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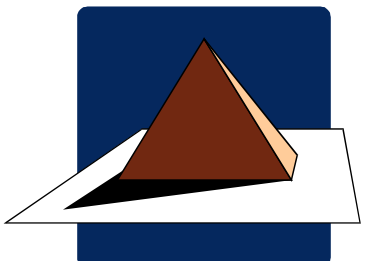

"Service Measured To The Standard"

~ OPERATIONS ELECTRICAL SAFETY TRAINING ~

At one time or another, everyone has operated or fixed an electrical item at home without an incident. Armed with this little bit of electrical experience, they develop the confidence to repeat similar activities–even at work.

Have you observed any of these activities on the job?

1. A tripped circuit breaker is reset without investigating the cause; or
2. An extension cord is used outdoors without a GCFI protection; or
3. An all metal ladder or scaffold is used near power lines.

If you answered "yes" to any of these scenarios, then you observed just part of a larger problem. Improper work practices, especially by non-qualified workers, may result in a serious incident and, possibly, an OSHA investigation.

Knowing, *understanding*, and *practicing* proper safety, including electrical safety, will promote good practices both at work and at home. Safe practices will result in fewer casualties and lost days of work. In addition, everyone should know his or her *LIMIT*.

Electrical workers are trained to know and understand the electrical systems that they operate and maintain. However, operators, armed with a "little bit of knowledge", are ready to fix electrical problems at work. This practice is more apparent on the off-shifts. They are the "Midnight Mechanics".

An example of an improper safety practice is when a motor trips for the third time on the shift and the operator resets the breaker. What is causing this repeated problem? How many times can the motor starter breaker be reset? How many times can the motor overloads be reset? What must be done prior to resetting either device? This is the *LIMIT*– before any circuit can be reset, the equipment must be inspected for the possible cause of the trip. Furthermore, body position relative to the reset button or breaker handle is critical when resetting the device. Standing directly in front of the device, should it fail, would result in major flash burns.

The next example deals with a blown fuse. A 480-Volt submersible pump fails and an operator replaces the fuse. As a non-electrical worker, how close can the operator approach an exposed energized device? The *LIMIT*– unless a ten-foot fuse puller is at hand, the operator is not permitted to get closer than ten feet to the starter. This limit applies even to non-qualified personnel who watch an electrician on the job.

The third example deals with the number of times the motor can be started within an hour. Too many starts will destroy the motor insulation. The *LIMIT*– typical manufacturers recommend three starts with a 20-minute idle time between starts. Otherwise, only two starts are permitted. Is this the practice at your facility?

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GOOD ELECTRICAL PRACTICES SELF-AUDIT CHECKLIST

Switchgear Room Housekeeping

☐ 1. Are non-electrical items (i.e., hoses, etc.) stored in electrical rooms?
☐ 2. Is a minimum of 3 feet of clearance in front of panels maintained by personnel?

Eyewash Station

☐ 3. Is the eyewash in or near the battery rooms?

Battery and UPS Room Inspections

☐ 4. Are the UPS rooms inspected and kept clear?
☐ 5. Can personnel identify the reasons for maintaining proper battery room ventilation?
☐ 6. Is the required action for an acid spill understood?

Light Bulb Replacement

☐ 7. Do personnel comprehend the associated hazards of replacing a light bulb?
☐ 8. Is the method of changing different types of light bulbs understood?
☐ 9. Are the proper and required methods of disposal understood?

Spraying Water on Electrical Equipment

☐ 10. Do personnel understand the hazards of spraying water on various types of electrical equipment?

Alarms and Indication Equipment

☐ 11. Do unit personnel check the alarms and indications inside their electrical rooms?
☐ 12. Do personnel understand the significance of the alarms and indications?

Warning Signs

☐ 13. Are the proper warning signs posted on electrical room entry doors?
☐ 14. Do personnel comprehend the significance of these warning signs?

Procedures for Isolation

☐ 15. In the event of an emergency, can personnel properly isolate the power sources within their unit?

Hazardous Locations

☐ 16. Do personnel know what areas within their unit are classified as hazardous locations?
☐ 17. Do they know how electrical equipment must be handled or used within these areas?

Minimum Safe Distance for Non-Electrical Workers

☐ 18. Do personnel understand that non-qualified electrical workers must maintain a minimum safe distance of 10 feet from exposed energized electrical equipment?

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GOOD ELECTRICAL PRACTICES SELF-AUDIT CHECKLIST

CPR

☐ 19. Can personnel perform CPR is one of their co-workers receives a fatal electrical shock?

Exposed Wiring

☐ 20. Do personnel know what to do if they encounter exposed electrical wiring?

Equipment Grounds

☐ 21. Do personnel know what action to take if their equipment indicates a ground?
☐ 22. Do they understand how to handle an equipment trip due to a ground fault?

Electrical Fires

☐ 23. Are the different types of fire extinguishers that can be used on electrical fires known and available for emergency use?
☐ 24. Are the hazards associated with the smoke from electrical fires understood?

Resetting Motor Overloads

☐ 25. Are the personnel familiar with resetting motor overloads?
☐ 26. Is the number of times an overload can be reset understood?

Resetting Breakers

☐ 27. Do personnel understand the difference between a circuit breaker and an overload?
☐ 28. Do they understand when it is proper to reset the breaker?

Cords and Lights

☐ 29. Do personnel know what to look for when inspecting a cord?
☐ 30. Do they understand the hazards of improper cord usage (i.e., running cords through doorways or across metal decking, cords carrying excessive loads)?

GFCI Usage

☐ 31. Do personnel comprehend how to test a GFCI before use?
☐ 32. Is it understood where a GFCI must be used within their unit?

Number of Motor Starts

☐ 33. Do personnel know the number of times a motor can be restarted during an hour?
☐ 34. If the motor should fail during restart, are the hazards understood?

Motor Inspections

☐ 35. If a motor is unknowingly grounded, do personnel know how to safely inspect it for heat or vibration so that a fatal shock does not result?

Transformer Inspections

☐ 36. Do personnel know what the signs are for low oil level, over-temperature, leaks, etc.?
☐ 37. Is the importance of these indications understood?