

Hazard Fact Sheet – Overhead Powerlines

What is the Hazard?

Overhead powerlines carry high-voltage electricity which can cause severe injury or death if workers, tools, or equipment come too close or make contact. Electricity can arc (jump through the air), meaning you do not need to touch the powerline to be electrocuted. This hazard is critical when using cranes, EWPs, telehandlers, trucks, or handling long materials.

Types of Injuries / Health Effects

- Electrocution or electrical shock
- Severe burns and cardiac arrest
- Fatalities from direct or indirect contact
- Fire or plant damage if equipment touches a live line
- Secondary injuries from falls or panic reactions

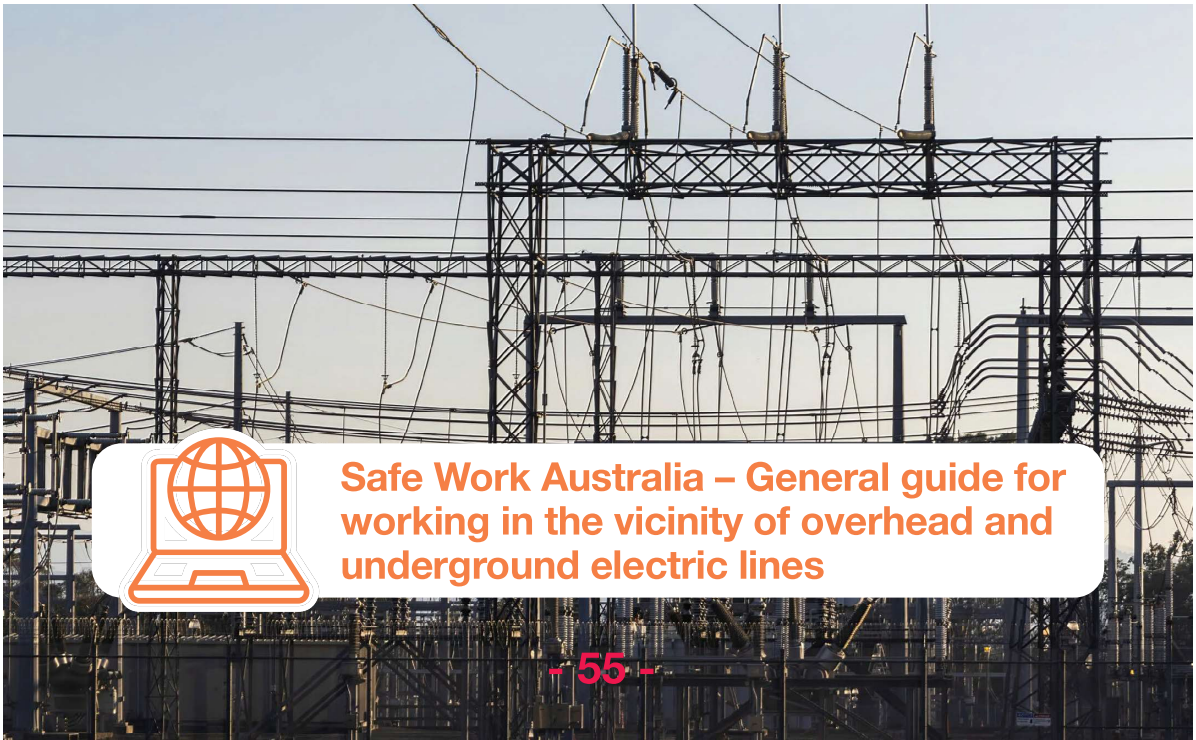
Causes / Scenarios

- Operating mobile plant too close to powerlines
- Lifting or carrying long or conductive materials (rails, piles, ladders)
- Poor visibility due to glare, dust, or weather conditions
- Spotter not used or distracted during high-risk lifts
- Incorrect estimation of height or clearance distances
- Stacking or storing materials underneath or near powerlines

Control Measures

- Always identify and keep clear of overhead powerlines and respect marked exclusion zones on site.
- Use spotters when operating cranes, EWPs, telehandlers, or trucks near powerlines, and maintain clear communication.
- Lower booms and attachments fully before moving equipment near powerlines to avoid accidental contact.
- Never store materials or park equipment under or near powerlines to prevent accidental energising or damage.
- Stop work immediately if visibility is poor (e.g., due to weather, glare) or if wind affects your control over equipment.
- If unsure about clearance distances or conditions, stop work and ask a supervisor or safety officer before proceeding.
- Report any sagging, damaged, or low-hanging powerlines to ensure hazards are addressed promptly.

https://www.safeworkaustralia.gov.au/resources-and-publications/guidance-materials/general-guide-working-vicinity-overhead-and-underground-electric-lines
https://www.safework.nsw.gov.au/hazards-a-z/electrical-and-power/power-lines



Safe Work Australia – General guide for working in the vicinity of overhead and underground electric lines



Case Example:

Partially Live Cables Near Overhead/Underground Line Tie Ins

Across multiple solar farms, workers found cables partially connected to live panels or power sources. These setups were often near areas where underground services or overhead lines interface with the farm, creating serious electrocution risks if touched or moved.

Key Lessons Learned:

- Always assume a cable is live unless told otherwise by an electrician.
- Never disconnect or reconnect cables yourself - even “small” ones can be dangerous.
- If you find a loose or half connected cable, keep your distance and report it.