

Hazard Fact Sheet – Electrical Safety

What is the Hazard?

Electrical hazards occur when people are exposed to live electricity, to damaged electrical equipment, or when working near electrical parts that are still energised.

During commissioning, some parts of a solar farm operate at high voltage. Solar panels can continue to produce electricity in daylight, meaning some electrical parts may remain live even after the system has been shut down.

Types of Injuries / Health Effects

- Electric shock or electrocution
- Burns or arc flash injuries
- Secondary injuries (falls, muscle spasms)

Causes / Scenarios

- Contact with overhead or underground services
- Entering live commissioning zones without a permit (often marked by green flags)
- Damaged or exposed cables during trenching or connection work
- Not testing the circuit for voltage before touch
- Use of non-insulated tools.

Control Measures

- Do not enter live zones without a valid permit.
- Never assume cables, inverters, Power Station Units (PSUs) or switchboards are de-energised and keep clear of equipment you are not trained or authorised to work on.
- Learn what the different colours and signs mean on your site (e.g. green flags for commissioning zones) and do not cross tape, barricades or locked gates without permission and a clear task.
- If you are not a licensed electrician, do not open covers, test, connect, disconnect or “have a look” inside electrical equipment or junction boxes, even if something seems loose or not working.
- Always follow lockout/tagout (LOTO) procedures.
- Inspect cables, connectors, and tools daily.
- Keep metal objects and liquids away from electrical areas.
- Only licensed electricians to perform electrical work.
- Maintain clear barriers and signage.

https://www.safeworkaustralia.gov.au/doc/model-code-practice-managing-electrical-risks-workplace



Safe Work Australia – Managing Electrical Risks in the Workplace



Case Example:

Electric Shock and Minor Burns

An operative entered an energised inverter station during commissioning without authorisation, assuming it was isolated. They contacted live terminals, resulting in an electric shock and minor burns. Key issues include:

- No LOTO verification
- Poor access control
- Unclear handover to commissioning

Key Lessons Learned:

- Be cautious around water after rain, wet areas can hide serious electrical dangers.
- Only people who are properly trained should handle high-voltage cables. If it's not your job, don't touch it.
- If something about the area feels unsafe or different from usual, pause and let your supervisor know before continuing.