

James G. Marciniak

PE, CFEI, LEED Green Associate
Senior Consultant



Mr. Marciniak is a mechanical engineer with a wide range of expertise and investigative experience, including fire and explosion investigation. His prior industrial experience includes product engineering, manufacturing engineering, and project management in the automotive and custom machinery industries.

He has proven expertise developed over decades as a working engineer and investigator in mechanical systems analysis and design, mechanical power transmission, product and process development, manufacturing processes, automated machinery, machine safety systems, HVAC, refrigeration, boilers, furnaces, plumbing, and piping.

Mr. Marciniak has conducted over 250 investigations that required mechanical engineering expertise to address a wide variety of litigation and insurance claims large and small, as well as non-litigative engineering consulting.

Education

MSE, Mechanical Engineering. University of Michigan, 1989

BS, Mechanical Engineering. University of Notre Dame, 1986

Licenses & Certifications

- State of Alabama P.E. License 35714-E
- State of Illinois P.E. License 062058758
- State of Indiana P.E. License 11600070
- State of Ohio P.E. License 78121
- State of Oklahoma License 29387
- NAFI Certified Fire & Explosion Investigator
- US Green Building Council LEED Green Associate

Positions Held

Engineering Systems Inc., Aurora, Illinois

- Senior Consultant, 2009 – Present

Contact Information

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ESi Aurora

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Aurora, IL 60504

Areas of Specialization

- Mechanical/Thermodynamic Systems Analysis & Design
- Fire & Explosion Investigation
- Heating, Ventilating & Air Conditioning (HVAC) and Indoor Environmental Quality
- Commercial & Industrial Refrigeration
- Boilers, Furnaces, Pumps, Piping, Turbines, Plumbing & Controls
- Fuel Gas & Compressed Gas Systems
- Fluid Power Systems – Hydraulics & Pneumatics
- Product Development & Testing
- Manufacturing Processes, Equipment & Operating Practices
- Automated Machinery, Robotics, Controls & Safety Systems
- Building Mechanical Systems Commissioning
- Sustainable & Green Building Practices

BorgWarner Transmission Systems, Bellwood, Illinois

- Staff Engineer, Wet Clutch Application Engineering, 1999–2008
- Senior Manufacturing Engineer, Friction Products, 1997–1999
- Senior Engineer, Advanced Manufacturing Engineering, 1994–1996

Matsushita Electric Corporation of America, Franklin Park, Illinois

- Senior Mechanical Engineer, 1990–1994

General Motors Truck and Bus Group, Pontiac, Michigan

- Associate Engineer, Manufacturing Engineering Graphics Support, 1987
- College-Graduate-in-Training, Flint Assembly Plant, 1986–1987

Professional Affiliations/Honors

National Society of Professional Engineers

- Member, 2006 – Present

American Society of Heating, Refrigeration and Air Conditioning Engineers

- Illinois Chapter Member, 2008 – Present

National Association of Fire Investigators

- Member, 2010 – Present

Board of Education, Riverside-Brookfield HS District 208

- Member, 2007 – 2011
- Board President, 2009–2011
- Member of Teacher Contract Negotiation Team, 2007–2008
- Personnel Committee Co-chair, 2007–2011
- Policy Committee Co-Chair, 2009–2011

Village of Riverside (Illinois) Preservation Commission

- Commissioner, 2004–2007

Project Experience

Investigations

Fire & Explosion

- Community recreation facility sauna fire

- Residential kitchen fire involving electric and gas appliances
- Historic bowling alley/bar and grill fire
- Auto repair facility fire involving waste-oil heater
- Residential fire involving propane gas system
- Residential fire involving spray foam insulation
- Residential gas explosion and fire with damage to nearby structures
- Residential fire involving wood stove and venting

Industrial Fire & Explosion

- Industrial waste processing facility explosion
- Hospital boiler gas explosion
- University powerhouse boiler explosion
- CNC machining center fire
- Vertical grain conveyor explosion/fire
- Asphalt storage tank explosion and fire
- Industrial plastic molding machine fire
- Fire involving mobile diesel power generation unit
- Industrial dust collection system explosion and fire
- Industrial facility fire involving sprayed structural foam
- Specialty chemical plant explosion and fire
- Medical laboratory fire involving lab oven

Heating, Ventilation & Air Conditioning

- Senior housing HVAC system water damage and mold claim
- Curtain wall building envelope condensation damage
- Multifamily HVAC system water damage claim
- Residential high-rise chiller freeze damage
- Hotel restaurant kitchen exhaust/grease duct fire
- Residential air handler coil freeze with flood damage
- Community pool geothermal HVAC/dehumidification/IAQ issues
- Office building carbon monoxide poisoning investigation



- Elementary school HVAC/mechanical tornado damage
- Vintage multifamily building pipe freeze investigation
- Parking garage slip and fall involving HVAC equipment
- Retail strip mall rooftop packaged HVAC unit hail damage
- Hospital geothermal system piping failure with flood damage

Refrigeration

- Medical refrigerated storage failure
- Industrial refrigeration system failures and performance issues
- Grocery store refrigeration piping leaks
- Large commercial building refrigerant pump failures