STRATEGIC BUSINESS PLAN (SBP)

IEC/TC or SC	Secretariat	Date
89	GERMANY	2014-11-10

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
FIRE HAZARD TESTING

A Background

TC 89 Fire hazard testing was formed in November 1988 by the decision of the IEC Council (see RM 3139/Council Decision 29/88) to transform SC 50D Environmental testing – Fire hazard testing into a full technical committee. It was agreed that the fundamental aspect of fire warranted its own technical committee. Council also agreed to transfer the flammability testing of solid insulating materials from SC 15A to the new TC 89. In June 1988 the secretariat was transferred from Germany to Canada (see RM 3379 March 1991, page 16). After many years of excellent and distinguished service, regrettably, Canada relinquished the secretariat. With the decision made by SMB/4279A/RV, it was approved to allocate the secretariat to Germany, effective November 2010.

TC 89 is a technical committee with a horizontal safety function (formerly known as a horizontal committee) within the IEC to give guidance and develop standards and test methods related to fire hazards for use by other IEC Committees.

TC 89 has been given the responsibility by the SMB (Standardization Management Board) to write BSPs (Basic Safety Publications) which are publications on a specific safety-related matter, applicable to many electrotechnical products under the aegis of the now mandatory (see AC/35/2010) IEC Guide 104, *The preparation of safety publications and the use of basic safety publications and group safety publications*, plus ISO/IEC Guide 51, *Safety aspects – Guidelines for their inclusion in standards*. An IEC Guide is a document published by ISO or IEC giving rules, orientation, advice or recommendations relating to international standardization. IEC Guides may contain mandatory and non-mandatory text.

TC 89 monitors the work of pertinent ISO (International Organization for Standardization) committees to avoid duplication of effort and resources. TC 89 monitors the more fundamental work of fire related ISO committees, and assesses its usefulness for the specific electrotechnical environment, adopting or adapting if necessary as a means of confirming that TC 89 aims to avoid duplication of effort and resources.

B Business Environment

B.1 General

Fire safety is a concern in every geographical region, and TC 89 seeks to establish global methods and guidance for assessing fire hazard in electrotechnical products.

There is a rapid global increase in the use of electrotechnical products in all application areas. The main reasons for this are the revolution in IT systems, the demand for increased functionality in buildings, structures and transport, and the general development of the infrastructure in developing economies.

Uncontrolled fires and their effluent are perceived as a significant environmental concern.

In the developed world, fire claims 10 to 20 people per million of population per annum, and fire losses amount to approximately 0,2 % of GDP per year. Occupied buildings account for the majority of fatal fires.

Electrotechnical products present two particular potential hazards in that:

- they contain or convey electrical energy and, therefore, may be a source of ignition;
- they may be an avenue of fire spread.

TC 89 has recently published a series of BSPs on ignition – IEC/TS 60695-1-20, Ignitability – General guidance and IEC/TR 60695-1-21, Ignitability – Summary and relevance of test methods. The primary aim of using such test methods is to prevent ignition caused by an electrically energized component part but, in the event of ignition, to confine any resulting fire within the bounds of the enclosure of the electrotechnical product. Reducing the risk of ignition to near zero is the most effective way to minimize fire hazard.

In common with many other safety related standardisation activities, TC 89 aims to establish a basis for assessing fire hazard which facilitates an objective evaluation and trade-off between adequate safety and minimum overall cost.

In response to suggestions from our main customers (IEC Product Committees), TC 89 is working closely with a core group of PCs (Product Committees) to create a common classification system for fire safety and to develop a methodology to be applied to all applicable products.

Every IEC member nation that manufactures electrotechnical products is encouraged to use the same basic test methods that are produced and maintained by TC 89.

Major world-wide organizations with participation in TC 89 can be seen in Annex A.

B.2 Market demand

TC 89 publications are mainly used by IEC/ISO PCs. Before approaching any fire hazard testing they are required to perform an FHA (Fire Hazard Assessment) on their products and to consult with IEC Guide 104 to understand their responsibilities with respect to TC 89.

TC 89 publications are also used by regulators, manufacturers, test laboratories and specifiers etc. most of whom are actively represented in TC 89 (see Annex A). TC 89 publications are widely used at the regional (e.g. European Standards) and national level.

Some IEC committees that make reference to TC 89 publications: TC 10, TC 14, SC 17B, TC 20, SC 22F, SC 23A, SC 23J, TC 46, TC 61, TC 66, SC 86A, TC 99, TC 104, TC 108 and TC 112.

Advances in the understanding and use of FSE (Fire Safety Engineering) will have a positive effect on the demand for TC 89 publications, especially for test methods which provide performance based data in a format suitable for use in FSE. TC 89 is currently producing a guidance document concerning FSE (IEC 60605-1-12).

TC 89 also issues technical specifications and reports which review the current state of the art in fire hazard testing, and provide a critical and objective assessment of current test methods. The purpose of these technical specifications and technical reports is also to provide guidance to IEC technical committees on the selection and use of these published test methods (which are often not IEC methods), and to avoid inappropriate or extended use of outdated, or technically deficient methods.

Some of the IEC 60695-x-2 series of publications provide information about the "repeatability and reproducibility" and “relevance of test data” with guidance on the use of current test methods.

Publications in the same area and coming mainly from UL (Underwriters Laboratories Inc.) have over the years in TC 89 work been a steady effort to harmonize similar test methods.

Development of standardization within TC 89 continues to be very active and the amount of work on the maintenance of current standards is growing.

B.3 Trends in technology

A key driver in the field of TC 89 is the rapid growth in information technology systems, particularly relating to the accommodation of electrical and data systems into the structure of buildings.

