



IEC/TC or SC 73	Secretariat Norway	Date 2004-12-09
--------------------	-----------------------	--------------------

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 SHORT-CIRCUIT CURRENTS

A. Background

TC 73 held it's first meeting in Solna (Stockholm) 13 - 14 September 1972. The scope and responsibilities of the Committee are to prepare standardised procedures for the calculation of short-circuit currents, and the thermal and mechanical effects.

The Standards shall be, as far as possible, in form to facilitate their use by non-specialist engineers.

The Committee deals with industrial installations and public supply systems.

At the meeting in Solna two working groups were assigned to assist the secretariat:

- WG 1 Calculation of currents
- WG 2: Heating and mechanical effects

These working groups are assigned as maintenance teams for the documents related to:

- calculation of currents
- heating and mechanical effects.

At the TC 73 meeting in Kista (Stockholm) in 1993 the decision was made to establish WG 3: Collection of information of reduction factors. The objective was to collect data for reduction factors of cables in overhead transmission lines. The result was intended for the revision of IEC 60909-3 "Currents during two separate simultaneous single-phase line-to-earth short circuits and partial short-circuit currents flowing through earth". A questionnaire was circulated to National Committees, but insufficient information was received. At the TC 73 meeting in Trondheim in 1997 WG 3 was disbanded.

The composition of TC 73 is as follows:

Participating countries (14)

Observer countries (20)

Australia	Italy	Belgium	Korea (Republic of)
Austria	Japan	Brazil	Netherlands
China	Norway	Bulgaria	New Zealand
Czech Republic	Russian Federation	Canada	Poland
France	Spain	Croatia	Romania
Germany	Sweden	Denmark	Serbia and Montenegro
Greece	United kingdom	Finland	Slovakia
		Hungary	South Africa
		India	Switzerland
		Israel	Ukraine

Among the p-members TC 73 have active representatives from Australia, Austria, Germany, Greece, Italy, Japan, Norway, Sweden and United Kingdom. Most countries have one representative while Germany has 6 representatives. It was decided on the TC 73 meeting in Dresden ask all p-members to contribute with active participation in WG 1 and WG 2.

Liaison: The activity of WG 2 is done in liaison with CIGRÉ Study Committee B3 Substations concerning the mechanical effects of short-circuit currents in open air substations. The cooperation with CIGRÉ in this field has been the main basis for the IEC 60865 standards.

B. Environment

B.1 Business environment

The ability withstand the maximum short-circuit currents including their thermal and mechanical effect concern all electrical apparatus and equipment. Thus short circuit calculations are of fundamental importance for the electrical manufacturing industry, industrial power plants and power utilities to ensure safe design of components and systems to prevent damage of equipment, interruptions of public electric supply systems and ensure safety to involved personnel and third parties. The existing standards cover to day's equipment and systems.

B.2 Market demand

In the western world the expansion of the electrical supply system has fallen down to a slow increase level, while substantial increase may be expected in the third world. The future demand for adequate standards depends on the growth development and manufacturers, industry with power plants and utilities on national, regional and local grid levels are the main customers of the TC 73 standards.

B.3 Trends in technology and trade

The needs for standards for short-circuits calculation and thermal and mechanical effects has traditionally been little effected by the technology development and trends. (Use of more complex components combining both AC and DC systems may however call for new and improved standards). So far the existing standards are adequate for existing equipment and power supply systems.

B.4 Ecological environment

Not applicable to the field of TC 73

C. Work programme

C.1 Current work

For the time being the work of TC 73 is to maintain the following standards and technical reports:

- Revision of IEC 60909-3 i.e. to add a new clause 6.1.6 Reduction factor for cables with metallic sheaths earthed at both ends.
- Revision of IEC/TR 60909- 2 to add equations for calculation of the impedance of cables with earthed sheaths.
- To withdraw the standard IEC 781 Ed.1 (1989-01) that is no longer in accordance with IEC 60909-0 Ed. 2 (2003-09). Low voltage is covered in IEC 60909-0 Ed. 2.
- To provide a corrigendum to IEC 60909-3 Ed. 2 (2003-09) and IEC 60909-1 Ed. 2 (2002-07)
- Revision of IEC 60865-1 i.e. clause 2.2, 2.3,2.4.2 and 3.2.4. The p-members will be asked to participate in the revision of 60865-1.

C.2 Resources/infrastructure needed

Generally TC 73 wants a broader participation in the current work to avoid that the progress only depends on some few contributors. Since no one wants to pay for laboratory tests and for the work of preparing and maintaining standards, it is important that the necessary time for a sufficient number of involved persons is allocated.

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

The safety aspects and safety regulations concerning short-circuit currents including their thermal and mechanical effects are dealt with by National Authorities and not in the TC 73 standards.

D. Future work

To maintain the existing standards and technical reports according the specified Maintenance Result Date and continuously assess the need for new standards.

E. Maintenance cycle				
Publication no.	Date of publication	Review date	Maintenance result date	Responsibility (Maintenance Team)
IEC 60781 Ed.1.0	1989-01	To be withdrawn	2004	WG 1
IEC 60865-1 Ed. 2.0	1993-09	Review finished	2007	WG 2
IEC/TS 60865-2 Ed. 1.0	1994-06	2005	2007	WG 2
IEC 60909-0 Ed. 1.0	2001-07	2006	2007	WG 1
IEC/TR 60909-1 Ed. 2.0	2002-07	2006	2008	WG 1
IEC/TR 60909-2 Ed. 1.0	1992-08	Review finished	2005	WG 1
IEC 60909-3 Ed. 2.0	2003-09	Review finished	2006	WG 1
IEC/TR 60909-4 Ed. 1.0	2000-07	2005	2004	WG 1
IEC 61660-1 Ed. 1.0	1997-06	2006	2008	WG 1
IEC 61660-2 Ed. 1.0	1997-06	2006	2008	WG 2
IEC/TR 61660-3 Ed. 1.0	2000-02	2007	2009	WG 1 & WG 2

Name or signature of the secretary Lars Rolfseng
