

DARYL L. EBERSOLE, P.E., CFEI
Electrical Engineer - Industrial, Commercial, Residential

PROFESSIONAL EXPERIENCE

2002 to present **Robson Forensic, Inc.**
Associate

Provide technical investigations, analysis, reports, and testimony for failure analysis, and toward the resolution of commercial and personal injury litigation involving the design, construction, operation and maintenance of electrical systems, equipment, and devices. Areas of expertise include:

- National Electric Code; Class 1, Division 1 and 2, and Class II Division 1 and 2 spaces, explosion proof, lighting, design, operation, electrician, maintenance.
- National Electrical Safety Code; Power distribution, power lines, towers, 69 kV, substations, 3-phase, transformers, grounding, high voltage switches, lightning protection, metering, fully coordinated circuit protection, conduit, wiring, receptacles, power panels, knob and tube.
- Electrical faults, electrical explosions, arc flashes, lightning damage, workplace safety, and electrical safety tools and equipment.
- Industrial control, programmable logic controllers, computer interface design, facility alarm system, lead/lag boiler control, steam flow control, axis speed control systems, communication protocols, high speed processor control, control system console design. Automated vision systems.
- Software, assembly language, C++, Visual Basic, RSView32, Wonderware, database, machine programming, Allen-Bradely, Automax, Omron, Modicon.
- Printing press operation, ink blending, viscosity control, solvent recovery, roto-gravure printing press, offset printing press, automated cylinder electroplating, automated conveyor systems, robotics, ink tanks, pumps, scales, register systems, color control, paper expansion and shrink control, bindery equipment, trim collection systems.
- HVAC systems, air conditioners, air handling, heat recovery, boiler systems, deaerators, compressed air systems, exhaust systems, centrifugal and absorption systems, thermal oxidizer systems.
- Fire suppression systems, Cardox, FM200, halon, wet and dry sprinkler systems, fire pump.
- Fire detection and alarm systems, UV, smoke detectors, flow switches, pressure switches, pull stations. Radio systems, repeaters, programming, receiving and transmission equipment.
- Facility design, maintenance, maintenance resource management, and maintenance record keeping for business campuses including all systems for buildings, streetlights, traffic signals, utilities, fire suppression and power generation.
- Devices serviced include: motors, drives, circuit boards, batteries, uninterruptible power supplies, emergency generator, power conditioners, isolated ground systems, power monitors, heaters, traffic signals, rectifiers, gas sample analyzers, solenoid valves, combustion engine controls, burner systems, ovens, after burner systems, switches, relays, analog devices, digital devices, tachometers, encoders, decoders, multiplexers, TTL, CMOS, power supplies, crane controls, hydraulics, pneumatics, pumps, fans, electrostatic systems, motor controls, variable frequency drives, DC drives, soft starters, forklifts, material handling equipment.

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- Switches, limit switches, temperature limits, proximity sensors, fuses, relays, circuit breakers, contacts, contactors, motor starters, motors, drives, power supplies, timers, connectors, splices, strain relief, terminals, terminations, cables, cords, conductors, receptacles, plugs, bus bars.
- Semiconductors, capacitors, M.O.V's (Metal Oxide Varistors), voltage regulators, potentiometers rheostats, thermocouples, RTD's (resistance thermal detectors) strain gages, chips, rectifiers, SCR's (silicon controlled rectifiers), battery chargers, charge controllers, battery management units, and batteries.
- Analog transmitters, ultrasonic sensors, inductive sensors, photo-electric devices.
- Appliances serviced include: ranges, dishwashers, water heaters, toasters, refrigerators, televisions, computers.
- Electrocution and electrical shock injuries.
- Electrical causes of fires.
- Video and audio recording equipment, software, and motion analyses.
- Exercise equipment including stair climbers and treadmills.

2002 to
present

Fournier, Robson & Associates, LLC
Consulting Engineer

Provide designs for power distribution systems, fire alarm systems, emergency power systems and isolated grounding systems. Provide technical analysis and write technical documents. Provide analysis of standards. Provide design of power distribution, circuit breaker, audio system, and control system enclosures. Provide Failure Modes and Effects Analysis (FMEA).

