



Brian J. Brackensick, M.S., P.E.

Electrical & Corrosion Engineer

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Relevant Experience

Principal Electrical Engineer

Dreiy Engineering PLLC

2018 to Present

Houston, Texas

Electrical design engineer specializing in electrical engineering, including the creation of construction documents. Electrical forensic consulting engineer specializing in electrical design, code compliance inspections, construction methods, and failure analysis. Performing analyses for compliance and failures of all types of electrical devices, including transmission lines, transformers, circuit breakers, residential appliances, commercial appliances, industrial sites, industrial solar plants, wind turbine facilities, oil and gas refineries/pumping stations, nuclear facilities, and chemical processing facilities. Provides root cause analysis based on electrical expertise to industrial oil and chemical facilities. Performed or overseen inspections at the request of city inspectors for Austin, Dallas, and surrounding areas in 200+ homes and commercial spaces. Issues inspection reports that have been accepted by city inspectors in all cases. Provide litigation support and expert witness testimony for insurance claims and legal disputes. Specializing in OSHA requirements, the National Electrical Code, NFPA 70E, National Electrical Safety Code, IEEE 1584, and many other codes/standards involving electrical work, design and construction.

Sr. Electrical Engineer

TRS Group Inc.

2016 to 2018

Houston, Texas

Provide direct support to TRS' Engineering Group, Operations Group and Quality, Safety, Audit and Training Group to support remedial design work, systems optimization, process improvement and safety. Consulting on electrical safety, equipment re-design, intrinsic safety, arc flash, electrical design, and code compliance.

Project Engineer

S-E-A, Ltd.

2014 to 2016

Houston, Texas

Investigate electrical faults and malfunctions, particularly those suspected of causing a fire, equipment damage, construction defects, or electrocution. Reconstructs accidents to determine the mode, sequence, and/or component of failure resulting in damage to equipment or individuals. Analyzes various types of electrical power equipment (i.e., transformers, circuit breakers, power lines, commercial and residential electrical systems, etc.) and appliances onsite and/or in the laboratory to determine the cause or result of the incident (i.e., fire, equipment damage, or personal injury). Conducts tests to determine the reliability of products.



Project Engineer

2013 to 2014

Toshiba International Corporation

Houston, Texas

Worked as a project engineer designing and manufacturing medium-voltage adjustable-speed drives at the Houston Manufacturing Plant. Created complete design packages, component selection, QA analysis, and wiring diagrams. Troubleshoot design and manufacturing issues, including specialized customer requirements, space limitations, and customer interface integration. Designed and coded departmental tracking database to track all work orders and drives from order to delivery. Designed and oversaw construction of the medium-voltage adjustable-speed drives.

Electrical Engineer/Responsible Engineer/Cognizant System Engineer

2007 to 2013

Bechtel National Inc.

Richland, Washington

Responsible design engineer for electrical systems covering over 15 buildings at the Department of Energy's Nuclear Waste Vitrification Plant, a nuclear waste treatment plant costing over USD 14 Billion. Performed arc flash calculations, equipment sizing, and ETAP calculations. Responsible for design (power) engineering involving low and medium-voltage systems. Responsible design and procurement engineer for plant-wide Voice Over IP (VOIP) telecom system, providing voice and computer resources to the plant. Responsible design engineer for cathodic protection system, including radioactive waste transfer lines. Responsible design engineer for the Low Activity Waste building, Analytical Laboratory, and the Balance of Facilities, including electrical switchgear buildings, steam plants, chiller plants, hazardous (explosive) area storage facilities, anhydrous ammonia storage, and diesel fuel oil storage facilities. Performed code compliance inspections on facilities as the cognizant electrical engineer.

Electrical Engineering Intern

2001 to 2002

Energy Northwest

Richland, Washington

Worked as an electrical engineering intern for Energy Northwest's nuclear power plant, the Columbia Generating Station. Assisted engineers with drafting and design packages. Performed data entry into cable & raceway database program.

