

PROFILE

Mr. Matthew Rem is a Project Engineer with over 10 years of experience as an electrical engineer. He specializes in large and small electrical equipment including, but not limited to, transformers, generators, programmable logic controllers, and consumer electronics. He has experience in manufacturing and energy production, transmission, and distribution. His responsibilities have included supervising the installation of emissions and control equipment at natural gas compression stations, specification and design of offshore jackup oil rig systems, and design of electrical equipment for installation in areas where explosive materials were present. Matthew chose to spend years learning the intricacies of how equipment is installed and used in the field before he changed avenues to work as a design engineer.

Matthew made the transition to forensic engineering in 2016 and has investigated electrical and fire losses at residential, commercial, industrial, and utility scales while establishing himself as a go-to electrical engineer in the field. At Envista, Matthew examines losses involving electrical equipment and fires. Key strengths include:

- ▶ Automation Equipment
- ▶ Engine Control Technology
- ▶ Compression Hardware
- ▶ Specification Evaluation
- ▶ Origin and Cause Evaluation
- ▶ Hazardous Area Ratings (ATEX, IEC, NEC)
- ▶ Power Generation and Distribution Equipment
- ▶ Pressure Transducers
- ▶ Flow Control Equipment
- ▶ Oil & Gas
- ▶ Large Loss
- ▶ Construction Management
- ▶ Switchgear
- ▶ Drilling Equipment
- ▶ New and Retrofit Equipment Commissioning
- ▶ Motor Control Center Specification
- ▶ Actual Cash Value Analysis (ACV)
- ▶ Replacement Cash Value Analysis (RCV)
- ▶ *Industries:* Energy and power, manufacturing, petroleum
- ▶ *Computer Skills:* Windows, IOs, Linux, Programmable Logic Controller (PLC) design and programming
- ▶ *CAD/Design:* AutoCAD, LabVIEW
- ▶ *Language Skills:* English (Native, C2), Française (Independent, B2), Español (Independent, B2)

EDUCATION

Bachelor of Science, Electrical Engineering, 2006

Clarkson University – Potsdam, New York

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WEBSITE

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LICENSES

Professional Engineer (PE):

- ▶ Alabama
- ▶ Arkansas
- ▶ District of Columbia
- ▶ Florida
- ▶ Louisiana
- ▶ Kansas
- ▶ Missouri
- ▶ New Hampshire
- ▶ New Mexico
- ▶ New York
- ▶ Oklahoma
- ▶ Texas

CERTIFICATIONS

Certified Fire and Explosion Investigator (CFEI), NAFI

National Council of Examiners for Engineering and Surveying (NCEES) Record Holder

CONTINUING EDUCATION

- ▶ Fire Findings – Investigating Solid Fuel Burning Appliances, 2016
- ▶ National Association of Fire Investigators – 921 and 1033, Putting It All Together, 2016
- ▶ National Electrical Code Update – Branch and Motor Circuits, 2015
- ▶ ATEX, IEC, NEC, and CSA – Code Comparison, 2015
- ▶ Introduction and Occupancy Hazard Classifications: NFPA 13
- ▶ Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems: NFPA 25

PROFESSIONAL AFFILIATIONS

- ▶ Institute of Electrical and Electronics Engineers (IEEE)
- ▶ National Association of Fire Investigators (NAFI)
- ▶ National Fire Protection Association (NFPA)
- ▶ National Society of Professional Engineers (NSPE)

PROFESSIONAL BACKGROUND

May 2018 – Present: Envista Forensics – Houston, Texas

Project Engineer

March 2016 – May 2018: Engineering Design & Testing Corp. – Houston, Texas

Consulting Engineer

January 2015 – November 2015: R. STAHL Inc. – Stafford, Texas

Applications Engineer II

November 2010 – December 2014: Cameron (formerly LeTourneau Technologies) – Houston, Texas
Engineer II

January 2007 – October 2010: Hoerbiger Engineering Services – Houston, Texas
Project Engineer

REPRESENTATIVE PROJECT EXPERIENCE

Coleman Upgrades

Hoerbiger Engineering Services – Rock Springs, WY

- ▶ Installed new natural gas compression engine control technology, restoring compressor unit to functionality. Resulted in end user bringing tour groups to see the final product.

Kastler Upgrades

Hoerbiger Engineering Services – Dutch John, UT

- ▶ Installed new natural gas compression engine control technology and consolidated 40 years of other upgrades to present a cohesive compressor unit package that met new emissions standards.

Caspian Sea Jackup Rig

LeTourneau Technologies – Houston, TX

- ▶ Designed electrical distribution system and input/output programmable logic controllers for the Caspian Sea jackup rig.

ATEX Top Drive

LeTourneau Technologies – Houston, TX

- ▶ Designed traveling I/O Panel to control a top drive designed for use in ATEX Zone 2 areas.

Crematorium Fire

Engineering, Design & Testing – Victoria, TX

- ▶ Determined origin and cause of a fire at a crematorium.

Transformer Failure

Engineering, Design & Testing – Houston, TX

- ▶ Determined cause of failure and cost to replace transmission and distribution transformers and auto-transformers.

Hurricane Harvey

Engineering, Design & Testing – Houston, TX

- ▶ Determined cost to repair or replace equipment damaged during Hurricane Harvey.

Hurricane Damaged Chemical Plants

Engineering, Design & Testing – Houston, TX

- ▶ Determined cost to repair or replace equipment damaged during Hurricane Harvey.

Hurricane Damaged Oil Processing Plant

Engineering, Design & Testing – Houston, TX

- ▶ Determined cost to repair or replace equipment damaged during Hurricane Harvey.

Switchgear Failure

Engineering, Design & Testing – San Antonio, TX

- ▶ Determined cause of repeated switchgear failures at an international equipment manufacturer. Interpreted and explained technical test results for adjusters, lawyers, as well as the end user.

Hurricane Damaged Paper Mill, Flood

Envista Forensics – Hartsville, SC

- ▶ Evaluated damaged electrical equipment. Interpreted and explained equipment test results. Evaluated repair invoices for reasonability.

Hurricane Damaged Paper Mill, Wind

Envista Forensics – Panama City, FL

- ▶ Evaluated damaged electrical and chemical equipment. Interpreted and explained equipment test results. Evaluated repair invoices for reasonability.

Parking Garage Fire

Envista Forensics – Houston, TX

- ▶ Determined origin and cause of a fire that damaged several vehicles, two buildings, and a cell phone antenna.

Hurricane Damaged Sawmill, Flood

Envista Forensics – Dierks, AR

- ▶ Evaluated damaged electrical equipment. Evaluated repair invoices for reasonability. Produced repair scope and timeline including installation of rental equipment.

Chiller Failures

Envista Forensics – Assorted Locations in Texas

- ▶ Determined cause of large chiller failures. Interpreted and explained technical test results for adjusters, lawyers, as well as the end user.

Busway Failures

Envista Forensics – Assorted Locations in Texas

▶ Determined cause of electrical busway failures. Performed electrical tests, witnessed third party electrical tests, interpreted results, and explained results and explained damage mechanisms to lawyers, adjusters, and end users.

Transformer Failure

Envista Forensics – Houston, TX

▶ Determined cause of failure of auto-transformer that was used to test electric motors. Produced several temporary equipment options to restore test department functionality while replacement equipment was manufactured.