ELISA PAONE, P.E., CFEI

Principal

Summary

Elisa has engineering and design experience spanning 35+ years, specializing in on-site electrical forensic analysis and expert testimony. Her MEP design experience includes large-scale electrical projects for high-rise, retail and commercial buildings, from conceptual design to construction administration and client coordination. At a public utility company, she handled power distribution design, utility service and regulatory compliance issues as well as instrumentation and controls engineering, involving complex system installations and EPA-compliant projects within power plants. Elisa oversaw engineering-focused web content, SEO integration, and the creation of digital catalogs for OEM clients, presenting technical information in a clear and concise manner. As a System Engineer for a government contractor, she provided engineering and operational support for two military jet flight simulators.

Areas of Technical Expertise

- Electrical Engineering and Design
- Forensic Electrical Engineering
- Fire and Explosion Investigations

Education

- B.S., Electrical Engineering, 1987, University of Colorado at Denver
- A.A.S., Engineering Sciences, 1984, State University of New York Farmingdale

Registrations

- Licensed Professional Engineer in CA, CT, DC, DE, GA, FL, MA, ME, MD, NC, NH, NJ, NY, PA, RI, TX, VA and VT

Professional Activities

- NAFI Certified Fire & Explosion Investigator (CFEI)
- Member, Institute of Electrical and Electronics Engineers (IEEE)
- Member, National Association of Fire Investigations (NAFI)
- Vice President and Board Member, Manhasset Public Library, 2009-2013
- Research Committee VP and Board Member, Manhasset Women's Coalition Against Breast Cancer, 2011-2013

CONTACT

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*Denotes work performed with previous employer.

Select Project Experience

Electrical Engineering and Design

Roosevelt Raceway Center, Westbury, NY.* Design and installation of the underground power distribution system for the Roosevelt Raceway property development. Designed an underground power system, including networks for commercial distribution and communication facilities.

Village of East Hampton, East Hampton, NY.* Engineering and design of an underground secondary replacement project, including material procurement, outage planning, scheduling, design and installation.

Nassau/Suffolk Counties, Long Island, NY.* Provided electrical engineering and design guidance to commercial and residential developers throughout the service territory. Electrical design and construction consulting for major utility customers.

Northport Power Station, Northport, NY.* Electrical engineering for the installation of a burner management system, distributed control system, continuous emissions monitoring system, and gas leak detection system. Engineering and design of gas conversion projects.

Glenwood Landing Power Station, Glenwood Landing, NY.* Conducted a study on the long-term serviceability/life extension of the power station. Wrote a report containing recommendations for investment decisions and cost-benefit analysis. Design and engineering for a screen house re-cabling project and a gas conversion project.

Higher Education Campus, Long Island, NY.* Design of electrical systems for the addition of new classroom, laboratory spaces, and reconfigured existing space.

Commercial Spaces, New York, NY.* Engineering and design of electrical systems including normal and interruptible power distribution, stand-by power generation, lighting, lighting control, communication, life safety/fire alarm and security systems. Projects include a law office, a bank HQ, retail outlets, etc.

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Systems Engineer, Clovis, NM. Performed database management and diagnostic engineering for radar system of new F-11D Digital Flight and Weapons Simulator, while operating and maintaining existing model. Operated and maintained the simulator, while training aircrew members. Developed on-site training program and installed program revisions to Digial Radar Landmass System (DRLMS) using VAX/VMS operating system.

Forensic Electrical Engineering

Intelligent Transportation System, Confidential Location. Analyzed design documents to reveal the scope growth of an intelligent transportation system (ITS) from bid to permit phases for a 5+ mile highway section. Reviewed AHJ and NFPA requirements for code requirement and violations and analyzed bid drawings and construction drawings to evaluate the scope of work and identified design omissions.

Concrete Recycling Plant, Staten Island, NY. Forensic investigation of an electrocution event involving the analysis of the plant electrical system, concrete recycling processes and conveying equipment. Conducted on site inspections and analysis of plant equipment including automation components, power distribution equipment, grounding systems and crushing and conveyor system components.

Liquefied Natural Gas Plant, Confidential Location. Conducted an electrical system analysis focused on utility distribution, reliability and plant resiliency for a liquefied natural gas (LNG) pre-treatment and liquefaction plant. Led electrical team through the investigation of SCADA data, maintenance records, policies and procedures to develop a presentation of our research. Provided expert testimony based on our analysis.

Fire Loss Assessment, Pittsburgh, PA. Investigation of damage to electric system affected by a main electric room fire within a high rise office building. Services included scope of damage and scope of repair reports, code upgrade analysis, review of proposed repairs. Interfaced with contractors and owners experts, documented conditions and other support services.

Wildfire Investigation, Confidential Location. Provided litigation support for a wildfire associated with utility equipment. Performed a technical investigation of the utility assets and infrastructure, operations and maintenance practices and procedures. Investigation involved the electrical distribution system, including but not limited to substations, protective relaying, transmission and distribution wiring, and utility poles. Also involved the independent review of SCADA information pertaining to the utility grid faults. Prepared a report documenting findings.

Luxury Condominium, Washington DC. Investigation of construction defects associated with the electrical system within a high rise condominium building. Scope included inspections and code analysis.

Private Residence, Greenwood, ME.* Investigation of and expert report on cause of failure of wind turbine, inverters, battery backup systems and solar arrays.

Fire and Explosion Investigations

Battery Energy Storage System, Confidential Location, TX. Forensic investigation and root cause analysis of a battery fire within a peak shaving system for an electric grid. Documented the scene, supported evidence collection and led a lab exam of the fire damaged stack and its contents. Developed a report including our hypothesis, documented observations and laboratory analysis.

Parking Garage Explosion, Milwaukee, WI. Scope of damage and scope of repair analysis and reports of affected electrical equipment. Spaces included a parking garage, connected high rise office building and apartment building under construction.

Solar Panel Array Fire Investigation, Commercial Building, CA. Root cause analysis to investigate the origin of a rooftop solar panel fire, including a review of the system's design documentation, operational data, and records gathered from the fire scene. Performed research to assess the functionality of individual system components, including a detailed examination of inverter data from the days preceding the incident. Design methodologies and construction practices were scrutinized, leading to the development of a hypothesis regarding the fire's causation.

Sworn Testimony

Deposition, Rexel USA, Inc. v. RK Mission Critical, LLC & RK Indus., LLC, dispute between a wholesale distributor of electrical supplies and services and a customer regarding electrical products. November 2024 and January 2025.

Deposition, Wardman Tower Residential Condo. Ass'n v. JBG Smith Properties, et. al., dispute between a homeowner's association and developer of a historic hotel to condominium conversion regarding allegations of defective electrical construction. April 2024.

Arbitration, Gunvor Singapore Pte Ltd. v. Freeport LNG Marketing LLC, regarding Electric Power at Freeport LNG. August 2023.

Trial, Trustees of Green St. Monthly Meeting of Friends v. Citizens Bank, N.A., involving the condition of an electrical system in a leased building in Philadelphia, PA. Retained on behalf of Citizens Bank, N.A., U.S. District Court, Eastern District of Pennsylvania. November 2022.

Select Papers, Lectures and Publications

"Why Lithium-ion Batteries Pose Fire Safety Concerns for Buildings," Building Design + Construction, January 9, 2023 (co-author)