



School District:

Medford Area Public School District
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Medford, WI 54451
715-748-4620

Review Date(s):

January 2018

**Program
Coordinator:**

Dave Makovsky

Electrical Safety Program

Purpose and Scope

The Medford Area Public School District is committed to providing a safe and healthy work environment and to protecting employees from injury or death caused by uncontrolled electrical hazards in the workplace. The purpose of the Medford Area Public School District's Electrical Safety Program is to establish work policies, practices and procedures to train employees in basic electrical hazard recognition and safe work practices. This program applies to qualified and non-qualified employees who are exposed to electricity as part of their job.

Program Responsibilities

Management. Along with providing financial and leadership support, the management of the Medford Area Public School District will assist the Program Administrator, supervisors and employees with complying with this policy.

Program Administrator. The Program Administrator is responsible for:

- Identifying work tasks that need to be performed by a qualified employee
- Conducting electrical safety inspections
- Correcting electrical safety hazards as soon as possible
- Ensuring all new electrical equipment and components comply with this program
- Reviewing this program annually and revising if necessary
- Maintaining a list of all qualified employees (*Appendix E*)
- Conducting training for employees

Supervisors. Supervisors are responsible for:

- Conducting periodic work inspections using the form in *Appendix B*
- Ensuring employees are provided with and use the appropriate PPE
- Ensuring employees comply with all aspects of the Electrical Safety Program
- Testing electrical hand tools every three months with an ohmmeter

Employees. An employee will only work on electrical equipment if he/she is a qualified worker, meaning he/she has been trained and authorized to perform work on deenergized electrical equipment and components. Employees are responsible for:

- Wearing the appropriate PPE when working with or around electrical equipment
- Reporting electrical safety hazards to their supervisor or the Program Administrator
- Following the safe work practices outlined in this program
- Visually inspecting electrical equipment, tools and cords before each use
- Completing all required training

Work Practices

All electrical equipment will have the manufacturer's name, trademark or other descriptive marking which identifies the organization responsible for the product. The equipment will also have its operating voltage, current, wattage or other rating clearly marked on it.

Qualified employees will use lockout/tagout procedures on all electrical equipment while completing maintenance work. Lockout/tagout procedures are found in the Medford Area Public School District's [Lockout/Tagout Program](#). If the equipment cannot be deenergized because it would introduce an additional or increased hazard, or it is infeasible due to the design or its operational limitations (i.e. emergency alarm systems), the Medford Area Public School District will hire a qualified electrical contractor to perform the work. No work will be performed on energized equipment by the Medford Area Public School District employees.

Extension Cords and Power Strips

Employees must be aware of the hazards associated with the misuse of extension cords and power strips. All power strips must be UL listed and used according to the manufacturer's guidelines.

Choosing an Appropriate Extension Cord. The Medford Area Public School District has a variety of extension cords available for employee use. Employees will select an extension cord that can handle the electricity requirement for any connected tools or equipment. All employees will adhere to the following guidelines when choosing an appropriate extension cord.

- **Lights and fans (1-13 amperage rating).** Employees may use a 25-100 foot long extension cord with 16 gauge wire, or a 150 foot cord with 14 gauge wire.
- **Small electrical hand-held tools, such as drills and sanders (14-15 amperage rating).** May use a 25-100 foot long extension cord with 14 gauge wire, or a 150 foot cord with 12-10 gauge wire.
- **Large electrical tools such as shop vacuums, circular saws, table saw and space heaters (16-20 amperage rating).** May use a 25-100 foot long extension cord with 12-10 gauge wire. Do not use an extension cord longer than 100 feet with large electrical tools.

* All extension cords used for construction or outdoor maintenance work will be equipped with, or connected to, a ground fault circuit interrupter (GFCI).

If an employee is unsure which size of extension cord he/she should use, contact a supervisor or the Program Administrator.

Safe Work Practices for Extension Cords and Power Strips. The following safe work practices will be followed at all times by all employees when using an extension cord or power strip.

- No employee will plug in or unplug a power strip or extension cord with wet hands.
- Power strips will only be used in office settings.
- Grounding prongs will never be removed from the end of any extension cord or power strip. No strip or cord with a missing grounding prong shall be plugged into outlets.
- All extension cords and power strips will be inspected before use. If any defects are found, the cord or strip will be removed from service.
- All power strips and extension cords will be tested using an ohm meter every 3 months.
- If and when extension cords or power strips are used, they will not be:
 - Run through holes in walls, ceilings or floors
 - Run through doorways or windows without appropriate protection
 - Used in areas where vehicles, forklifts or other equipment could drive over the cord
 - Fastened with staples or hung in a way that could damage the insulation
 - Used for more than 30 days
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If it is necessary to run an extension cord through a doorway (for example, work completed outdoors with no outlet), the cord will be protected using high contrast tape or coverings and will not be left out overnight. Employees must get approval from the Program Administrator before an extension cord can be used in this manner.

