JOHN W. OLSEN, PE, CFI
Curriculum Vitae

OLSEN ENGINEERING, INC.
9707 Frankstown Road
Penn Hills, Pennsylvania 15235
(412) 242-2725

EMPLOYMENT HIGHLIGHTS

President—Olsen Engineering, Inc.
January 1998 through Present
Perform forensic investigations in electrical fire causation, fire origin and cause, appliance design, branch circuit wiring, and electric shock—a continuation of the work performed at Olsen Engineering and Contemporary Control.

Owner—Olsen Engineering / Contemporary Control
May 1985 through December 1997
Investigated fires, machine guarding accidents and electric shock accidents for manufacturers, attorneys, and insurance companies. Extensive experience in electric motors and motor drives; arc physics; fire science; machine guarding; electric shock and electrocution; electric, pneumatic, and hydraulic controls; safety interlocking; and interpretation of safety standards. Provided engineering design services in the power-electronics and motor-drives industries. Provided application support and trouble-shooting services for users of industrial equipment. Developed a traction-drive for a continuous miner.

Chief Engineer—Power Control Corporation
June 1982 to May 1985
Designed, modified, and maintained numerous power-electronic products including motor drives, power controllers, electric vehicle controls, soft starters, elevator controls, motor-protection devices, resistance-heating controls, crane controls, and choppers. Managed engineering and drafting personnel, the scheduling of development work, and the maintenance of product lines.

Engineer—Westinghouse R & D Center
August 1979 to June 1982
Designed and instrumented a computer-interfaced motor-test facility. Developed a cageless reluctance motor. Participated in conceptual designs of ship propulsion systems. Directed several electronic and electro-mechanical projects with emphasis on electric-motor drives and computer simulation.

Assistant Engineer—Pacific Power & Light Company
Summers of 1977 and 1978
Electric utility engineering: fuse coordination, voltage drop and ampacity calculations, load-growth projection studies, load balancing, technical assistance to linemen, and field work.

Electrician—Amalgamated Sugar Company
Summer 1976
Trouble-shooting electric motors and motor controls. Rebuilding electric panels. Industrial wiring.

Electric Motor & Pump Serviceman—Rugh Electric Company
Summer 1975
Service calls. Trouble shooting pumps and motors. Lathe work. Metal spraying.

Electric Motor Repairman—Morrison Electric Company
Part-Time During School 1970-1974
Rewinding electric motors. Appliance repair. Rebuilding pumps and gearheads. Trouble-shooting and repairing domestic wiring.

TEACHING EXPERIENCE

Instructor—IAAI/AHAM Seminar, Providence, RI July 2012
Topic: "Electrical Heat Generation Mechanisms with Video Demonstrations with Extra Material on Heat Induced Arcing and Arc Mapping"

Instructor—IAAI/AHAM Seminar, Chicago, IL, July 2011
Topic: "Electrical Heat Generation Mechanisms with Video Demonstrations with Extra Material on Heat Induced Arcing and Arc Mapping"

Instructor—IAAI/AHAM Seminar, San Diego, CA, June 2010
Topic: "Electrical Heat Generation Mechanisms with Video Demonstrations"

Instructor—PAAI Annual Seminar, State College, PA, June 2009
Topic: "Electrical Heat Generation Mechanisms with Video Demonstrations with Extra Material on Heat Induced Arcing and Arc Mapping"

Instructor—IAAI/AHAM Seminar, Glen Cove, NY, February 2009
Topic: "Electrical Heat Generation Mechanisms with Video Demonstrations"

Instructor—IAAI/AHAM Seminar, Nashville, TN, November 2008
Topic: "Electrical Heat Generation Mechanisms with Video Demonstrations"

Instructor—DFD Advanced Arson Investigation Seminar, Denver, CO, Sept. 2008
Topic: "Electrical Heat Generation Mechanisms, Commonly Misinterpreted Electrical Ignition Sources, Arc Mapping, and Miscellaneous Electrical Demonstrations"

Instructor—IAAI/AHAM Seminar, Davenport, IA, March 2008
Topic: "Electrical Heat Generation Mechanisms with Video Demonstrations"

Instructor—IAAI/AHAM Seminar, Dallas, TX, June 2007
Topic: "Electrical Heat Generation Mechanisms with Video Demonstrations" Updated

Speaker—DRI Fire and Casualty Seminar, Chicago, IL, November 2006
Topic: "Electrical Heat Generation Mechanisms with Video Demonstrations"

Instructor—IAAI/AHAM Seminar, West Palm Beach, FL, July 2006
Presented and discussed results of numerous electrical & fire-science experiments demonstrating electrical heat generation mechanisms.

Speaker—DRI Product Liability Seminar, Las Vegas, NV, February 2006
Topic: "Electrical Heat Generation Mechanisms with Video Demonstrations"

Instructor—IAAI 56th Annual Conference, Washington DC, April 2005
Taught four-hour session entitled "Electrical Review for Fire Investigators"

Instructor—IAAI 55th Annual Conference, St. Louis, MO, April 2004
Taught two two-hour sessions entitled "Bounds Imposed by the External Circuit on Power Release at Hypothetical Electrical Ignition Sources"

Speaker—DRI Fire and Casualty Seminar, Phoenix, AZ, November 2003
Topic: "Bounds Imposed by the External Circuit on Power Release at Hypothetical Electrical Ignition Sources"

Instructor—PAAI 24th Annual Seminar, State College, PA, June 2001
Taught the electrical portion of the one-week annual seminar. Topics included Load-Line Analysis, Arc Behavior, and NFPA 921. Laboratory and field experiments were presented and discussed.

