

# ELISA PAONE, P.E., CFEI

Principal



## Summary

Elisa Paone joined Thornton Tomasetti in 2020. She is a licensed electrical engineer and has worked in the MEP, consulting, forensics and utility industries. With more than 25 years of experience in forensic investigations and electrical design, she provides litigation support, building code and code upgrade analyses and insurance related consulting. Ms. Paone is proficient in the design of electrical systems, including lighting, lighting control, life-safety/fire alarm, power distribution, emergency power and communication facilities within high-rise, commercial and residential buildings. She also specializes in electrical failure and electrical fire cause and origin investigations.

## Areas of Technical Expertise

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

## 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)

## CONTACT

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## Select Project Experience

### Utility 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.

### 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.

\*Denotes work performed with previous employer.

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### **Residential Fire Investigation**, Lakewood Township, NJ.\*

Investigation of large structural fire involving multiple units of a condominium related to electrical panel board age and corrosion.

**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.

**Commercial Fire Investigation**, Bronx, NY.\* Joint investigation of a commercial building fire as it related to electrical appliances, electrical wiring deficiencies and code violations.

**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.

### **Forensic Electrical Engineering**

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

**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.

**Milk Processing Plant**, Auburn, NY.\* Forensic investigation of electrical arc flash event and injury to electrical workers.

**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.

**Liquefied Natural Gas Plant**, Confidential Location. Conducted an electrical system analysis focused on utility distribution, redundancy, and internal electric system resiliency to power interruptions for a liquefied natural gas (LNG) pre-treatment and liquefaction plant. Provided expert testimony based on our analysis.

**Bank Building**, Philadelphia PA. Review, investigation, and response to the analysis and opinions put forth by plaintiff's experts. Scope included investigation of sufficiency of MEP systems in existing building, site visit, expert report, and testimony in federal court.

**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.

### **Electrical Engineering and MEP**

**Law Office Space**, New York, NY.\* Design of electrical facilities for multiple floors of commercial office space (included a component of MEP).

**Bank Headquarters**, Long Island, NY.\* Design of electrical facilities for three floors of commercial office space.

**Commercial Office Space**, New York, NY.\* Design of electrical systems for two floors of commercial office space.

**Retail Outlet**, Garden City, NY.\* Design of electrical systems for new restaurant (included a component of MEP).

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

### **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)