The trend is now away from the former pass/fail criteria toward the use of test methods able to monitor and/or measure the many fire parameters used in FSE and fire models.

It is a reasonable assumption that the basic TC 89 test methods will remain unchanged for the foreseeable future but the technical details will continue to be refined as necessary.

B.4 Market trends

The market wishes ideally to see a contraction in the various and differing test methods that essentially measure the same thing. TC 89 seeks to advise in favour of adopting or adapting/extending existing methods and deprecates the introduction of new, seemingly parallel, methods.

B.5 Ecological environment

Any reduction in the incidence of uncontrolled fire can only be regarded as having a positive environmental benefit on the risk to health, post fire contamination and clean-up, and long term environmental effects.

In accordance with IEC Guide 109, *Environmental aspects - Inclusion in electrotechnical product standards*, TC 89 gives careful consideration to the environmental impact of a specific test method.

TC 89 is in the process of collating and assimilating the state of the art and will advise the IEC accordingly.

C System approach aspects

Not applicable to TC 89 – see AC/37/2006.

D Objectives and strategies (3 to 5 years)

- **Objectives – General**
  - to improve the market relevance of TC 89 publications
  - to develop and improve TC 89 standards. These include the following:
    - the specification of standard test flames and their application in tests
    - glow-wire tests
    - the measurement of the heat release of insulating liquids
    - the evaluation of softening temperature
    - the evaluation of mould stress relief distortion
  - to provide guidance to electrotechnical product committees, particularly in the following areas:
    - fire hazard assessment
    - fire safety engineering
    - preselection test methods
    - the fire hazard of insulating liquids
    - ignitability
    - corrosivity of fire effluent
    - smoke obscuration
    - fire effluent toxicity
    - heat release
    - flame spread
  - to provide information to electrotechnical product committees about potentially relevant test methods (not necessarily TC 89 test methods) with guidance on their suitability, in the following areas:
    - ignition
    - corrosivity
    - smoke obscuration
    - fire effluent toxicity
    - heat release
    - flame spread
  - to define electrotechnical fire terms
  - to provide appropriate guidance for TC 89 test methods
  - to increase the awareness within the IEC of TC 89 publications and test methods
  - to continue to be responsive to the growing needs for fire hazard guidance for electrotechnical products as they arise
  - to continue to attract more experts from the fire sciences to increase the pool of knowledge
  - to hold seminars and workshops whenever necessary
  - to assist PCs in all matters related to fire

- **Objectives – 3 to 5 years**
  - to complete test method questionnaires and inter-laboratory tests on problematic TC 89 test methods and integrate the results into future revisions where applicable
  - to eliminate, with the assistance of the IEC, the use of “rogue” test methods in PC publications that are similar to TC 89 but lack any normative references
  - with the assistance of the IEC, to identify and work with all PCs that reference TC 89 publications
- **Strategy**
  - continue as an active member of ACOS (Advisory Committee on Safety)
  - monitor our customers and the degree to which they take up TC 89 guidance
  - work in close cooperation with the IEC, ACOS, ISO, PCs, industry etc. to achieve the stated objectives

E Action plan

- the action plan for TC 89 is the time frame indicated by the maintenance cycle. The work is done by WGs meeting every 6 months, by timely responses from the NCs, and by the Secretary and WG conveners working together effectively.
- complete agreed maintenance review schedules on time to ensure timely publication of any amendments and revisions
- monitor, on a continuous basis, all IEC procedural changes and integrate relevant changes into the TC 89 work flow
- promptly attend to all technical enquiries in a timely manner

F Useful links to IEC web site

The IEC/TC 89 dashboard, which gives access to Scope, Structure, Projects, Publications and Documents, as well providing access to IEC tools such as Collaboration Tools and the Expert Management System (EMS), etc..

Name or signature of the secretary

Thomas G. Kapper (DE)

Annex A

Major world-wide organizations with participation in TC 89

Name	Sector	Country
Asociación de fabricantes de material eléctrico (AFME)	Trade Association	ES
ABB	Industry	SE
AMDEA	Trade Association	UK
BASF SE	Industry	DE
British Cables Association	Trade Association	UK
British Plastics Federation	Trade Association	UK
BSI	National Institute	UK
CABLEBEL	Industry	BE
Comitato Elettrotecnico Italiano (CEI)	National Institute	IT
CESI	Test House	IT
Chemitox Inc.	Test House	JP
Currenta GmbH & Co. OHG	Test House	DE
DSM Engineering Plastics,P.O. Box 604	Industry	NL
All-Russian Research Institute for Fire Protection; FBGU-Emercom	National Institute	RU
IMQ SpA	Test House	IT
Interscience Communications Ltd.	Test House	UK
Intertek Semko AB	Test House	SE
Japan Electric Cable Technology Center	Test House	JP
Legrand Electric Ltd:	Industry	UK
MK Electric (Honeywell)	Industry	UK
National Institute of Technology and Evaluation	National Institute	JP
NILIT PLASTICS EUROPE s.r.l.	Industry	IT
Philips	Industry	NL
POLYPLASTICS Co. Ltd.	Industry	JP
SABIC Innovative Plastics	Industry	NL
SCHNEIDER ELECTRIC	Industry	FR
SEK SVENSK ELSTANDARD	National Institute	SE
Siemens AG	Industry	DE
TEIJIN LTD.	Industry	JP
The Ship Equipment Inspection Society of Japan	Test House	JP
Underwriters Laboratories, UL LLC	Test House	US
UNEX APARELLAJE ELECTRICO S.L.	Industry	ES