2002 to
present

Ebersole Engineering, Lancaster, PA
Electrical Engineering

Provide engineering services including printing control systems, automation, industrial controller programming, custom software, automated data collection and reporting, hardware design, facility systems, solar systems, and power distribution. Control systems for electroplating operations. Substation design, boiler lead/lag and compressor lead/lag control, steam flow control, solvent storage level control and pumping systems. Manage recalls and service bulletins. Provide custom digital video recording and editing. Video and audio enhancement. Automated vision systems.

Electrical system coordination studies, short circuit analysis studies, steam pressure reducing stations, material handling, electronic drive systems, printing press control systems, Programmable Logic Controllers (PLC's), roll delivery, pollution control systems, regenerative thermal oxidizers(RTO's), Modular Thermal Oxidizers (MTO's), condensers, chillers, liquid flow control, pumps and controls, level, temperature, pressure, and flow sensors, design of communication networks, Ethernet, ControlNet, Profibus, data highway plus, interface devices, analog I/O, deaerators, condensate handling, water storage and transfer, automated crane controls, light curtains, safety guard systems, continuous emission monitoring systems, air compressors, air dryers, solvent meters, steam meters, gas meters, air flow meters, gas concentration analyzers, carbon adsorption systems, cooling towers, HVAC systems, air handlers, roof top units, fire alarm systems, fire suppression systems, cardox systems, CO2 Systems, conveyor systems, trim collection systems, cyclone systems, dust collection systems, cylinder delivery systems, power monitors, power

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distribution, positioning systems, security cameras, induction loops, touchscreens, Human Machine Interfaces (HMI's), bindery systems, stitcher lines, barcode systems, lighting energy codes and standards, and construction management.

2008 to 2010 **Lancaster County Career and Technology Center**
Instructor

Provided training for electricians and electronic technicians in the mechanical and electrical laboratory. Conducted training for the electrical industry including safety, industrial, commercial, and residential.

1995 to 2003 **Quebecor World, Atglen, PA**
Electrical Engineer, Building and Equipment

Provided a full range of electrical engineering services for 500,000 square feet, 400 employee printing facility to include the construction and maintenance of electrical systems. Managed projects and utility contract negotiations. Engineered designs for an \$89 million-dollar plant expansion including the addition of a 3.5 meter roto-gravure printing press and two offset printing presses. Various discipline responsibilities including HVAC, plumbing and fire protection. Managed internal and external resources involved in projects and installations. Overhead line design, construction, and maintenance including vegetation management. Supervised and coordinated the activities of 4 electronic technicians conducting experiments in the electronics laboratory. High speed scanning systems. Video and audio recording equipment, software, and motion analyses.

1986 to 1995 **R.R. Donnelley & Sons, Lancaster, PA**
Electrical Projects in the Engineering Department

Printing unit addition for special colors on an offset printing press. Automated electroplating line for cylinder engraving department. 1994-1995

Electrical Maintenance Shop Coordinator

Coordinated 13 maintenance electricians and 3 electronic technicians. Supervised and scheduled these resources for a 24-hour operation. Provided technical support as needed. Estimated costs and suggested enhancements. 1992-1994

Maintenance Electrician

Performed failure analysis, implemented, and serviced various electrical devices that use the lowest DC voltage levels to 3-phase systems of AC up to 69 kV. 1986-1992

Completed an apprenticeship through textbook study, written examination, and practical experience, and advanced to Journeyman Electrician. Performed crane inspections.

Serviced security alarm systems. Received asbestos training.

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- 1983 to 1986 **Dart Container Corporation**, Leola, PA
Electro-mechanical maintenance
Specialized maintenance on foam cup automated inspection machines. Electrical and mechanical installations. Chain, sprockets, welding, pipe fitting, servicing, adjustments, lubrication, machine timing, photo-cells, solenoids, valves, contactors, relays, wiring, controls, sheet metal and part fabrication, rebuilding, painting, high voltage static eliminators, vacuum systems, power distribution, and pneumatic systems.
- 1981 to 1983 **Conestoga Country Kitchens**, Lancaster, PA
Kitchen Cabinet Installer
Installed kitchen cabinets, bath vanities, counter tops, and vent systems.

