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NOTE

From:	Presidency
To:	Working Party on Technical Harmonisation (Measuring instruments)
Subject:	Directive amending Directive on measuring instruments (2014/32/EU) : MS comments

Comments from the Austrian Delegation
on Targeted amendment, Docs 16426/24 and 16426/24 ADD 1

AT thanks the EC for the long awaited proposal to amend the Measuring instruments directive.

Although an impact assessment would have been desirable, AT supports the targeted amendment with respect to the harmonisation of electric vehicle charging systems, measurement of compressed gases and cooling meters.

Recitals

Point 2

We suggest the following text:

"The scope and the associated essential requirements covered by Directive 2014/32/EU were ~~already~~ established by Directive 2004/22/EC[3], of which Directive 2014/32/EU is a recast. ~~Thus, they~~ Technical requirements have remained unchanged for more than 20 years. In the meantime, new measuring instruments have appeared on the market that are not covered by Directive 2014/32/EU. That is notably the case for electric vehicle supply equipment and the measurement of quantities of hydrogen~~. compressed gas dispensers~~, which are important for the successful rollout of clean mobility. Moreover, Directive 2014/32/EU does not cover thermal energy meters for cooling applications and compressed gas dispensers…"

Reason: A number of amendments have already been proposed in the preparation of the MID review in 2011 and recast of MID.

Point 4

If our proposal for the indication of smart meters (Annex I, point 10.5 ff) is considered, this point would have to be amended.

Point 6

We suggest to add "and electricity meters used in electric vehicle charging systems."

Reason: DC metering is at the moment very important for electric vehicle charging systems.

Point 8

We propose the following text:

"Annex VI to Directive 2014/32/EU should be amended to include requirements thermal energy meters for cooling applications in order to harmonise requirements and thus simplify the certification process of such products."

Reason: In 2014, only the title of Annex VI was changed (from 'heat meters' to 'heat meters'), although it was already intended to harmonise the requirements for cold meters at that time. National legislation had to take account of this complicated situation, which is now to be resolved.

Point 10

We propose the following text:

"Since the objective of this Directive, namely to ensure ~~that measuring instruments on the market fulfil the requirements providing for a high level of protection of the public interests covered by this Directive while guaranteeing~~ the functioning of the internal market while guaranteeing that measuring instruments on the market fulfil the requirements providing for a high level of protection of the public interests covered by this Directive, which cannot be sufficiently achieved by the Member States but can rather,…"

Reason: National legislation can solve consumer issues in this field quite well, but an improvement of the internal market is only possible in co-operation.

Annex I

Definitions "Direct sales":

We suggest keeping the original text and adding separate provisions for EVCS or establish a frame for the communication of acceptance.

The original wording implies parties in direct (personal) interaction. By dropping "and place", it is no longer implied that the parties are in any form of direct communication. How is the identity of the parties ensured, and what are the options to reject the measurement result? It should be required that the identity of the parties be established, and the acceptance (or refusal) of the measurement result be communicated directly in some form of live communication.

Point 10.6 to 10.8

We propose to discuss the following alternative:

"10. 5 Whether or not a measuring instrument intended for utility measurement purposes can be remotely read it shall in any case be fitted with a metrologically controlled display accessible without tools to the consumer, that shows the current cumulative consumption…

10.7 Utility meters, measuring systems for electric vehicle supply equipment ('EVSE') and measuring systems for compressed gas dispensers may present the cumulative consumption and additional data relevant for the price to pay on a remote display accessible without tools or on a device of the consumer or end-user. The presented results shall be traceable to the measuring instrument under metrological control.
The reading of this display may be used the measurement result that serves as the basis for the price to pay."

Irrespective of the technical feasibility of metrological control of an end users device, it is hard to see equality between the proposed solutions in terms of consumer protection. An end user device and the necessary connectivity are tools – tools that the consumer has to finance and maintain. (The same is true for national authorities.) Consumers may or may not have the technical, physical or financial ability to purchase, use, and maintain this tool, and the necessary connectivity may not be available everywhere. In this context: how is "end user" defined – as opposed to "consumer"?

The meaning of "fully established in a device or system" is not self-explanatory. A definition should be included.

"..., when applicable": this seems unnecessarily vague and might open up undesirable options.

Technical Annexes
Editorial note: Metrological quantities should be written in italics.

Annex III (Annex V)
We welcome the changes that will bring the requirements more in line with technical progress. We believe it makes sense to prepare for the next generation of smart meters and the future need for measurement in grids and to include, for example, reactive energy, multiple registers, maximum consumption.

Annex IV (Annex Va)

Point 2, table 1
The conditions on I_{min}, I_{tr} and I_{max} for both AC and DC EVSE seem to be inconsistent to MID Annex V and standards (EN 50470-1, Table 3 (e.g. Class A and Class B: $I_{min} <= 0{,}5 * I_{tr}$, $I_{max} >= 50 * I_{tr}$) and EN 50470-4 for DC meters Tables 2, 3 and 4 (e.g. Class A and Class B: : $I_{min} <= 0{,}5 * I_{tr}$, $I_{max} >= 50 * I_{tr}$))

The current proposal in Table 1 with absolute values in the inequalities in Table 1 would allow reducing the complete specified current range to one single value like this:

for AC column 1: I_{max} = 5A, I_{tr} = 5A, I_{min} = 5A

for DC column 3: I_{max} = 25A, I_{tr} = 25A, I_{min} =25 A

which in practice does not result a useful interval for current operating range with specified accuracy from I_{min} to I_{max}.

Why should accuracy requirements over current range for EVSE be (far) less stringent than for active electricity meters? In the documents EN 50470-1, EN 50470-4 and OIML R46 there are agreed requirements for the relations of the quantities I_{min}, I_{tr} and I_{max} which we recommend to use.

Point 3

It should be clarified that the stated BMPEs in Table 2 have to be estimated at the transition point. The transition point is the end of the cable for EVSE with attached cables and the power socket for EVSE without attached cable.

Point 4 b)

A metrological seal is a legal measure of protection, what is the legal relevance of an installer seal from the point of view of MID?

Annex V (Annex IV), 1.3

Editorial note: There seems to be a typo “For the flow rates of the liquid: qs, qp, qi, where the values of qp and qi are subject to the following restriction: qp / qi ≥ 5’.”

Proposal for a Directive of the European Parliament and of the Council amending Directive 2014/32/EU as regards electric vehicle supply equipment, compressed gas dispensers, and electricity, gas and thermal energy meters
(COM(2024) 561 final)

CZ comments

Annex I par 3 -point 10.6 (amendment of Annex I to MID)

In accordance with Directive (EU) 2023/1791 on energy efficiency (Articles 9 and 10) all measuring instruments having the character of smart meters, i.e. also water meters, thermal energy meters for cooling and heating should be included in par. 10.6.

Annex III (amending Annex V to MID)

- General remarks

  - Reactive electrical energy meters should be added to Annex V of MID.

Explanation: The mandate to close the gaps in MID requires full coverage of smart electrical energy meters whereas all these smart meters are 4-quadrant also measuring the reactive power. Their absence is a major barrier to free movement of electrical energy meters across the Single Market. Measurement of the reactive component of the electrical energy is part of the electrical energy measurement in the electricity market, which will be exposed to new conditions for its functioning (Regulation (EU) 2024/1747on improving the Union's electricity market design). Their inclusion in the scope of MID would result in substantial savings for manufacturers on certifications (one-stop testing) and would eliminate various disputes in the field generated by the necessary additional testing under national legislations.

  - Annex V should properly cover AC active and reactive meters and DC meters in a systematic way in full compliance with the corresponding EN standards.

Explanation: Annex V of MID has been originally intended to cover active AC meters used in the electrical grid by utilities only. As a result, a guidance is included in what way to assign the given accuracy classes to their applications in the grid (part. 7 of Annex V). In the proposal Annex V is forcefully extended to also cover DC meters which does not correspond to any situation in the field (there are no DC meters in residential areas used for the price to pay, etc.). This extension is therefore unsystematic and confusing with a potential of generating various interpretations and disputes in the field. CZ has already submitted the corresponding draft legal text of such full Annex V based on corresponding EN standards to the Commission.

- Para 7

Differences in the tables of disturbances for AC and DC meters have to be eliminated.

Explanation: In this paragraph an attempt is made to align the table of disturbances to serve both AC and DC meters. However, the tables for AC and DC meters have differences and the proposed amendment does not cover them all, it is not made in comprehensive way - compare Table 3 in Annex V, point 4.2 of MID with the corresponding tables of selected disturbances in EN 50470-3:2022, Table 9, for AC active meters and EN 50470-4:2023, Table 10, for DC meters. Ideally, those tables should be given in the final text separately for AC meters and separately for DC meters which again supports the comment/proposal above. i.e.to cover systematically AC active and reactive meters and DC meters in this Annex in compliance with the corresponding EN standards, after 20 years it would surely be relevant.

Annex IV (introducing new Annex Va to MID)

- General remarks

The proposal should stress that only **public** EVSEs would fall under this new Annex. The classification in the proposed scope: "*residential, commercial and light industrial use*" should be dropped together with 3 accuracy classes, instead to give here only 1 accuracy class of 1% (class B in the proposal).