Guest Lecturer—Carnegie Mellon University, Pittsburgh, PA, March 1989
Presented a Seminar on Safe Product Design to Mechanical Engineering Faculty and Graduate Students.

Instructor—University of Pittsburgh, Pittsburgh, PA, 1981
Taught Electrical Fundamentals to Junior and Senior Engineering students while employed at Westinghouse.

Graduate Teaching Assistant—Oregon State University, Corvallis, OR, 1977–1978
Taught the laboratory portions of courses for Junior and Senior Electrical Engineering students in electric machines, power electronics, and analog electronics.

FORMAL EDUCATION, COURSEWORK, AND SEMINARS

- Bachelor of Science Degree in Electrical Engineering, Oregon State University, 1977
- Master of Science Degree in Electrical Engineering, Oregon State University, 1979
- AC Motor and Generator Design, Westinghouse Research and Development Center, 1981
- Dynamics and Control of AC Drives, University of Wisconsin, Department of Engineering and Applied Science, May 1982
- The Engineer as a Manager, Graduate School of Business, University of Pittsburgh, March 1983
- Reactive Power Control, Power Engineering Society, Pittsburgh Chapter, March-April 1984
- Technical Fundamentals for the Fire Investigator, University of Wisconsin-Madison College of Engineering, April 1990
- 49th Annual IAAI Training Conference (1 week), Portland, OR, May 1998
- National Advanced Fire, Arson, and Explosion Investigation Science and Technology Program, Eastern Kentucky University, May 1998
- Fire Science and Fire Investigation, University of Edinburgh Department of Civil and Environmental Engineering, Edinburgh, Scotland, September 1998
- Investigation of Electrical Appliance Related Fires, IAAI/AHAM Training Seminar, Pittsburgh, PA October 1998
- Investigation of Gas and Electric Appliance Fires, Fire Findings Laboratory, Benton Harbor, MI, November 1998

- 50th Annual IAAI Training Conference (3 days), Las Vegas, NV, May 1999
- Train-the-Trainer Program, National Fire Academy, MD, January 2001
- Participant in the "Fowler Motel Test Burns," Marshall Township, PA, February 2001
- 24th Annual PAAI Training Seminar (3 days), State College, PA, June 2001
- 53rd Annual IAAI Training Conference (1 day), Milwaukee, WI, May 2002
- Defense Research Institute Fire and Casualty Seminar, Phoenix, AZ, November 2003
- 55th Annual IAAI Training Conference (1 week), St. Louis, MO, April 2004
- 56th Annual IAAI Training Conference (1 week), Washington, DC, April 2005
- NAFE Seminar, General Topics in Forensic Engineering, Denver, CO, July 2007
- Fire Dynamics & Modeling, CFITrainer.net Webinar, September 2005
- General Topics in Forensic Engineering, NAFE Seminar, San Juan, PR, January 2008
- Medical Info and Stds. for Engr. Evidence, NAFE Seminar, San Juan, PR, January 2008
- Understanding Fire Through Candle Experiments, CFITrainer.net Webinar, April 2009
- Post Flashover Fires, CFITrainer.net Webinar, April 2009
- The Scientific Method for Fire and Explosion Invest., CFITrainer.net Webinar, Nov 2009
- Arc Mapping Basics, CFITrainer.net Webinar, March 2009
- Motive, Means, and Opportunity: Determining Responsibility in an Arson Case, CFITrainer.net Webinar, March 2010
- Wiring Techniques E03-007. CED Engineering Online Course, August 2010
- Ventilation-Focused Approach to the Impact of Building Structures and Systems on Fire, CFITrainer.net Webinar, November 2010
- Design: Electrical Cathodic Protection. PDH Center Online Course, December 2010
- Powering and Grounding Electronic Equipment. PDH Center Online Course, January 2011
- Fundamentals of Gas Combustion. PDH Center Online Course February 2012
- Introduction to Metallurgical Failure Analysis. PDH Center Online Course February 2012
- Heating, Ventilation, and Air Conditioning. PDH Center Online Course February 2012
- Smoke Movement in Buildings. PDH Center Online Course, February 2012
- Plastics: The Fourth Kingdom. PDH Center Online Course February 2013
- Fundamentals of Material Science. PDH Center Online Course February 2013
- Introduction to Short Circuit Analysis. PDH Center Online Course February 2013
- Fundamentals of Interviewing. CFITrainer.net Webinar February 2014
- Investigating Fatal Fires. CFITrainer.net Webinar February 2014
- The Potential Value of Electronic Evidence in Fire Investigations. CFITrainer.net Webinar February 2014

AFFILIATIONS

- Institute of Electrical and Electronics Engineers (IEEE)
- National Fire Protection Association (NFPA)
- National Society of Professional Engineers (NSPE)
- Pennsylvania Society of Professional Engineers (PSPE)
- International Association of Arson Investigators (IAAI)
- Pennsylvania Association of Arson Investigators (PAAI)

LICENSES AND CERTIFICATIONS

- Registered Professional Engineer since April 1986
    - Pennsylvania No. PE035295E
    - Ohio No. E-65184
    - Maine 11558
- IAAI Certified Fire Investigator (IAAI-CFI) / No. 29-046 / 1999
- Holder of the Paper on Fire Investigation from the Institution of Fire Engineers (IFE) / 1998

PUBLICATION

"Bounds Imposed by the External Circuit on Power Release at Hypothetical Electrical Ignition Sources." Fire & Arson Investigator July 2002: 35-40