

Why are we recommending Arc Flash Hazard Studies for your facility?

The number one reason to be concerned about arc flash is for the safety of personnel. (Please see figures 1 & 2.) Arc Flash Hazard Studies are performed to determine the risk to personnel, warn them of the hazards, and to instruct them as to what kind of personal protective equipment (PPE) they must wear.



Fig. 1- Fault in Switchboard



Fig. 2- Fused Switch Cable Fault

Another reason to be concerned about Arc Flash Hazards is liability and government regulations. OSHA regulations apply to every worker that may approach or be exposed to energized electrical equipment. If an Employer fails to conform to and follow OSHA and NEC requirements, it can lead to employee injuries, inconvenient penalties, expensive fines and law suits. OSHA is has adopted and is enforcing NFPA 70E. Please see the attached OSHA news release at the end of this section.

There are several regulations that address arc flash hazards. They are:

- National Fire Protection Association (NFPA) Standard 70 or better known as “The National Electric Code.” The NEC® 2017 addresses the arc flash hazard in Article 110.16
- NFPA 70B 2016 “Recommended Practice for Electrical Equipment Maintenance.”
- NFPA 70E 2018 “Standard for Electrical Safety in the Workplace”
- OSHA Standards 29-CFR, Part 1910 Sub part S (electrical) Standard number 1910.333.


For an in-depth, question and answer article on Arc Flash Hazards and OSHA and NEC® requirements please go to

<http://www.powerstudies.com/articles/ArcFlashBasicsArticle.pdf>

- NFPA 70E – Section 130.5(H) states, “ The owner of the electrical equipment shall be responsible for the documentation, installation, and maintenance of the marked label.”

The owners need an Arc Flash Hazard Study to:

- 1) Comply with NEC, OSHA and NFPA requirements
- 2) Increase Personnel Safety
- 3) Reduce Shock Hazards
- 4) Reduce Arc Flash injuries

		WARNING	
Arc Flash and Shock Hazard			
11 Ft 5 In		Flash Hazard Boundary	
33.0		cal/cm² Flash Hazard at 1 Ft 6 In	
		Arc Rated Clothing Required (See NFPA 70E-2018 Table 130.5(G) for additional PPE)	
208 VAC		Shock Hazard when cover is removed	
00		Glove Class	
3 Ft 6 In		Limited Approach (Fixed Circuit)	
1 Ft 0 In		Restricted Approach	
11/15/2018		IEEE 1584-2018 & NFPA 70E-2018	
Equipment:	SWBD MSB2		
Device:	MSB2MAIN		
Scenario 2 - 50% UTILITY		Max Fault Current: 20.0 kA	
Study Performed By PowerStudies, Inc. (253) 639-8535			

U.S. Department of Labor



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OSHA News Release

2003 - 12/04/2003 - OSHA Investigations Leads to \$148,500 in Penalties for Patrick Cudahy, Inc.

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OSHA Regional News Release

U.S. Department of Labor
Office of Public Affairs

Region 5

Region 5 News Release 03-755-CHI

Dec. 4, 2003

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OSHA Investigations Leads to \$148,500 in Penalties for Patrick Cudahy, Inc.

MILWAUKEE, Wis. -- Meat packing giant Patrick Cudahy, Inc., is facing \$148,500 in fines proposed by the U.S. Labor Department's Occupational Safety and Health Administration (OSHA) following an inspection opened in May 2003 in response to reports of an industrial accident in which three employees were severely burned.

Three workers were reported to have been troubleshooting electrical switchgear at the Cudahy, Wis., facility when electricity arched and exploded. OSHA's investigation revealed that the three workers, all of whom received first, second and third degree burns throughout their bodies, were not using insulated tools, were not wearing proper personal protective equipment, and were not following appropriate safety standards. OSHA issued willful and serious violations to Cudahy for allegedly failing to provide such equipment, and warning or training the workers about flash hazards.

"The Labor Department's significant fine of \$148,500 sends a message that this Administration will enforce safety and health

2003 - 12/04/2003 - OSHA Investigations Leads to \$148,500 in Penalties for Patrick Cudahy, Inc. standards for workers," said U.S. Secretary of Labor Elaine L. Chao.

The company employs over 1,400 full-time workers at its Cudahy facility. OSHA District Manager George Yoksas, Milwaukee, said that the workplace safety and health agency has conducted 28 inspections at the facility since 1972, issuing a total of three willful, 16 serious and one repeat citation.

The company has 15 working days from receipt of the citations to appeal before the independent Occupational Safety and Health Review Commission.

OSHA is dedicated to saving lives, preventing injuries and illnesses and protecting America's workers. Safety and health add value to business, the workplace and life. For more information, visit www.osha.gov