Explanation: It is desirable that the scope (definition) corresponds to the relevant regulations of the European Union in the area of e-mobility (in this case, it is not about utility meters). Therefore, the proposed classification of accuracy classes according to their use (residential, commercial and light industrial use) does not fit here. Moreover, in the past, as regards other measuring instruments (utility meters), definition "residential, commercial and light industrial use" caused endless inconclusive debates. In practical terms, the regulation should concentrate purely on public EVSEs for consumer protection, not on wall chargers used domestically. We assume that there is no intention to certify domestic EVSE metrologically based on a certified AC electricity meter in the grid at home. Namely, domestic EVSE doesn´t fit to Art. 3 of MID – "the use of measuring instruments … for reasons of public interest, public health, public safety, public order, protection of the environment, protection of consumers, levying of taxes and duties and fair trading". The single accuracy class provides, ***similar to fuel dispensers****, a* ***strong harmonization across the EU****. Moreover, the accuracy classes are not assigned to any practical applications of EVSEs in the field – they are useless here. If the given accuracy class should be changed it can easily be made using the delegated act (Article 47 of MID). Therefore, the proposal does not provide any harmonization of this important area across the Single Market (various accuracy classes in various countries), in the proposed form it will generate barriers to trade. ¨Note: EVSE in use are in the accuracy class B.*

- Point 2, penultimate indent – Rated operating conditions

"±5 V in normal operation for voltage, while ~~the measuring system for EVSE shall only measure energy having frequencies up to 2 kHz~~"

The sentence after the comma is redundant, as shown above, as it just repeats what is in the head (introductory) indent – it should be deleted.

- Point 3 - Base MPEs

After "…*percentage errors*…" it should be added "… *of active electrical energy at the transfer point…".*

Explanation: It is not clear which measurement quantity is meant here, in the definition of a measuring system for EVSE it is not specified that it is only about electrical energy ("all relevant metrological functions").

- Point 4

CZ would suggest adding the following text at the end of this point:

A measuring system for EVSE that ***does not*** *compensate for energy loss introduced by parts comprising a cable and a connector mounted between the position at which the energy is measured and the transfer point shall do either of the following:*

a) ensure that the measuring system measures voltage for the evaluation of the energy loss at the transfer point

b) if those parts are intended to be replaceable while the measuring system for EVSE is under seal, ensure that they are:
- *identified in the type examination certificate as replaceable;*
- *marked with information about the cable characteristics and/or that they bear a unique identification;*
- *sealed separately with an installer seal.*

Explanation: In the proposal only one of possible situations in the field is covered. It is therefore not clear what happens when an EVSE has been approved without any compensation for energy loss, e.g. on the basis of very high-quality cables. Then when those cables are to be exchanged it can happen that they are replaced by low-quality cables to reduce their cost. It has to be considered. (The 2 paragraphs above could be merged into one.)

Other case is when voltage sensing for energy evaluation is performed directly at the transfer point (e.g. with separated voltage leads). Then, it must be secured that the cable cannot be replaced with another one with voltage sensing at the beginning of the cable rather than at the transfer point.

- Point 5.3 Table 3

The table is taken over from OIML G 22, however such specification alone without any reference, maximum and minimum temperatures, does not make sense or it is at least confusing. Firstly, the rated temperature conditions should match those of the corresponding electrical energy meters - the ambient operating temperature range shall be as declared for the indoor and outdoor EVSEs according to EN IEC 61851-1:2019 and FprEN IEC 61851-23:2023, the values shall be based on Table 5. Moreover, an important text from OIML G22: "*The test can be limited to only the extreme temperatures at I_{max} when the metrology is implemented by a separately approved meter whose type approval specifications meet or exceed those of this Guide."* is missing here.

- Point 5.3 Table 4, 1st row "Self-heating"

The inclusion of self-heating among the influence quantities with a specification "*Continuous current at I_{max}*" is controversial as the time span during which the EVSE should operate at I_{max} is not specified and can vary depending on the construction of the EVSE. Moreover, at any a bit lower current, e.g. at 99 % of I_{max}, is this influence quantity not applicable. Ideally, it should be deleted, no additional error shift to be permitted for EVSEs.

- Point 6 - Units

The term "*displayed*" should be replaced by "*indicated*" to be in line with revised requirements of Annex I. At the end of the sentence the following text "*with the minimal resolution in watt-hours*" should be added.

Explanation: Using of displays will not be the only option to present the measurement results in the amended MID. As the practice in the field demonstrates the resolution used in EVSE could negatively influence the metrological testing: with insufficient resolution such testing can take hours to be made to verify the compliance with the accuracy class, especially for low-power EVSEs. For high-power EVSEs such requirement might be disproportional but a solution to the minimal resolution should be found to this problem.

Annex V (amending Annex VI to MID)

Point 3

There is a typo error – instead of „*q*" it is given „*p*", it should be $q_p/q_i \geq 5$.

Comments and questions from Germany on the COM proposal amending Directive 2014/32/EU as regards electric vehicle supply equipment, compressed gas dispensers, and electricity, gas and thermal energy meters

Preliminary remark:

DEU strongly supports the harmonization of metrological requirements for measuring instruments, particularly in the area of charging infrastructure and compressed gas dispensers. In addition, DEU welcomes the inclusion of cold meters and the regulations on smart meters.

We reserve the right to make further comments and ask questions.

In detail:

Regarding Annex I

Definition of "direct sale"

According to the justification, the amendments to Annex I should only affect those measuring instruments that are the subject of this technical amendment. However, the amendment to the definition of direct sale does not contain any such restriction.

The certification effort increases in the context of corresponding technology that allows declarations of intent to be made remotely so that a legal transaction can be executed or a measurement result can be accepted immediately after the measurement is completed. As the effects on measuring instruments not affected by the technical amendment cannot be foreseen without an impact assessment, a change to the definition should only be made with a comprehensive revision of the directive or should be clearly limited to the measuring instruments covered by this technical amendment. From DE's point of view, it must be made clear that a change to the definition of direct sale has no impact on Annex I No. 11.1 and that even in these cases the parties affected by the measurement always have the option of obtaining durable proof.

No. 10.6 b)

What is meant by “relevant data” (in comparison to “measurement results”)? The terms “measurement results”, “presented results”, “relevant data”, “data”, and “measurement data” are used. Are they synonymous or do they mean different things? Please define terms and use them consistently.

What is meant by readout? This is a new term the meaning of which is not clear.

According to the new requirement 10.6, the measurement result presented on the “consumer's or end user's device” must serve as the basis for the price to be paid. Especially in situations with more than two parties (e.g. CPO=user of the meter; customer; EMP=contractual partner of the customer), this requirement forces a very complex communication scenario that has not yet been technically realized, which will lead to considerable additional effort in development, testing and certification. In the Commission's view, how should this be resolved without compromising security and trust?

For gas meters, the possibility of a remote display or a display not on the meter itself contradicts the definition of a gas meter in Annex IV: “A device designed to measure, store **and display** [emphasis added] the quantity of fuel gas (volume or mass) flowing through the device.” How should this conflict be resolved from the Commission's point of view?

The introduction of 10.6 for domestic gas and electricity meters means that they are treated differently than water and heat meters, in particular they would no longer have to have their own hardware display. The lack of an on-site hardware display in the meter is not non-discriminatory and can permanently exclude different consumer groups.

In addition, the inclusion of 10.6 b) leaves unresolved who is responsible for the display of the meter if a meter does not have a physical display: Manufacturer or user? This cannot be left open, as otherwise the objective of harmonization would be undermined by national regulations. If a measuring instrument is placed on the market without a physical display, how is it ensured that a measurement process can only be started if another display option is implemented (especially for EVSE)? How is the testability of the measuring device in accordance with Annex I No. 7.6 ensured if no display is included when the device is placed on the market? If remote displays and displays on a user's device are not under metrological control, how can it be

ensured that manipulation of the display is actually excluded or traceable? Is it really meant that in the cases of 10.6 b) the measuring instrument can be placed on the market without its own means of display, i.e. the means of display is not subject to conformity assessment and market surveillance or other monitoring?

What exactly does “without tools” mean? Does this also mean without internet access, without a computer or smartphone? How should such a remote display be realized from the Commission's point of view? Is a remote display a physical display that is simply not directly attached to the measuring device?

Why should the data (which data exactly?) also be made available via remote channel subject to metrological control? What is the added value for this if it is simply an additional display option and the remote display without metrological control is already possible according to No. 10.6 b)?

No. 10.7 and 10.8

Does this mean that a charging station must have a display to show the measured value directly and immediately to the customer (10.7) or all parties involved (10.8)?

Do the new Nos. 10.7 and 10.8 only refer to direct sales? How is No. 10.8 to be fulfilled if not all parties are on site? This must be clarified in order to prevent different interpretations.

The word “measurement data” is new and not defined. It should be defined to prevent different interpretations.

Annex II

Para. 4 c) (Part I No. 6)

The sentence “Quantity of energy shall be expressed in joules or in watt-hours” should be edited to “Quantity of energy shall be expressed in joules or in watt-hours **or their decimal multiples**”, as the units joule or Wh are too small for large amounts of energy.

Para. 6 (Part IIa, No. 9a)

The term “converted quantities” should be omitted in the heading and in the text of the second indent. It implies that a calorific value is always given in relation to a volume. This prevents the interconnection of the calorific value meter with mass meters (e.g. Coriolis meters) and is therefore not technology-neutral. The deletion of the term is harmless for all other conceivable combinations of technologies.

Annex III

Para. 3 (No. 2)

Rated operating conditions: No cutoff frequency is defined for DC meters up to which they must record energy, but this is the case for DC charging equipment. This should be harmonized.

There is no input and output voltage for DC meters. Therefore, the “voltage range must be between the minimum voltage Umin and the maximum voltage Umax” and not “between the lowest and highest output voltage”.

Para. 5 (Table 2)

It is unclear whether a DC meter can be interpreted as a single-phase meter. Accordingly, DC meters should be included: “single-phase meter, multiphase meter with symmetrical load, DC meter”.

Para. 7 (No. 4.2)

There is no reversed phase sequence for DC meters. This should therefore refer exclusively to AC meters.

