BUSINESS PLAN

CENELEC TC 78	Secretariat France	Date 2019-07-09

TC title: **Equipment and Tools for Live Working**

A Background

To prepare European standards for work equipment, devices and tools, including personal protective equipment used for work on or near live electrical systems or installations.

B Business Environment

B.1 General

Standardisation work on tools, equipment and devices for utilization in live working is performed mainly at IEC level, in accordance with the IEC/CENELEC Cooperation Agreement on Common Planning of New Work and Parallel Voting (Frankfurt Agreement).

The scope of CLC/TC 78 covers the work on live electrical system but also near live electrical systems while IEC/TC 78 only covers utilization of tools, equipment and devices in Live Working.

CLC/TC78 offers standards for European countries that meet European Directives and European Regulation for PPE, the Machine Directive… CLC/TC 78 always makes an effort to publish “harmonized” standards.

In the case of specifics European needs, CLC/TC78 has establish a task force to create, develop and maintain specific European standards.

When European needs of standardization are common with other countries, standards are elaborated by IEC/TC 78 with participation of European Experts. If harmonization to a Directive or Regulation is required, specific working groups are banded to elaborate the Annex ZZ (requirement and test to fulfill the Directive or Regulation) and make common modification if needed. Otherwise, CLC/TC78 published IEC/TC78 standard without modifications, in accordance with the Frankfurt Agreement between IEC and CLC.

CLC/TC78 and IEC/TC78 work together. The CLC/TC 78 Chairman holds a permanent invitation to attend meetings of the IEC/TC 78 Committee Advisory Group, in order to ensure coordination between both Technical Committees.

The increasing use of electricity throughout Europe coupled with the rapid growth of producers, transmitters and distributors (utilities) makes obtaining power outages for maintenance more difficult. The mounting economic and environmental pressures in Europe make installation of new networks ever more difficult and require greater utilization of existing facilities.

Live working can assist in the avoidance of outages. These outages are disruptive to electricity users and costly to both the utilities and the users in terms of loss of revenue, interruption in manufacturing, administration resources and penalties. Similarly, live working provides a means for power network operators to achieve efficiencies through cost effective preventive maintenance, improved reliability and availability without the need for an outage.

External environment (out of our control):

- regulatory constraints, live working methods and use of products which may be specific to each country;
- penalties for outages, congestion fees;
- difficulties to access live lines;
- difficulties to obtain outages;
- perception of increased risk of live working;
- lack of available resources and funding at some utilities.

Internal environment (under our control):

Standardisation provides a means for manufacturers to produce equipment of similar performance and therefore create a competitive and free market environment without bias to any particular manufacturer or national regulation.

Specifying performance criteria in the standards should provide a platform for manufacturers to develop and manufacture equipment that improves worker safety when used in accordance with the prescribed limits without impeding innovation in technology or materials.

Live working can help realize cost savings and improve quality of performance.

B.2 Market demand

CLC/TC 78 in coordination with IEC/TC 78 has developed and is developing a range of standards to be used by manufacturers and the support industry to produce tools, equipment and devices that are safe. These standards are also used worldwide by electrical power utilities for the construction, maintenance and repair of their live networks in a safe manner. Manufacturers, utilities and other bodies have been actively involved in this work.

Sales statistics of tools and products for live working are not available to the Committee.

Standards competing with CLC/TC 78 and IEC/TC 78 are developed by ASTM International and

IEEE.

B.3 Trends in technology

CLC/TC 78 work is not generally involved in a field of fast moving technology. Its work is made more on a mid to long term basis.

Increase of the nominal voltage of power installations (a. c. and d. c.).

The increasing use of helicopters, robotics, changes in the electrical power markets and occupational health concerns will possibly require new standards for tools, equipment and devices as new materials (high temperature conductors, different composite materials, smart wear, etc.) are developed, new work methods become available and new issues arise.

B.4 Market trends

The market expands to global.

B.5 Ecological environment

IEC/TC 78 is monitoring the use of chemicals and materials that are suitable and provide for safety, occupational health and environmental protection.

This includes the disposal of tools, equipment and devices.

Laws in different countries focus on restrictions on the usage of hazardous materials, substances and processes. Other regulations and laws are either in force or under consideration which impact the handling, recycling and removal of packing/packaging material and electronic and electric scraps.

The number of products used in live working is limited and consequently the potential for environmental impact is extremely low.

Considering that any action has its effect and in a general approach of increasing awareness of manufacturers and users of live working products to ecological environment, the maintenance of product standards of IEC/TC 78 will permit adding the following general wording as an Introduction:

“The product covered by this standard may have an impact on the environment during some or all stages of its life cycle. These impacts can range from slight to significant, be of short-term or long-term, and occur at the global, regional or local level.

Except for … (ex: a disposal statement in the Instructions for use), this standard does not include requirements and test provisions for the manufacturers of the product, or recommendations to the users of the product for environmental improvement. However, all parties intervening in its design, manufacture, packaging, distribution, use, maintenance, repair, reuse, recovery and disposal are invited to take account of environmental considerations.”

