

Douglas R. Bernthal | Forensic Electrical Engineer, PE, CFEI

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Professional Summary:

Mr. Bernthal has over 30 years' experience in the areas of electrical fires and failures, Origin and Cause investigations, electrical design and troubleshooting, and project management. He also has over 10 years' experience as a licensed Master and Journeyman Electrician in the electrical construction industry. His forensic experience involves onsite and joint examinations, expert forensic reports, litigation and electrical accident investigation. His engineering experience includes the design and installation of distributed generation projects, power distribution equipment, automated control systems, indoor and outdoor lighting systems and power quality systems. His project management experience includes creating job specifications, management of multiple subcontractors and interaction with owners, developers, architects and equipment manufacturers. Mr. Bernthal's electrician experience includes industrial and commercial renovation projects, troubleshooting electrical outages at local businesses, and managing apprentice electricians on new industrial and commercial construction projects. Knowledge consists of: power distribution systems, motors and controls, electric services, transformers, bus duct systems, lighting systems and the National Electric Code.

Areas of Expertise:

- Electrical Fire and Explosions
- Electrical Accidents/Fatalities
- Lightning/Power Surge Damage
- Wetted Electrical Equipment
- Automated Control Systems
- Transformer/Generator Failure Analysis
- Power Generation and Distribution Systems
- Manufacturing Plant and Assembly-Line Equipment
- Industrial, Commercial and Residential Construction Projects
- Industrial, Commercial and Residential Buildings
- Construction Claims
- Safe Work Practices
- OSHA Compliance

Licenses and Certifications:

Certified Fire and Explosion Investigator, NAFI, 9359-4039

Private Investigator, Florida, C 1200260

Registered Professional Engineer, Florida, # 60011

Project Experience:

Clear Creek Independent School District, Houston, Texas

Evaluated water damaged electronics located in 20 individual schools located throughout the Clear Creek School District. The water damage was the result of roof damage from Hurricane Ike.

Signal International Shipyard, Orange, Texas

Assessed the condition of the electrical power distribution equipment located throughout the shipyard. The distribution equipment was exposed to flood waters as a result of Hurricane Ike.

Four Seasons Resort, Nevis, Leeward Islands, Caribbean

Investigated claimed damages to underground electrical cabling as a result of storm surge waters. The storm surge was the result of Hurricane Omar. The underground cable tested connected the main building to the multiple outlying cottages on the property.

Alltel Corporation, Fort Smith, Arkansas

Determined if multiple transported Advanced Element Management System (AEMS) modules were damaged by transit company during shipment.

Holy Name Cathedral Church, Chicago, Illinois

Performed damage and repair assessment for the fire damaged lighting system located in the church attic. The fire was determined to be the result of faulty rain gutter deicing systems.

ITC Holdings Corporation, Cedar Rapids, Iowa

Investigated two electric utility substations exposed to flood water damages caused by heavy rains in the area. Evaluated damages to equipment and reviewed repair invoices for equipment remediation.

Seelbach Hilton, Louisville, Kentucky

Evaluated electrical arcing damages to main electrical distribution equipment in hotel mechanical room. Performed invoice and proposal review of damage remediation work.

Equity One, Decatur, Georgia

Performed an electrical damage assessment at a former Ingles grocery store. The electrical and mechanical equipment was stolen or damaged by vandals.

City of Springfield, Springfield, Illinois

Conducted a site investigation to determine the cause of a faulted substation transformer located in Westchester Substation. The transformer was shipped to Jordan Transformer in Minneapolis, Minnesota for repairs.

Opry Mills Mall, Nashville, Tennessee

Investigated the results of flood damages to the mall's main electrical distribution equipment and all individual tenant spaces. The flood damages were the result of a historic rain event.

Kindred Hospital, Oklahoma City, Oklahoma

Evaluated damages to electrical equipment feeding the hospital's main chiller. The chiller was reported to have been affected by lightning during a storm.

Willis Tower, Chicago, Illinois

Determined the severity of damages to multiple floors as a result of flood waters from the Chicago River. Main electrical switchgear, elevators and escalators, lighting and convenience outlets on the affected floors.

Project Experience (Continued):

Texas Southern University, Houston, Texas

Inspected a damaged chiller in the campus Central Plant Building and determined the cause of the failure. Reviewed repair scope and proposals for the damaged chiller.

Synolovski Residence, Plantation, Florida

Inspected damage to residential wiring as a result of exposure to Chinese manufactured drywall. Provided repair scope to the damaged residential wiring.

Carlisle Borough Wastewater Treatment Plant, Carlisle, Pennsylvania

Assessed damages to a failed steam turbine. A fire occurred as a result of the turbine failure. Reviewed repair scope proposals from repair vendors.

Agfirst Farm Credit Bank, Columbia, South Carolina

Conducted a field investigation to determine the damages caused to the building's main electrical distribution system. The damages were the result of a water main break on the exterior of the building.

New York City Housing Authority, New York, New York

Determined scope and costs to repair water damages to electrical equipment located in the basements of subsidized housing buildings. The damages occurred as a result of storm surge from Hurricane Irene.

Brian Kahn Residence, Windermere, Florida

Performed a fire Cause and Origin investigation at large private residence. Fire damages to master bedroom area caused by recently renovated cove lighting controlled by Crestron lighting controls.

Court Qualifications/ Depositions:

Litigation CV available upon request.

Professional Experience:

Douglas Bernthal, PE, Senior Forensic Engineer, 2014 – present

Halliwell Engineering Associates, Senior Forensic Electrical Engineer, 2008 – 2014

E.C. Driver & Associates, Electrical Engineer, 2006 - 2008

Rimkus Consulting Group, Inc., Senior Consultant, 2003 – 2006

Cummins Southeastern Power, Project Engineer, 2002 – 2003

TECO Energy, Project Manager, 2000 – 2002

WESCO Distribution, Project Engineer, 1998 – 1999

Cutler Hammer Engineering Services, Project Engineer, 1997 – 1998

Professional Experience (Continued):

Rockwell Automation, Senior Field Support Engineer, 1995 – 1997

AOK Controls Engineering, Inc., Project Engineer, 1993 – 1995

General Dynamics, Electrical Engineer, 1990 – 1993

Helm Electric, Inc., Journeyman Electrician, 1987 – 1990

Parrent Electric, Inc., Journeyman Electrician, 1985 – 1987

I.B.E.W. Local #557, Journeyman Electrician, 1981 - 1985

Specialized Education:

Life of a Transformer Seminar, Doble, 2016
Transient Voltage Surge Suppression Seminar, IEEE, 2015
Arc Flash Hazard Analysis, Red Vector, 2015
Electrical Protection Grounding, Red Vector, 2014
Investigation of Electrical and Appliance Related Fires, IAAI, 2013
Lightning Protection Design, IEEE, 2012
NEC Code Change Conference, EC&M, 2010
Switching Surge Analysis, University of Florida, 2009

Education:

Master of Science, Electrical Engineering, Rensselaer Polytechnic Institute, 1993
Bachelor of Science, Electrical Engineering, Michigan State University, 1990
Certificate, Electrical Technology, Michigan State University, 1979

Affiliations:

International Association of Arson Investigators (IAAI)
National Association of Fire Investigators (NAFI)
Member Institute of Electrical and Electronic Engineers (IEEE)

Courses Instructed/ Guest Lecturer:

PLC-5 Programming Fundamentals Fundamentals
SLC 500 and Micrologix 1000 Programming