By applying the “harmonic contents” exclusively to AC meters, the mandatory requirements regarding ripple/frequencies are missing for DC meters. Missing requirements regarding ripple/frequencies can lead to incorrect measurements and

different measurement results for different meter types. The disturbance variables of EN 50470-4 (DC meter standard) must therefore be included.

Para. 8

With regards to No. 5.1 (as no change to No. 5.1 is included in the proposal): DC meters do not have a fixed rated voltage, but a voltage range. It is therefore currently unclear what “below the rated operating voltage” means for a direct current meter. The sentence should therefore be changed to: “Below the rated operating voltage **or the minimum voltage of the voltage range**...”.

Annex IV

Definitions

It should be made clear that the requirements apply to all EVSE whose use is regulated in the AFIR, i.e. not be limited to cars. The definition of EVSE is not limited to tethered charging stations. Inductive charging stations are therefore also within the scope of the MID. However, technical implementation is prevented by the requirements (e.g. MPE, cutoff frequency, etc.). The scope of application should therefore be limited to conductive charging stations, as originally announced by the Commission in the WGMI.

The ripple is only defined for the voltage. However, ripple mainly occurs in the current. In the case of direct current charging stations, a disturbance than can occur in reality is not taken into account; measurements could therefore be incorrect. The residual ripple should therefore be changed to “for DC measuring systems, the peak-to-peak deviation from the nominal voltage signal **and nominal current signal**, expressed...”

What is the practical added value of the 2 kHz limit? This will force manufacturers to modify existing certificates, possibly redesign them and have them retested, which will incur costs. In DE, this restriction is not made without this leading to disadvantages to any stakeholder.

No. 2

Headings in Table 1 are too imprecise and can lead to confusion and misinterpretation.

No. 4

The German translation is missing the translation of “either of the following conditions”, so that according to the German text both conditions must be fulfilled.

“Installer seal” is not yet regulated. Who can be an installer? Is specialist knowledge required? What are the consequences if the seal is broken? We suggest that cable replacement be limited to 4-point measurements in order to minimize the risk of false readings.

No. 5.3 Table 4

In addition to the electricity meter, there are other components in charging systems that can influence the measurement result. For these, the interference tests are removed if a tested meter is installed. Note ii) should be changed to “**Can be reduced** for the measuring system for charging stations with a separately type-approved meter...”

Annex V

Para. 3 (No. 1.3)

Correction required (symbol is always: q): qp / qi ≥ 5.

Annex VI

What exactly should be covered? The wording provided only covers the refueling process and only gaseous fuels. Loading and unloading via tanker from the manufacturer to the dispenser and other gases are not covered. Is this intended?

DK comments

Dear colleagues,

Thank you for the opportunity to send comments and questions on Measuring Instruments. We look forward to working on this file with you.

EVSE scope: 'Commercial' supply equipment

We have a question regarding the scope of the provisions regarding EVSE. In the Danish language version of the proposed amendment, the translation of 'commercial' use in the proposed Annex Va is unclear and puts into question the scope in regards to publicly accessible EVSE. We would like confirmation that 'commercial' use also covers publicly accessible electric vehicle supply equipment in regards to the proposed scope.

Definition of 'smart metering'

We note that 'smart metering' is mentioned several times in the recitals. However, we have noted that there is no definition of 'smart metering' in the proposal or the proposed annexes. We believe it may be necessary to include a definition of 'smart metering' as it is mentioned and argued as playing an important role in achieving the Union climate objectives.

Please reach out to us if you have any questions regarding the above comments.

Best regards

Marie Østergaard Hejselbæk

DANISH SAFETY TECHNOLOGY AUTHORITY

15 January 2025

Questions from Finland in relation to the Proposal for a Directive of the European Parliament and of the Council amending Directive 2014/32/EU as regards electric vehicle supply equipment, compressed gas dispensers, and electricity, gas and thermal energy meters

FI delegation would like to thank the Polish Presidency for the opportunity to send written comments and questions in relation to the proposed amendments of the MID. Below are some general and some more specific questions.

Finland still has a scrutiny reservation for the whole proposal.

Questions:

	Proposed change to the MID/current text	Questions
General		• With the proposed changes, the scope of the MID is being extended from requirements for measuring instruments to metrological assurance of data channels and data transmission of measuring instruments. This extends MID conformity assessment and certification wider than requirements for measuring instruments as a product. How is it justified that the change is in line with the principle of proportionality, is purely technical and can be done without impact analysis?
General		• Smart electricity meters and remote reading systems have been used in Finland since 2006 without significant problems. What problem related to remote reading would the requirement for a metrologically controlled remote channel solve? How is it justified that the requirements of the Electricity Market Directive 2019/944/EU are not enough to provide security for transferring measurement data? The electrical energy meter remote reading system, its data security and interoperability of the data have already been ensured through standardisation in many ways.
Application of Article 3 for Annex V		• Article 3 of the MID allows Member States, based on optionality, to determine the purpose for which the requirements of the MID apply. On this basis, is it possible to nationally regulate that an electric energy meter that meets the requirements of Annex V (MI-003) may be used to measure the energy consumption of electric vehicles instead of the measurement system used in electric vehicle charging devices in accordance with Annex Va (MI-003a)? This has been the case in Finland for five years.

	Proposed change to the MID/current text	Questions
Annex I Definitions, Direct sales	A trading transaction is direct sales if: — the measurement result serves as the basis for the price to pay; and — at least one of the parties involved in the transaction related to measurement is a consumer or any other party requiring a similar level of protection; and — all the parties in the transaction accept the measurement result at the time the measurement is concluded ~~at that time and place~~.	
10. Indication of result 10.2	The indication of any result shall be clear and unambiguous, protected against accidental deletion, and accompanied by such marks and inscriptions necessary to inform the user of the significance of the result. Easy reading of the presented result shall be permitted under normal conditions of use. Additional indications may be shown provided they cannot be confused with the metrologically controlled indications.	• How should this new requirement be applied for material measures in Annex X (MI-008)? • What are the reasons justifying this additional requirement for protection against accidental deletion?
New point 10.6 paragraph 1	By way of derogation from points 10.1. and 10.5., for gas and electricity meters, measuring systems for electric vehicle supply equipment ('EVSE') and measuring systems for	• How does the use of alternatives to a display or a printer presented in 10.6 apply to gas meters in Annex II and to measuring systems for compressed gas dispensers in Annex VIIa, as the definition of measuring instrument in these Annexes includes a display? • For utility meter users, the meter's own display is the only way to verify the accuracy of the measurement

	Proposed change to the MID/current text	Questions
	compressed gas dispensers the following shall apply:	result provided by a remotely read meter if an error in the transfer of the measurement result is suspected. Why do we want to remove this possibility to check the readings and transmission of measuring results of utility meters? This would prevent discovering of failures in data transmission due to installation errors. • What is meant by the terms *relevant data*, *presented results*, *the data* and *measurement data* in Annex I points 10.6 and 10.7, and how do they differ?
New point 10.6 paragraph 2	The measuring instruments shall use one or more of the following technical solutions to indicate the measurement results:	
New point 10.6 paragraph 2a	(a) be fitted with a metrologically controlled display, readout and/or printer accessible without tools to present the relevant data;	• What is the difference between *a metrologically controlled display* in point (a) and *a remote display* in point (b)?
New point 10.6 paragraph 2b	(b) present the relevant data on a remote display accessible without tools or on a device of the consumer or end-user.	• According to the requirement, during conformity assessment process the manufacturer of measuring instrument should identify all options used for presentation of the measurement result. This also applies in cases where option (b) methods are used in addition to a display or hard copy of option (a) is used also. Why is this necessary? According to current practice, the demonstration of conformity of indication of measurement result under option (b) is not required when the measuring instrument has its own metrologically controlled display. • Should the manufacturer always be prepared to use the measuring instrument with all the display options in paragraphs 2 (a) and (b) of paragraph 10.6 or in the remote channel of paragraph 5?
New point 10.6 paragraph 3	The presented results shall be traceable to the measuring instrument under metrological control. Security measures shall provide evidence of tampering.	• Should the manufacturer always be prepared to use the measuring instrument with all the display options in paragraphs 2 (a) and (b) of point 10.6 or in the remote channel of paragraph 5 and ensure the traceability of the results in all these methods? • If a device of the consumer or end-user in accordance with point 10.6 paragraph (2b) is used, does such

	Proposed change to the MID/current text	Questions
		device track all the presented information like a metrologically controlled display would do, or does it only perform this on a separate request? • What is meant by *security measures*?
New point 10.6 paragraph 4	The measurement result presented by the respective technical solution shall serve as the basis for the price to pay, when applicable.	• Would it be justified, in the event of conflict, to use as the basis of payment the measurement result presented by a metrologically controlled display or printer (paragraph 10.6 paragraph 2a)? • How should the situation be handled if there are multiple technical solutions in use (e.g. a local display and a remote reading of the device) and they present different measurement results?
New point 10.6 paragraph 5	The data may be made available, in addition, by means of metrologically controlled remote channel.	• What problem is this requirement trying to solve? The paragraph is written as a recommendation, which leaves it open to different interpretations of the requirements it sets. It is possible to interpret this in such a way that all remote channels through which measurement data is made available must be metrologically controlled, including the remote reading systems of utility meters. • How is the requirement in paragraph 10.6(5) of Annex I applied to remote reading systems of utility meters? Must they always be conformity assessed as metrologically controlled remote channels, regardless of whether the meter has a metrologically controlled display or readout or printer (paragraph 2a) or a remote device or a device of the consumer or end-user (paragraph 2b) in use?
New point 10.7	By way of derogation from point 10.4., for measuring systems for EVSE and measuring systems for compressed gas dispensers, the measurement data shall be fully established in a device or a system so that it can be immediately presented to the consumer.	• Why is point 10.4 not applied to EVSE's and CNG measuring systems or why is it not otherwise stated in the provisions that these systems are used for direct sales?
New point 10.8	By way of derogation from point 10.4., measuring systems for EVSE shall be designed to present the	• Can it be interpreted that, in the case of EVSEs, there are more parties in the transaction than the seller and the consumer? If there are other parties, what are

