Electrical switchboards on construction site

Builders on construction sites are responsible for providing approved temporary switchboards

It is common industry practice for electrical contractors to provide temporary electrical supply installations for commercial construction sites.

However, regulation 3.65 of the Occupational Safety and Health Regulations 1996 places the responsibility on the builder or main contractor, and not the electrical contractor, for ensuring a temporary electricity supply is provided once work on the site has reached plate height (or equivalent). Penalties apply for non-compliance.

Sometimes, only a single temporary switchboard will be needed, such as for the construction of a single dwelling, but in other circumstances it may be necessary to have multiple switchboards, including some permanent switchboards, in more than one location on site. This may be the case for larger construction jobs.

Who is responsible for installing the right number and type of switchboards to suit the job is not commonly understood. This has resulted in widely varied standards of switchboards in use on construction sites. Depending on the awareness and budget of the builder, unsafe switchboards can result. Such switchboards may be a contributing factor in serious injuries or even work-related fatalities.

Switchboard standard

The Australian/New Zealand Standard for electrical installations on construction and demolition sites (AS/NZS 3012) specifies requirements for location, construction and mounting of switchboards, as well as socket outlets and protection devices. These requirements apply to all construction sites and builders must familiarise themselves with them. Failure to comply with thes standards compromises the safety of everyone on site and is a breach of the Occupational Safety and Health Regulations 1996.

Regardless of the number or type of switchboards, they must all:

- be weatherproof;
- be robust and constructed with materials able to withstand mechanical damage from environmental or other influences that may be expected at the location, such as construction equipment;
- have a means to prevent strain/damage to cables and cords, such as the use of a tie-bar;
- have no exposed live parts;
- be clearly marked with numbers or letters to identify each one from other switchboards on the site;

WorkSafe Bulletin

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- have a lid/door which:
    - can be opened without removing or damaging any cables or cords;
    - is lockable; and
    - can remain open whilst an operator works on the switchboard.
- be safely and securely mounted to a permanent structure such as a wall, or secured to a temporary post or pole, be freestanding or suitably designed for the purpose;
- have each socket outlet provided on the switchboard for the connection of portable equipment individually controlled by a double pole switch or other device that provides the same level of safety as a double pole switch; and
- have all components legibly marked to indicate their relationship with various sections of the installation.

Also:

- switchboards must be within easy reach and located so that the maximum length of flexible cord is not exceeded (note: maximum length of flexible cord is approximately 30 metres);
- flexible cords and cables shall be supported off the floor or ground on insulated stands or hooks; and
- flexible cords must be confined to the level of the switchboard they originate from (except in lift shafts or stairwells).

RCD protection

All final sub circuits on switchboards are to be protected by residual current devices (RCDs) with a maximum rated residual current of 30mA.

Testing and inspection

All routine testing and inspections of switchboards must be carried out by a licensed electrical worker. Any equipment that fails testing must be withdrawn from use and not returned to service until it has been repaired and re-tested.

A licensed electrical worker is also required to visually inspect and test all construction wiring, which includes switchboards. Unlike portable equipment, which must be inspected every three months, switchboards must be inspected at least every six months.

The results of the inspections and tests must be recorded and kept on site.

More information?

For further information, check out WorkSafe's website or contact WorkSafe on 1300 307 877.

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