Repairing and Replacing Electrical Cords

If a cord is damaged, the following guidelines will be followed:

- All repairs will be completed by qualified maintenance employee in building custodial department.
- Electrical shrink wrap will be used to repair the cord. One shrink wrap repair can be used per cord. The cord will be replaced if a second repair is needed.
- The electrical shrink wrap will cover no more than 12 inches of the cord.
- After the repair, the cord must retain its original flexibility and integrity.
- If the inner insulation is damaged, the cord must be replaced.
- Damaged cords used in wet areas shall be immediately replaced.
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Circuit Overload

To reduce the possibility of overloaded circuits, the Medford Area Public School District's employees will only plug in one device per outlet. Employees will not use splitters, multi-plug adapters, etc. without direct permission from the Program Administrator. If you have a concern that a circuit may be overloaded, you are to contact your supervisor or the Program Administrator as soon as possible.

Tools

The following requirements shall be adhered to at all times:

- All electrical tools will be stored in a clean, dry place when not in use.
- Employees will not carry electrical tools by the cord or yank cords from the wall.
- If a tool is unintentionally deenergized due to a circuit breaker or GFCI, it must be removed from service until the cause of deenergization is discovered.
- All electrical tools will be tested using an ohm meter every 3 months.
- All tools will have grounding prongs. Any tool without a grounding prong will be removed from service.
- All electrical tools will be inspected before use. If any defects are found, the tool will be removed from service until it can be repaired or replaced.
- Fiberglass ladders will be used when working around or on electrical equipment or wires.

Guarding

All electrical systems must be guarded to prevent contact with live conductors. The following requirements will be adhered to at all times:

- All electrical distribution panels, breakers, disconnects, switches and junction boxes will be completely enclosed.
- Live parts to electrical equipment operating at 50 volts or more must be guarded to prevent contact and prevent damage.
- All electrical receptacles and cover plates will be kept intact and in good condition.
- All electrical panels will be easily accessible at all times and a minimum of three feet of clearance shall be maintained on all sides.

High Voltage Electrical Rooms and Closets

The following requirements for electrical rooms and closets shall be adhered to at all times:

- High voltage rooms and closets must be locked at all times.
- Only qualified employees are allowed into high voltage rooms and closets.
- No Medford Area Public School District employee will open or remove covers or access panels of high voltage electrical distribution panels or transformers.
- Nothing will be stored in rooms or closets designated for electrical equipment.
- Safety signs which warn employees about any electrical hazards shall be displayed prominently on the door of the room or closet. (*Appendix D*)

Ground Fault Circuit Interrupters

Ground fault circuit interrupters (GFCIs) protect Medford Area Public School District's employees who use electrically-powered tools and equipment from electrical shocks, especially when working in wet environments. GFCIs are required for electrically-powered equipment and tools in the following conditions:

- When used at locations where employees are likely to contact water or conductive liquids, such as outdoors, bathrooms, kitchens or any other area with potential exposure to water
- When used at construction or renovation sites
- When used for portable lighting in wet or other conductive locations (such as inside boilers or tanks)

Working near Power Lines

Both overhead and underground power lines present electrical hazards. The following procedures shall be adhered to when working near power lines.

- Remain at least 10 feet away from overhead power lines.
- If the voltage is greater than 50,000 volts, add 4 more inches of safe distance for each 10,000 volts beyond 50,000.
- When working around high voltage lines, ground all equipment that may become energized.
- Call Diggers Hotline at 1-811 at least 48 hours before any digging. Once underground power lines have been identified, add an additional 18 inch clearance on either side of the marking or flag. Do not dig in this clearance area. If it is required to dig within the clearance area, the Medford Area Public School District will use an outside contractor to perform the work.

Additional Safety Precautions

The following additional safety precautions shall be adhered to at all times.