	Proposed change to the MID/current text	Questions
	measurement result to all parties in the transaction when installed as intended.	they and why do they need the same protection that 10.4 provides to the consumer? • How long must the measurement transaction data be kept available to all parties in the transaction?
Annex Va **Measuring systems for electric vehicle supply equipment (MI-003a)** Definitions, paragraph 3	Measuring systems for EVSE can also have their basic metrology provided by a separately type approved meter which has been tested for compliance with a recognised metering standard with equal or more stringent requirements.	• What is meant by a type-approved electrical energy meter? Is it: ○ an electrical energy meter in conformity with the MID, ○ an EU-type approved electrical energy meter according to MID Module B (not fully in conformity with the MID as modules D or F are missing), or ○ any type-approved electrical energy meter, for example outside of the European economic area? If it is meant to refer to an electricity meter conforming to the requirements of the MID, the term *type approved* is not the correct one.
	However, by way of derogation from Annex I, such measuring systems shall not be considered as utility measuring instruments.	• Would it be possible to add a requirement for a cumulative reading for measurement systems conforming to Annex Va? • Why are the requirements of Annex Va not harmonised to comply with Annex V? • How does Annex Va take into account the use of a charging station in a utility metering type situation, where there is only one user of the charging station and the car stands connected to the charging station for long periods of time (see RED III, 2023/2413 (54)), in which case it would be essential not to accumulate consumption in the meter when there is no flow in the circuit? • Could this phrase be deleted from the proposal for a directive as unnecessary?
2. Rated operating conditions	For AC measuring systems, the following shall apply: … - the MMQ range shall be: $MMQ \leq 0{,}1\ kWh$ For DC measuring systems, the following shall apply:	• Do the maximum permissible error values also apply to these minimum measurable quantities (MMQ)?

	Proposed change to the MID/current text	Questions
	… the MMQ range shall be: $MMQ \leq 1\ kWh$	
	For DC measuring systems, the following shall apply: – the voltage range shall be between the lowest and the highest output voltage; – while the measuring system for EVSE shall only measure energy having frequencies up to 2 kHz, the ripple produced on the output of the measuring system for EVSE shall not exceed: – 1,5 A below 10 Hz, 6 A below 5 kHz, and 9 A below 150 kHz at maximum rated power and maximum rated current or where the output voltage and current correspond to the maximum current ripple for current; and - – ±5 V in normal operation for voltage, while the measuring system for EVSE shall only measure energy having frequencies up to 2 kHz;	• How is it justified that the EVSE should measure AC components up to 2 kHz that are harmful to the battery and can be produced by the EVSE's power electronics and that are harmful to a battery charged with direct current? • The ripple in the output is generated in the charger's power electronics and thus is not a feature of the EVSE, but the EVSE must tolerate the ripple without disruption of the DC measurement result. Should this requirement apply to the immunity of the measuring system?
3. Base MPEs (BMPEs)	When the measuring system for EVSE is operating under rated operating conditions, the percentage errors shall not exceed the limits given in Table 2 for the specified class index	• Could the MPE's be the same as for electrical energy meters in Annex V?
4. Operating requirements	A measuring system for EVSE that applies corrections to compensate for energy loss introduced by parts comprising a cable and connector mounted	• How is it justified to add these technical requirements to the directive? Couldn't they create unnecessary monopolies and restrict access to equipment maintenance and free trading of technology-neutral spare parts?

	Proposed change to the MID/current text	Questions
	between the position at which the energy is measured and the transfer point shall do either of the following: (a) ensure that those parts are not replaceable and that they are secured by an appropriate hardware seal; (b) if those parts are intended to be replaceable while the measuring system for EVSE is under seal, ensure, that they are: – identified in the type approval certificate as replaceable; – marked with information about the cable characteristics and/or that they bear a unique identification; – sealed separately with an installer seal.	• What is the justification to regulate charging cable in Annex Va? The charging cable can be equated to separate instrument transformers, that have been used for roughly 100 years in measuring high electrical power with regulatory electric energy meters without issues.

RÉPUBLIQUE
FRANÇAISE
Liberté
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Réf. : SGAE/MINUME/2025/028

Paris, le 21 janvier 2025

NOTE DES AUTORITÉS FRANÇAISES

Objet : Observations des autorités françaises sur la proposition de directive modifiant la directive 2014/32/UE en ce qui concerne les équipements de recharge des véhicules électriques, les distributeurs de gaz comprimé et les compteurs d'électricité, de gaz et d'énergie thermique

Les autorités françaises remercient la présidence polonaise pour l'opportunité de soumettre leurs observations et leurs questions concernant la proposition de directive modifiant la directive 2014/32/UE en ce qui concerne les équipements de recharge des véhicules électriques, les distributeurs de gaz comprimé et les compteurs d'électricité, de gaz et d'énergie thermique.

Les autorités françaises soutiennent le projet de directive qui prévoit une mise à jour ciblée du champ d'application de la directive 2014/32/UE relative aux instruments de mesure pour intégrer les ensembles de mesurage pour équipements de recharge des véhicules électriques (« EVSE »), les ensembles de mesurage pour les distributeurs de gaz comprimés (tels que l'hydrogène ou le gaz naturel) et les compteurs d'énergie thermique pour les applications de refroidissement.

Ce projet ajoute en annexe des exigences pour ces nouvelles catégories d'instruments de mesure et met à jour de manière limitée les exigences applicables aux compteurs d'électricité et de gaz pour tenir compte du rôle croissant de la numérisation.

Les autorités françaises souhaitent faire part des observations et questions suivantes tout en attirant l'attention de la Présidence sur le fait que ces commentaires restent, à ce stade, de nature préliminaire.

I- Article premier de la proposition de directive modifiant la directive 2014/32/UE

L'article premier prévoit que la directive 2014/32/UE s'applique « aux *compteurs de gaz et dispositifs de conversion (MI-002)* ». Or la proposition de directive introduit dans son annexe II (modifiant l'annexe IV de la directive 2014/32/UE) le dispositif de détermination du pouvoir calorifique du gaz qui n'est ni un compteur de gaz, ni un dispositif de conversion.

Les autorités françaises proposent de remplacer l'expression « *aux compteurs de gaz et aux dispositifs de conversion (MI-002)* » au (1) de l'article premier de la proposition de directive par « *aux compteurs de gaz et aux dispositifs de conversion et de détermination du pouvoir calorifique (MI-002)* ».

II- Annexe I de la proposition de directive modifiant l'annexe I de la directive 2014/32/UE relative aux exigences essentielles

a. Point (2) : Remplacement du point 10.2

Les autorités françaises soutiennent l'exigence nouvelle visant à protéger l'indication du résultat « *contre toute suppression accidentelle* ».

b. Point (3) : Ajout des points 10.6, 10.7 et 10.8

Ajout du point 10.6
Les notions d'« *affichage distant accessible sans outils* », de « *données* » et de « *moyen de communication à distance contrôlé métrologiquement* » ne sont pas claires et pourraient faire l'objet d'interprétations différentes selon les Etats membres et les organismes d'évaluation de la conformité. Les autorités françaises proposent que ces termes soient définis mais ne peuvent proposer à ce stade des définitions dans l'attente d'une clarification sur la signification de ces termes.

En outre, les autorités françaises comprennent qu'il serait possible de retenir l'appareil du consommateur ou de l'utilisateur comme seule solution d'indication des résultats du mesurage. Si un instrument de mesure n'intégrait que cette solution, un consommateur ou utilisateur final dépourvu d'un tel appareil n'aurait pas accès au résultat du mesurage. Cette disposition ne permettrait pas d'assurer un niveau élevé de protection de l'intérêt public tel que voulu par la directive.

Ajout du point 10.7
Ce point introduit les termes de « *données de mesurage* » et « *un appareil ou un système* » sans qu'ils ne soient définis. Les autorités françaises proposent à cet effet qu'une définition soit ajoutée pour ces termes, et le cas échéant que les annexes spécifiques prévoient les données de mesurage minimales attendues, afin d'assurer une présentation harmonisée des informations présentées au consommateur.

Ajout du point 10.8
Les autorités françaises comprennent que le point 10.8 vise à présenter le résultat du mesurage à « *toutes les parties à la transaction* » (au lieu des deux parties concernées dans la directive 2014/32/UE). Les autorités françaises proposent que ce point s'applique également aux ensembles de mesurage pour les distributeurs de gaz comprimé.

III- Annexe II de la proposition de directive modifiant l'annexe IV de la directive 2014/32/UE relative aux compteurs de gaz et dispositifs de conversion (MI-002)

Les autorités françaises accueillent favorablement la proposition d'élargissement de la directive 2014/32/UE aux dispositifs de conversion d'énergie et de détermination de pouvoir calorifique, permettant de couvrir de façon harmonisée toute la chaîne de facturation du gaz.

a. Point (1) : Intitulé de l'annexe IV

Comme indiqué à la partie I de la présente note, les autorités françaises proposent de remplacer le titre de remplacement de l'annexe IV de la directive 2014/32/UE par « *Compteurs de gaz et dispositifs de conversion et de détermination du pouvoir calorifique (MI-002)* » afin de tenir compte de l'introduction du dispositif de détermination du pouvoir calorifique du gaz qui n'est ni un compteur de gaz, ni un dispositif de conversion.

b. Toute l'annexe : Traduction du terme « *energy conversion device* »

Le terme « *energy conversion device* » est traduit par « *appareil de conversion d'énergie* » ou « *dispositif de conversion* » dans la version française du projet de directive. Afin d'assurer une traduction homogène dans l'ensemble de l'annexe et faciliter la compréhension du texte, les autorités françaises proposent de traduire systématiquement « *energy conversion device* » par « *dispositif de conversion d'énergie* ».

c. Point (3)(a) : Définition du compteur de gaz

Les autorités françaises comprennent que la définition proposée permet d'afficher uniquement l'énergie issue du gaz passant par le compteur de gaz.

