



Australian Government
Department of Industry, Science,
Energy and Resources

National
Measurement
Institute

Electric Vehicle Charging Stations – Trade Measurement Policy

Consultation Paper

August 2021

www.measurement.gov.au

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Introduction

The National Measurement Institute (NMI) is seeking feedback and submissions from stakeholders on the proposed options for a regulatory framework supporting the accuracy of measurements made using electric vehicle charging stations (EVCS).

Background

The national measurement system

NMI, a division of the Australian Government Department of Industry, Science, Energy and Resources is Australia's national measurement authority and responsible for maintaining and regulating Australia's measurement system including the administration of the *National Measurement Act 1960* (the Act).

The Act establishes a national system of units and standards of measurement and provides for their uniform use throughout Australia to ensure traceability of measurement. The Act also regulates transactions involving measurement, including the use of measuring instruments for trade. The Act requires that all measuring instruments used for trade must be pattern-approved and verified.

Consistency and certainty in measurement supports fair and open competition. It provides a level playing field for businesses by ensuring that all market participants, irrespective of their size or financial strength, follow the same rules and have equal opportunity to compete.

Pattern approval and verification

Pattern approval confirms that a measuring instrument's design meets relevant documentary standards and performs as intended over a range of environmental and operating conditions. NMI examines the design of instruments against relevant standards, which includes pattern approval testing and the evaluation of results, and issues Certificates of Approval (also known as pattern approval certificates).

Manufacturers, importers and suppliers that wish to supply and sell trade measuring instruments in Australia are required to ensure those instruments have a Certificate of Approval issued by NMI.

Verification is the process of testing individual instruments to confirm that they are of an approved pattern and operate within maximum permissible errors. Verification is required before instruments are placed into service for trade. NMI licenses or appoints third party organisations as servicing licensees or utility meter verifiers respectively, to verify measuring instruments including utility meters used for trade in accordance with verification test procedures specified by NMI.

Current scenario

Under the Act, all electricity meters used for trade must be pattern approved and verified if they:

- Were installed on or after 1 January 2013 and
- Measure less than 750 MWh per year

The current requirements for pattern approval of electricity meters is provided in [NMI M 6-1: Active-Energy Electricity Meters \(2020\)](#) and only apply to meters measuring active electrical energy on alternating current (AC) circuits.

The EVCS used for billing customers for supplied active energy (kWh) measured on AC circuits are captured by the requirements for electricity meters under the Act.

Following discussions with the electric vehicle industry stakeholders, NMI has identified that the NMI M 6-1 (2020) requirements may not be appropriate for AC EVCSs. Also, as the NMI M 6-1 (2020) requirements are specifically for AC meters, these requirements as such cannot be considered

appropriate for DC EVCSs. Internationally, EVCS are generally considered as different to standard electricity meters and many economies including Germany and USA have put in place requirements specific to EVCS.

NMI is currently conducting a comprehensive review of the legislative framework underpinning Australia's measurement legislation. The feedback received for this consultation is expected to inform the development of new measurement laws.

Proposed options for regulating EVCS used for trade

Option 1 - Permitted

EVCSs to be administratively permitted from trade measurement pattern approval and verification requirements.

Key points to consider under this option:

- NMI to administratively permit the supply and use of non-approved and non-verified EVCSs for trade use.
- The EVCS industry would be responsible for developing and maintaining appropriate controls to ensure correct measurement.
- NMI would formally seek to provide this permission under the new measurement laws.

Option 2 – Permitted temporarily

EVCSs to be administratively permitted from trade measurement pattern approval and verification requirements **until 30 June 2024**.

Key points to consider under this option:

- EVCSs to be considered as different to standard electricity meters.
- NMI to administratively permit the supply and use of non-approved and non-verified EVCSs for trade use, **until 30 June 2024**.
- The EVCS industry would be responsible for developing and maintaining appropriate controls to ensure correct measurement, during this period.
- During this period, NMI to undertake research and collect data to develop appropriate regulation for EVCS to support confidence in measurement.
- During the latter half of this period, NMI would:
 - Develop pattern approval and verification requirements appropriate for both AC and DC EVCSs.
 - It is expected that the new requirements for EVCSs in Australia would be harmonised with international requirements for EVCS, currently being developed by [International Organisation of Legal Metrology](#) (OIML), under the revision of OIML R 46 – Active energy electrical meters.
 - Undertake appropriate consultation with the electric vehicle industry on the proposed requirements.
 - NMI to establish EVCS as different to standard electricity meter under the new measurement laws.

Option 3 – Develop interim requirements

EVCSs to be administratively permitted from trade measurement pattern approval and verification requirements. However, EVCSs in use are expected to provide correct measure and comply with requirements for shortfall in delivered energy.

Key points to consider under this option:

- EVCSs to be considered as different to standard electricity meters.
- NMI to administratively permit the supply of non-pattern approved and non-verified EVCSs for trade use, until the new international requirement is developed by OIML under the revision of R 46 – Active energy electrical meters, and adopted in Australia.
- In consultation with the industry, NMI to research and develop interim requirements to check for shortfall in the delivered energy for both AC and DC EVCSs.
- Further consultation with industry to seek feedback on the interim requirements developed.
- Requirements for shortfall to be applicable to the whole charging station as installed and in use.
- NMI to establish EVCS as different to standard electricity meter under the new measurement laws.

Option 4 – Apply the existing requirements

EVCSs to be considered within scope of the existing pattern approval and verification requirements.

Key points to consider under this option:

- EVCSs to be considered as similar to standard electricity meters.
- All EVCSs measuring active electrical energy (kWh) on alternating current circuits would be required to comply with the current pattern approval and verification requirements specified for electricity meters.
- This option is expected to require variation and interpretation of the requirements in NMI M 6-1 on a case-by-case basis.
- Requirements would apply to the EVCS, not only any embedded electricity meter.
- In consultation with the industry, NMI to develop requirements for pattern approval and verification of DC EVCSs.
- Further consultation with industry to seek feedback on the requirements developed for DC EVCSs.
- NMI to establish EVCS as similar to standard electricity meter either administratively or legislatively to provide clarity.

Providing your feedback

NMI invites stakeholders to provide comments and suggested amendments to the policy options (1 to 4) as proposed above.

Consultation questions

Stakeholders can provide their feedback by answering the following questions via our online survey:

1. **Can you please rate the policy options on a scale of 1 to 5, with 5 being most beneficial and 1 being the least?**
2. **Please provide details on the option that you chose as most beneficial**
3. **Please provide details on the option that you chose as least beneficial**
4. **Do you see any of the options provided as detrimental or having negative impact? Please provide details.**
5. **Do you know of any current or proposed mechanisms for checking accuracy of EVCSs in use?**
6. **In your opinion, are there any other options that has not been considered in this paper? If yes, please provide details.**

Documents providing supporting evidence may also be uploaded at the end of the survey.

Consultation details

The public consultation process will start on **30 August 2021** and close on **31 January 2022** (11:59 PM AEST).

Visit the department's consultation hub to participate: <https://consult.industry.gov.au/national-measurement-institute/evcs-trade-measurement-paper>

Publishing submissions

NMI may publish responses to this consultation. You can choose to remain anonymous or make a confidential response.

Contact us

If you have any questions about this consultation or need to respond to the survey offline, please contact us:

- Email: NMILegalMetrologyPolicy@measurement.gov.au, with the subject heading '**EVCS – Trade Measurement Policy Consultation**' and your company or individual name
- Post: Legal Metrology Branch, National Measurement Institute, GPO Box 2013, Canberra ACT 2601, marked Attention: '**EVCS – Trade Measurement Policy Consultation**'