Degrees Achieved

Washington State University

Richland, Washington

Master of Science, Electrical Engineering

Washington State University

Pullman, Washington

Bachelor of Science, Electrical Engineering

Minor – Mathematics



Professional Registrations

Professional Engineer State of Alabama, License No. PE35886
Professional Engineer State of Arizona, License No. 60376
Professional Engineer State of Arkansas, License No. 16518
Professional Engineer State of Colorado, License No 49825
Professional Engineer State of Florida, License No. 81041
Professional Engineer State of Louisiana, License No. 39222
Professional Engineer State of Mississippi, License No. 34620
Professional Engineer State of North Carolina, License No. 042441
Professional Engineer State of Texas, License No. 116640
Professional Engineer State of Washington, License No. 48893

Professional Affiliations

National Fire Protection Association (NFPA)
National Association of Fire Investigators (NAFI)
National Association of Corrosion Engineers (NACE, AMPP)
Institute of Electrical and Electronics Engineers (IEEE)
International Association of Electrical Inspectors (IAEI)

Certifications

Model Law Engineer, National Council of Examiners for Engineering
Certified Cathodic Protection Technologist (CP3) NACE, License No. 39401
Certified Cathodic Protection Technician (CP2) NACE, License No. 39401
Certified Cathodic Protection Tester (CP1) NACE, License No. 39401
Certified Fire and Explosion Investigator (CFEI) NAFI, License No. 19702-11790v
Certified Vehicle Fire Investigator (CVFI) NAFI, License No. 19702-11790v
HAZWOPER – 40 Hour

Presentations

- June 9, 2016 – Texas Association of Defense Counsel Continuing Education – Amelia Island, FL – Cathodic Protection and Corrosion Investigations – Brian J. Brackensick, P.E.
- March 9, 2016 – Houston Claims Association Continuing Education – Houston, TX – Electricity and Forensic Electrical Investigations – Brian J. Brackensick, P.E.
- November 8, 2015 – Houston Claims Association Continuing Education – Houston, TX – Electricity and Forensic Electrical Investigations – Brian J. Brackensick, P.E.
- October 28, 2015 – Liberty Mutual Continuing Education – Impressed Current Cathodic Protection – Brian J. Brackensick, P.E.



Seminars and Additional Education

- 2025 – ETH-'T103 - Ethical Codes of Conduct 2024 - Interactive/Video Course, Engineering-PDH
- 2025 – SAF-118 - Bonneville Power Administration 115KV Line 2013 Accident Investigation, Engineering-PDH
- 2025 – Fire Investigator Training Program (Baltimore), NAFI
- 2024 – Rul-112 - Texas Board of Professional Engineers Laws & Rules 2024, Engineering-PDH
- 2024 – Rul 124 - Florida Laws & Rules for Professional Engineers (2023-2024), Engineering PDH
- 2024 – Professional Ethics in the Workplace 2023, Engineering-PDH
- 2024 – ELE-147 - Cyber Infrastructure Protection, Engineering-PDH
- 2024 – ELE-111 - Electrical Science Fundamentals Vol 2 of 4, Engineering-PDH
- 2024 – OSHA Controls of Hazardous Energy – Lockout/Tagout, Engineering-PDH
- 2024 – Introduction to Ethics 2024, Engineering-PDH
- 2023 – ELE-114 – Instrumentation & Control Fundamentals Volume 1 of 2, Engineering-PDH
- 2023 – RUL-110 – NCEES Model Rules Review, Engineering-PDH
- 2023 – ETH-112 – NSPE Code of Engineering Ethics, Engineering-PDH
- 2023 – RUL-110 – NCEES Model Rules Review, Engineering-PDH
- 2023 – ELE-119 – Introduction to LIDAR, Engineering-PDH
- 2023 – CHE-124 – Basic Corrosion Theory, Engineering-PDH
- 2023 – RUL-124 – Florida Laws & Rules for Professional Engineers (2021-2023), Engineering-PDH
- 2022 – ELE-100 – Electrical Science Fundamentals Vol 1 of 4, Engineering-PDH
- 2022 – ENG-117 – Atomic & Nuclear Physics – Engineering-PDH
- 2022 – ASME Code of Ethics for Engineers Fundamental Cannons & Interpretations, Engineering-PDH
- 2022 – ENG-118 – Engineering Symbolology, Prints & Drawings, Engineering-PDH
- 2021 – 2020 NEC Changes: Branch Circuit GFCI Protection, Red Vector
- 2021 – 2020 NEC Changes: Devices, Lighting, and Gear, Red Vector
- 2021 – 2020 NEC Changes: Wiring and Protection, Red Vector
- 2021 – 2020 NEC Changes: General Requirements, Red Vector
- 2021 – 2020 NEC Changes: Focus on Wiring Methods, Red Vector
- 2021 – 2020 NEC Changes: Equipment for General Use, Red Vector
- 2021 – 2020 NEC Changes: Overvoltage and Grounding & Bonding, Red Vector
- 2021 – Florida Engineering Laws and Rules, Red Vector
- 2021 – 2020 NEC Changes: Special Equipment, Red Vector
- 2021 – 2020 NEC Changes: General Requirements, Red Vector
- 2021 – 2020 NEC Changes: Conductors, Wiring Methods, and Enclosures, Red Vector
- 2021 – 2020 NEC Changes: Backup Power, Energy Storage, and Limited-Energy, Red Vector
- 2021 – 2020 NEC Changes: Process Review and updated Articles, Red Vector
- 2020 – 2020 NEC Changes: Solar PV Systems and Interconnected Power Systems, Red Vector
- 2020 – 2020 NEC Changes: Special Occupancies, Red Vector
- 2020 – A professional Engineer’s Standard of Care, Red Vector



