

Low Voltage Conductor Clash & Flashover

Vegetation Management Work



Safety alert

August 2020

Background

Earlier this year vegetation management workers were pruning nature strip trees on behalf of a municipal council. The work was being performed from an Elevated Work Platform (EWP) and a Safety Observer was being used for this work.

The EWP Operator was attempting to manoeuvre the basket of the EWP between the bare low voltage (LV) conductors and the telecommunications cable. The EWP Operator and the Safety Observer believed there was ample clearance to manoeuvre the basket through the space and maintain the required minimum safe approach distance (SAD).

The EWP operator had crouched down inside the basket as it moved between the LV conductors and the telecommunications cable. An LV cover on the EWP contacted the outside LV conductor as the EWP slewed, pulling it into the conductor adjacent. The contact between the two LV conductors caused a loud bang and a flashover.

This created an unsafe electrical situation that had the potential to cause property damage, serious personal injury or in the worst circumstance an electrocution. Fortunately, no one was injured.

The vegetation management workers immediately contacted their Operations and the incident was reported to Energy Safe Victoria (ESV).

Incident site



Investigation Findings

ESV conducted an investigation of this incident and found:

- The risk assessment completed did not acknowledge the hazard caused by the telecommunications cable with regard to accessing the vegetation that required pruning.
- Both vegetation management workers failed to accurately estimate the distance between the LV conductors and the telecommunications cable; this affected the ability of the EWP Operator to maintain SADs.
- The EWP Operator failed to maintain SADs as required by the ESV Electrical Safety Rules for Vegetation Management Work near Overhead Powerlines by Non-Electrical Workers, constituting a breach of Electricity Safety legislation; heavy penalties may be applied to such breaches.
- The Safety Observer failed in the obligations of this role as required by the ESV Electrical Safety Rules for Vegetation Management Work near Overhead Powerlines by Non-Electrical Workers, constituting a breach of Electricity Safety legislation; heavy penalties may be applied to such breaches.

Key Lessons

- Always maintain appropriate SADs when undertaking works in the vicinity of live electrical apparatus.
- Regularly reassess worksites for hazards when completing electric line clearance work; particularly when aloft in EWPs.
- Ensure the Safety Observer is positioned at a suitable location to effectively observe the work being performed.
- Ensure the Safety Observer maintains effective and immediate communication with the work team at all times.
- Consider changing the set up location of the EWP rather than slewing between telecommunications cables and electric lines.

Important information

- Failing to follow established safe work methods and maintain SADs will place workers at risk of serious personal injury or in the worst circumstance, electrocution.
- When a vegetation management worker is clearing vegetation on behalf of a municipal council they must comply with the ESV Electrical Safety Rules. The rules specify the body, tool, equipment and vegetation SADs that must be applied to maintain appropriate safety standards to complete electric line clearance work safely. Duties of the Safety Observer are also outlined in the rules.
- Working near live high and low voltage electric lines is dangerous. A vegetation management worker was electrocuted in February 2019 when they made contact with uninsulated low voltage electric lines. The incident described in this safety alert has many similarities and could have easily resulted in the worker being seriously harmed or electrocuted.

Who we are

We are Victoria's safety regulator for electricity, gas and pipelines.

Our role is to ensure that Victorian gas and electricity industries are safe and meet community expectations. We are also responsible for licensing and registering electricians, and educating the community about energy safety.

More information is available on the Energy Safe Victoria website: www.esv.vic.gov.au