Advisory notice

Electric vehicles in buildings

To support Australians making the switch to electric vehicles (EV), the National Construction Code (NCC) is requiring more buildings to be ready for EV charging.

The global experience of EVs to date indicates they have a lower likelihood of being involved in a fire than internal combustion engines, but the characteristics of battery fires are different to liquid fuel fires.

To ensure we understand and respond proportionately to any updated evidence of EV charging risks, the ABCB has reviewed the approaches taken by international regulators, including those countries with greater uptake of EVs. We have also engaged Australian research team EV FireSafe to help develop a set of recommendations that can support the safer installation and use of EV chargers without being an unreasonable barrier to adoption. The full report from EV FireSafe, on which these provisions are based, can be read here.

We believe the recommendations set out in this advisory note are low cost, have low visual impact, are easily implementable and reflect the better practices already being adopted by many reputable suppliers. These recommendations will help reduce the risk of substandard equipment or installation practices emerging as the EV charging industry grows.

The ABCB will continue to work with other government bodies and emergency response agencies to review the latest evidence on EV charging trends from around the world. We will review and update our guidance and/or regulatory response as needed.

To support safer EV charging, the ABCB recommends:

Master isolation

Provide a master isolation switch with signage at fire indicator panel/Fire Detection Indicator Control Equipment (FDCIE) or building entrance.

RCM Tick compliance

Use chargers that have the Regulatory Compliance Mark (RCM).

Emergency services information pack (ESIP)

ESIPs developed for each site and provided for first responders.

Break glass fire alarm

Provide additional break glass unit (BGU).

Placarding site

Provide placarding/signage to identify each EV charge points.

Collision protection

Provide vehicle impact bollards or stops.

Block plans

Block plans should be updated for existing sites and implemented for new builds to clearly show the location of charging hubs and master isolation.

AS/NZS 3000 App P compliance

Mode 3 and 4 chargers should only be installed by a qualified person and in accordance with AS/NZS 3000 Appendix P.

Proximity to evacuation routes and flammable risks

Carefully assess proximity to avoid blocking evacuation routes or placing chargers too close to other flammable risks.

Regular maintenance

Ensure the owner of the charging unit understands and meets their maintenance obligations.

Complex buildings

Complex buildings and higher-risk environments should seek comprehensive, specialist fire safety assessment and advice.

Directional signage

Directional signage to be provided – to the charging units and to the emergency exits.

Smart charging

Where possible, prioritise the use of 'Smart charging' to enable remote monitoring and access to disconnect power supply to a connected EV. This gives emergency responders another potential method of shutdown from unit to EV. Encourage operators to monitor for faults and provide early intervention when detected.

Placarding at site entrance

Sites with 5 or more Mode 3 or 4 chargers to install ground level or other appropriate level placards to indicate which entrance is most closely located to EV charging hub.

Pre-incident plans (PIP)

Where 5 or more chargers are installed, then building owners should invite local fire crews to attend a site familiarisation visit in order to develop a pre-incident plan (PIP).

The National Council for Fire and Emergency Services (AFAC) has also issued a position statement "Electric Vehicles (EV) and EV charging equipment in the built environment". Proponents of development applications that are subject to fire authority review, should familiarise themselves with the AFAC position statement and any additional advice issued by their local fire authority.