



**JAMES G. MARCINIAK, P.E., CFEI, LEED Green Associate**  
**SENIOR CONSULTANT**

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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, heating, ventilation and air conditioning (HVAC), refrigeration, boilers, furnaces, plumbing, and piping.

**Areas of Specialization**

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

**Education**

- M.S.E., Mechanical Engineering, University of Michigan, 1989
- B.S., Mechanical Engineering, University of Notre Dame, 1986

**Licensed Professional Engineer (P.E.)**

- State of Illinois ..... License No. 062.058758
- State of Alabama..... License No. 35714-E
- State of Indiana ..... License No. PE11600070
- State of Ohio ..... License No. 78121
- State of Oklahoma ..... License No. 29387

*January 2020*



## **Professional Affiliations**

### **National Society of Professional Engineers**

### **Illinois Society of Professional Engineers**

Chicago Chapter

### **American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE)**

Illinois Chapter

### **US Green Building Council, Illinois Chapter**

USGBC LEED Green Associate

### **National Association of Fire Investigators**

Certified Fire and Explosion Investigator

## **Positions Held**

### **Engineering Systems Inc., Aurora, Illinois**

Senior Consultant, 2009 to Present

### **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. 1987-1988

College-Graduate-in-Training, Flint Assembly Plant, 1986-1987

## **Other**

### **Member of Board of Education, Riverside-Brookfield HS District 208, 2007-2011**

Personnel Committee Co-chair and Member of Teacher Contract Negotiation Team;

Policy Committee Co-chair

Board President 2009-2011

### **Commissioner, Village of Riverside (Illinois) Preservation Commission, 2004-2007**

## **Representative Past Projects**

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. Brief statements describing recent investigation areas are listed here.



### **Fire and 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 and 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, Ventilating and 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