B.6 Involvement of societal stakeholders

No societal stakeholder is involved in the narrow market of live working.

B.7 Involvement of SMEs

SMEs are involved directly or indirectly in the manufacturing of some specific equipment, device or tool used in live working. National Committees are requested to encourage SMEs to be involved at national level in developing standards.

C System approach aspects

Items treated at IEC level.

D Objectives and strategies (3 to 5 years)

CLC/TC 78 will publish at the European level standards issued at IEC level.

Expertise has been established and task forces have been set up in CLC/TC 78 in order to advise CLC/TC 78 and to be able to fulfil the requirements of the European Commission (Harmonization of IEC standards with PPE Regulation, Machinery Directive, etc.) in European standards. The New Frankfurt agreement reinforces the collaboration between CLC and IEC, with facilities to promote European Standards in IEC. CLC/TC78 will increase standard development and promote them in IEC/TC78

Action plan

Several specific European subjects will be treated:

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- WG 5: Creation of EN 50321-2 “Live Working - Footwear for Electrical Protection – Part 2: Footwear and Over Boots with electrical insulating outsole”. This standard will be harmonized according to the PPE Regulation.

- WG 6: Harmonization of IEC 60903 “Live Working - Electrical insulating gloves” and IEC 60984 “Live Working - Electrical insulating sleeves” according to the PPE Regulation. As current IEC standards do not cover testing requirement for DC use for essential requirements of the PPE Regulation, harmonization work is on standby until IEC delivers a new version with DC test. Otherwise, CLC/TC 78 and IEC/TC 78 will have different standards, which is not in the spirit of the Frankfurt Agreement.
- WG 7: Revision of EN 50365 “Live Working – insulating helmets”. This standard will be harmonized according to the PPE Regulation.
- WG 8: Revision of EN 50340 “Hydraulic cable cutting devices – Devices to be used on electrical installations with nominal voltage up to AC 30 kV”.
- WG 9: Revision of EN 50528 “Insulating ladders for use on or near low voltage electrical installations”.
- WG 10: Revision of EN 50374 “Conductor cars”
- WG 11: Revision of EN 50286 “Electrical insulating protective clothing for low-voltage installation”. This standard will be harmonized according to the PPE Regulation.

E Useful links to CENELEC web site

http://www.cenelec.eu/dyn/www/f?p=104:7:2689820202550124:::FSP_ORG_ID,FSP_LANG_ID:72,25

National Committees are kindly invited to give their comments using the collaboration plateform.

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CLC/TC 78 Secretary

2016-425 Regulation for PPE equipment in electricity.

About non harmonization of conductible clothing standard

2016-425 Regulation for Personal Protective Equipment (PPE) is issued from 1989-686 PPE Directive.

In Annex I, PPE Regulation defines the risk to be covered. For electricity, the main risk is in category III: h) Electric shock and live working.

In Annex II, PPE Regulation defines several types of protections. For "Electric choc and live working". Regulation defines two kind of protection: insulating equipment and conductive equipment. The conductive equipment were added in 2016-425 Regulation.

3.8. Protection against electric shock

3.8.1. Insulating equipment

PPE designed to protect all or part of the body against the effects of electric current must be sufficiently insulated against the voltages to which the user is likely to be exposed under the most unfavourable foreseeable conditions...

3.8.2. Conductive equipment

Conductive PPE intended for live working at high voltages shall be designed and manufactured in such a way as to ensure that there is no difference of potential between the user and the installations on which he is intervening.

Nowadays, the only "conductive equipment" standard is the conductive clothing. This "conductive clothing" is defined to work live on very high voltage grid with bare hand method (the worker is connected to the energized cable of a line and is insulated to the earth by a large distance of air or an insulating equipment). The conductive clothing protects the worker from electric fields created by the live line. This standard is elaborated by IEC TC 78 as IEC 60895 "Live Working – conductive clothing".

The current version of EN 60895, and the future 2019 version, cannot be harmonized without major modification. In several point, IEC 60895 does not respect the Regulation rules: structure of the standard, statistics test methods, several tests methods are in concurrence and the choice of the method belong to the supplier and/or customer, freedom is given to the customer to interfere in the constitution of the equipment, etc.

Two separate versions between IEC and CENELEC will have to be managed by manufacturers, suppliers and customers while market for such equipment is restricted and mainly out of Europe. European Supplier will be penalized for international market.

Conductive clothing are only used by several utilities (less than 10 in Europe) for transmission line over 245 kV. Theses utilities have their own safety requirement and are directly involved in the conception and execution of the conductive clothing used by their worker.

Regarding this specific market, restricted to few utilities with high voltage network (over 245 kV), Cenelec TC 78 propose that IEC 60895 will be not harmonized. Conformity of the Conductive Clothing with the PPE Regulation will belong to the manufacturer and/or supplier in accordance with certification bodies procedures.