

LES WINTER, P.E.  
Woodworking Machinery Expert and Electrical Engineer

Technical analysis, research, reports and testimony on electrical accidents, explosions, fires, electrocutions and damages to persons, equipment and property in industrial, commercial and residential settings.

**Electrocutions and Shocks:** Evaluation of causation of shocks originating from utility-line contact, electrical and electronic devices, equipment and wiring.

**Lighting:** Field measurement of lighting levels. Analysis of adequacy of lighting levels and compliance with prevailing codes and practices.

**Lightning Strikes:** Verification of strike/identification of other causes of damage. Evaluation of the adequacy and correct installation of lightning protection and grounding systems; compliance with codes and valuation of electrical damage.

**Electrical Controls:** Investigation of electrical control circuits and related devices for presses, pumps, blowers, compressors, fire alarm, water flow, signaling systems, gas detection systems, ventilation systems and computer-run heavy industrial equipment. Evaluation of functionality of switches, sensors, actuators, and controllers. Analysis of the safety of control system designs for machinery, equipment and plants.

**Electrical Power:** Investigation of malfunctioning, burned and exploded panelboards, circuit breakers, switchgear, motor controllers, lighting panels, lighting fixtures, contactors, starters, bus duct, feeders, wiring transformers, distribution systems and utility services. Analysis of code compliance.

**Construction Claim Analysis:** Delays, damages, methods and means, value engineering, CPM analysis, scheduling, negotiation, mediation and estimating for residential, school, commercial, large industrial, and rail/airport transportation projects. Analysis of bids, payment schedules, costs, impacts of delays, change orders and contract document interpretation.

**Construction Design Document Analysis:** Review of design documents prior to and following construction for completeness, design errors, constructability, coordination and safety.

**Consumer Products:** Analysis of coffee makers, home entertainment equipment, intercoms, automobiles, air-conditioners, computers, microwave ovens and other consumer products involved with fires and injuries.

**Fires:** Analysis of electrical causation of fires originating in utility lines and equipment, premises wiring, panelboards, switchgear, lighting fixtures, receptacles, transformers, consumer and industrial equipment, automobiles and electronics.

**Sound:** Field measurement and analysis of sound levels caused by construction, roadway and other sources. Determination of compliance with prevailing codes and practices.

**Machinery:** Guarding, interlocks, safe operation of pumps, blowers, woodworking equipment, saws.

**WOODWORKING MACHINERY EXPERIENCE**

- 1996 to present Investigate woodworking machinery injuries including: mitre saw (“chopsaw”), hand (“skillsaw”), and table circular saw kickbacks, blade contacts, splitter and guard mis-alignments, interlocks, and control failures.
- 1995 to present Designed and installed laboratory/shop for the testing of ladders and chairs and for furniture manufacture. Investigate chair failures, including tenon failures, screw pull-out and breakage, mechanism failures, and improper assembly.
- 1995 to present Design, build, and test woodworking joints to determine strength and suitability for chair and other furniture use. Build and test wooden chairs for strength and suitability.
- 1995 to present Rebuild and refurbish bandsaws. Rebuild and refurbish radial arm saws. Rebuild and refurbish table saws; modify, redesign, replace guarding. Design custom guarding. Redesign and modify hand planes.
- 1989 to present Design and build furniture. Machinery and equipment used in the production of furniture include:
- |                   |                 |            |               |
|-------------------|-----------------|------------|---------------|
| table saws        | bandsaws        | mitre saws | circular saws |
| jig/saber saws    | radial arm saws | planers    | jointers      |
| grinders          | sanders         | hand tools | compressors   |
| pneumatic nailers | drill presses   | mortisers  | routers       |
| drills            | plate joiners   | lathes     |               |
- 2001 Attended Windsor Institute Chair Construction Seminar.
- 1997 Wrote safety introduction for “The Accurate Table Saw,” a book concerning proper operation of table saws, including the nature of table saw hazards, means and methods of guarding (with Neal A. Growney, P.E.).
- 1997 Wrote portions of table saw operation manual for Wilke Machinery, including initial setup, alignment, anti-kickback and blade guard use, operating procedures and cautions (with Neal A. Growney, P.E., Ian Kirby, and John Kelsey).
- 1989 Attended Warwick Country Workshop seminars in hand tool modification and use, saw sharpening, joint construction, and woodworking machine use.

