Buzz High Voltage, LLC

Description:

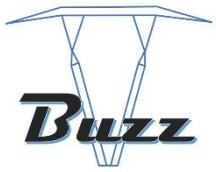
Buzz High Voltage, LLC specializes in high voltage testing, inspection, and training. With a deep understanding of high voltage power systems and test equipment, we offer a comprehensive range of services to ensure safety, reliability, and compliance. Our expertise extends to areas such as grounding, power system modeling, and high-speed data acquisition, analysis, and visualization.

Our services are valuable to a wide range of clients, including:

- **Utilities:** Electric power utilities can benefit from our expertise in high voltage testing, grid modernization, and safety compliance.
- **Industrial Facilities:** Manufacturing plants and other industrial facilities that utilize high voltage equipment can rely on us for inspection, maintenance, and troubleshooting.
- **Government Agencies:** Regulatory bodies and government agencies can leverage our knowledge for policy development, standards interpretation, and safety regulations.
- **Research Institutions:** Universities and research institutions can collaborate with us for research projects, laboratory design, and student training.
- **Equipment Manufacturers:** Manufacturers of high voltage equipment can engage us for testing, certification, and quality assurance.

Value Proposition:

- **Safety:** By ensuring compliance with safety standards and providing training, we can help protect personnel and equipment from electrical hazards.
- **Reliability:** Regular inspections, testing, and maintenance can help prevent equipment failures and disruptions.
- **Compliance:** Our expertise in standards interpretation and certification ensures that clients adhere to regulatory requirements.
- **Efficiency:** Our services can improve the efficiency and reliability of high voltage systems, leading to cost savings and operational benefits.
- **Innovation:** Our R&D capabilities and focus on emerging technologies can help clients stay ahead of industry trends and adopt innovative solutions.



High Voltage Testing and Inspection

- **High Voltage Testing:** Specify, conduct, and witness various high voltage dielectric tests, including lightning impulse (BIL), switching impulse, power frequency withstand, partial discharge, radio influence voltage (RIV), and insulation resistance.
- **Inspection:** Provide inspection services for high voltage equipment and systems, ensuring compliance with relevant standards.
- **Training:** Offer training programs on high voltage safety, testing procedures, and equipment operation.

High Voltage Systems and Equipment

- **Grounding:** Design and implement grounding systems to protect equipment and personnel from electrical hazards.
- **Power System Modeling:** Use advanced software like ATP/EMTP to model and analyze power systems for transient behavior.
- **Corona Discharge Measurements:** Measure and analyze corona discharge using various techniques, including equivalent gradient method, visual, Corocam, Daycor, and ultrasonic.
- **High Voltage Phenomena:** Photograph and analyze high voltage phenomena, such as corona, lightning, power arc, and high-speed video.
- **R&D and Technology:** Provide research and development services for grid modernization and technology roadmapping.
- **Laboratory Design:** Design and commission high voltage laboratories.
- **Equipment Troubleshooting and Repair:** Troubleshoot and repair high voltage equipment.

Standards and Compliance

- **Standards Interpretation:** Interpret and apply IEEE, IEC, and UL standards for high voltage equipment and systems.
- **Factory Acceptance Testing:** Witness and conduct factory acceptance tests for high voltage equipment.
- **Business Case Preparation:** Prepare business cases for high voltage projects.
- **Specification Development:** Develop specifications for high voltage test equipment and power system procurement standards.

Engineering and Technical Services

- **Data Analysis and Visualization:** Analyze and visualize data using Excel, MATLAB, and other tools.
- **Custom Design and Fabrication:** Design and fabricate custom circuit boards.
- **Test Automation and Control:** Automate test processes using LabVIEW.
- **Embedded Systems:** Develop projects using Arduino and Raspberry Pi.
- **3D Printing:** Utilize 3D printing for prototyping and manufacturing.
- **Python Programming:** Develop custom software solutions using Python.
- **Safety Calculations:** Calculate minimum approach distances and other safety parameters (IEEE 516).
- **Quality Management:** Implement and maintain quality management systems (ISO 9001, ISO 17025).
- **Technical Writing:** Prepare technical reports and documentation.
- **VFD Motor Drive Programming:** Program and install VFD motor drives.

Specialized Services

- **Failure Analysis and Investigation:** Investigate failures and accidents to determine the cause.
- **Safety Investigations:** Conduct safety investigations to identify hazards and recommend corrective actions.
- **Live Line Tools and Techniques:** Provide expertise in bare hand and live line tools and techniques.
- **Ground Potential Rise and Arc Flash Hazards:** Assess ground potential rise and arc flash hazards.
- **Data Logging and Measurements:** Use data loggers, thermocouples, and temperature sensors for measurements.
- **Fiber Optic Measurements:** Utilize fiber optics for galvanic isolation.
- **High Voltage Test Equipment:** Provide expertise in series resonant test sets, Marx style lightning impulse generators, HiPot testing, voltage dividers, and PPE.
- **High Speed Data Acquisition:** Use high-speed data acquisition systems for precise measurements.
- **Shielding:** Design and implement shielding for high voltage equipment.

- **University/College Services:** Design power laboratories, provide instruction, and conduct demonstrations.
- **Electric Vehicle Charging:** Provide expertise in electric vehicle charger specification and grant writing.
- **Temporary Measurements:** Conduct temporary measurements of power system quantities.

About us:

Jeffrey Hildreth, P.E.

Jeff Hildreth has worked in the electric power transmission field for most of his 28-year engineering career. After graduating from the Georgia Institute of Technology, Atlanta GA, with his bachelor's degree in electrical engineering he started out designing computer hardware for Intel in Hillsboro, Oregon. After a few years he returned to Georgia Tech to work at the National Electric Energy Testing Research and Applications Center (NEETRAC) high voltage laboratory. As a research engineer, he tested power system apparatus including insulators, circuit breakers, transformers, and more. While working at NEETRAC, he continued his studies at Georgia Tech where he earned his master's degree in Electrical Engineering. In 2002 he took his skills to the Bonneville Power Administration (BPA) in Vancouver Washington where he was assigned to the ultra-high-voltage laboratory. During his nearly 20 years at BPA he applied his engineering and testing skills to support the construction, operation, and maintenance of the high voltage transmission grid in the Pacific Northwest. He became a trusted expert in high voltage test and measurement as well as field commissioning tests. In 2022, Jeff took a new position leading high voltage testing at KEMA Laboratories in Chalfont, PA where he quickly advanced to the role of lab director. Jeff is a senior member of the Institute for Electrical and Electronic Engineers (IEEE) where he contributes leadership to the development of consensus standards. He is a licensed professional engineer in the states of Pennsylvania and Washington.

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