

SERIOUS SAFETY CONCERNS WITH GOVERNMENT DECISION TO ALLOW PEN CONDUCTOR SWITCHING

What is the issue?

In late 2025 the Government, upon advice from the Ministry of Business, Innovation and Employment (MBIE) and WorkSafe New Zealand, updated the Electricity (Safety) Regulations 2010 in an effort to reduce barriers to the installation of renewable energy technology such as solar panels and EV chargers. Among the changes was an amendment to the wiring rules (standard AS/NZS 3000:2018) that removed clauses prohibiting the switching of protective earthing conductors and combined protective earth and neutral (PEN) conductors.

Our Electrical Engineering Group, together with electrical experts we have engaged across industry, considers PEN conductor switching to be both unnecessary and inherently unsafe because of the risk of serious injury or death. We have therefore called for the urgent reinstatement of the prohibitions in the standard.

Despite these clear concerns, WorkSafe has advised the Government to retain the revised standard and is instead developing a fact sheet on PEN conductor switching. We consider this response to be wholly inadequate as PEN conductor switching is unsafe under any circumstances.

What are the safety risks?

The installation's PEN conductor is the only effective means of keeping the earth and exposed conductive parts at approximately the same potential as the surrounding ground. Switching or failure of the PEN conductor interrupts this pathway, allowing the installation's entire earthing system to rise to a hazardous voltage.

Internationally, PEN conductor switching remains banned due to the life safety risks, including in Australia, the United Kingdom and the United States. WorkSafe's own independent review, commissioned in response to industry concerns following the 2025 changes, also identified significant safety risks. Importantly, the review stated that **"PEN conductors should not be switched under any circumstances"**¹.

What actions have we taken?

Since late 2025, Engineering New Zealand has engaged extensively with WorkSafe and MBIE regarding our serious safety concerns. As part of this engagement, we reviewed each of WorkSafe's proposals for PEN conductor switching and put forward alternative approaches that would achieve the Government's objectives without the associated life safety risks. WorkSafe has not identified a single scenario in which PEN conductor switching is necessary to support EV charging, home solar generation systems, or other modern inverter-based technologies. We escalated our concerns in July 2026 by writing to Hon Simeon Brown, Minister for Energy. A copy of our letter can be found [here](#).

Where to from here?

We are awaiting a response from the Minister to our July letter. This notice is to inform the wider engineering profession of our position on PEN conductor switching. We will continue to escalate the issue wherever possible. The amended standard becomes mandatory for new electrical work on 13 November 2026. Electrical workers are reminded that it is never safe to install a switch, circuit breaker or fuse in a PEN conductor.

¹ Paragraph 4.5, part (a) "Review of technical decision for WorkSafe New Zealand", G Kenyon Technology Ltd 2026, Ref: GKT-GENC-REP-004 Rev:6, <https://www.worksafe.govt.nz/dmsdocument/72491-review-of-technical-decision-for-worksafe-new-zealand-g-kenyon-technology/latest/>