ELECTRICAL SAFETY AUTHORITY WARNS SPORTS FIELD OPERATORS ABOUT ELECTRICAL SAFETY HAZARDS WITH OLDER ELECTRICAL AND LIGHTING EQUIPMENT

May 28, 2008

Mississauga, ON – While conducting regular field inspections, the Electrical Safety Authority (ESA) has found numerous electrical hazards at baseball fields throughout Ontario. Municipalities are being advised to take a closer look at the electrical installations at their sports fields to ensure there are no electrical hazards, or damaged or deteriorated equipment.

One of the main concerns is the use of electrical metallic tubing (EMT) as the raceway in light standards or tower installations. EMT was commonly used a number of years ago as raceway for electrical wiring in outdoor installations such as sports field light standards. However, EMT can become rusted and break apart where it has been used as a conduit in exposed installations. The EMT has a tendency to shear off at the point where it exits the concrete base leading up into the light tower. This deteriorated conduit can pose a shock hazard to the public through loss of bonding and exposed conductors.

Another major concern is the condition of the electrical panels. Many of the wooden or sheet metal enclosures protecting the electrical panels from exposure to the weather have deteriorated over time and now allow the weather to infiltrate the electrical equipment inside. Many of the enclosures are not locked, making it easy for the public to access the equipment and the panels. Equipment that is rusting or has holes or missing panel fillers could make live connections accessible to the public.

ESA's inspections have identified the following issues:

- Some of the towers used to support the lighting are in a deteriorated condition.
- High-risk electrical wiring in the light standards is not being properly protected by raceway.
- In some instances there has been no bond wire used in the original installation.
- Electrical metallic tubing (EMT) is rusting and breaking apart.
- The EMT can shear off at the point that it exits the concrete base leading up into the light standard.
- EMT was sometimes used as the bond conductor back to the electrical panel in older installations. In this instance, if the EMT breaks apart, there would be no bond continuity back to the electrical panel to open an overcurrent device (fuse or breaker) if a phase conductor contacted the metal structure. This would leave a condition where a shorted wire could energize the metallic structure thus posing a shock hazard to anyone in the area.
- Many of the electrical panels are rusting or have openings as a result of missing panel fillers or knock out fillers. This exposes the live bus to anyone putting their hands on or near the panel.
- PVC conduit has been found to be damaged by snow removal or lawn care equipment, thus exposing the wires.

SAFETY ALERT

May 2008

- The Ontario Electrical Safety Code prohibits the use of EMT conduit in wet environments.
- Many of the electrical panels are protected by wooden enclosures which are not weather-proofed and tend to deteriorate with outdoor exposure.
- Many of the electrical panels are not locked even though they have the capability of being locked.
- Most of the outdoor outlets are not GFCI protected. This poses a potential hazard where the public (and children) have unsupervised exposure to the electrical outlets. There is no way to ensure the condition of the electrical cords being used by the public in these receptacles.

ESA recommends all outdoor electrical receptacles are GFCI protected and tested monthly as per manufacturers' instructions.

ESA recommends Municipalities develop a maintenance check list that includes the following:

Light Standards and Towers - Structures that carry electrical wiring need to be maintained to protect park visitors from potential electrical hazards.

1. Check the condition of all conduits to ensure no breaks or cracks.
2. Look for conduit that has sheared off at ground level
3. Ensure that there is proper grounding and bonding of all electrical equipment.
4. Assess the integrity of the EMT. If deterioration has occurred, the EMT should be replaced with an approved conduit rated for exterior use.
5. Ensure connection boxes are not damaged nor have missing covers.
6. Conduct annual routine inspections of the structural integrity of light standards and towers. ESA Inspectors have identified severe cracks and rust deterioration in some light poles.
7. Repair all identified deficiencies immediately.

Electrical Panel and Enclosure

1. Check the condition of the enclosure protecting the electrical equipment from the weather.
2. Check the condition of the electrical panels and equipment. Ensure there are no holes in the panels or missing panel fillers that would expose the public to a shock hazard. Check for deterioration due to rust.
3. Ensure that the panel enclosure can be locked, and that it is locked.
4. Ensure the copper ground wire has not been removed (copper wire is at high risk of theft).
5. Repair all identified deficiencies immediately.

If you are not sure what to look for, a Licensed Electrical Contractor can help with the assessment and repairs to damaged or deteriorated electrical equipment. Go to www.pluginsafely.ca for a list of Licensed Electrical Contractors.

For more electrical safety information, please visit our website at www.esasafe.com.