TC21X/Sec/00172/INF

BUSINESS PLAN

CENELEC/TC or SC	Secretariat	Date
TC 21X	Germany	2018-07-02

TC or SC title: Secondary cells and batteries

A Background

The task of CLC/TC 21X is to prepare standards for secondary cells and batteries. The requirements cover the aspects of safety installation principles, performance, applications, dimensions, labelling and testing. All electrochemical systems are considered, but they should be on the market and available for end users. We also support other technical committees and organizations application oriented using secondary cells and batteries.

B Business Environment

B.1 General

The first key area of the standardization activities is related to lead acid starter batteries (SLI = Starting-Lightning-Ignition). The importance is driven by the huge market volume of cars to be equipped with SLI batteries either in the new car (original equipment market) or replacement of batteries (after market). The complete battery market of starter batteries in Europe has a volume of about 65 Mio pieces per year. The scope of standardization is set on batteries for cars either produced in Europe or outside applied for exported cars or those produced in global located transplants.

The second key area of the standardization activities is related to batteries used for industrial applications: stationary batteries for telephone networks and UPS, for railway applications, for energy storage of solar panels and wind mills, for electric motive power.

Batteries regardless the technology will be worked out and published in close cooperation with IEC/TC 21 and IEC/TC21 SC21A.

B.2 Market demand

Batteries have a wide field of application in the nowadays technological environment. Battery standards are used by all companies producing batteries, industries using batteries as main power supply for their product and independent laboratories which are testing the performance of batteries on the market for end user information. The European standard for sizing starter batteries is spreading worldwide and becomes more and more the leading standard for sizing of battery containers. Europe is exporting goods worldwide, among these batteries or products containing batteries; as far as inspections are needed for import decisions the EN standards are used as main product specification. In the European car industry the EN standards become more and more the base for their own SLI battery specification.

The standards for SLI batteries could be integrated into IEC versions. The basic security standards of all kind of batteries were adopted by IEC for European and international standards.

B.3 Trends in technology

The car market is ruled by the tendency to reduce the fuel consumption or in other words the CO2 emission either passive by weight reduction of the car or by a more efficient fuel conversion. The weight reduction of SLI batteries is a trend observed since years, will be followed but will reach soon the physicals limits. Here the introduction of new light weight battery technologies could be the driver. For more efficient fuel conversion the introduction of start stop systems, mild hybrid cars or finally full electric cars is expected. It is very difficult to make a forecast of the conversion rate to electric vehicles. The acceptance by the consumers is still on a low level due to extreme high battery costs by limited cruising range. Short term a complete conversion of ECE propelled cars with stop start systems is expected which requires batteries with increased energy throughput and improved ability of charge recuperation. The use of Li-ion batteries is entering in the car industry for the hybrid vehicles and full EV.

In the field of the industrial battery markets the technologies used were lead-acid , Ni-Cd and Ni-Mh according to applications , now the Li-ion technology is growing mainly for the energy storage for the solar panels and wind mills installations

New standards for these applications will be needed.

B.4 Market trends

It is very difficult to forecast the amount of cars produced in Europe within the next 5 years. In the worst case there will be more or less stagnation up to an increase with max. 3 % to 5 %. On the other side it can be predicted that the amount of cars with start stop capability is expected to increase up to 70 % of all new cars. SLI batteries will change from standard to AGM or enhanced versions (EFB).

The tendency to support the ECE with different Hybrid versions will also increase during the next years up to the tendency for full electric cars. The voltage in cars is ruled nowadays by 12 V systems combined with higher voltage applications between 100 V to 400 V for Hybrid or EV versions. Here some trends for standard 48 V systems are visible.

B.5 Ecological environment

Lead acid batteries are designed with a restricted amount of materials with lead components as main part, sulphuric acid as electrolyte and some poly with or without inorganic minerals. The collection rate is exceeding 95 % and there are processes to recycle the heavy metal lead in a very efficient and environmentally friendly way. Within Europe but also within other regions there are legislative considerations to limit the use of heavy metals. Here CLC can contribute with safety standards for use and recycling lead to stabilize this product for unobjectionable utilization for modern energy saving engine technologies.

B.6 Involvement of societal stakeholders

Batteries have a wide spread utilization in our modern society. In the field from production over the end user and recycling CLC TC 21X is open for any societal group concerned in this field of operation. We have contacts with industrial groups like ACEA, CLEPA, ACEM, EUROBAT, environmental representatives like ECOS and test institutes for European consumer test magazines are observing our actions or participate as members.

B.7 Involvement of SMEs

The lead acid battery industry in Europe was ruled by a significant concentration process during the last two decades. Nowadays only few companies with huge production volumes are ruling the market. The standardization committees are attended by the battery industry and the car industry as main customers, SME’s are not concerned by standardization of lead acid batteries for the time being. However, Li-ion Batterries are expected to become more important for multiple applications first in smaller production rates. During this phase of product introduction some specialized SMEs are expected to participate in CLC/TC 21X standardization activities.

C System approach aspects

CLC/TC 21X is cooperating in mutual communication with all committees treating batteries and their application: Here the most important cooperation is IEC/TC 21 and IEC/TC21 SC 21A , international standards worked out by this organizations will undergo in the majority a parallel voting and are published as European standard. In the case of new traction concepts under complete component aspect for new battery systems for hybrid or EV application there is a cooperation with ISO/TC 22 or ISO/SC 21. CLC/TC 21X is reporting member for EUROBAT, the association for the European battery industry.

In addition the CLC TX21X has liaison with :

CEN/TC150 – Industrial Trucks

CEN/TC437 – Electronic cigarettes

CLC/TC69X – Electrical systems for road vehicles

D Objectives and strategies (3 to 5 years)

During the next maintenance cycle the series of standards for lead acid will be updated according to actual demands for this kind of batteries. As far as possible it shall be tried to find an alignment to IEC/TC 21 with the target to have the European standards and the international versions with the same content.

Due to legal demands within the EU for clear definitions of labelling all applications are defined.

Li-ion batteries will be integrated into the work as far as there will be an application not covered by the activities of IEC or ISO.

E Action plan

New working groups, and NWI for the update of standards will be build up.

A working Group is created within CLC TC21X on the Industrial Batteries .

The running work for new battery applications will continue.

In cooperation with IEC TC21 the international consolidation of the existing und updated standards will be organized

F Useful links to CENELEC web site

TC home page giving access to Membership, TC/SC Officers, Scope, Publications, Work programme [password-protected area].

https://www.cenelec.eu/dyn/www/f?p=104:7:634221255155201::::FSP_ORG_ID,FSP_LANG_ID:1257217,25

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