

Curriculum Vitae

Joseph G. Rachford

Summary

Multi-faceted, diverse **Electrical Engineering** background in project management and maintenance engineering. Successful record in managing teams to design, install, and maintain a wide range of systems effectively solving difficult operating issues. Extensive experience in high voltage power distribution systems, transformers, and electrical safety.

Experience

e-Hazard Management, LLC

Electrical safety instructor of low and high voltage training 2016

Nucor Steel Gallatin

2014 – 2016 (Retired)

Acquired Gallatin Steel in October 2014

Electrical Engineer

2014 – 2016 (Retired)

- Responsible for substation High Voltage maintenance systems
- Continued with maintenance skill craft program and apprenticeship programs

Gallatin Steel

2001 – 2014

Process Manager Technical Training

2010 - 2014

- Responsible for developing brand new skills based maintenance craft system.
- Conducted multiple training classes to bring everyone's skill sets up to a base level.
- Expanded into an apprenticeship program with KY FAME in 2015.

Process Manager High Voltage Systems and Facilities Maintenance

2001 – 2010

- Responsible for all high voltage maintenance in plant (345 kV–480 v) and Facilities Maintenance for the plant.
- Project Manager for two major capital projects (\$3 million) for the 345 kV Breaker Replacement and New CSP Var Equipment.
- Manage yearly budgets valued at \$6 Million. Negotiated 20% contract reductions for HVAC and Grass Cutting contractors during the recession period.
- Developed a reliability based CMMS maintenance program for the entire power distribution system in the plant. Performed a criticality analysis of assets.
- Currently utilize several predictive maintenance technologies including IR, Ultrasonic, oil analysis, SF6 gas leak detection, SFRA and Doble on transformers, and corona detection cameras.

- Implemented a plant wide electrical safety program based around NFPA 70E and lead the High Voltage program plant wide.
- Lead the plant wide Motor Repair Shop project.
- Implemented a failure analysis method and PROACT software and trained about 30 team members in the plant.
- Member of Wellness Committee. Lead the justification, design, and installation of the Fitness Center and Fitness Trail

Trico Steel Company, Decatur, AL

1998 – 2001 (Closed)

Central Electrical Engineer

(1998 – 2001)

- Responsible for all high voltage maintenance in plant (500 kV–480 v)
- Developed a reliability based CMMS maintenance program for the entire power distribution system in the plant
- Project Manager for 500 kV transformer replacements (\$10+ million)
- Project Manager for spare main drives and transformers. (\$4.7 million)

Inland Steel Company, East Chicago, IN

1970 – 1998 (Retired)

Lead Electrical Engineer, Strip Casting Development (1993 - 1998)

- Designed, tested, and installed an electromagnetic edge dam for a twin roll strip-casting machine. (New Technology \$300 million)
- Project Team Leader of two engineers, three technicians, and a crew of Japanese construction people during dynamic testing in a stainless steel plant in northern Japan for two years.

Reliability Engineer, Various Departments (1997)

- Utilized a CMMS system developed by Flour Daniels based on the inspection method of maintenance
- Electric Furnace and Billet Caster
 - Directed three electrical inspectors
- Pickle Line, Cold Strip Mill, Temper Mill, Normalize Line, and Galvanize Line
 - Directed nine mechanical and six electrical inspectors
- 80" Hot Strip Mill
 - Performed vibration analysis on rotating machinery with laser alignment

Senior Staff Engineer, Operations Technology Steelmaking (1985 - 1993)

Major projects worked on

- Hot Emissions Baghouse Upgrade with new PLC controls (\$5 million)
- Ladle Metallurgy Facility Computer Upgrade (\$.3 million)
- Plant PCB Removal Project for 150 Transformers (\$9 million)
- Energy Savings Projects for Basic Oxygen Furnace Shop (\$1 million)
- 32 MVA Arc Furnace Replacement Transformer (\$1 million)
- Directed a team of 15 Automation Engineers during this time.

General Electrical Foreman, Basic Oxygen Furnace Complex (1980 – 1985)

- Start-up Ladle Metallurgy and Caster Complex (\$400 million project)
(Equipment from Sweden, Germany, Netherlands, and Japan)

- Managed a department of 45 Electricians, 2 Supervisors, 2 Expeditors, and 2 Clerks
- Implemented a CMMS inspection based maintenance program using in house system

Various maintenance engineering and supervisory positions (1970 – 1980)

- 140 mw Power Distribution Station
- 80" Hot Strip Mill
- Basic Oxygen Furnace Shop
- 12" Bar mill
- Electric Furnace Shop with Billet Caster
- Continuous Pickle Line

Education

MS Business Management (1978)

Purdue University Calumet Campus, Hammond, IN

GPA 3.5/4.0

BS Electrical Engineering (1970)

University of Cincinnati, Cincinnati, OH

GPA 3.2/4.0

e-Hazard Train the Trainer Program (September 2015)

Patents, Papers, and Technical Presentations

Hold one patent and authored and presented several technical papers at AISE, AIST, IEEE, SMA, and NETA sessions. Total of six papers published in AISE Iron and Steel Engineer, AIST Iron and Steel Technology, IEEE Industrial Application Systems, and IEEE Transactions.

Memberships and Honor Society

Eta Kappa Nu Honor Society, Life Member of American Iron and Steel Technology (AIST), International Electrical Testing Association (NETA), and Institute of Electrical and Electronic Engineers (IEEE)