



Consultation on the oversight of Level 3+ electric vehicle charging devices already in service

**Comments and Recommendations  
Submitted to Measurement Canada  
By Electric Mobility Canada**

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**Contents**

1 Introduction.....2  
2 EMC comments and recommendations .....2

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**About Electric Mobility Canada**

Founded in 2006, Electric Mobility Canada (EMC) is a national industry association that works to advance electric transportation in order to support the Canadian economy while fighting climate change and air pollution. With more than 170 member organizations, EMC includes light-, medium-, heavy-duty, and off-road vehicle manufacturers; utilities; infrastructure providers; technology companies; mining companies; research centres; cities; governments; universities; unions; environmental organizations and electric vehicle owners’ groups. The EMC team helps develop electric mobility policies, programs and projects that apply to all types of EVs, from bikes to cars, from buses to boats, from trucks to trains. Electric Mobility Canada is the national voice of the transportation electrification industry, from B.C. to Atlantic Canada.

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# 1 Introduction

EMC welcomes the opportunity to comment on Measurement Canada’s proposed approach on the oversight of level 3+ electric vehicle charging devices already in service and thanks the agency for the information made available for this consultation. Several our members have extensive experience in EVSE development, manufacturing, deployment, as well as charging network operation and maintenance, while others have been users of EV charging services. Of the DC fast charging ports currently installed or under construction in Canada, 75% of are manufactured or are operated by EMC members.<sup>1</sup>

The ability to offer pricing on a per kWh basis is a frequent customer request for many operators. Direct current (DC) charging stations of different power levels (50 kW, 100 kW, 250 kW or more) are common but actual maximum charging speed can vary based on maximum capacity of the vehicle and on battery temperature. Hot batteries in summer or cold batteries in winter can slow charging speeds below the maximum speed accepted by the vehicle or offered by the EVSE. For these reasons, per kWh billing can be a more accurate option for billing than a time-based approach, especially for DC fast charging. EMC thus shares Measurement Canada’s goal of enabling pricing base on kWh.

# 2 EMC comments and recommendations

In the table below, EMC addresses the following issues:

- Necessary flexibility to bill based on time, energy, fixed rate or a combination of these.
- Flexibility for digital display of information on dispensation instead of physical placard.
- Complaints’ mechanisms.

| Measurement Canada Proposal<br><a href="https://www.ic.gc.ca/eic/site/mc-mc.nsf/eng/lm05017.html">https://www.ic.gc.ca/eic/site/mc-mc.nsf/eng/lm05017.html</a>  | EMC Comments and recommendations |
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| <b>Scope</b>  |                                  |
| The proposed policy approach described below applies to level 3+ (DCFC) EV charging stations used in Canada to deliver and receive electricity during a recharging event. It does not apply to level 1 or level 2 EV charging devices or devices used primarily for charging electric vehicles in a residential setting, such as townhouses or single-family homes or multi-unit residential complexes like apartment buildings and condominiums. | No concerns                      |
| <b>Policy considerations</b>  |                                  |
| To assist early adopters of EV technology, foster continued growth in the clean fuel sector, and support government-wide clean fuel initiatives, Measurement Canada must establish an oversight policy to allow the continued use of the large population of EV charging devices already in the   | No concerns                      |

<sup>1</sup> 2022 Snapshot of Canada’s Electric Charging Network and Hydrogen Refuelling Stations for Light-duty Vehicles - NRCan-5000062968 - Percentage calculated with data from Table 2 - Charging Sites and Ports by Charging Operators in Canada (p.12).

