SMB/5506/R

STRATEGIC BUSINESS PLAN (SBP)

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Please ensure this form is annexed to the Report to the Standardization Management Board if it has been prepared during a meeting, or sent to the Central Office promptly after its contents have been agreed by the committee.

**Title of TC**

LIVE WORKING

**A Background**

TC 78 was established in 1975 with the scope “To prepare international standards on electrical and mechanical characteristics, as well as the reliability requirements of tools and equipment used in Live Working”.

In response to market trends, the work of TC 78 was expanded in 1996 and the scope modified. In 2002, the scope was amended for editing purpose.

“To prepare International Standards for tools, equipment and devices for utilization in Live Working, including their performance requirements, care and maintenance.


To prepare technical publications related to the utilization of tools, equipment and devices on, and in the vicinity of, live parts of electrical installations and systems.”

**B Business Environment**

**B.1 General**

The increasing use of electricity throughout the world 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 worldwide make installation of new networks ever more difficult and require greater utilisation 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.

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

External environment (out of our control):
- regulatory constraints, live working methods and use of products which may be specific to each region or 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):
Standardization 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

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 contribute to safety and meet performance requirements. 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.

TC78 publications are widely used at the regional and national levels, and are often adopted as national standards. They are increasingly referenced in legislation, which can have business impacts. They are also used as the basis for contracts.

Some TC78 publications are used by the IEC System for Conformity Testing to Standards for Safety of Electrical Equipment (IECCEE). On September 2014, these publications were IEC 60900 ed.3, IEC 61318 ed.3, IEC 61482-1-1 ed.1, IEC 61482-1-2 ed.1 and IEC 61482-2 ed.1.

Competing standards are developed by ASTM International and IEEE.

B.3 Trends in technology

TC78 work is not generally involved in a field of fast moving technology. Its work impacts 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, etc.) are developed, new work methods become available and new issues arise.

B.4 Market trends

Expansion of the market from Europe and North America to global.

Increase in capital and decrease in maintenance.

Increase in the demand for arc flash protection products.

B.5 Ecological environment

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 TC78 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.”

C System approach aspects

Internal liaison: TC 1, SC3, SC17C, TC 11, TC 66, SC 86A, TC 99 and TC 106.

TC78 has a relation with ACOS through its contact point, Mr Jonathan Hamilton.

Collaborative liaison with TC38/SC1, TC38/SC2, TC 94, TC94/SC3, TC94/SC6, TC94/SC13 and TC 214 of ISO.

Liaison of category B: ISSA (International Social Security Association).


TC78 collaborates with CENELEC TC78 under the IEC/CENELEC Dresden agreement.

Customer/supplier relationship

Identification of the IEC/TC
- SC17A - High-voltage switchgear and controlgear assemblies
- TC20 - Electric cables
- TC23 - Electrical accessories
- TC28 - Insulation co-ordination
- TC29 - Electroacoustics
- TC40 - Capacitors and resistors for electronic equipment
- TC42 - High-voltage testing techniques
- SC46A - Coaxial cables
- SC48B – Connectors
- TC56 - Dependability
- SC59D - Home laundry appliances
- TC64 - Electrical installations and protection against electric shock
- SC65A - System aspects
- TC66 - Safety of measuring, control and laboratory equipment
- TC70 - Degrees of protection provided by enclosures
- TC77A - EMC - Low frequency phenomena
- TC85 - Measuring equipment for electrical and electromagnetic quantities
- TC89 - Fire hazard testing
- TC104 - Environmental conditions, classification and methods of test
- TC109 - Insulation co-ordination for low-voltage equipment
- TC112 - Evaluation and qualification of electrical insulating materials and systems
- TC121 - Switchgear and controlgear and their assemblies for low voltage
- CISPR - International special committee on radio interference
Identification of the IEC/TC

TC78 as a supplier (non exhaustive list)

TC11 - Overhead line
SC17C - High-voltage switchgear and controlgear assemblies
TC20 - Electric cables
SC22G - Adjustable speed electric drive systems incorporating semiconductor power converters
TC44 - Safety of machinery - Electrotechnical aspects
TC97 - Electrical installations for lighting and beaconing of aerodrome
TC99 - System engineering and erection of electrical power installations in systems with nominal voltages above 1 kV a.c. and 1.5 kV d.c., particularly concerning safety aspect

D Objectives (3 to 5 years)

Continuing activities

- Continue the implementation of IEC 61318 ed.3;
- Maintain the existing publications when needed;
- Increase the awareness of TC78 publications;
- Increase the awareness of the benefits of live working.

Specific activities

- Prepare publications on inspection and diagnostic tools;
- Include in standards factors influencing the evaluation of clearances required for safe live working (electrically floating objects, defective polymer insulators, etc);
- Develop a method of calculation of medium voltage approach distances;
- Prepare requirements and tests for thermal effects of electric arc for face, eye, head, hand and foot protection;
- Extend existing standard on conductive clothing to UHV.
- Live working on structures with RF antennas
- Initiate a survey on robot application for Live Working

E Action plan

Action plan for continuing activities

- TC78 will continue the implementation of IEC 61318 ed.3 when publications need maintenance;
- TC78 will maintain the existing publications when needed and when resources are available. Initiate Review as appropriate;
- Identify specific subjects related to live working standardisation and help IEC preparing News releases to be submitted to Trade Journals and IEC Website Spotlight (ex: Live working standardisation in the field of low voltage tools, devices and equipment, etc.);
- Introduce IEC TC78 into Wikipedia with the help of Central Office.

Action plan for specific activities

- WG11 will continue the Preliminary Work on a method of calculation of medium voltage approach distances and a NWIP will be prepared;
- WG14 will continue the ongoing work on the new Technical Report on non-contact voltage detector and a TR will be prepared;
- WG15 will continue the ongoing Preliminary Work on a Technical Report for correlating the results of arc test methods to electrotechnical applications in order to select the proper electric arc personal protective equipment (PPE) for live working and a NWIP will be prepared;
- WG15 will continue the ongoing work on a Preliminary Work for determining the electric arc performance of hand protection equipment and a NWIP will be prepared;
- WG15 will continue the ongoing work on a publication for a test method and requirements for eye, face and head protectors against the effects of electric arc
F Useful links to IEC web site

TC 78 dashboard giving access to Membership, TC/SC Officers, Scope, Liaisons, WG/PT structure, Publications issued and Work and Maintenance Programmes.

Name or signature of the secretary

Christophe Comte