Si cette proposition peut être justifiée pour l'hydrogène dont le pouvoir calorifique massique est constant, d'autres gaz ne possèdent pas les mêmes propriétés que l'hydrogène, et l'annexe IV doit pouvoir s'appliquer à tout type de gaz combustible, indépendamment de ses propriétés.

D'autre part, l'instrument mesure le volume ou la masse de gaz et la détermination de l'énergie s'appuie nécessairement sur la détermination préalable du volume ou de la masse. Ils doivent être affichés pour permettre leur vérification lors de l'évaluation de la conformité du compteur, en lien avec l'exigence 12 de l'annexe I « *Un instrument de mesure doit être conçu de telle manière qu'il permette une évaluation aisée de sa conformité aux exigences de la présente directive* » de la directive 2014/32/UE. En outre, le volume ou la masse sont des informations plus claires et plus facilement exploitables que l'énergie pour les consommateurs.

C'est pourquoi les autorités françaises proposent qu'un compteur de gaz affiche systématiquement le volume ou la masse de gaz combustible, et le cas échéant l'énergie. Les autorités françaises proposent à cet effet la définition suivante du compteur de gaz : « *Un instrument conçu pour mesurer, mémoriser et afficher la quantité de gaz combustible (volume ou masse), et le cas échéant d'énergie, issue de ce gaz passant par cet instrument.* ».

d. Point (5)(c) : Dispositifs de conversion de l'énergie

Aucune erreur maximale tolérée (EMT) n'a été définie pour les appareils de conversion de l'énergie (dispositif de conversion d'énergie). Les autorités françaises recommandent que les EMT soient définies pour les conditions assignées de fonctionnement ainsi que pour toute grandeur d'influence pertinente, afin que les critères d'évaluation de conformité soient harmonisés, d'autant plus que ces dispositifs seront évalués seuls en tant que sous-ensembles.

e. Point (6) : Dispositifs de détermination du pouvoir calorifique du gaz

L'appareil de conversion d'énergie (ou dispositif de conversion d'énergie) utilise le résultat de mesurage du dispositif de détermination du pouvoir calorifique pour la détermination de l'énergie. Par conséquent, le dispositif de détermination du pouvoir calorifique est systématiquement associé à un compteur de gaz ou un dispositif de conversion d'énergie, il répond à la définition d'un sous-ensemble. Aussi, les autorités françaises proposent de définir le dispositif de détermination du pouvoir calorifique en tant que sous-ensemble, au même titre que les dispositifs de conversion, conformément à la définition d'un sous-ensemble prévu par l'article 4.2 de la directive 2014/32/UE.

En outre, la proposition rattache l'utilisation du dispositif de détermination du pouvoir calorifique à deux configurations (a) et (b) dans la partie II bis relative aux exigences spécifiques. Ces configurations répondent aux cas les plus fréquemment rencontrés actuellement mais ne tiennent pas compte par exemple de la possibilité d'associer un compteur de gaz et un dispositif de détermination du pouvoir calorifique. Les autorités françaises considèrent que la proposition fait obstruction à de nouveaux utilisations ou des nouvelles technologies. C'est pourquoi les autorités françaises proposent de remplacer les configurations (a) et (b) par la configuration : « *Un dispositif de détermination du pouvoir calorifique est destiné à être associé, localement ou non, à un compteur de gaz ou à un dispositif de conversion.* », qui permet de couvrir toutes les configurations actuelles et à venir.

IV- Annexe III de la proposition de directive modifiant l'annexe V de la directive 2014/32/UE relative aux compteurs d'énergie électrique active (MI-003)

Les autorités françaises accueillent favorablement le projet de modification de l'annexe intégrant explicitement le courant continu ainsi que le comptage bidirectionnel (consommation et production) afin de tenir compte des évolutions technologiques et des applications nécessitant l'usage du courant continu.

a. Toute l'annexe : Traduction des termes « AC », « DC », « PF »

Les termes « AC » ("alternating current"), « DC » ("direct current") et « PF » ("power factor") ont été respectivement traduits dans la langue française par « CA » ("courant alternatif"), « CC » ("courant continu") et « FP » ("facteur de puissance"). Les signes « CA », « CC » et « FP » ne sont pas employés usuellement par les autorités réglementaires, les fabricants, les organismes de contrôle et les utilisateurs, et peuvent être sources de confusion. Pour la traduction française de cette annexe, les autorités françaises proposent de conserver les sigles anglais « AC », « DC » et « PF ».

b. Point (1) : Définition du compteur d'énergie électrique active

La directive 2014/32/UE définit les compteurs d'eau, les compteurs de gaz combustible et les systèmes destinés au mesurage continu et dynamique de quantités de liquides autres que l'eau comme des instruments conçus pour mesurer, mémoriser et afficher une quantité.

La définition des compteurs d'énergie électrique active proposée ne mentionne pas la mémorisation ou l'affichage. Les autorités françaises proposent une harmonisation de la définition du compteur d'énergie électrique active avec celle des catégories d'instrument précitées comme suit : « *Un compteur d'énergie électrique active est un instrument qui mesure, mémorise et affiche l'énergie électrique active consommée dans un circuit ou transférée entre plusieurs circuits.* ».

c. Point (6) : Modification du point 4.1 de l'annexe V de la directive 2014/32/UE

La modification apportée au troisième alinéa du point 4.1 de la directive 2014/32/UE consiste à remplacer le terme « *perturbation de longue durée* » par le terme « *perturbation* ». En parallèle, le titre du point 4.2 de la directive 2014/32/UE « *4.2 Effet des perturbations de longue durée* » reste inchangé. Les autorités françaises proposent de rectifier le point (6) afin de conserver le terme « *perturbations de longue durée* » au point 4.1 et assurer une cohérence avec le titre du point 4.2.

d. Point (7)(a) : Modification du point 4.2 de l'annexe V de la directive 2014/32/UE

Le point (7)(a) de la version française indique que le terme « *Harmoniques dans les circuits de courant (2)* » est situé à la cinquième ligne, cinquième colonne, du tableau 3 alors que la version anglaise fait bien référence à la première colonne de ce tableau. Ce terme est situé à la cinquième ligne, première colonne, du tableau 3. Les autorités françaises proposent de rectifier le point (7)(a) de la version française en ce sens.

e. Proposition des autorités françaises de modifier le point 4.3 de l'annexe V de la directive 2014/32/UE

Afin d'éviter toute insuffisance technique entre les exigences prévues au point 4.2 et celles au point 4.3, les autorités françaises proposent de modifier l'intitulé du point 4.3 comme suit : « *Effet des perturbations de courte durée* ».

A cette même fin, les autorités françaises proposent également de remplacer le premier alinéa du point 4.3.1 par l'exigence suivante : « *L'effet d'une perturbation de courte durée sur un compteur d'énergie électrique doit être tel que, durant et immédiatement après la perturbation, aucune sortie destinée à tester l'exactitude du compteur ne produise des impulsions ou des signaux correspondant à une énergie supérieure à la variation critique.* »

Ces modifications permettent de couvrir toutes les perturbations, sans considération de leur nature, et garantissent les performances métrologiques du compteur d'énergie électrique active.

V- Annexe IV de la proposition de directive insérant l'annexe V bis relative aux ensembles de mesurage pour équipements de recharge des véhicules électriques (MI-003 bis)

Les autorités françaises accueillent favorablement la proposition d'élargissement de la directive 2014/32/UE aux ensembles de mesurage pour équipements de recharge des véhicules électriques (EVSE).

a. Toute l'annexe : Traduction des termes « AC », « DC », « PF », « réception par type » et « plan juridique »

Les termes « AC » ("alternating current"), « DC » ("direct current") et « PF » ("power factor") ont été respectivement traduits dans la langue française par « CA » ("courant alternatif"), « CC » ("courant continu") et « FP » ("facteur de puissance"). Les signes « CA », « CC » et « FP » ne sont pas employés usuellement par les autorités réglementaires, les fabricants, les organismes de contrôle et les utilisateurs, et peuvent être sources de confusion. Pour la traduction française de cette annexe, les autorités françaises proposent de conserver les sigles anglais « AC », « DC » et « PF ».

Les autorités françaises relèvent que les termes « *type approval certificate* » et « *type approval* » dans la version anglaise de la proposition de directive ne correspondent pas aux termes utilisés dans la directive 2014/32/UE, qui sont respectivement « *EU-type examination certificate* » ou « *EU design examination certificate* » et « *EU-type examination* » ou « *EU design examination* » selon le module d'évaluation de la conformité. Afin d'assurer une cohérence avec la directive 2014/32/UE, les autorités françaises proposent de remplacer l'expression « *type approval certificate* » par « *EU-type examination certificate or EU design examination certificate* » dans la version anglaise et « *type approval* » par « *EU-type examination or EU design examination* ». De même, les expressions « *fiche de réception par type* » et « *réception par type* » de la version française de la proposition de directive ne correspondent pas aux termes utilisés dans la version française de la directive 2014/32/UE. Les autorités françaises proposent de remplacer ces termes respectivement par « *certificat d'examen UE de type ou certificat d'examen UE de la conception* » et « *examen UE de type ou examen UE de la conception* ».