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| <p>Canadian marketplace, until such a time as owners and operators are able to upgrade them and submit them for type approval and verification, or replace them with type approved devices.</p>  |   |
| <p>Once EV charging device specifications are established, EV charging station operators will be allowed to sell electricity on the basis of a measured quantity (kWh), and not on the basis of time or per charge, as they do today. However, given the large number of EV chargers already put into service in Canada, we are seeking a solution which will allow for the continued use in the marketplace of these devices without imposing immediate pressure on businesses and consumers to meet the new specifications. Additionally, we must manage the approval and verification process for this large population of devices using a measured, risk-based approach in order to address future resource demands on our organization.</p> | <p><b>EMC recommendation</b><br/>Allow as much flexibility as possible for owners and operators to bill based on time, energy, fixed rate, or a combination of these.</p> <p><b>Comments</b><br/>Some degree of flexibility is needed to ensure operators can cover energy costs, recuperate investments on infrastructure and ensure optimal rotation by applying higher rates as the battery reaches a higher state of charge.</p> <p>For some use cases, time can be a better fit, or complement energy-based billing. For example, a shopping mall or movie theatre may wish to offer free or discounted charging for the length of an average customer visit, independent of vehicle charging capabilities. Or a DC fast station operator may wish to incentivize customers to disconnect from equipment during periods of slower battery charging, such as when the battery reaches a certain state of charge, to ensure efficient use of equipment by as many customers as possible, helping to prevent line-ups. A flexible approach is necessary to cover a much wider array of business models and use cases than what is seen in traditional fuelling from fossil fuels.</p> <p>Though time-based billing is not in the purview of Measurement Canada, the use of time-based billing – either by itself or in combination with energy-based billing – can still play an important role, whether to incentivize users to liberate a charging post after a charging session (e.g. idle fees) or for very particular use cases.</p> |
| <p>One way to facilitate this transition is through the use of a temporary dispensation issued in accordance with the <i>Electricity and Gas Inspection Act</i>. The dispensation would provide a well defined and gradually implemented roadmap to full compliance with new specifications. Alternatively, EV charging station operators may choose to take immediate measures to ensure their devices fully conform to the new EV charging device specifications, therefore avoiding participation in the temporary dispensation program. Any EV charging device that is not subject to the temporary dispensation or the verification process will be considered not legal for trade after implementation of the policy.</p>                  | <p><b>EMC Recommendation</b><br/>Measurement Canada should explicitly state that the temporary dispensation and verification process applies only to devices that are billing by kWh and not to devices that are billing on a time basis.</p> <p><b>Comments</b><br/>This recommendation is for clarification purposes and ensure that charging infrastructure already installed can remain in service even if the operator chooses not to upgrade to billing by kWh.</p>   |

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| <p>In considering various options for allowing the continued use of currently deployed EV charging devices, we must ensure that the chosen approach is fair, transparent, and workable for all stakeholders. In particular, we must take into account:</p> <ol style="list-style-type: none"> <li>the industry's expectations regarding the implementation and consistency of the approach, in particular as it compares to strategies adopted by other jurisdictions that have started type-approving EV charging devices;</li> <li>the potential burden on the industry, including the added time frame and cost of investment associated with upgrading EV charging devices to meet the new specifications;</li> <li>the resource impact on Measurement Canada and its ability to approve the devices and conduct the required verifications, while continuing to carry out its mandate across other sectors of the marketplace;</li> <li>the regulatory risks that would be introduced, such as a lack of enforcement authority, along with any residual risks and their long-term impact on businesses and consumers; and</li> <li>how it may affect business, investor and consumer confidence in the accuracy of EV charging devices.</li> </ol> | <p><b>Comments</b></p> <p>While our members share Measurement Canada's goal of enabling pricing based on energy (kWh), we wish to ensure that the installed base of over 8,700 (and thousands more currently in the pipeline or soon to be planned) charging devices will continue to serve EV drivers as cost-effectively as possible. We recognize and appreciate the early investments of EV charging network owners and operators as being critical for building awareness of EVs. We feel that dispensation conditions need to be flexible and recognize that different situations require different solutions, and that retroactively regulating with one-size-fits-all requirements could risk removal of legacy charging devices, to avoid expensive upgrades of this installed base, potentially a huge loss to Canadian EV drivers across the country.</p> <p>EMC understands the need to provide transparency and assurance to customers on the accuracy of the EV charging stations installed across Canada. We also acknowledge that many of the EV charging stations in Canada are owned by businesses, non-profits and municipalities for which EV charging is not a primary activity. Revenues generated from EV charging aim to cover infrastructure investments and energy costs, and charging services are often offered to attract and accommodate clients or visitors.</p> <p>The terms and conditions for charging station operators must not be too complex and costly as they may have a negative effect on available charging infrastructure, especially as they may result in station owners opting to remove existing charging stations because of the burden or cost of compliance.</p> |
| <p><b>Proposed approach</b></p> <p>Temporary dispensation for level 3+ (DCFC) electric vehicle charging devices put into service before January 1, 2025:</p> <ol style="list-style-type: none"> <li>Any EV charging device put into service before January 1, 2025, is eligible for a temporary dispensation from the verification and sealing required under the <i>Electricity and Gas Inspection Act</i>. This dispensation is subject to terms and conditions and will remain in effect until, no later than <b>January 1, 2030</b>, the device is verified as complying with applicable Measurement Canada specifications <b>or removed from service</b>.</li> <li>Any EV charging device put into service on or after January 1, 2025, must comply with applicable Measurement Canada specifications and is not eligible for a temporary dispensation under the <i>Electricity and Gas Inspection Act</i>.</li> </ol>   | <p><b>Recommendation</b></p> <p>It should be indicated that after January 1, 2030, any device that is not verified as complying with applicable Measurement Canada specifications <b>should be allowed to revert to time-based billing</b>, or removed from service.</p> <p><b>Comments</b></p> <p>The proposed timeline should be contingent upon Measurement Canada developing type approval specifications and publishing the requirements 18 months prior to the January 1<sup>st</sup>, 2025, deadline to avoid installation delays if access to labs and equipment required for certification becomes limited due to large demand over a short period of time.</p>  |