- If a circuit breaker trips or blows a fuse more than once, it shall be investigated and corrected by a qualified employee or contractor before being cleared for continued use.
- All areas with electrical equipment shall be properly illuminated.
- Housekeeping duties will not be performed in an area if there is a possibility of contact with an electrical hazard unless there are protective shields, barriers or if insulated materials are used to protect the employee.
- Safety signs that warn employees about any electrical hazards shall be displayed prominently when a hazard is present. (*Appendix C*)

Personal Protective Equipment (PPE)

Employees working in areas where electrical hazards are present will be provided with and shall use PPE that is designed for the specific part of the body to be protected and for the work being performed. Employees are required to adhere to the following procedures for PPE use:

- All PPE must be inspected prior to each day's use and immediately following any incident.
- Non-conductive head protection will be worn if there is danger of electrical burns or shock from contact with electricity.
- When working on electrical equipment or wiring, employees will:
 - Not wear conductive articles of clothing or jewelry
 - Wear non-melting clothing such as cotton
 - Wear electrical-rated boots
 - Wear non-conductive gloves

Employee Training

Qualified Workers. At a minimum, qualified workers must be trained on the following:

- The hazards associated with electrical equipment
- Electrical safety practices and procedures (lockout/tagout) for doing deenergized work
- Safe work practices that must be followed when working around or with electrical tools or equipment
- How to distinguish exposed live parts from other parts of electrical equipment

- How to properly inspect and use the appropriate PPE
- The location of the electrical breaker panels and fuse boxes

Unqualified Workers. Unqualified workers will receive general electrical safety awareness training on how to recognize, evaluate and avoid electrical hazards and training on all Medford Area Public School District's electrical safety practices. Training will occur before an employee begins work in a new area and when an employee does not comply with safe work practices. Retraining will occur every 3 years. Training will be documented in ***Appendix A***.

Periodic Program Review

The Program Administrator will review the Electrical Safety Program and procedures annually. The review will be documented on the form located in ***Appendix F***.

Appendix A—Electrical Safety Program Training Record

The following individuals received training on the Medford Area Public School District's Electrical Safety Program.

Print Name	Sign Name

The undersigned conducted training in accordance with the Medford Area Public School District's Electrical Safety Program.

Print Instructor's Name	
Instructor's Signature	
Instructor's Title	
Date of Training	

Appendix B – Electrical Hazards Inspection

Supervisors at Medford Area Public School District will use this form to periodically inspect their employees' work practices. Any issues found during these inspections shall be addressed immediately.

Is lockout/tagout used before performing any maintenance on electrical equipment?	Yes	No	N/A
Have all employees received training and has it been documented?	Yes	No	N/A
Do all cords have the grounding prong?	Yes	No	N/A
Are tools being stored in a clean, dry place?	Yes	No	N/A
Are employees using and carrying tools properly?	Yes	No	N/A
Are insulated tools used?	Yes	No	N/A
Do all electrical tools have a grounding prong?	Yes	No	N/A
Are tools and power cords inspected prior to use?	Yes	No	N/A
Is the correct extension cord used?	Yes	No	N/A
Do extension cords remain in use for less than 30 days?	Yes	No	N/A
Are all extension cords and equipment cords run or protected so as to prevent damage to the cord's insulation?	Yes	No	N/A
Is the area around electrical panels and boxes kept clear?	Yes	No	N/A
Are all electrical receptacles and cover plates kept in good condition?	Yes	No	N/A
Are areas with electrical equipment properly illuminated?	Yes	No	N/A
Are all electrical control devices properly labeled?	Yes	No	N/A
Are there safety signs warning employees about electrical hazards?	Yes	No	N/A
Are employees wearing proper clothing? (Non-conductive, no jewelry, etc.)	Yes	No	N/A
Are GFCIs used in wet locations?	Yes	No	N/A
Are all electrical distribution panels, breakers, disconnects, switches and junction boxes completely enclosed?	Yes	No	N/A
Are all live parts of electrical equipment operating at 50 volts or more guarded to prevent contact?	Yes	No	N/A
Are fiberglass ladders used when working near electrical hazards?	Yes	No	N/A
Are safe work distances maintained when working around power lines?	Yes	No	N/A
Is the One Call Center called at least 48 hours before any digging?	Yes	No	N/A
Is an 18 inch clearance maintained on either side of paint or flags indicating underground power lines?	Yes	No	N/A
What was done to address issues?			

Supervisor Name:	
Supervisor Signature:	
Date:	



**ELECTRICAL
HAZARD**

AUTHORIZED PERSONNEL ONLY



**ELECTRICAL
SUPPLY STATION
ALL UNAUTHORIZED
PERSONS ARE
FORBIDDEN TO ENTER**

Appendix F – Annual Evaluation Report

Date of Evaluation:	Evaluated By (list all present):
Written Program Reviewed: Yes No	
Comments on Written Program:	
The following specific procedures have been reviewed:	
The following specific procedures were modified:	
The following specific procedures were added:	
A review of the accident reports and injury and illness reports were made: Yes No	
The following additional expense(s) resulted from failure to use correct electrical safety procedures:	
Comments:	

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