Enfin, le terme « *the legally relevant data* » (point 5.2 de la présente annexe) a été traduit par « *les données pertinentes sur le plan juridique* ». Les autorités françaises proposent la traduction « *les données légales pertinentes* », conformément à la version française de la directive 2014/32/UE.

b. Définitions

Les autorités françaises s'interrogent sur la signification de la définition « *La métrologie de base des ensembles de mesurage pour EVSE peut également être fournie par un compteur réceptionné par type séparément et qui a été soumis à un essai visant à vérifier sa conformité à une norme reconnue en matière de mesurage comportant des exigences équivalentes ou plus strictes* » et demandent une clarification des exigences attendues pour le compteur (si cela correspond à un compteur d'énergie électrique active satisfaisant aux exigences de la directive 2014/32/UE ou à une autre approbation). En fonction des clarifications, des modifications des notes (i) et (ii) du tableau 4 du point 5.3 pourraient être nécessaires.

En outre, la définition de la valeur I_{min} fait référence aux compteurs polyphasés à charge équilibrée. Les autorités françaises proposent de rectifier cette définition par les ensembles de mesurage polyphasés à charge équilibrée, comme pour la définition de la valeur I_{st}.

c. Point 1 : Exactitude

La proposition de directive définit 3 indices de classe A, B et C des ensembles de mesurage pour EVSE. Ces dénominations A, B et C sont similaires à celles prévues pour les classes des compteurs d'énergie électrique active. Considérant les différences entre les ensembles de mesurage pour EVSE et les compteurs d'énergie électrique active pour les conditions assignées de fonctionnement, les erreurs maximales tolérées, les essais, les perturbations et les usages, les autorités françaises proposent que les dénominations A, B et C soient modifiées afin d'éviter toute confusion.

En outre, le dernier alinéa du point 1 du projet de directive prévoit que la mesure de l'énergie doit être du même type que l'énergie transférée. Or, cet alinéa est déjà couvert par l'exigence d'adéquation du point 7.2 de l'annexe I de la directive 2014/32/UE (« *Un instrument de mesure doit convenir à l'utilisation pour laquelle il est prévu […]* »). Les autorités françaises proposent de supprimer le dernier alinéa du point 1.

d. Point 2 : Conditions assignées de fonctionnement (tableau 1)

Intensité de courant de démarrage I_{st}

Le tableau 1 du point 2 ne définit pas d'exigence pour le courant de démarrage I_{st}. L'absence de valeur ne permet pas de garantir l'enregistrement de l'énergie électrique dont l'intensité de courant est comprise entre la valeur I_{st} et la valeur I_{min}, le mesurage (et donc l'enregistrement) ne se déclenchant qu'à partir d'I_{st}. Cette situation sera défavorable à l'une des parties intéressées par la transaction.

Intensité de courant de transition I_{tr}

Les autorités françaises soulignent l'existence d'un effet de seuil (discontinuité) pour le courant de transition I_{tr} :

- pour le courant alternatif (AC), l'effet de seuil est de 3 A (résultant de la différence *0,1 × 80 - 5*) ;
- pour le courant continu (DC) : l'effet de seuil est de 25 A (résultant de la différence *0,1 × 500 - 25*).

L'effet de seuil sur le courant de transition I_{tr} constitue une distorsion de concurrence entre les fabricants et n'est pas justifié par des considérations techniques. Par exemple, un fabricant aura une latitude plus grande sur le choix du I_{tr} pour $I_{max} > 80$ A que pour $I_{max} \leq 80$ A.

Intensités de courant minimale I_{min} et maximale I_{max}

Les autorités françaises soulignent l'existence d'un effet de seuil (discontinuité) pour les courants d'intensités minimale I_{min} et maximale I_{max} ainsi que la possibilité d'une plage d'utilisation réduite :

- pour le courant alternatif (AC) :
  - lorsque I_{max} est inférieure à 80 A, la plage des intensités de courant d'utilisation peut être réduite à l'unique valeur de 5 A ($I_{min} = I_{tr} = I_{max} = 5$ A), ce qui permettrait de certifier un ensemble de mesurage pour EVSE mesurant une seule valeur d'intensité ;
  - lorsque I_{max} est supérieure à 80 A, la valeur I_{max} peut être 10 fois supérieure à la valeur I_{min}, ce qui ne correspond pas au besoin (rapport I_{max} / I_{min} pouvant être trop faible) ;
- pour le courant continu (DC) :
  - lorsque I_{max} est inférieur à 500 A, la plage des intensités de courant d'utilisation peut être réduite à l'unique valeur de 25 A ($I_{min} = I_{tr} = I_{max} = 25$ A), ce qui permettrait de certifier un ensemble de mesurage pour EVSE mesurant une seule valeur d'intensité ;
  - lorsque I_{max} est supérieur à 500 A, la valeur I_{max} peut être 10 fois supérieure à la valeur I_{min}, ce qui ne correspond pas au besoin (rapport I_{max} / I_{min} pouvant être trop faible).

L'effet de seuil pour les courants d'intensités minimale I_{min} et maximale I_{max} constitue une source de distorsion de concurrence entre les fabricants et n'est pas justifié par des considérations techniques.

De ce qui précède, les conditions assignées de fonctionnement définies dans le tableau 1 permettraient qu'un ensemble de mesurage pour EVSE soit certifié pour une plage réduite d'intensités de courant. Cette configuration est préjudiciable :

- aux exploitants de stations de recharge : la fin de recharge d'un véhicule électrique s'effectuant à une très faible intensité, l'énergie électrique délivrée pourrait ne pas être enregistrée ou ne pas être mesurée avec une erreur inférieure à l'EMT ;
- aux utilisateurs de véhicules électriques lors d'un usage « Vehicle-to-Grid (V2G) » (injection de l'énergie électrique à faible intensité, issue de la batterie du véhicule électrique vers le réseau de distribution d'électricité) : l'énergie électrique apportée par l'utilisateur pourrait ne pas être enregistrée ou ne pas être mesurée avec une erreur inférieure à l'EMT.

Cette situation est également susceptible de conduire au développement d'un marché fragmenté d'ensembles de mesurage.

En raison de ces éléments, les autorités françaises proposent de modifier le tableau 1 du point 2 selon les critères suivants :

- définir une intensité de courant de démarrage I_{st} afin d'assurer l'enregistrement et la mesure de l'énergie électrique à partir de la valeur I_{st} et garantir la loyauté de la transaction entre toutes les parties intéressées ;
- définir un rapport entre l'intensité de courant maximale I_{max} et l'intensité de courant minimale I_{min} plus grand (rapport I_{max} / I_{min} de l'ordre de grandeur 100) afin que l'enregistrement et la mesure de l'énergie électrique soient assurées pour les usages les plus fréquents (recharge d'un véhicule électrique et injection d'énergie dans le réseau d'électricité), et préserver les intérêts des utilisateurs et consommateurs ;
- définir les valeurs maximales admissibles des intensités de courant I_{st}, I_{min} et I_{max} uniquement en fonction de l'intensité de courant I_{tr}, comme le prévoit l'annexe V de la directive 2014/32/UE relative aux compteurs d'énergie électrique active, pour supprimer les effets de seuils ;
- ne pas introduire de distinction entre les courants AC et DC dans la définition des intensités de courant I_{st}, I_{min} et I_{max}, afin de se limiter à des exigences en matière de performance, apporter de la flexibilité des industriels, indépendamment de la nature du courant, et encourager ainsi le progrès technique.

e. Point 3 et point 5.2 : EMT de base (EMT B)

La notion d'« *EMT de base (EMT B)* » n'existe pour aucune catégorie d'instrument ou de sous-ensemble dans la directive 2014/32/UE. Cette notion est généralement présente dans les normes harmonisées ou dans les documents normatifs. Aussi, les autorités françaises proposent de remplacer le terme « *EMT de base (EMT B)* » par « *EMT* », commun à toutes les catégories d'instruments de mesure dans la directive 2014/32/UE.

f. Point 4 : Exigences de fonctionnement

Les exigences de fonctionnement prévues par le projet de directive visent notamment à tenir compte du remplacement du câble et du connecteur dont la durée de vie est plus courte que celle de l'ensemble de mesurage pour EVSE.

Toutefois ces exigences correspondent à des technologies actuellement mises en œuvre et sont susceptibles d'entraver le progrès technique. En outre, les pièces remplaçables sont généralement spécifiées dans les certificats sans nécessité de définir des exigences supplémentaires.

Enfin, le fait de sécuriser par un scellement matériel du point 4 est déjà couvert par les points 7.1 de l'annexe I de la directive 2014/32/UE (« *L'instrument de mesure ne doit pas présenter de caractéristique susceptible de faciliter une utilisation frauduleuse ; les possibilités d'utilisation erronée non*

intentionnelle doivent être réduites au mieux ») et 8.2 (« *Un composant matériel qui est essentiel pour les caractéristiques métrologiques doit être conçu de telle manière qu'il puisse être rendu inviolable. Les dispositifs de sécurité prévus doivent rendre évidente toute intervention* »). De telles exigences de fonctionnement ne sont pas prévues pour les autres catégories d'instruments de mesure de la directive 2014/32/UE ou de ce projet de directive.

