

Workstream: Development of certification schemes for heat pumps

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Problem Statement

The draft NC DC 2.0 requires the mandatory certification of heat pumps.

However, NC DC 2.0 is not legislation which is part of the scope of the CE marking for heat pumps. In addition, the international standards for heat pumps do not include specification in relation to NC DC requirements. Consequently, there are a number of uncertainties in implementing the relevant mandatory equipment certification schemes.

In addition to the still evolving standards, there are a large number of directly affected parties, including all European DSOs, equipment manufacturers, testing laboratories and authorised certifiers/notified bodies, many of whom will be looking for guidance as to what is required of them when the certification regime becomes mandatory. Although the focus might be on the testing of equipment, there are also requirements for appropriate software simulation models, and these should also be in scope of this work.

Wherever possible, existing testing and/or modelling schemes should be adopted or adapted.

The implementation period for mandatory equipment certificates is expected to be three years after entry into force of the revised NC DC. It would be ideal if the issues foreseen in this proposal could be resolved and briefed to DSOs, manufacturers, testing laboratories and potential certifiers as soon as possible after entry into force so that processes and systems are all in place for when certification becomes mandatory.

As heat pumps are mass market products it is essential that the processes for certification are simple for manufacturers, certifiers and DSOs, well understood, and also fully functioning before the end of the implementation period. The processes should be such that domestic customers who become owners of heat pumps do not need to engage with the compliance process.

Target (objectives)

- Identify whether it would be legally possible to include the NC DC 2.0 in the CE marking in combination with an appropriate conformity assessment and if not whether there is a possibility to include these requirements under an already existing CE marking legislation such as Ecodesign.
- Understand whether verification of compliance to requirements included in the NC DC 2.0 is covered in the scope of market surveillance authorities (a priori, the answer to this question is no).
- Understand whether it is legally possible to require a certification on requirements not part of the scope of the CE marking.
- Understand the relevant international landscape for standards on technical requirements related to NC DC 2.0 requirements.
- Define, or help the relevant standards bodies define, harmonised tests to be performed to verify the conformity of the heat pumps to NC DC requirements, and suggest whether and/or how these conformity requirements can be referenced in relevant legislation.

- Recommend steps to be taken by standards bodies, manufacturers, certifiers and DSOs to achieve compliance with NC DC 2.0.
- Ensure relevant briefing material etc is available to all those parties who have future responsibilities for the operation of compliance for heat pumps.

Legislative background and standards

Commission Regulation (EU) 2016/631 (NC DC)

Regulation (EU) 2019/1020 (Market surveillance)

Commission Regulation (EU) 2023/180 (déstabilisation of Russia)

Decision No 768/2008/EC (Conformity assessment process)

Regulation (EC) No 765/2008 (notified bodies)

Regulation (EU) 2024/1781 (ESPR)

Commission Regulation (EU) No 813/2013 (Ecodesign for lot 1)

Commission Regulation (EU) No 814/2013 (Ecodesign for lot 2)

Commission Regulation (EU) No 206/2012 (Ecodesign for lot 10)

Commission Regulation (EU) No 2016/2281 (Ecodesign for lot 21)

Blue guide

[Draft NC DC 2.0](#)

[EG HCF Final Report \(eepublicdownloads.blob.core.windows.net\)](#)

EN 55014-1

EN 55 14-2

EN 61000-3-2

EN 61000-3-3

EN 61000-3-11

EN 61000-3-12

EN 61000-6-1

EN 61000-6-3

EN 61000-6-8

Task description

- Establish dialog together with the EU commission (DG Energy ?) to review CE marking legislation and identify the possibility of introducing it as a proof of conformity instead of developing certification schemes (which may or may not be harmonised) in each member states. Consider what legislative vehicles could be appropriate for this if the NC DC 2.0 is not suitable and identify what additional work that is necessary to introduce a CE marking scheme for the requirements under the NC DC 2.0.
- Identity how it would be possible to add verification procedures which are not related to CE marking requirements in CENELEC standard.

- Define the technical verification procedures that could be included in standards to check the conformity of heat pumps to ND DC 2.0 requirements.
- Comprehensive briefing material related to the bullet above.

Deliverables

There will be four main deliverables from this Expert Group:

1. A comprehensive report on the work, findings and recommendations of the Expert Group.
2. Overview of the possibilities offered by the CE marking rules and proposal for modification of CE marking scope for heat pumps.
3. A set of procedures that allow to verify that the heat pumps comply with NC DC 2.0 requirements. These procedures would be implemented in standards, or EU legislation (transitional period) or any needed certification schemes.
4. In addition, briefing material for use with affected parties in advance of the compliance deadline.

Timing

- estimated [12] months from [October 2024].

Team (update TBA)

The following nominations to participate in EG XX have been received (name and association):

<i>Name</i>	<i>Organisation</i>	<i>Representation at GC ESC</i>
<i>Mark</i>	Pagett	ACEA
<i>Glenn</i>	Cezanne	CharIn
<i>Arnaud</i>	Rouffignon	DSO Entity
<i>Erno</i>	Levaniemi	DSO Entity
<i>Mike</i>	Kay	DSO Entity
<i>Andrea</i>	Hamzova	DSO Entity
<i>Tommaso</i>	Carbone	DSO Entity
<i>Serdar</i>	Bolat	DSO Entity
<i>Florentien</i>	Benedict	DSO Entity
<i>Bernhard</i>	Schowe	EFAC
<i>Ali</i>	Yousefian	EHI
<i>Richard</i>	Masquelier	EHI
<i>Laurent</i>	Benedict	EHI
<i>Veerle</i>	Beelaerts	EHI
<i>Milan</i>	Prevost	EHPA
<i>Matteo</i>	Paolella	EHPA
<i>Laure</i>	Meljac	EHPA
<i>Bari</i>	Kentor	EHPA
<i>Frank</i>	Kamphus	EHPA

<i>Adeline</i>	Houtart	EHPA
<i>Koen</i>	De Branader	EHPA
<i>Melanie</i>	Auvray	EHPA
<i>Lama</i>	Al Fakhri	EHPA
<i>Fatteh</i>	Ahmet	EHPA

Estimated workload

- three weekly (or other appropriate timing) virtual meetings;
- commitment of 40 days per member.

