

# Electrical Safety

## Integrated Safety Management Required Response

Thursday  
July 12, 2001

MSD Group Leaders Meeting

# Problem

- A recent electrical accident in MSD was serious and could have been fatal.
  - Non-MSD employee working on MSD equipment; unplugged power supply; severe electrical shock
  - Power supply modified, shorting resistor damaged, large capacitor.
  - 2 people present, second person was a student

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# ISM Requires a Response

## Goals:

- Decrease the risk of accident
  - Make research safer without increasing time and expense of doing research, otherwise rules are unlikely to be followed.
- Bring MSD in compliance with ANL rules for electrical safety

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# Suggested Response

## Short Term

- All stored charge supplies should be labeled appropriately  
(Mick will supply labels)
- Sign Recognition will be part of the Building Orientation Course

## Long Term

- “Working Hot”
  - Stored Charge Supplies should always be considered hot.
  - Repair of other equipment often requires testing while energized.

# Electrical Repair

## **Safety Requires:**

- Only trained personnel attempt repair (not temps).
- 2 people present, both who understand 911 and know CPR.
- Stored Charge Supplies should always be considered hot.

## Lab requires:

- Hot Work Permit
  - Signed by 5 people inside and outside division
  - Complete write-up of procedures to be used.

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# Lab's procedure will not accomplish our goals.

- Unlikely to be followed.
- Unnecessary if repairs are routine, on equipment you know, if you are examining digital logic, etc.
- 9.1.10 #11 of the Lab ES&H Manual gives us allows for a method to accomplish our goals and meet lab rules!

# 9.1.10 #11 of the Lab ES&H Manual

Routine electronic and electrical work of a developmental or testing nature may not require a hot work permit or a safety watch, but must **require definitive procedures and posted house rules** of electrical safety. DD/DH must ensure that such procedures and house rules of electrical safety are subject to an **annual safety review**. DD/DH must ensure that the **person performing this work is properly trained and qualified**. In addition, the principles of protection listed below must be adhered to as applicable where lethal electrical shock could occur.

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# Proposal

- As part of our experimental safety plan MSD will designate specific “qualified” people as capable for doing repair on associated equipment.
- Repair will require a “safety watch” (a 2<sup>nd</sup> person with knowledge of CPR and immediate access to 911 phone)
- Unqualified personnel will not be allowed to open and repair electrical equipment.
- MSD will incorporate into its divisional safety plan definitive house rules and safety procedures for electrical repair. These will be reviewed by the electrical safety committee each year.

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# Remember Your Responsibility

## 1.3 RESPONSIBILITIES

**Division directors/department heads (DD/DH)** must ensure qualification of all personnel performing electrical-related tasks on a case-by-case basis and line supervisors are notified of personnel designated as being a "qualified person."

DD/DH must ensure that their personnel adhere to the requirements of and are aware of commended practices detailed in the appendix to this section.

**Line supervisors** must ensure that throughout their areas of responsibility, the work environment presents a minimal level of risk, and must identify all potentially hazardous activities within that area.

The line supervisor must encourage employees to participate in a voluntary program of cardiopulmonary resuscitation (CPR) training. Mandatory CPR training for certain employees is outlined under the "CPR Training" section.

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# Comments, Ideas

Please e-mail to Mike Pellin comments and suggestions.  
This plan needs to be finalized on short order.

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