C'est pourquoi les autorités françaises proposent de supprimer le point 4 relative aux exigences de fonctionnement.

g. Point 5.2 : Effet des perturbations

Ce point prévoit la possibilité d'annuler la transaction en cas d'interruption liée à une perturbation (option a). Or cette possibilité est :

- défavorable à l'exploitant d'une station de recharge de véhicules électriques, l'énergie délivrée au véhicule n'étant ni enregistrée, ni facturée ;
- défavorable à l'utilisateur d'un véhicule électrique lors d'un usage « Vehicle-to-Grid (V2G) » (injection de l'énergie issue de la batterie du véhicule électrique vers le réseau de distribution d'électricité), l'énergie apportée par cette utilisateur n'étant ni enregistrée, ni facturée.

Afin de garantir la loyauté de la transaction entre les parties intéressées, les autorités françaises proposent de supprimer la possibilité d'annulation de la transaction (option a) et de conserver uniquement la possibilité d'achever la transaction une fois la perturbation terminée (option b).

VI- Annexe V de la proposition de directive modifiant l'annexe VI de la directive 2014/32/UE relative aux compteurs d'énergie thermique (MI-004)

Les autorités françaises soutiennent la proposition d'élargissement de l'annexe VI de la directive 2014/32/UE aux applications de refroidissement des compteurs d'énergie thermique.

VII- Annexe VI de la proposition de directive insérant l'annexe VII bis relative aux ensembles de mesurage pour les distributeurs de gaz comprimé (MI-005 bis)

Les autorités françaises soutiennent la proposition d'élargissement de la directive 2014/32/UE aux ensembles de mesurage pour les distributeurs de gaz comprimé pour le ravitaillement des véhicules routiers, des moteurs de locomotive, des bateaux, des navires et des aéronefs.

a. Point 5.4 Instruments pour la vente directe et point 5.5 Distributeurs de GC

Les exigences des points 5.4 et 5.5 supposent la présence d'un dispositif d'affichage accessible sans outils tel que le prévoit l'exigence 10.5 de l'annexe I de la directive 2014/32/UE. Cette rédaction est analogue à celle des exigences des points 5.4 et 5.5 de l'annexe VII de la directive 2014/32/UE relative aux systèmes de mesurage continu et dynamique de quantités de liquides autres que l'eau (MI-005). Or pour les ensembles de mesurage pour distributeurs de gaz comprimé, le point 10.6 de l'annexe I de la proposition de directive a introduit une dérogation aux points 10.1 et 10.5 de la directive 2014/32/UE en permettant d'autres solutions techniques d'indication des résultats des mesurages. Les autorités françaises soulèvent donc une possible incohérence entre l'exigence du point 10.6 de l'annexe I du projet de directive et les exigences des points 5.4 et 5.5 de l'annexe VI selon la solution technique retenue.

b. Point 5.4.4 Instruments pour la vente directe

Le point 5.4.4 précise que « *l'affichage des ensembles de mesurage pour la vente directe doit se faire soit en unités de masse, soit en unités d'énergie* ». Les autorités françaises comprennent que la définition proposée permet d'afficher uniquement l'énergie issue du gaz passant par l'ensemble de mesurage pour les distributeurs de gaz comprimé.

Si cette proposition peut être justifiée pour l'hydrogène dont le pouvoir calorifique massique est constant, d'autres gaz ne possèdent pas les mêmes propriétés que l'hydrogène, et l'annexe VII bis doit pouvoir s'appliquer à tout type de gaz comprimé.

D'autre part, la détermination de l'énergie s'appuie nécessairement sur la détermination préalable de la masse. La masse doit être affichée pour permettre leur vérification lors de l'évaluation de la conformité de l'ensemble de mesurage pour les distributeurs de gaz comprimé, en lien avec l'exigence 12 de l'annexe I « *Un instrument de mesure doit être conçu de telle manière qu'il permette une évaluation aisée de sa conformité aux exigences de la présente directive* » de la directive 2014/32/UE. En outre, la masse est une information plus claire et plus facilement exploitable que l'énergie pour les consommateurs.

C'est pourquoi les autorités françaises proposent que les ensembles de mesurage affichent systématiquement la masse de gaz, et le cas échéant l'énergie. Les autorités françaises proposent à cet effet la rédaction suivante : « *l'affichage des ensembles de mesurage pour la vente directe doit se faire en unités de masse, et le cas échéant en unités d'énergie* ».

LT comments

Dear Colleagues,

Please find below the initial comments from the Lithuanian on the Proposal for a Directive of the European Parliament and of the Council amending Directive 2014/32/EU as regards electric vehicle supply equipment, compressed gas dispensers, and electricity, gas, and thermal energy meters (the proposal):

- **Regarding the entry into force and transposition of the proposal:**
  The proposed timeline for the Directive's entry into force is 24 months, with a 12-month transposition period into national law. However, given that transposing these amendments into national law may require changes to the Lithuanian Law on Metrology, we propose extending the deadline for transposition (e.g., to 18 months).
- **Regarding the transition period for newly regulated instruments:**
  We recommend considering provisions or guidelines for a transitional period for newly regulated measuring instruments that were not previously subject to specific metrological requirements. For instance, ESVE devices were not required to meet metrological requirements, except for the integrated electricity meter.
- **Additionally, we would like to share feedback we have collected from stakeholders in Lithuania:**
  The Lithuanian Energy Institute, as a notified body, has suggested revising point 1.1 of Annex V of Directive 2014/32/EU regarding the proposed amendment to Δθmin. The Commission's proposal specifies: "Δθmin is a whole number in the range of 1 K and 10 K" (current version Δθmin = 3 K, 5 K, or 10 K). Setting Δθmin = ±1 K could be challenging for both thermal energy meter manufacturers and conformity assessment bodies. Therefore, we recommend retaining the existing provision: "Δθmin is a whole number in the range of 3 K and 10 K."

Please regard these comments as preliminary, as we are still analyzing Proposal in detail.

Lijana MILKUTE
Attaché for Internal Market
(Horizontal Single Market issues, Free movement of Goods and Services, DSA&DMA, Better Regulation, Standardization)

NL comments

Dear colleagues,

Following the request of the Polish Presidency to the members of the Working Party on Technical Harmonisation (your mail dated 13 December 2024) I hereby send you our first thoughts on the proposal for a Targeted Technical Amendment of MID (TTAMID). Together with Kevin Jurak of our permanent representation I will be the expert participating in the meeting next Friday, representing The Netherlands.

Let me start by complimenting the Polish Presidency for the fast follow-up to the Commission's proposal and the dynamic time schedule of the working party meetings. Given the big challenges the Union is facing, such as the European Green Deal, there is no time to waste.

Overall impression
In general, The Netherlands very much welcomes the proposal. The proposal is very recognisable to us, in a way that the Commission has effectively used many of the WELMEC and national contributions, standards under development and OIML recommendations. Overall, our first impression is a positive one. We have some questions and suggestions to improve and/or clarify the proposal, but for the moment we do not see any show stoppers.

The proposal itself
The time periods of 12 (national implementations) and 24 months (application of provisions) are very optimistic. It is a dilemma as we are really in need for the new provisions and, for that reason we do not want the periods to be too long. But national implementation in one year is a real challenge. So, it may be wise to consider adding six to twelve months to both periods or at least to the time period for the national implementations.

Annex I

Definition of direct sales
The adjusted definition of 'direct sales' affects the notion of 'being present'. In fact it introduces a kind of *virtual* presence of one of the parties. We wonder, therefore, if it is the intention of the EC proposal that this adjustment also impacts the notion of 'absence' in point 11.1 of Annex I. Is Point 11 still applicable when the second party is virtually present? As durable proof is generally an important issue, we should carefully evaluate the implications of the new definition, especially for Point 11.

New Point 10.6
We welcome this new point as it opens up alternative possibilities for the presentation of the measurement data, such as APPs and in home displays, at least for the selected measuring instruments. However, given the growing importance of cooling applications, we would like to suggest to include thermal energy meters in the derogation from points 10.1 to 10.5 (first section of 10.6).

New Point 10.7
This is a new provision, of which we do not exactly understand the intention and miss the justification. This provision could seriously complicate or prevent the use of partly cloud based applications, which is in our opinion an unwanted and unnecessary consequence. Without a further justification, **we suggest to delete this new provision**.

Annex II (Annex IV MID)

This Annex is an implementation of the WELMEC proposal (the simple one) for Annex IV of MID. There was a broad consensus for this proposal. Seems fine to us.

Annex III (Annex V MID)

Point (3): we suggest a small textual correction: "For AC electrical meters, the voltage, frequency and power factor ranges shall **at least** be:" , not excluding meters with a wider operation range.

Point (6): We would like to get some clarification about the choices made for the electromagnetic environments (E2 for AC and E1 for DC). Should it not be the other way around?

Additional wish for point (5.2) of the current Annex: for clarity please add "for AC-applications" to the Power Factor.

Annex IV (Annex Va MID)

Definition of a measuring system for EVSE
The limitation to vehicles is understandable but may create inconsistencies with the AFIR directive that has a broader scope (e.g. ships , small aircraft).

Definition of Distortion factor d
it is not necessary to retain the overly specific information between brackets. We suggest to remove "(obtained [..] alternating quantity)" and "(denominator)".

The only places in international guidance and technical standards where we find reference to this distortion factor is in:
- OIML G22, which reads "**e.g.** (for example), obtained [..]"
- OIML R46:2012, which has the details on how one calculates this factor in an informative footnote, not the definition at all.
- (Not found at all in: EN 50470-3, EN-IEC 62052-11, latest advanced draft of OIML R46 2CD dating 2024.)