2020 – 2020 NEC Changes: Wiring and Protection, Red Vector
2020 – 2020 NEC Changes: Branch Circuit GFCI Protection, Red Vector
2020 – 2020 Certified Fire Investigator Training, Ronald Hopkins (NAFI)
2020 – Hot-Dip Galvanizing : Corrosion Protection, Red Vector
2019 – Transmission and Distribution: Distribution Line Installation and Removal, Red Vector
2019 – Transmission and Distribution: Working on Distribution Poles, Red Vector
2019 – Transmission and Distribution: Service Installation, Red Vector
2019 – Transmission and Distribution: Substations and Switchyards, Red Vector
2019 – Transmission and Distribution: Underground Residential Distribution Systems, Red Vector
2019 – Pumping Stations – Pumps, Motors and Electrical Systems, Red Vector
2019 – General Electrical Hazard Awareness for Site Safety, Red Vector
2019 – Reliability Engineering Essentials, Red Vector
2019 – Ethics for the Practicing Engineer- Managing Risks Imposed on the Public, Red Vector
2019 – Electrical Fire Alarm Systems, Red Vector
2019 – Transmission and Distribution: Overhead Distribution Systems, Red Vector
2019 – General Electrical Hazard Awareness and NFPA 70E 2018, Red Vector
2019 – NFPA 70E – 2018 Updates, Red Vector
2019 – Protecting Your Communication System from Transients and Surges, Red Vector
2018 – Florida Engineering Laws and Rules, Red Vector
2018 – Anatomy of Construction Defects, Red Vector
2018 – Critical Facilities - Emergency Electric Power, Red Vector
2018 – Ethical Decision Making for Engineers #3, Red Vector
2018 – Bollard Boot Camp - How to Protect Places and People From Vehicle Incursions, Red Vector
2018 – Ethics for the Practicing Engineer - Organizational Issues, Red Vector
2018 – Electrical Part 2 – Hazardous Location, Clearances & Safety Practices, Red Vector
2018 – Transformers III – Connections, Red Vector
2018 – 2017 NEC Changes: Special Occupancies, Red Vector
2018 – 2017 NEC Changes: Communication Systems, Red Vector
2018 – Strategies for Implementing NFPA 70E, Red Vector
2018 – Fire Essentials and Fire Science, Red Vector
2018 – 2017 NEC Changes: Receptacles and Switches, Red Vector
2018 – 2017 Electrical and Arc Flash Hazards, Red Vector
2017 – 2017 NEC Changes: Conductors and Wiring Methods, Red Vector
2017 – 2017 NEC Changes: Appliances and Equipment, Red Vector
2017 – Ethics for Professionals, Red Vector
2017 – Surge Protection, Red Vector
2017 – Working Effectively with Building Officials and Inspectors, Red Vector
2017 – 2017 NEC Changes: General Requirements, Red Vector
2017 – 2017 NEC Changes: Enclosures and Boxes, Red Vector
2017 – 2017 NEC Changes: Overcurrent Protection and Grounding & Bonding, Red Vector
2017 – 2017 NEC Changes: Hazardous Locations, Red Vector