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| <p>c. Starting on January 1, 2030, all EV charging devices are required to be verified as complying with applicable Measurement Canada specifications.</p>  |                    |
| <p>Key points:</p> <p>a. Prior to January 1, 2025, owners or operators of eligible level 3+ (DCFC) EV charging stations wishing to continue using non type-approved EV charging devices to sell electricity on the basis of kilowatt-hours (kWh) must apply for a temporary dispensation for those devices as well as a certificate of registration in accordance with requirements of the Electricity and Gas Inspection Regulations. They must also provide Measurement Canada with a list of both Canadian type-approved and non type-approved EV charging devices they currently have deployed in the Canadian marketplace.</p> <p>b. Until January 1, 2030, owners or operators of eligible level 3+ (DCFC) EV charging devices who have been granted a temporary dispensation may use those devices without the required verification or sealing, under certain terms and conditions (see Appendix A for a list of proposed terms and conditions).</p> <p>c. The temporary dispensation expires on January 1, 2030.</p> <p>d. The temporary dispensation will be cancelled if, at any time during the dispensation period if any of the following applies:</p> <ul style="list-style-type: none"> <li>○ an EV charging station owner or operator fails to meet the terms and conditions set by Measurement Canada;</li> <li>○ the EV charging device is relocated or removed from service; or</li> <li>○ a new certificate of registration is issued; at which time the owner or operator must reapply for temporary dispensation within the prescribed timeline or have the EV charging device verified in accordance with the EV charging device specifications.</li> </ul> | <p>No concerns</p> |
| <p>Temporary dispensation notes</p> <p>a. A temporary dispensation is a regulatory instrument authorized by section 9.2 of the <i>Electricity and Gas Inspection Act</i>. It is used to grant permission to put into service, without verification or sealing, any meter or any class, type, or design of meter on a temporary basis. Temporary dispensations are subject to the terms and conditions specified by the President of Measurement Canada and are in force for a specified period.</p> <p>b. At any point, owners or operators of EV charging devices that are subject to a dispensation may have them verified for compliance with applicable Measurement Canada specifications. If their devices are</p>   | <p>No concerns</p> |

