

**Mark J. Keith** | Electrical Forensic Engineering Consultant, P.E., CFEI,  
CPQ

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### Professional Summary:

Mr. Keith has over thirty years of engineering experience. His areas of expertise and services include electrical/electronic engineering investigations, including all aspects of the design, fabrication, production, and operation, patent infringement analysis, reverse engineering, product teardowns and failure analysis of electrical and electronic devices and products as well as computer systems, hardware and software. Other areas of expertise include fire origin and cause (O&C) investigations, lightning investigations, telecommunication/data network engineering, industrial automation and control products/applications and electrical product testing and compliance (UL, CE and FCC) in the design phase, and in post-design product failure analysis, including power and signal line surge analysis. He has also served as an expert witness and forensic engineer on many cases involving a wide variety of electrical and electronic devices and applications, and on some projects drilling down to find the root cause of failure. Some projects have focused on fire hazards, and others dealt with shock and operator safety. He has also analyzed designs in reference to user abuse and unintended operation, which is often an overlooked aspect in most product safety reviews.

- Forensic & Investigative Electrical Electronic Engineering
- Fire Origin and Cause
- Failure Analysis & Reverse Engineering
- Lightning Investigations
- Power Line and Signal Surge Analysis
- Power Quality
- Energy Audits
- Safety & EMC Compliance
- Industrial Automation & Controls
- Telecommunication and Data Network Engineering
- Patent Infringement Analysis

### Licenses and Certifications:

C.F.E.I (Certified Fire and Explosion Investigator)

CPQ (Certified Power Quality Professional)

Professional Engineer

- North Carolina License PE # 021552
- South Carolina License PE # 30445
- Virginia License PE # 0402-051757
- Georgia PE # 038712
- Tennessee PE # 117314
- West Virginia PE # 20720
- Pennsylvania PE # PE084878

NCEES, #51589

### Professional Experience:

IEC & Associates, Raleigh, NC  
2003-Present  
Owner & Principal Forensic Electrical Engineer

Ametek ESP SurgeX, Knightdale, NC  
2013-Present  
Sr. Compliance and Safety Engineer

National Forensic Consultants, Norristown PA  
2004-Present  
Sr. Forensic Electrical Engineering Consultant

Forcon International, Atlanta, GA  
2014-Present  
Sr. Forensic Electrical Engineering Consultant

Overture Networks, Research Triangle Park, NC  
2008-2012  
Senior Design Engineer

Safenet, Research Triangle Park, NC  
2005-2008  
Senior Design/Development Engineer

Cipheroptics, Research Triangle Park, NC  
2002-2005  
Senior Design/Development Engineer

Inovia Telecom, Raleigh, NC  
1998-2002  
Principal Engineer

Connectware, Morrisville, NC  
1995-1997  
Senior Design/Development Engineer

Square D Company, Kightdale, NC,  
1989 – 1995  
Senior Design/Development Engineer

Exide Electronics Corporation, Raleigh, NC,  
1987 – 1988  
Senior Product/Quality Engineer

Avnet International Corporation, Smithfield, NC,  
1988 – 1989  
Electronic Design Consultant:

GE Corporation, Research Triangle Park, NC,  
1980 – 1986  
Senior Integrated Circuit Design Engineer:

#### Specialized Education:

- Asbestos Operations & Maintenance (16 Hour) for Class III Classification course, 2018
- National Electric Code Training - 2013 (Three day course), Keith Educational Seminars, Wilmington NC
- Power Quality Professional (CPQ) Certification – September 2013
- NAFI CFEI Training, Three day course, 2013
- Electromagnetic Compatibility Engineering –Henry Ott Consultants, Three day course, 2012
- NEBS Conference, Verizon and UL (Compliance for Wireless and broadband Networks, 2010
- North Carolina State University (Post Masters Degree) - ASIC Design (ECE520), 2008

#### Education:

Master of Science in Electrical and Computer Engineering  
North Carolina State University, 1993

Bachelor of Science in Electrical Engineering  
Pennsylvania State University, 1980

#### Affiliations:

Institute of Electrical and Electronic Engineers (IEEE)  
Product Safety Engineering Society (PSES)  
Association of Energy Engineers (AEE)  
National Association of Fire Investigators (NAFI)  
North Carolina Adjusters Association

\*\*Litigation CV available upon request