



Note from Wendy and Howard...

Hello,

Did you know that according to the U.S. Bureau of Labor Statistics, more than 2,000 workers per year are admitted to the hospital due to burn injuries? That's a rate of about 5-10 per day! Arc flash is a serious hazard that can be devastating to those exposed to it. It can also cause lengthy downtime to repair or replace severely damaged equipment.

Is your company at risk? While we all want to protect the safety of our employees, knowing when we are at risk can be less apparent. An Arc Flash Study by Huffman Engineering, Inc. provides a comprehensive look at the risk. Check out our feature article to learn more about the risk factors and the services we offer to help our clients ensure employee safety and regulatory compliance.

For our employee spotlight, we are pleased to share the story of our youngest Professional Engineer, Evan Kilgore. Evan has been very busy over the past year - new home, a new baby and a new position heading up our [new branch office in Denver, CO!](#)

Serving the Midwest since 1987, Huffman Engineering specializes in system integration projects for pharmaceutical, life science, food process, and utility process control applications. When you need an expert to help solve automation challenges, we are here to help. We deliver engineered solution tailored to your automation needs. Visit our [website](#) for more information on our areas of expertise, or call us (402) 464-6823 for a free initial consultation.

Thank you for your interest in Huffman Engineering.

Best regards,

The Huffman Engineering Inc., Team

Huffman Engineering, Inc.

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Arc Flash Engineering Studies - When Do They Make Sense?

Having a solid electrical safety program is paramount to all industrial companies; first and foremost, to protect employees. It only takes one arc flash event to result in an electrical burn or worse – a fatality. Beyond safety concerns, protecting against an arc flash reduces the risk of damage to equipment, downtime and ensures you are in compliance with OSHA and the National Electrical Code (NEC) or NFPA 70E. While we all know safety is important in any industrial setting, knowing exactly when you need to be concerned about potential risk may not always be so obvious.



Image Credit: [The Electricity Forum](#)

An Arc Flash occurs during a fault or short circuit condition. The Arc Flash can be initiated through accidental contact, equipment which is underrated for the available short circuit current, deterioration or corrosion of equipment, as well as other causes. An Arc Flash event can expel large amounts of deadly energy. This energy can cause copper to expand to approximately 67,000 times its size at a temperature of 35,000 degrees Fahrenheit (°F).

By code, all industrial facilities are supposed to have all maintainable equipment marked with the available incident energy and required level of personal protection equipment (PPE). Arc Flash studies determine the available incident energy levels present at various points on the facility's electrical distribution system. There are numerous factors and conditions that can result in an arc flash hazard. It is time to consider an analysis if:

- An Arc Flash study has not been conducted over the last five years - NFPA 70E requires that Arc Flash Hazard Analysis studies be reviewed every 5 years.
- The electric utility or distribution system has gone through numerous changes.
- Recent electrical equipment failures within the facility caused extensive and costly downtime.
- An expansion and/or modification of the existing electrical distribution system is being considered.

If any of the above statements are true for you, a safety study should be considered.

Huffman Engineering offers Engineered Design Studies completed under the direction of one of our Professional Engineers. Our Professional Engineers and our firm are licensed in multiple states across the Midwest including Nebraska, Colorado, Kansas, Iowa, Missouri and Wisconsin.

Huffman Engineering has a broad-based knowledge and experience in all areas of electrical systems. To complete safety studies, we use state-of-the-art SKM software for system modeling and we adhere to the most current IEEE standards and the National Electrical Safety Code. Our safety studies include Incident Energy/Arc Flash Hazard Analysis, Short Circuit Studies and Protective Device Coordination.

Incident Energy/Arc Flash Hazard Analysis

Arc Flash studies determine the available incident energy levels present at various points on the facility's electrical system. We work with clients to provide proper arc flash evaluation to identify the appropriate personal protection equipment (PPE) to work safely on the electrical system.

Collaborating with the client, the utility company and a local electrician (as required) to collect the necessary system data required for the calculations, Huffman Engineering can assist with the following to meet code requirements:

- Calculating cal/cm² incident energy
- Calculating and defining flash protection boundaries
- Modifying overcurrent device protection schemes to minimize fault current magnitude and duration resulting in lower arc flash incident energy

To read on about **incident energy/arc flash hazard analysis, short circuit studies, and protective device coordination**, visit our website: www.huffmaneng.com.

Spotlight - Evan Kilgore

Today we are shining the spotlight on our youngest Professional Engineer, Senior Electrical Engineer, Evan Kilgore. Evan fits our culture well; he is a dedicated team player who is passionate about his work. With his engineering talent, work ethic and results-oriented attitude, he is a great asset to the team. Evan leads our new Huffman Engineering's office in Denver, Colorado.

"Evan is a vital member of the Huffman team, truly understanding the big picture of our business. He has cross-trained in a variety of roles, and is currently heading up our new Denver office," said Howard Huffman, CEO of Huffman Engineering. "He works tirelessly to achieve our company goals, and I look forward to seeing what he will accomplish in the Colorado market."

Evan has been with Huffman Engineering since 2009 when he graduated from the University of Nebraska-Lincoln with a Bachelor of Science in Electrical Engineering. He has worked in a variety of roles, initially starting his training building panel in the shop. Evan quickly moved on to control system engineering and his first project was a large SCADA system upgrade for a wastewater treatment plant.

Over the years, Evan has completed a wide variety of projects for Huffman Engineering in the utilities industry, and has rounded out his professional experience with assignments in the pharmaceutical and food and beverage industries. Evan is skilled and experienced in multiple major PLC and HMI development platforms, including Allen-Bradley, Siemens and Schneider Electric.

"My career has been enriched immensely due to the attention and support Huffman Engineering



gives to each of its employees,” said Evan. “Huffman Engineering’s core beliefs in loyalty, honesty, integrity, and quality have supplied me with a solid base on which to develop my skills as an engineer.”

Originally from Omaha, Evan worked remotely for three years when he relocated to Ohio to support his wife Alexandra during her pediatric residency. Last summer the couple moved to Denver for Alexandra’s pediatric fellowship, and in October were blessed with the birth of their first child, daughter Reagan.



When not busy at work or spending time with his family, Evan loves being outdoors skiing and playing golf. Since moving to Colorado, Evan has taken up hiking the “14ers,” which are Colorado’s peaks over 14,000 feet in elevation.

He hiked his first one, Mt. Evans, just three weeks after moving - bad move according to Evan, “My lungs were definitely not acclimated!” When not taking in the great outdoors, Evan enjoys tasting the local microbrew beers and watching his two favorite sports teams, the Huskers and Minnesota Vikings - although a little depressing at the moment, he is a huge fan.





[Announcing Our New Office in Denver, CO](#)

Control system integrator, Huffman Engineering, opens second office to better serve clients in Colorado, Wyoming, and western Nebraska; the company helps manufacturers and utilities automate industrial processes while meeting FDA, USDA, or EPA regulatory compliance

[Control Engineering Philosophy](#)



Blog post by Howard Huffman, PE

[Community Service at Huffman - A New Employee's Perspective](#)



Blog post by Jeff Austin, Operations Manager

To learn more about Huffman Engineering, Inc. or check out our recent news, case studies, or blogs, visit our website, or connect with us.



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