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| <p>found to be in full compliance, their participation in the temporary dispensation program will end.</p>  |  |
| <b>Appendix A – Proposed terms and conditions</b>   |  |
| <p>The proposed terms and conditions of the temporary dispensation include, but are not limited, to the following:</p> <ol style="list-style-type: none"> <li>1. EV charging station owners or operators must ensure that for the duration of the temporary dispensation, each eligible level 3+ (DCFC) EV charging device, at a minimum: <ol style="list-style-type: none"> <li>a. supplies electricity to the purchaser within an acceptable limit of error of <math>\pm 3\%</math> and has been tested (evidence to be provided upon request) using an acceptable method and standard as defined by Measurement Canada;</li> <li>b. is installed with a metering system capable of measuring the delivered energy;</li> <li>c. uses the watt-hour, or any multiple or submultiple of the watt-hour, as the unit of measurement for the sale of electricity;</li> <li>d. is equipped with a means to display legally relevant information that is either connected to an integral, remote or non-connected system (e.g. remote register) or any information storage system such as the Cloud network;</li> <li>e. displays increments of significant figures;</li> <li>f. includes and displays the billing structure showing the unit price of electricity sold or billed and the different categories of billing type. Where the device's display is not capable of presenting this information, a placard showing this information must be posted in a visible location on the device;</li> <li>g. provides a means to display the software and firmware version; and</li> <li>h. includes a placard stating that the device does not meet the full requirements of the applicable Measurement Canada specifications.</li> </ol> </li> </ol> | <p><b>Comments</b></p> <p>Item a: EMC members need more information on “evidence to be provided” using an “acceptable method and standard as defined by Measurement Canada” (item a.).</p> <p>For clarity, item f. should be modified as follows:<br/> “includes and displays the billing structure showing the unit price of electricity sold or billed and the different categories of billing type. Where the <del>device's display</del> [means to display legally relevant information] is not capable of presenting this information, a placard showing this information must be posted in a visible location on the device.”</p> <p>For clarity and consistency with L1-L2 dispensation conditions, item h. should be modified as follows:<br/> “includes either a digital or a physical placard stating that the device does not meet the full requirements of the applicable Measurement Canada specifications. Digital placards may be posted on either the physical meter itself, or a remote system (such as a mobile application), provided that it is visible to all users.”</p> |
| <ol style="list-style-type: none"> <li>2. EV charging station owners or operators must put in place a process for dealing with customer complaints that, at a minimum: <ol style="list-style-type: none"> <li>a. records complaints from purchasers;</li> <li>b. makes inquiries with the purchaser who made the complaint and of any person who could reasonably be expected to have knowledge relevant to the matter;</li> <li>c. examines any records related to the EV charging devices that are the subject of complaints;</li> <li>d. tests the EV charging devices that are the subject of a complaint if the initial attempt for resolution is not satisfied by the concerned parties;</li> </ol> </li> </ol>   | <p><b>Recommendation</b></p> <p>Simplify the terms and conditions of temporary dispensations to reduce the burden to station owners and operators of existing devices. Clarify that this only applies to metrology-related complaints. This will reduce confusion in the marketplace as well as cost to businesses that operate stations.</p> <p><b>Comments</b></p> <p>While we highly value EV drivers’ customer experience, we fear the proposed process is too burdensome. Managing complaints, as currently proposed, may add a significant burden onto station owners and operators. The federal</p>   |

- e. documents the results of the tests and provides a copy of the results to the purchaser who made the complaint;
- f. makes records available to Measurement Canada upon request; and
- g. institutes corrective measures to address any failure to meet the terms and conditions of the temporary dispensation, discovered as a result of the complaint investigation process.

government has made a point of funding the deployment of accessible charging infrastructure in underserved and remote areas, across the country. This means a considerable number of stations are deployed in some very remote regions where a day of travelling may be required to service the station. If each complaint requires to test the charging station, this process can seriously be abused by ill-intentioned stakeholders. Onerous verification requirements may discourage the deployment of EV charging stations in remote parts of the country, where utilization tends to be low, and maintenance and verification costs would be disproportionately high.

We agree that customers should have a way to communicate their metrology-related concerns to Measurement Canada, through its normal complaints' mechanism.