SMB/2950/R

STRATEGIC POLICY STATEMENT

IEC/TC or SC	Secretariat	Date
TC 20	UK	2004-12

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
Electric cables

A. Background

TC 20 covers the preparation of standards for electric power cables. Its present structure was implemented in 1999. Its scope is:

To prepare international standards for the design, testing and end-use recommendations (including current ratings) for insulated electrical power and control cables, their accessories and cable systems, for use in wiring and in power generation, distribution and transmission.

The applications cover an unlimited range of voltage and current, and includes applications such as heating cables where the current is used to create heat.

Cables specifically designed for marine applications, covered by SC18A, are excluded. All cables for communication, data transmission and other non-power applications are covered elsewhere.

Group Safety function:

Fire hazard testing on cables comprising:
- flame propagation tests;
- fire resistance tests;
- smoke optical density tests;
- corrosivity tests.

The committee operates as a single entity with four Working Groups. These are;

WG 16	High voltage cables (1 kV and above), their accessories and cable systems
WG 17	Low voltage cables (below 1 kV)
WG 18	Burning characteristics of cables
WG 19	Current ratings and short circuit limits

The WGs act as Maintenance Teams for established standards in their scope.

TC 20 has a Group Safety Function for fire hazard testing on cables.

Publications : 89

Projects under development: 13 (2 of which are new work)

Membership

"P" members (33):
AU, AT, BE, CA, CN, CZ, DK, EG, FI, FR, DE, GR, HU, IN, ID, IL, IT, JP, KR, MX, NL, NO, PL, PT, RO, RU, ZA, ES, SE, CH, TR, GB, US

"O" members (10): BG, IE, MY, NZ, CS, SG, SK, SI, TH, UA.

Liaison with other committees and organisations was reviewed at the 2004 meeting, and is now as

follows:
Full liaison:
IEC TC 27 ;
IEC TC 64 ;
IEC TC89;
A) CIGRE SC B1.

D liaison: IEEE-ICC (in WG 16 and WG 18)

and in respect of the group safety function for fire hazard testing on cables:
IEC SC 18A;
IEC TC 46;
IEC SC 46A;
IEC SC 46C;
IEC TC 86;
IEC SC 86A.

B. Environment

B.1 Business environment

There is a high level of conservatism amongst users, who remain satisfied with well-established, safe and reliable products. The pressures on such mature products are therefore economic rather than technical. A growing trend of company mergers, leading to globalisation and rationalisation, is consistent with this situation, and should reinforce and enhance the importance of IEC standards in the sector.

B.2 Market demand

The “customers” of TC 20 are basically involved in the generation, transmission and distribution of electricity. The products range from domestic installation wiring and appliance wires through to supertension transmission cables up to 500 kV. Analysis shows that manufacturers and users are represented on Working Groups and at TC level, but for the users this is biased towards the utility sector. From both sides of the industry there is now a decline in representation due to commercial pressure on resources.

The strong usage of TC 20 standards in the marketplace is manifest in different ways due to regional differences, and to differences in the type of standard (e.g. product standard or test method). The major developed economies use the product standards as a baseline for their own national standards, but frequently impose additional requirements due to different systems, local regulations and/or customer demands. In other regions and in the absence of such local factors, the product standard serves well as the base for national standards. For test method standards there is very wide usage, almost regardless of region. The hitherto quiescent approach to TC 20 from parts of North America is noted as changing, and this should ultimately lead to stronger global standards.

TC 20 is aware that the demand for standards is different in different markets. For the mature case of electric cables the strong preference is for full consensus international standards (IS), but the availability of other deliverables is recognised and will be used where appropriate. The preference for IS also reflects a strong desire to avoid duplication of test methods, and the wish to ensure that design options in product standards only reflect relevant global types for the applications, also avoiding unwarranted duplication. TC 20 is fully aware of the policy of IEC in respect of Global Relevance and is resolved to continue to retain a coherent and inter-related set of documents in which the essential product standards are supported by those for components, test methods, current ratings and design criteria.

The majority of the work covers the maintenance of existing standards, as these can accommodate most of the technological developments for the majority of cable types. A limited number of new standards covering major extensions of new technology, or to satisfy specialist markets such as airfields and railways, will be required.

TC 20 products, by their very nature, are generally not suitable for coverage by a horizontal system

approach to standardisation. This is principally due to factors such as:

- the use of cables as long-life products (many decades) and their installation in inaccessible places (e.g. buried);
- the wide variety of end-uses to which a single cable type can be put;
- the role of cables as connecting devices (often over long distances) between items of equipment.

All these factors combine to require cables to meet the specialised tests that lead to a strong continuity and stability of requirements in our well-established standards.

B.3 Trends in technology and trade

Improvements in technology derive mainly from materials and components, and must be seen as relatively small step-by-step changes to a substantially mature situation. These developments, which improve the efficiency and durability of the cable, are incorporated into the standards via the maintenance procedure.

Much technical development work of the last 20 years has been in the area of fire performance cables. The growing maturity of this sector is being seen via a growing demand for product standardization, especially in the general industrial cable market.

The Technical Committee continues to monitor the subject of superconductivity, but believes that it will be many years before there is an impact on cable standardization.

B.4 Ecological environment

The TC is constantly monitoring the environmental aspects of its products and components both in relation to their end of life disposal or recycling or their in-service performance. A specific guidance document (TR) is now under development. IEC work in other committees, such as the work on "X-free" is being carefully monitored to assess relevance to power cables.

There is a demand for more efficient operation of cables and the TC has published information on suitable cable design parameters to achieve this (lower transmission losses, reduced heating effects). Unfortunately, the adoption of short-term commercial practices mitigates against use of these parameters.

