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Sent: Wednesday, 14 June 2023 4:40 PM
To: ESPolicy
Subject: Electrical Safety Discussion Paper - Electric Vehicle Maintenence

I am writing this submission as a concerned owner of a Battery Electric Vehicle (BEV) and a soon-to-be owner of a Plug-in Hybrid Electric Vehicle (PHEV). My submission is intended to focus on the recommendation to capture work on Electric Vehicles (EV) as "electrical work" for the purposes of electrical licensing - referred to in the discussion paper as "Option 2"

I strongly oppose this option as presented.

It is recognised that EVs are an emerging technology. The discussion paper refers to some research done by EV Firesafe regarding fires in BEVs and PHEVs. This research indicates that workshop fires form a very small portion of fires. It makes no distinction about whether or not the fire may have been prevented if the workshop was performing the work utilising a licenced electrical contractor. The EV FireSafe website FAQ section 01 (https://www.evfiresafe.com/ev-fire-faqs) also points out that electric vehicle fires overall are approximately 100 times less likely to occur than fires with internal combustion engined vehicles (0.0012% of EV's versus 0.1% of ICE's). Further down, the FAQ's state that EV fires may be more likely that ICE fires. Clearly the data is immature and further research is warranted. Fundamentally, it would be a poor decision to be based on this early assessment.

According to EV Firesafe, "Studies found a lower than expected risk of electrocution from EV HV during extrication," in the context of a fire. However, fire safety has little (albeit not nothing) to do with electrical safety. The discussion paper acknowledges that so far the motor trades industry appears to be handling the matter of EVs reasonably well. The MTAQ has training material available and the manufacturer's technicians appear to be well-trained. Modern EVs and PHEVs have inherent safety features including traction battery isolation on loss of 12V supply and upon collision detection. I have been unable to find a single reported electrocution from a motor workshop conducting work on an EV in Australia. It suggests that so far there is nothing wrong, and that existing Workplace Safety legislation is being followed in mechanical workshops when it comes to EV servicing, that is, mechanics are following correct isolation procedures before performing work on EVs.

The bigger issue is that PHEVs in particular, but also BEVs, are more than just an electrical device. They also contain many mechanical components (drive shafts, steering, suspension, brakes etc) that should be worked on by a qualified mechanic rather than an electrician. Tasks such as servicing a transmission in a PHEV involves isolation of the traction battery, handling of an electric motor, as well as complex mechanical works. Option 2 suggests that this would now require two persons - the mechanic and the electrician. The MTAQ representative on ABC Brisbane 612 radio on Tuesday 13 June claimed that this Discussion Paper was written without any consultation with the MTAQ - the peak representative body of motor trades in Queensland. This is a serious error in the formation of any policy around the servicing of vehicles, to the extent that it brings into question the trustworthiness of the authors and their motivations.

The impact summary in the paper (section 3.3.4) talks about Option 2 producing a reduction in the risk of harm from poorly maintained electrical equipment. This is a complete furphy. The electrical equipment on PHEVs and EVs is not maintained. Modules are replaced with an unplug and plug in procedure. Wiring harnesses are also plug-and-replace units on EVs. Complete units are replaced, not maintained. The impact summary also talks about the community having "Confidence in work undertaken on vehicles" and "Confidence to purchase EVs." Currently, EV manufacturers have technicians in place to work on EVs. The community already has confidence in their ability to service the vehicles they sell. (Any lack of confidence is around the range and recharging, not servicing.) Bringing EVs into the realm of requiring electricians, with the current trades shortages, will reduce community confidence. As an owner, I see the requirements increasing servicing costs and causing delays, with no perceived benefit.

This "Option 2" is a poorly thought out option and clearly has only considered the "electric" and not the "vehicle" in an EV. Please do not consider this option any further.

A more realistic option is to require motor trades workers to have a recognised "EV ticket" to perform work on EVs under separate legislation, or under new special provisions of the electrical safety legislation to create a "limited to EV" class of electrical licence for mechanics, similar to how plumbers can replace a hot water system under a limited electrical contractors licence. The structure almost exists already. It just needs the likes of the MTAQ and TAFEs to formalise their micro-certification courses to allow mechanics to continue to become mechanics with EV certification. This is more than "Option 3" but less than "Option 2" - a middle ground.

As a final comment, section 3.3.6 of the Discussion paper, question 6 asks, "Do you have suggestions for other options to address the problems identified?" I contend that there is no problem as such. There have been no cases of electrocution from workshops repairing EVs. EVs have built-in safety features to prevent this. Existing workplace safety laws require employers to ensure that mechanics have the necessary skills before they work on EVs, to ensure their safety. This appears to be working as is.

Regards,