

Electrical Safety Month 2015

1 – Electrical Hazard Recognition

EFCOG Electrical Safety Subgroup

May 2015



Overview

It's May again – time to look at electrical safety.

The theme this year is “Electrical Hazard Recognition”

Boring topic, right? What can we say you don't already know?

Nothing? Maybe, maybe not. Read on for some interesting facts, shocking lessons learned, and other useful information that will keep you, your family, and your coworkers safe around electricity.

Electrical Hazard Recognition

What does this really mean?

Hazard Recognition - is the systematic observation and identification of unsafe conditions, at-risk behaviors and underlying management system weaknesses that if permitted to continue may lead to employee injury or illness.

What is the purpose of Hazard Recognition?

To make personnel aware of their role and responsibility for the safety of themselves, each other, in order to empower them to reduce the number and severity of accidents and injuries on and off the job.

Electrical Hazards

There are three general categories of Electrical Hazards:

- *Electrical Shock - the physiological reaction or injury caused by electric current passing through the (human) body.*
- *Arc Flash – the light and heat produced in an arc fault, a type of electrical explosion that results from a low-impedance connection to ground or another voltage phase in an electrical system which is supplied with sufficient electrical energy to cause substantial damage, harm, fire, or injury.*
- *Arc Blast - The intense heat from an arc causes sudden expansion of air resulting in a blast.*

Electrical Hazards

What is the hazard?

Why does the hazard exist?

What might the over all attitude of workers and/or management be in the workplace?

Who detects hazards and what happens after they are reported?

How do we prevent and control hazards?

Electrical Hazards

Working on/in electrical equipment pose the greatest hazard to electrical workers.



Arc flash event with proper arc rated PPE.



Arc flash victim.

Electrical Hazards

Access and working space shall be provided and maintained about all electrical equipment.



Blocked access to circuit breaker box.



Poor access to disconnects.

Electrical Hazards

Improper temperature control of heating equipment results in fires.



Hot plate fire in lab space.



Heating mantle fire in lab space.

Electrical Hazards

Electrical control panels, junction boxes and switches must be free of openings into internal electrical components.



Missing cover on junction box.



Exposed wiring into motor housing.

Electrical Hazards

Electrical equipment must be protected/rated for the environmental and workplace hazards.



Acid corroded electrical disconnect.



Water and chemical corroded electrical equipment.

Electrical Hazards

Multiple outlet electrical boxes (designed for mounting in walls) must not be used as extension cords.



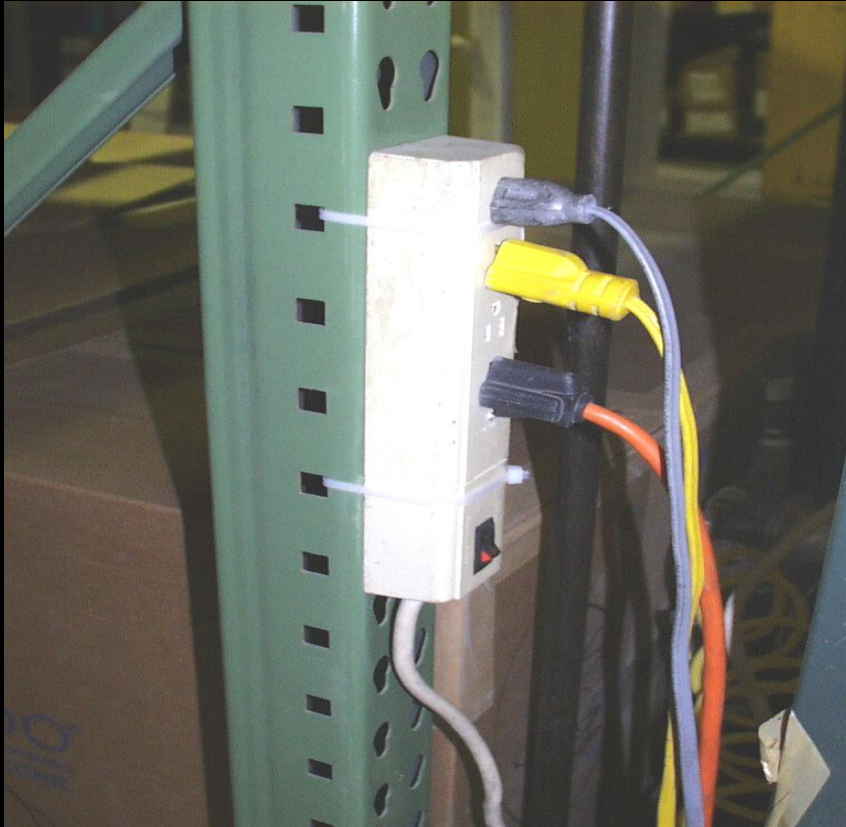
Improper and damaged extension cord.



Improper and damaged extension cords.

Electrical Hazards

Multiple outlet power strips must be used within their capacity and not as permanent replacements for fixed outlets.



Improper use of power strip as fixed outlet.



Improper use of power strip in lab space.

Hazard Definition

Hazard can be defined as:

Regulatory definition per Occupational Health and Safety Regulations:

“A hazard means the potential to cause injury or illness”

Interpreted: Any activity, procedure, plant, process, substance, situation or other circumstance that has the potential to cause harm.

Being able to recognize and avoid these hazards is key to ensuring you can do your job safe!

More Info

This year's Electrical Safety Month materials include an in depth look at how to recognize and avoid Electrical Hazards, techniques for hazard recognition, and general electrical safety. Please review the materials, post them in your work place, and share them with others – and don't keep this stuff at work – your families and friends also stand to gain from this info.

Additionally, the Electrical Safety Foundation International (ESFi) has an excellent publication for Electrical Safety Month: [*Electrical Safety Illustrated*](#)

Download the magazine – lots of very useful and relevant articles on general electrical safety for work and home – and many of the articles enhance the information you will find here on the Electrical Safety Month pages.

And as always, contact your local site's Electrical AHJ for additional information on electrical safety.

THINK ELECTRICALLY SAFE!