Point (2)
The requirement that limits the allowed magnitude of ripples on the DC signal, although stated in OIML G22, is in fact not a metrological requirement. It stems from another piece of international standardization, IEC 61851-23 (their Table 118), which imposes limits on ripples on the DC signal. These limits are there (in Europe) to conform to the Low Voltage Directive (LVD) requirements, and are not related to the measuring system staying within MPE. Manufacturers will need to comply with these requirements anyway, to adhere to the LVD, and it is not necessary, in fact confusing, to repeat them in the MID. We suggest that in Annex Va, point 2, the ripple requirement is removed (the entire 2nd of the three items under "For DC measuring systems ..").

Point (4)
We strongly suggest that cables that the manufacturer intends to be replaceable should *always* conform to the three dash-bullets, not only for those systems "that apply corrections to compensate for energy loss". We therefore propose to adjust the wording in this clause.
We are aware that the international document OIML G22:2022 has served as input for this text, but the restriction to systems with loss-compensation methods is not justified. In the meantime, a proposal exists for a better text to safeguard metrological performance after replacing fixed cables. For the

amendment of MID, we suggest the wording below, which follows the currently circulated draft for the successor document (Recommendation) of OIML G22 (OIML TC12/p3, 2024-12-20, clause 4.2.1.3).

======

~~A measuring system for EVSE that applies corrections to compensate for energy loss introduced by~~
For parts comprising a cable and connector mounted between the position at which the energy is measured and the transfer point**,** ~~shall do~~ either of the following **shall apply**:
(a) ~~ensure that~~ those parts are not replaceable and ~~that~~ they are secured by an appropriate hardware seal;
(b) if those parts are intended to be replaceable while the measuring system for EVSE is under seal, ~~ensure, that they~~ **those parts** are:

– identified in the type approval certificate as replaceable;

– marked with information about the cable characteristics and/or that they bear a unique identification;

– sealed separately with an installer seal.

======

Point (5.1)
We strongly suggest to remove the first sentence “Measuring .. critical faults do not occur.”. The limits that apply in case of a disturbance are already well covered in point 5.2. Raising the term ‘critical fault’ here would only lead to unnecessary confusion regarding the formal technical definition of ‘critical fault’. The term is not defined, and in our view, does not need to be defined either.

Point (5.3)
The second line above Table 3 should read: “error is not outside the values for error shift specified in Table 3 and Table 4. The measuring system for”

Point (7)
We miss putting into use requirements, that can be copied from Annex V MID.

Annex V (Annex VI MID)

This Annex is an implementation of the WELMEC proposal for cooling. There was a broad consensus for this proposal. Seems fine to us.

Annex VI (Annex VIIa MID)

This Annex is an implementation of the WELMEC proposal for compressed gas dispensers. There was a broad consensus for this proposal. Seems fine to us.

Measuring systems for EVSE with separately type approved meters
Finally, we would like to get some clarification about the conformity assessment of measuring systems for EVSE. In Annex IV (Annex Va MID) it is recognized that measuring systems for EVSE can have their basic metrology provided by a separately type approved meter. Annex IV (Annex Va MID) even specifies requirements for the effects of disturbances: Note (i) to the Tables 3 and 4 specifically

addresses this type of meters. This suggests that all measuring systems for EVSE, with or without a separately type approved meter, have to comply to Annex Va MID. But this seems contradictory to the optionality to implement Annex Va MID. We would appreciate some clarification on this specific point.

I hope our comments can be helpful in the preparation of the meeting. Please realise that everything is work in progress, so the above list may not be comprehensive and may change as result of advancing insight.

Regards,

Wilfried de Waal

Dr. Wilfried A.J. de Waal
Policy Coordinator Legal and Scientific Metrology

RO preliminary comments on the proposed technical amendments to the Measuring Instruments Directive[1]

Annex I - Amendments to Annex I to Directive 2014/32/EU

- Regarding Annex I, (3), point 10.6 - **All smart meters**, including water meters, thermal energy meters for heating or cooling function should be included in the display derogation, not just electricity meters, EVSE or compressed gas dispensers.

Annex II - Amendments to Annex IV to Directive 2014/32/EU

- No comments.

Annex III - Amendments to Annex V to Directive 2014/32/EU

- Regarding Annex V, (1) - We think that it is necessary to add the definition of output voltage for DC electrical energy meters.
- Regarding Annex V, (3) - We try to achieve 0,8 ≤ PF≤ 1 capacitive. We propose to replace with 0,5 inductive ≤ PF ≤ 1; 0,8 capacitive ≤ PF ≤ 1.
- Regarding Annex V, (7) - Annex should treat AC and DC meters according to the EN standards. Table 9 for AC active meters and table 10 for DC meters from EN 50470-4:2023 should be used.

Annex IV - New Annex Va

- Regarding the first paragraph - We propose to eliminate the word ”residential” because the scope it is already covered (there is a meter for any householding).
- Regarding DEFINITIONS, I_{st} - Like the definition for U, the definition of I_{st} should be divided for AC and for DC because the power factor refers only to AC.
- Regarding DEFINITIONS, harmonic - Replace f_{nom} with f_n for consistency with definition.
- Regarding SPECIFIC REQUIREMENTS, 1. Accuracy - Only one accuracy class, ex. B, should be kept in order to harmonize the usage in different member states, like in the case of fuel dispensers across EU.
- Regarding SPECIFIC REQUIREMENTS, 2. Rated operating conditions – On the paragraph ”For AC measuring systems, the following shall apply:”, on the forth line, we propose the deletion of the fallowing paragraph ”at all harmonics indices”.
- Regarding SPECIFIC REQUIREMENTS, 3. Base MPEs (BMPEs) – On table 2 column 2 (power factor) we propose to add the text ”only for AC”.

Annex V - Amendments to Annex VI to Directive 2014/32/EU

- Regarding Annex V, (3) - We think there is a type error and we need to change from $q_p / p_i \geq 5$ to $q_p / q_i \geq 5$.

Annex V - New Annex VIIa

- No comments.

[1] Comments and proposal are made based on document *COM(2024) 561 final ANNEXES 1 to 6*

Slovenian comments on the Proposal for a Directive of the European Parliament and of the Council amending Directive 014/32/EU as regards electric vehicle supply equipment, compressed gas dispensers, and electricity, gas and thermal energy meters

Article 2, Paragraph 2

We agree that certificates issued under Directive 2014/32/EU and national certificates covering measuring instruments that fall within the scope of Directive 2014/32/EU shall remain valid until their expiration date, but in any case, no longer than 12 years from the date of entry into force of the new Directive.

Additionally, we request clarification on the purpose of the provision within paragraph 2 stating: *"and that have been placed on the market before [OP please insert the date = 24 months after the date of entry into force of this Directive]"*.

Annex I

Regarding point 10.6(3) we kindly request the following clarifications:

- What type of technical device is meant by the term *"readout"* in indent (a) of the second paragraph?
- In indent (b) of the second paragraph, does *"a remote display accessible without tools or a device of the consumer or end-user"* constitute part of the measuring instrument or not? If not, does this mean that the measuring instrument can be approved without a metrologically controlled display or a similar component?
- Does the wording of the third paragraph *"The presented results shall be traceable to the measuring instrument under metrological control. Security measures shall provide evidence of tampering"* directly relate to indent (b) of the previous paragraph only? For indent (a), these requirements seem somewhat irrelevant.
- Can the *"metrology controlled remote channel"* mentioned in the fifth paragraph be used as an independent and sole option, or is it intended as a complementary feature to option (a) and/or (b) of the second paragraph?

Annex IV (to be Annex Va of MID)

- The first paragraph states that EVSE is *"intended for residential, commercial, and light industrial use"*.

  We would like to point out that EVSE can essentially be regarded as public measuring instruments, which are consequently used exclusively for commercial purposes.

  On the other hand, studies, including those conducted in the Republic of Slovenia, predict that at least 80% of all electricity for EV charging will be consumed in a so-called private charging regime. Since electricity is a commodity subject to excise duty, it is possible that a different excise rate may be applied to electricity used for EV charging than to electricity used for other consumption (such as heating, cooling, lighting, etc.).

  Therefore, it is necessary to carefully consider the definition of usage purposes (if any) specified in the Directive.

- In Annex VI, paragraph 2 states that *"by way of derogation from Annex I, measuring systems for compressed gas dispensers shall not be considered as utility measuring instruments"*. It would be reasonable to include a similar provision in this annex as well.

- We request confirmation that the third and fourth rows in Table 1, in point 2, are correctly understood as follows:

I_{tr}	$\leq 5\ A$ if I_{max} $\leq 80\ A$	$\leq 0{,}1 \cdot I_{max}$ if I_{max} $> 80\ A$	$\leq 25\ A$ if I_{max} $\leq 500\ A$	$\leq 0{,}1 \cdot I_{max}$ if I_{max} $> 500\ A$

- In point 3, the term *"Base MPE"* is used. Although *Base MPE* is defined in OIML G22, it might be useful to define it explicitly in this annex as well.

- Point 4 sets out the requirements for *"A measuring system for EVSE that applies corrections to compensate for energy loss"*. We request clarification as to why similar requirements are not relevant in cases where the *measuring system for EVSE does not apply corrections to compensate for energy loss*. The potential use of arbitrary connection cables likely influences whether EVSE should apply corrections for energy loss compensation.

- In indent (b) of point 4, it is stated that connection cables may be replaced and secured by an installer. Could such a procedure also be permissible or appropriate in the case of using "a *separately type approved meter"* as defined in paragraph 3?

Annex VI (to be Annex VIIa of MID):

- Point 5.5 relates to CG dispensers. From the context, it could be inferred that CG dispensers are a subgroup within Annex VII. However, the entire annex refers to *measuring systems for compressed gas dispensers*.

  We kindly request clarification on whether point 5.5 addresses a specific subgroup of *measuring systems for compressed gas dispensers* or whether it applies to all *measuring systems for compressed gas dispensers*.