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**PROFESSIONAL EXPERIENCE**

- 1996 to present    **ROBSON FORENSIC, Inc.**  
*Associate*    2006-present  
*Manager New York/Northern New Jersey Region*    1996-2006  
Provide technical assistance on electrically-related accidents, product and equipment defects and failures in construction, lighting, consumer products, machinery, fire alarm, communications, electronic equipment and fires. Analyze and report on construction claims and disputes. Coordinates investigations of other professionals.
- 1989 to 1996    **Private practice**  
Provided consulting services to the Port Authority of New York and New Jersey, Triborough Bridge and Tunnel Authority, Metropolitan Transit Authority, Long Island Railroad, New York City School Construction Authority and IBM on construction projects. Provided design and condition surveys to banking institutions on high-rise office towers. Advised on construction cost and recommended value-engineering redesigns for electrical components of schools, airports, roadways, office buildings, and malls. Investigated electrical shocks, fires, and other accidents for a variety of other clients including Con Edison.
- 1986 to 1989    **F. LEVINSON, Electrical Contractors**  
*NYC Project Manager* for railroad, municipal park and high rise office building projects; designed and supervised field installation of electrical switchgear, machinery, transformers, motor controllers, lighting fixtures, circuitry, safety switches, railroad track devices, radio communication systems, fire alarm, security, and computer signaling. Designed and supervised testing procedures.
- 1984 to 1986    **HAZEN AND SAWYER, Consulting Engineers, NYC**  
*Chief Electrical Field Engineer.* Directed installation and testing of high voltage service, transformers and switchgear, motor control centers, machinery, pump and fan controllers, and lighting system for major wastewater plant. Directed installation, testing, and calibration of computer-controlled instrumentation system including process sensors, fire, security, and communications.
- 1983 to 1984    **CHARLES A. MANGANARO, Consulting Engineers, NYC**  
*Chief Electrical Field Engineer.* Directed electrical equipment installation and safety procedures for major wastewater plant. Supervised testing of high-voltage distribution system including switchgear, motor controllers and transformers. Investigated motor control center fires. Wrote operation and maintenance manuals for machinery. Checked quality of work. Instructed owner's staff in safety, operations, and maintenance.

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- 1981 to 1983 *Power and Instrumentation Engineer.* Designed power distribution, motor controls, instrumentation systems including: fire, smoke, security, temperature, pressure and flow for industrial facilities.
- 1981 **L.S. WEGMAN ENGINEERS, NYC**  
*Principal Engineer, Electrical/Instrumentation Group.* Designed electrical power and controls for wastewater pumping station including motor controls, gas detection system, security system, and pump controls. Directed electricians in the renovation of the company's new offices, including lighting, power, fire alarm, telephone, computer, and security.
- 1979 to 1981 **HUMBOLDT WEDAG, INC., HUNTINGTON, NY**  
**Heavy Industrial Machinery Manufacturer**  
*Electrical Engineer* responsible for design of power and controls for heavy industrial machinery including automatic weighing equipment, heating, conveyors, pneumatic and hydraulically operated pistons, clamps, safety and emergency shutdowns, and computerized control systems. Directed electricians in the installation of motor control centers, switchboards, motors, sensors, relays, contactors, and safety switches. Supervised lockout-tagout procedures, safety testing, and grounding.
- 1974 to 1979 **URS/MADIGAN-PRAEGER, INC., NYC**  
*Assistant to Chief Mechanical/Electrical Engineer* responsible for electrical design of major projects which included lighting fixtures, motors and controls, instrumentation, motor control centers, switchboards, panelboards, receptacles, switches, circuit breakers, fuses, transformer, wiring, grounding, testing, fire alarm, communication, remote telemetry, remote control CCTV, security systems, mechanical system alarms, gas detection, protective relay coordination studies, short circuit studies, machinery, operation and maintenance manuals, construction supervision, and field inspection. Designed machinery for hazardous and explosive environments, naval and marine applications, docks and piers. Performed salvage surveys, repair and rehabilitation studies of existing facilities. Designed roadway bridge and toll plaza lighting systems. Designed control systems for machinery, pumps, motors, compressors, conveyors, doors, gates, valves, mixers, chemical systems. Projects included railroads (WMATA and BART), chemical plant control building (Exxon Bayway Refinery), sewage plant (Hunts Point Water Pollution Control Plant), pier design (Trident Submarine Pier Bremerton and renovations to Philadelphia Naval Shipyard).

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## PROFESSIONAL REGISTRATION

Professional Engineer: New York, New Jersey

Certified Fire and Explosion Investigator

## AFFILIATIONS

Member, Institute of Electrical and Electronic Engineers  
Member, National Fire Protection Association (NFPA)  
Member, National Association of Fire Investigators (NAFI)

Lecturer, New York State Trial Lawyers Institute, "Fire Investigation Basics"  
Instructor, Continuing Education for Professional Engineers, "Fires of Electrical Origin," 2007  
Instructor, New York University (former)  
Instructor, FDNY Fire Marshal Class, "Electrical Fires," 2004, 2007, 2008  
Certificate of Appreciation, Bureau of Fire Investigation, Fire Department of the City of New York

## EDUCATION

City College of New York, BSEE

## PUBLICATIONS

Table Saw Injuries and Safety – An Expert Witness Explanation, 2017

Miter Saw - Expert Introduction to Injuries and Safety Equipment, 2014

Why Do Table Saw Injuries Occur? 2014

Contributor: "A Better Way to Work; Part 7: Woodworking Essentials," Table Saws with Marc Adams, Popular Woodworking, October 2008

"Safety Introduction," The Accurate Table Saw

Bridgewood TSC-10 C Table Saw Instruction Manual

Ehrlich, H. & Winter, L., "The Essence of Workshop Safety," Popular Woodworking, April 2006