



EUROPEAN COMMISSION
ENTERPRISE AND INDUSTRY DIRECTORATE-GENERAL
New Approach Industries, Tourism and CSR
Mechanical, Electrical and Telecom Equipment

Brussels, 4th June 2010
M/468 EN

STANDARDISATION MANDATE TO CEN, CENELEC AND ETSI CONCERNING THE CHARGING OF ELECTRIC VEHICLES

1. PURPOSE-SCOPE

To develop or review existing standards in order to:

- Ensure interoperability and connectivity between the electricity supply point and the charger of electric vehicles, including the charger of their removable batteries, so that this charger can be connected and be interoperable in all EU States¹.
- Ensure interoperability and connectivity between the charger of electric vehicle- if the charger is not on board- and the electric vehicle and its removable battery, so that a charger can be connected, can be interoperable and re-charge all types of electric vehicles and their batteries.
- Appropriately consider any smart-charging issue with respect to the charging of electric vehicles.
- Appropriately consider safety risks and electromagnetic compatibility of the charger of electric vehicles in the field of Directive 2006/95/EC (LVD) and Directive 2004/108/EC (EMC)².

For the purposes of this Mandate:

‘electric vehicle’ includes the electric vehicle (EV) and the plug-in hybrid electric vehicle (PHEV), as well as the electric scooters and electric bicycles; for the issues of interoperability, the priority should be for the four-wheel electric vehicles.

¹ Considering that domestic sockets are not harmonised in the EU, existing adaptors should be used for domestic charging.

² The Guides or Decisions of the relevant WPs clarify the legal framework applicable to electric vehicle chargers.

2. RATIONALE

Given the importance of reducing carbon emissions from road transport and the long run price of oil and security of oil supply, there is increased interest in the potential of electric vehicles. More and more companies are developing electric vehicles.

With respect to the applicable EU legal framework for electric vehicles, working documents were prepared by the European Commission which were discussed and approved by the relevant WPs (the LVD WP and TCMV – Technical Committee Motor Vehicles). These Working Documents define the legal framework applicable to electric vehicles by specifying that Directive 2007/46/EC (the Framework Directive on Motor Vehicles) is applicable to electric vehicles (including the electric power train of vehicles) when placed on the EU market while chargers of the batteries of electric vehicles shall be always considered as electrical equipment falling within the scope of application of the LVD. In the near future the legal framework applicable to on board chargers will be discussed and clarified in the relevant WPs.

Recently, meetings took place between the European Commission, industry, CEN and CENELEC to assess the need for common EU standards for the charger of electrical vehicles as regards safety, interoperability and performance. The conclusion that can be drawn from these brainstorming meetings is that various solutions and alternatives are discussed at international level (IEC) both for safety and interoperability. Although for safety, IEC is heading towards one single solution, for interoperability there is a danger that IEC will not reach a single and harmonised approach. If this happens a fragmentation of the market would be inevitable. For example, at least three different models of plugs are currently under consideration. Also various propositions with respect to the power levels for charging are considered and lastly three different modes for the charging are proposed.

In order to promote the development of the internal market for electrical vehicles and to discourage the imposition of market barriers, it is imperative that plugs, chargers and electric vehicles be inter-operable. This will allow users to use the same charger for a range of electric vehicles. It would also allow consumers to charge their vehicles easily if they are driving across borders or when travelling within their own Member State. It would also facilitate charging at public access points and would facilitate the roll-out of charging infrastructures. Finally it would dissuade member states from taking action individually because this might lead to overlapping solutions.

For the European Commission, it is important that a joint EU solution on interoperability is ensured in order to avoid a fragmentation of the market for these products from the beginning (for example different plugs for the electric interface of these vehicles). A number of Member States have started, individually, action to get electrical vehicles on the market.

The target is to adopt a European harmonised approach for the interoperability of the charger of electric vehicles with all types of electric vehicles and the interoperability of the charger of electric vehicles (including their removable batteries) with the electricity supply point. This harmonisation would allow users to use the same charger for a range of electric vehicles and it would ensure that chargers of electric vehicles can be connected and operated in all EU States.

As part of the harmonisation, any other related issue, with respect to the charging of electric vehicles which can ensure safety, electromagnetic compatibility and better use,

should be considered. Especially for better use, smart-charging issues should be addressed so that users of a charger are in the position to measure the amount of electrical energy thereby making it easier for them to save energy and money. Smart-charging can take advantage of “off-peak” hours of low energy demand late at night and so avoid peak loads. In some areas, the electric rates are higher during certain times of day to encourage reduction in use and so smart-charging can help the user to know these times. In summary, smart-charging would be the mode for determining the best and cheapest time to recharge electric vehicles.

This harmonisation can be addressed by European standard(s).

3. DESCRIPTION OF THE WORK TO BE MANDATED

CEN, CENELEC and ETSI are requested to develop European standards or to review existing standards in order to:

- a) Ensure interoperability and connectivity between the electricity supply point and the charger of electric vehicles, including the charger of their removable batteries, so that this charger can be connected and be interoperable in all EU States³.
- b) Ensure interoperability and connectivity between the charger of electric vehicle- if the charger is not on board- and the electric vehicle and its removable battery, so that a charger can be connected, can be interoperable and re-charge all types of electric vehicles and their batteries.
- c) Appropriately consider any smart-charging issue with respect to the charging of electric vehicles.
- d) Appropriately consider safety risks and electromagnetic compatibility of the charger of electric vehicles in the field of Directive 2006/95/EC (LVD) and Directive 2004/108/EC (EMC)⁴.

4. EXECUTION OF THE MANDATE⁵

2 months after acceptance	Time schedule for the execution of the mandate
8 months after acceptance	Presentation of a full work programme of standard(s) to be developed
18 months after acceptance	Adoption of standard(s).

³ Considering that domestic sockets are not harmonised in the EU, existing adaptors should be used for domestic charging.

⁴ The Guides or Decisions of the relevant WPs clarify the legal framework applicable to electric vehicle chargers

⁵ For smart-charging, the responsible standardisation organisations may discuss with the Commission the possibility to extend these periods.

Where appropriate, alignment with equivalent activities planned and already undertaken in IEC and ISO should be ensured.

Due account should be taken of initiatives taken in other economies so as to ensure a global market for equipment.

Acceptance of this mandate by the responsible standardisation organisations starts the standstill period referred to in Article 7 of Directive 98/34/EC of the European Parliament and of the Council of 22 June 1998

European standards (EN) shall be adopted by the target dates specified. On these dates the three linguistic versions (English, French and German) shall be available. For the purposes of paragraph 3(d), the correct titles in all the other European Union languages shall be available.

5. ORGANISATIONS TO BE INVOLVED

As appropriate, CEN, CENELEC and ETSI will invite the representative organisations of consumers' interests (ANEC), environmental protection (ECOS), workers (ETUI-REHS), small and medium-size enterprises (NORMAPME), electrical industry (ORGALIME), automotive manufacturers and suppliers and market surveillance authorities to take part in the standardisation work.