### **An integral part of an engineering team that restored the electric system to a five-stand 84-inch tandem rolling mill after a devastating fire.**

The mill was able to be put into production within seven days after the fire event. Afterward, continued with project management activities, supervised further repairs, and designed a fire alarm system.

**Court Qualifications/ Depositions:**

Litigation CV available upon request.

**Professional Experience:**

EFI Global, Inc, Forensic Electrical Engineer, 2023 - present  
Donan Engineering, Forensic Engineer, 2009 – 2023  
Alpha Electric, Inc. Owner, 2002 – 2009  
CMM Company, Electrical Engineer, 1999-2001

**Education:**

B.S. Electrical Engineering, Cleveland State University, Cleveland Ohio, 1998.

**Affiliations:**

National Association of Fire Investigators (NAFI)  
Member of the Institute of Electrical and Electronic Engineers (IEEE)