

Hazard Fact Sheet - Contact with Assets (Overhead & Underground Services)

What is the Hazard?
Contact with assets includes striking, damaging, or coming too close to overhead or underground services such as powerlines, electrical cables, water mains, gas lines, communications cables, and fibre optic infrastructure.

These assets may be live, pressurised, or critical to operations. Contact can result in serious injury, fatality, service disruption, fire, explosion, flooding, or major project delays.

Types of Injuries / Health Effects

- Electrocution or electric shock
- Severe burns from arc flash
- Explosion or fire-related injuries
- Drowning or engulfment from ruptured water mains
- Fatalities from contact with live services

Causes / Scenarios

- Excavating or drilling without confirmed service locations
- Operating plant too close to overhead powerlines
- Failure to follow Dial Before You Dig
- Inaccurate or outdated service drawings
- Not using a spotter when working near overhead lines
- Driving star pickets or piles into unconfirmed ground
- Assuming a service is isolated or de-energised without verification

Control Measures

- Always confirm underground services have been identified before digging, drilling, piling, or trenching.
- Follow Before You Dig Australia requirements and review current service plans.
- Use non-destructive digging (NDD) or potholing to positively identify underground assets before mechanical excavation.
- Maintain minimum approach distances from overhead powerlines as per site rules and legislation.
- Use spotters when operating plant near overhead services.
- Never assume a cable or line is de-energised; treat all services as live unless formally isolated and confirmed.
- Stop work immediately if an unknown service is uncovered and notify your supervisor.
- Ensure operators and workers are inducted on site-specific asset locations and exclusion zones.

https://www.safeworkaustralia.gov.au/doc/model-code-practice-excavation-work
https://www.safeworkaustralia.gov.au/system/files/documents/1703/overhead-underground-electric-lines-general-guide.pdf https://www.byda.com.au/before-you-dig/best-practice-guides/

Safe Work Australia – Model Code of Practice: Excavation Work



Case Example:

Incorrect Cable Location Leads to Electric Shock and Project Delays

An excavator struck a live underground electrical cable during trenching works. The cable location was marked incorrectly, and mechanical excavation commenced without potholing to confirm depth. The operator received an electric shock, and the project experienced significant delays.

Key Lessons Learned:

- Always positively identify underground services before mechanical excavation.
- Do not rely solely on drawings or markings, confirm location and depth.
- If unsure about service location, stop work and escalate immediately.
- Ensure supervisors verify controls are in place before excavation begins.