PROFESSIONAL CREDENTIALS

Professional Engineer: NCEES, Arizona, Arkansas, California, Colorado, Connecticut, Delaware, District of Columbia, Florida, Georgia, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Montana, Nevada, New Jersey, New Mexico, New York, North Carolina, Ohio, Oklahoma, Oregon, Pennsylvania, Rhode Island, South Carolina, Texas, Virginia, Washington, West Virginia, Wisconsin

Certified Fire and Explosion Investigator (CFEI)

EDUCATION

Bachelor of Science in Electrical Engineering, Drexel University, 1997

Continuing Education:

360 Training – Sit-down Forklift, April 2021
PDHOnline.org - Life Safety Code 101, March 2021
PDHOnline.org - Utilities and Roadside Safety, March 2021
PDHOnline.org - National Electrical Safety Code, March 2021
Stand-Up Forklift, April 2020
PDHOnline.org - Ethics in Life and the Professions, April 2020
PDHOnline.org - Alternative and Renewable Energy Sources, April 2020
PDHOnline.org - Deadly Engineering Disasters, March 2020
PDHOnline.org - Laws, Rules, and Ethics for Indiana Engineers, February 2020
PDHOnline.org - Geographic Information System 101, February 2020
PDHOnline.org - Subsurface Utility Engineering, February 2020
Aerial Lift (Boom Lift/Scissor Lift) Operator Safety Course, December 2019
PDHOnline.org - Electric Utility Distribution Management, September 2019
PDHOnline.org – Skyscrapers, July 2019
NSPE - Engineering Ethics: The PE as an Expert Witness, July 2019
PDHOnline.org - 2012 International Building Code - Special Detailed Requirements Based on Use and Occupancy, July 2019
PDHOnline.org - Selected Topics in Mechanics of Materials, March 2019
PDHEngineer.com - Laws and Rules for Florida Engineers (Renewal Cycle 2017 - 2019), January 2019

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NSPE - Engineering Ethics, October 2018
PDHOnline.org - An Introduction to Noise Control in Buildings, September 2018
PDHOnline.org - Maryland Laws and Rules for Professional Engineers, July 2018
CEDEngineer.com - Engineering Laws, Rules & Ethics for Indiana Professional Engineers, April 2018
PDHEngineer.org - The Electric Car Revolution, February 2018
International Society of Arboriculture - Do Utilities Really Care About Contractor Safety, September 2017
International Society of Arboriculture - Wood Waste and the Human Component, September 2017
International Society of Arboriculture - Five Years of Energy-Saving Trees, September 2017
International Society of Arboriculture - Customer Satisfaction at Pacific Gas & Electric, September 2017
International Society of Arboriculture - A Canadian Perspective on Utility Vegetation Management, September 2017
International Society of Arboriculture - Professional Utility Management Certificate of Achievement, September 2017
International Society of Arboriculture - Managing Liabilities on Your Utility Vegetation Management Program, September 2017
International Society of Arboriculture - Leveraging Tree Outage Data and GIS to Optimize System Reliability, September 2017
International Society of Arboriculture - Reliability Benefits of Storm Hardening, September 2017
International Society of Arboriculture - Federal Memorandum of Understanding with the Utility Industry, September 2017
International Society of Arboriculture - Electric Utility Vegetation Management, Washington, DC, September 2017
International Society of Arboriculture - Utilizing LiDAR and High Resolution Imagery, September 2017
International Society of Arboriculture - Do You Really Know Your Vegetation Risk? September 2017
International Society of Arboriculture - Everything Begins with Safety, September 2017
International Society of Arboriculture - Operational Excellence, September 2017
International Society of Arboriculture - Work Force Challenges, September 2017
PDHEngineer.com - Arc Flash Hazards and Safety-NFPA 70E, April 2017
NAFI - National Fire, Arson, & Explosion Investigation Training Program, March 2017
PDHEngineer.com - American Disabilities Act (ADA) 101, March 2017
PDHEngineer.com - Variable Frequency Drives, February 2017
PDHOnline.org - Introduction to Cathodic Protection, February 2017
PDHOnline.org - Design to the Fire Alarm Code - NFPA 72, February 2017
PDHOnline.org - Professional Ethics, February 2017
PDHOnline.org - GPS Technologies, January 2017
PDHEngineer.com - Professional Ethics for Florida Engineers (Renewal Cycle 2015 - 2017), January 2017
PDHEngineer.com - Laws and Rules for Florida Engineers (Renewal Cycle 2015 - 2017), January 2017
PDHOnline.org - Fluid Power (Part 1) - Hydraulic Power Units, October 2016
PDHOnline.org - Fluid Power (Part 1) - Hydraulic Principles, October 2016

