



Electricity Engineers'
Association

**ASSET
MANAGEMENT**

EEA Asset Management Forum – EV Charging Guide Update

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Introduction

- ❑ Background
- ❑ Summary of key issues – administrative & technical
- ❑ Limitations of the guide
- ❑ Key outcomes
- ❑ Where to next?



Background

- ❑ WorkSafe published the Electric Vehicle Safety Charging Guide 1st November 2016
 - ❑ There was very little opportunity to submit on this guide prior to publication
 - ❑ There was an intent to review the guide in 12 months
- ❑ The EEA set up a sub-group under the AMG group initially to make a submission on behalf of our industry to WorkSafe on the draft 2nd edition of the guide
 - ❑ The draft 2nd edition appeared worse than the 1st edition
 - ❑ The sub-group submitted a comprehensive submission end of March 2018 (we had a one month extension)
- ❑ WorkSafe set up a committee to review the submission and that review took place 23rd & 24th April 2018



Summary of Key Administrative Issues

- ❑ The guide is not easy to read and that make it hard to understand in some places
- ❑ Defining what is in scope and what is out e.g. e-bikes, heavy vehicles etc
- ❑ The high degree of overlap of the 3 parts
- ❑ It didn't read like guide – more like a regulation
 - ❑ The guide wasn't that helpful to those planning and installing EV charging, unlike the IET Code of Practice
- ❑ Conformity of the Electric Vehicle Supply Equipment (EVSE)
 - ❑ The citing of version of standards not yet adopted by EV and EVSE manufacturers



Summary of Key Technical Issues

- ❑ RCD requirements
 - ❑ An issue for DC chargers, which detects earth leakage in the DC in a different way
 - ❑ Voltage independent type B RCD doesn't exist
- ❑ Only allowing chargers to be connected to the network at standard LV
 - ❑ Would prevent the next generation of super chargers from being used in NZ that take an HV supply from the grid
- ❑ Not allowing the use of multiple charging leads
 - ❑ Would limit the charging capacity of heavy vehicles
- ❑ The treatment of software upgrade treated
 - ❑ Not practically to fully re-certify in an accredited lab every time a software change was made



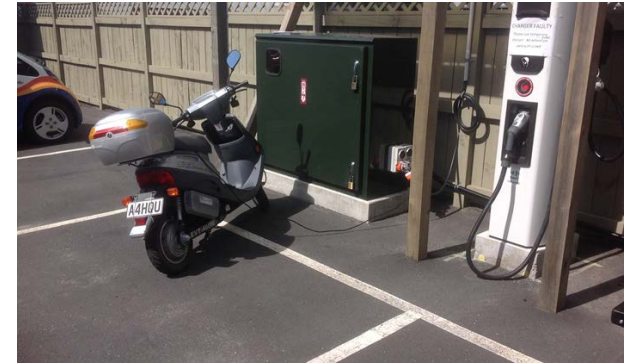
Limitations of the Guide

- ❑ It does not cover non electrical safety aspects from the point of view of giving practical guidance
- ❑ Does not give practical guidance for those planning and installing EV charging
- ❑ While following the standards used in Europe and the UK, NZ doesn't use the recommended wiring system of those countries particularly when it comes the EV charging



Key Outcomes

- ❑ The fundamental safety aims of WorkSafe and the EVs industry are the same
- ❑ Very low power road vehicles e.g. e-bikes are likely to be out of scope
- ❑ Vehicles with charging capability greater than 150 kW are likely to be out of scope
- ❑ Supplying super chargers with HV may be permitted
- ❑ The guide is intended to be a regulation and it is likely that parts 1 & 3 end up in the regulations and part 2 in AS/NZS 3000 (NZ only requirement)
 - ❑ This guide is an interim until the requirements can be locked into the regulations & rules



Where to Next?

- ❑ EV charging sub-group could remain active to conduct other work relating to EV charging e.g. smart ways to manage local capacity constraints



Acknowledgements

My fellow working group members

The respective organizations of the working group members

The EEA (in particular Juliet who managed the group & put our submission together)

WorkSafe



Questions ?