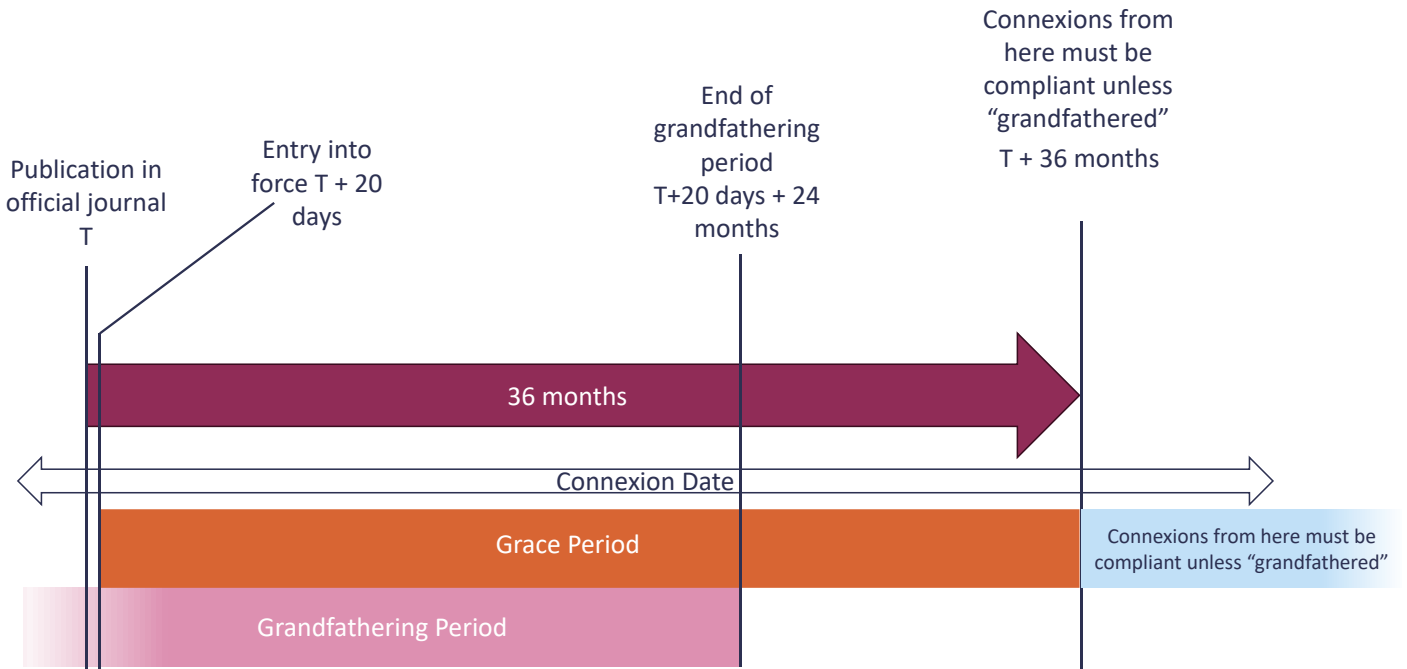
Target audience

- Manufacturers
- DSOs
- TSOs
- Standards bodies
- Authorised certifiers
- GC ESC
- Relevant and/or interested stakeholders on the Connection Network Codes

Introduction of the NC DC 2.0

To help stakeholders understand the timescales of the introduction of the NC DC 2.0 requirements and compliance deadlines, reference needs to be made to Articles 4 and 59 in the NC DC

The following figure shows the timeline.



Relevant NC DC Articles.

Article XX+2

V1G electric vehicles and associated V1G electric vehicle supply equipment, power-to-gas demand units and heat-pumps connected at a voltage level of or below 1000 V shall possess equipment certificates, proving compliance with this Regulation.

Article XX+3.1

V1G electric vehicles and associated V1G electric vehicle supply equipment, and heat-pumps connected at a voltage level above 1000 V shall possess equipment certificates, proving compliance with this Regulation.

Article 35.3

The relevant system operator shall make publicly available the list of information and documents to be provided as well as the requirements to be fulfilled by the demand facility owner, the DSO or the CDSO in the frame of the compliance process. The list shall cover at least the following information, documents and requirements:

- (a) all documentation and certificates to be provided by the demand facility owner, the DSO or the CDSO;
- (b) details of the technical data required from the transmission-connected demand facility, the transmission-connected distribution facility, the distribution system, or the demand unit, with relevance to the grid connection or operation;
- (c) requirements for models for steady-state and dynamic system studies;
- (d) timeline for the provision of system data required to perform the studies;
- (e) studies by the demand facility owner, the DSO or the CDSO for demonstrating expected steady-state and dynamic performance referring to the requirements set forth in Article 43, Article 44 and Article 45;
- (f) conditions and procedures including scope for registering equipment certificates;
- (g) conditions and procedures for the use of relevant equipment certificates issued by an authorised certifier by the demand facility owner, the DSO or the CDSO.