



Serious Accident/Incident

Bulletin

September 2003

Look up and live!

The Hazard

The driver of a dump truck was killed recently when his raised truck box contacted a live overhead power line. After the driver was removed from the scene by ambulance, authorities, unaware of the hazard of exploding tires due to pyrolysis caused by the electrical contact, had the truck towed over public roads to a tire dealer. The dealer, experienced with the hazard presented by pyrolysis, had the truck parked in a safe zone and barricaded for a 48 hour safety period before his employees safely deflated and removed all the tires which, in his words, "...were destroyed."

These same accidents occur with alarming frequency year after year involving equipment such as dump trucks, forklifts, cranes, cherry pickers, hoists, excavators, loaders, drills and farm equipment

Prevention

Hydro One, responsible for the Ontario power grid, recommends staying out of the "Zap Zone," the air space surrounding its electrical utility lines. Not everyone is aware that physical contact doesn't have to be made for an electrical charge to jump from the wire to the machine. The higher the voltage in the line the farther it can jump to a vehicle, structure or person.

Other recommendations:

1. Make all workers aware of overhead power lines on a job site before work begins.
2. Where necessary, have power lines de-energized or removed before starting work.
3. Maintain a "safe zone" of:
 - 3 metres from 750 to 150,000 volt lines
 - 4.5 metres from 150,001 to 250,000 volt lines
 - 6 metres from 250,001+ volt lines
4. Avoid dumping or storing material requiring trucks, loaders, forklifts or other equipment to move it under power lines.
5. Appoint a signaller to warn operators if there is any possibility of equipment or material entering the "Zap Zone."

Tires exposed to heat or electrical energy weaken as the rubber breaks down. If a tire fails, the rim components may fly off with explosive force. All workers must be aware of this hazard, and procedures should be in place for dealing safely with a vehicle that's been exposed to heat or electricity.

Resources

- "Stay Clear of the Zap Zone," Hydro One, (download) www.hydroonenetworks.com/en/safety/public_safety/campaign/ZapZonePamphlet.pdf
- Regulation 854, Mines and Mining Plants, S.159
- Ontario Electrical Safety Code, Electrical Safety Authority, www.esainspection.net
- Electrical and Utilities Safety Association, www.eusa.on.ca

For more information or resources on this subject please contact your MASHA field consultant.

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