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PDHOnline.org - OSHA Fatal Facts: Fatalities Caused by Improper Work Practices, September 2016
CED Engineering - Engineering Ethics for Maryland Professional Engineers (2016), August 2016
CED Engineering - Engineering Ethics for Maryland Professional Engineers (Revised August 2014), March 2016
CED Engineering - Engineering Laws, Rules, and Ethics for Indiana PE's (Revised January, 2016), March 2016
PSPE - Collaborative Robots, July 2015
PSPE - Advances in Metrology, July 2015
PSPE - Robot Tooling Design, July 2015
PDHOnline.org - Electric Vehicles, April 2015
PDHOnline.org - Overview of Electrical Engineering for School Design, April 2015
PDHOnline.org - New York Board Laws and Rules, March 2015
PDHOnline.org - 2014 National Electrical Code (Live Webinar), February 2015
PDHOnline.org - FEMA's Flood Maps (FIRM) Understanding and Utilizing This Resource (Live Webinar), January 2015
CED Engineering - OSHA Fatal Facts: Fatalities Caused by Improper Work Practices, January 2015
PDHOnline.org - Modern Closed Circuit TV Design (Live Webinar), January 2015
CED Engineering - Florida Laws and Rules for Professional Engineers, (3/1/2013-2/28/15), December, 2014
NSPE - Public Safety - Ethics - Engineer's Duty to Report, October 2014
NSPE - Evolving Professional Risks: Construction Delivery Methodologies,...and Other Real and Potential Risks, September 2014
NSPE - Cost Control, September 2014
NSPE - Communicating Clearly, September 2014
CED Engineering - Engineering Ethics for Maryland Professional Engineers, (Revised August 2014), August 2014
CED Engineering - Engineering Laws, Rules, and Ethics for Indiana PE's (Revised December 2012), May 2014
IAEI - Electrical Calculations 101, April 2014
NSPE - Contractual Indemnity and Other Poison Pills, April 2014
NSPE - Ethics - Engineering Expert Witness and Engineering Review Issues, April 2014
NSPE - Ethics - Business Employment and Licensure Issues, April 2014
NSPE - Engineering Ethics - A Conversation About Conflicts of Interest Issues, April 2014
PSPE - Forensic Engineering: Analyzing Accidents, Legal Implications, But Above All - Public Safety, February 2014
CED Engineering - Americans with Disabilities Act (ADA) Overview, July 2013
CED Engineering - Common ADA Errors in Facility Design, July 2013
CED Engineering - ADA Design of Lodging Facilities, July 2013
NSPE - Key Federal Contracting Laws That Everyone Must Know, June 2013
NSPE - How to Conduct Effective Meetings, June 2013
NSPE - Information Technology Solutions for AEC Professionals, June 2013
NSPE - Got BIM? It's Not Just About 3D Models, June 2013
NSPE - Harnessing the Power of Change, June 2013
NSPE - Ethics Forum: Conflicts of Interest: Will Proposed Federal Rules Impact Engineering Practice, June 2013
NSPE - EJCDC Construction Contracts: Key Clauses and New Approaches, June 2013