2017 – 2017 NEC Changes: Branch Circuit, Feeder and Services Changes, Red Vector
2017 – EJCDC 2016 Design-Build Documents, NSPE
2017 – The Pending Robot Revolution, NSPE
2017 – Building Your Pipeline of Success, NSPE
2017 – When Ethics Are Ignored: Lessons from Forensic Engineers, NSPE
2017 – Engineering Ethics: Conflicts of Interest, NSPE
2016 – Ethical Decision Making for Engineers #2, NSPE
2016 – Cogeneration Systems Essentials, Red Vector
2016 – Phasors and AC Circuit Analysis, Red Vector
2016 – Electric Motors (Updated), Red Vector
2016 – HAZWOPER (40 Hour) – Compliance Solutions
2016 – Electric Power Transformers Webcast, Red Vector
2016 – Commercial Electrical Systems Essentials, Red Vector
2016 – Lighting Controls Essentials, Red Vector
2016 – Accessibility by Building Type: Universal Residential Design, Red Vector
2016 – Microgrids and the City, Red Vector
2016 – Data Center Operations & Maintenance, Upgrades, and Expansions, Red Vector
2016 – Fire Alarm Essentials, Red Vector
2016 – International Fire, Arson & Explosion Investigation Training Program – Seattle WA, NAFI, Red Vector
2016 – 2014 NEC Changes – Chapter 8: Communication Systems, Red Vector
2016 – Arc Flash Hazard Analysis, Red Vector
2016 – Electric Motors, Red Vector
2015 – The Deposition Part 1: Format, Content, and Preparation, CFI Trainer
2015 – The Deposition Part 2: Questioning Tactics and Effective Responses, CFI Trainer
2015 – Investigating Natural Gas Systems, CFI Trainer
2015 – 2014 NEC Changes – Chapter 7: Special Conditions, Red Vector
2015 – 2014 NEC Changes – Chapter 2: Wiring and Protection, Red Vector
2015 – 2014 NEC Changes – Chapter 5: Special Occupancies, Red Vector
2015 – Ethical Decision-Making Webcast, Red Vector
2015 – 2014 NEC Changes – Chapter 6: Electric Signs and Outline Lighting, Red Vector
2015 – 2014 NEC Changes – Chapter 3: Wiring Methods and Materials, Red Vector
2015 – NFPA 1033 and Your Career, CFI Trainer
2015 – 2014 NEC Changes – Articles 90, 100, and 110, Red Vector
2015 – 2014 NEC Changes – Chapter 4: Equipment for General Use, Red Vector
2015 – 2015 NFPA 70E – Significant Changes, Red Vector
2015 – Battery Applications, Red Vector
2015 – Sizing Electric Utility Service Equipment, Red Vector
2015 – Charleston Sofa Super Store Fire, CFI Trainer
2015 – DNA, CFI Trainer
2015 – Documenting the Event, CFI Trainer
2015 – Investigating Fatal Fires, CFI Trainer



- 2015 – Understanding Fire Through the Candle Experiments, CFI Trainer
- 2014 – A Ventilation-Focused Approach to the Impact of Building Structures and Systems on Fire Development, CFI Trainer
- 2014 – Arc Mapping Basics, CFI Trainer
- 2014 – Critical Thinking Solves Cases, CFI Trainer
- 2014 – Electrical Safety, CFI Trainer
- 2014 – Ethics and the Fire Investigator, CFI Trainer
- 2014 – Process of Elimination, CFI Trainer
- 2014 – Fire Findings, Investigation of Gas and Electrical Appliance Fires, Benton Harbor, Michigan
- 2014 – Toshiba International Corporation, Plus Pack ASD Service Training
- 2014 – Toshiba International Corporation, T300MVi & MTX End User Basic Operation, Maintenance and Trouble Shooting
- 2013 – Cathodic Protection Technologist (CP3), NACE
- 2012 – Cathodic Protection Technician (CP2), NACE
- 2012 – Cathodic Protection Tester (CP1), NACE