C. Work programme

C.1 Current work

The TC intends to maintain a meeting frequency of approximately two years, since experience shows that this period is the most economical in terms of members' resource and business to be conducted.

Each TC meeting reviews the working group programmes, establishes priorities and sets dates by which the work is to be concluded. Industry, by agreeing to the work, commits itself to providing the resource. Working Group Convenors are expected to work efficiently, electronically if possible, and to arrange meetings to suit the priority and workload agreed.

C.2 Resources/infrastructure needed

TC 20 is satisfied with the Central Office support provided and sees no significant extra requirements for the future.

The Strategic Planning Group continues to play an important role, especially by allowing issues of principle within the TC to be considered between meetings.

WGs (PTs, MTs) are increasingly using electronic tools, but they do not and will not eliminate the need for intensive face-to-face meetings. The overall effectiveness of the WGs, including the commitment of experts to contribute fully, will be carefully monitored and reviewed.

C.3 Safety aspects (only for committees which do not have a reference to safety in their scope)

Not applicable

D. Future work

The next decade will show an increase in the importance of our existing product standards, especially if there are positive and coherent effects from the policy of Global Relevance. Creation of some new standards for specialised application areas is likely to continue. A continuing expansion of work related to enhanced fire performance cables is likely, especially if an increasing number of regions or countries legislate in respect of fire hazard.

E. Maintenance cycle

Publication no.	Date of publication	Review date (1)	Maintenance result date	Responsibility (Maintenance Team)
60050-461	1984	20/725/CD	2006	PT
60055-1	1997	20/741/FDIS	2004	16
60055-2	1981	20/742/FDIS	2004	16
60141-1	1993	2007	2010	16
60141-2	1963	2007	2010	16
60141-3	1963	2007	2010	16
60141-4	1980	2007	2010	16
60173	1964	2006	2009	17
60183	1984	2006	2009	16
60227-1	1993	2005	2010	17
60227-2	1997	2005	2007	17
60227-3	1993	2006	2009	17
60227-4	1992	2006	2009	17
60227-5	1997	2006	2008	17
60227-6	2001	2006	2010	17
60227-7	1995	2005	2007	17
60228	2004	2005	2010	19
60229	1982	2004	2007	16
60230	1966	2009	2012	16
60245-1	2003	2005	2009	17
60245-2	1994	2005	2008	17
60245-3	1994	2007	2009	17
60245-4	1994	2007	2009	17
60245-5	1994	2007	2009	17
60245-6	1994	2007	2009	17
60245-7	1994	2007	2011	17
60245-8	1998	2007	2009	17
60287-1-1	1994	20/721/MCR	2006	19
60287-1-2	1993	2007	2010	19
60287-1-3	2002	2005	2008	19
60287-2-1	1994	20/722/MCR	2006	19
60287-2-2	1995	2004	2007	19
60287-3-1	1995	2005	2008	19
60287-3-2	1995	2006	2009	19
60331-11	1999	2004	2007	18
60331-12	2002	2004	2007	18
60331-21	1999	2004	2007	18
60331-23	1999	2004	2007	18
60331-25	1999	2004	2007	18
60331-31	2002	2004	2007	18
60332-1-1	2004	2007	2010	18
60332-1-2	2004	2007	2010	18
60332-1-3	2004	2007	2010	18
60332-2-1	2004	2007	2010	18
60332-2-2	2004	2007	2010	18
60332-3-10	2000	2005	2008	18
60332-3-21	2000	2005	2008	18
60332-3-22	2000	2005	2008	18

E. Maintenance cycle

Publication no.	Date of publication	Review date (1)	Maintenance result date	Responsibility (Maintenance Team)
60332-3-23	2000	2005	2008	18
60332-3-24	2000	2005	2008	18
60332-3-25	2000	2005	2008	18
60502-1	2004	2006	2009	16
60502-2	1997	20/672/CDV	2005	16
60502-4	1997	20/743/FDIS	2004	16
60702-1	2002	2009	2012	17
60702-2	2002	2009	2012	17
60719	1992	2014	2017	17
60724	2000	2005	2007	19
60754-1	1994	2005	2008	18
60754-2	1991	2005	2008	18
60800	1992	2004	2007 (2)	17
60811-1-1 (3)	2001	2003	2006	17
60811-1-2 (3)	2000	2003	2006	17
60811-1-3 (3)	1993	2004	2007	17
60811-1-4 (3)	1985	2004	2007	17
60811-2-1 (3)	1998	2004	2007	17
60811-3-1 (3)	1985	2004	2007	17
60811-3-2 (3)	1985	2005	2008	17
60811-4-1 (3)	2004	2005	2008	17
60811-4-2 (3)	2004	2005	2008	17
60811-5-1 (3)	1990	2005	2008	17
60840	2004	2006	2009	16
60853-1	1985	2004	2007	19
60853-2	1989	2004	2007	19
60853-3	2002	2004	2007	19
60885-1	1987	2007	2010	16
60885-2	1987	2007	2010	16
60885-3	1988	2007	2010	16
60949	1988	2005	2007	19
60986	2000	2005	2007	19
61034-1	1997	20/688/CDV	2004	18
61034-2	1997	20/689/CDV	2004	18
61138	1994	2004	2007	17
61238-1	2003	2009	2012	16
61423-1/TS	1995	2004	2007	17
61423-2/TS	1995	2004	2007	17
61442	1997	20/664/CDV	2004	16
61443	1999	2005	2007	19
61901/TR	-	20/740/DTR	-	16
62067	2001	20/739/CDV	2005	16
62095 TR	2003	2011	2014	19
62100 TS	2004	2005	2008	PT

(1) Reference to a document number is the latest for work in progress
(2) Subject to SMB approval
(3) A review of these standards continues and will result in revised dates

Name or signature of the secretary
J M R Hagger