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Photovoltaic System Design for Commercial and Residential Buildings, January 2013
NSPE – The Fundamentals of Finance and Accounting for Engineers, December 2012
NSPE – Health, Safety, and Welfare: The Social Responsibility of Construction Quality Assurance, December 2012
NSPE – Ethics Forum: Staying True to Client Expectations, October 2012
PDH Enterprises – Changes to the 2011 National Electrical Code, September 2012
PDH Enterprises – Florida Laws and Rules Course 2011 – 2013, September 2012
NSPE – Engineers as Skilled Communicators, June 2012
NSPE – Engineering Ethics: What Do Millennials, GenXers and Boomers Think?, June 2012
NSPE – Business Development: How to Succeed in the New Economy, June 2012
NSPE – BIM Legal – 2010: Challenges and Opportunities in the Use of Building Information Modeling in Project Delivery, June 2012
NSPE – Being Right or Being Effective Can Make or Break Your Engineering Career, June 2012
NSPE – Avoiding the Pitfalls of Green Building, June 2012
National Fire, Arson, & Explosion Investigation Training Program, NAFI, 2012
CED – Engineering – Introduction to Solid State Semiconductors, August 2011
NSPE – Winning QBS Strategies for Powerful Project Interviews, July 2011
NSPE – A Sustainable Approach to Planning and Design, July 2011
NSPE – Solving the Risks in Green Design, July 2011
NSPE – Qualification Based Selection Process Under Attack, July 2011
NSPE – The New Ethics and Compliance Rules for Contractors, July 2011
Penn State York, Advanced Induction Motor Principles, July 2011
NSPE – Negotiation for Success, July 2011
NSPE – How to Start Your Own Engineering Firm, July 2011
NSPE – Ethics Forum – Access to Client Information, July 2011
NSPE – Ethical Engineering Concepts and Challenges, July 2011
NSPE – Engineering Leadership – What, Why and How, July 2011
NSPE – Comparing Contract Documents, July 2011
NSPE – Duty to Report, July 2011
NSPE – Communicating Technical Ideas Persuasively, July 2011
NSPE – Advanced Robotics, July 2011
PSPE – Robotic Applications, July 2011
PSPE – Introduction to Robotics, July 2011
NSPE – Ethics Forum - Ethical Engineering and Fair Trade - Ethics of Agreements, January 2011
NSPE – Ethics Forum - Ethical Engineering and Fair Trade - Employment Practices, October 2010
PSPE – The Integrated Design Process, September, 2010
Lancaster County Industrial Safety Council, Electrical Safety
Millersville University, Digital Electronics, Linear Electronics
Stevens Trade School, Transistors
Harrisburg Area Community College, Access 97
Rockwell, DC Drive Training
Rockwell, Vector Control AC Drive
Rockwell, Automax Network
Wonderware, In-Touch Comprehensive
Yesco, Visual Basic
Lancaster County Industrial Safety Council, NFPA 70E

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PROFESSIONAL MEMBERSHIPS

National Association of Fire Investigators
National Fire Protection Association (NFPA)
National Society of Professional Engineers
Pennsylvania Society of Professional Engineers
Lincoln Chapter of Professional Engineers
Institute of Electrical and Electronics Engineers
Underwriters Laboratories (UL) Standards Technical Panel for Wire Connectors, UL 486A-G
Underwriters Laboratories (UL) Standards Technical Panel 1977 for Data, Signal, Control and Power Connectors
Underwriters Laboratories (UL) Standards Technical Panel 9990 Outline of Investigation for Information and Communication Technology (ICT) Power Cables
Pennsylvania Association of Arson Investigators (PAAI) – Associate Member

PRESENTATIONS

HVAC Equipment and Electrical Investigation for the Pennsylvania Association of Arson Investigators (PAAI), January 2008
OSHA Training Course, April 2006
Engineering Course, May 2002, 2004, 2006
Fire/Explosion Origin and Cause Investigation Course, July 2006

PUBLICATIONS

Integrating Electronic Equipment and Power into Rack Enclosures, Middle Atlantic Products, July 16, 2008

VOLUNTEER ACTIVITIES

Board of Directors Member – Neighborhood Services, 2012-2016
Neighborhood Services is a non-profit United Way agency. Board of Director Membership is a volunteer position. Jointly with other board members direct and manage staff activities and staff levels including operations and financial group.
Projectionist – Song Show Plus Software