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SMB/3970/R

2009-03-27

INTERNATIONAL ELECTROTECHNICAL COMMISSION

STANDARDIZATION MANAGEMENT BOARD

SUBJECT

SMB Meeting 135, Geneva

SMB/SG 1 *Energy Efficiency and renewable resources* - Report to SMB following the 4th meeting held on 2008-06-04 in Geneva, Switzerland and the 5th meeting held on 2008-10-30 in Orlando Florida USA

BACKGROUND

The SMB, approved by correspondence 12 recommendations submitted by SG 1 in its report following its 3rd and 4th meetings held on 2008-02-13 and 2008-06-04, in Geneva, document SMB/3718B/R. It is noted that recommendation 2: *Guideline for the operation of electrical power plants*, had been postponed for discussion at the 5th SG 1 meeting scheduled for Paris in March 1009 held in conjunction with the ISO/IEC/IEA Energy Efficiency Workshop and the ISO Group on Energy Efficiency.

Bernhard Thies, convener of SMB SG 1, reported briefly to SMB meeting 133 in São Paulo on the SG 1 recommendations regarding Smart Grid and for areas of Consumption Matrix (household appliances, consumer electronics, and IT equipment) from the meeting held Orlando in October 2008.

Relevant recommendations between 1 to 12 were sent to TCs/SCs concerned and the responses received from, TC 2, TC 21, SC 22E, SC 22F, SC 22G, TC 27, TC 34 and TC 111 were circulated in document SMB/3718D/CC. SG 1 has been invited to review the comments received from the TCs/SCs and provide guidance to the SMB on those comments.

At SMB meeting 134 held in Seoul in February 2009, the question was asked if the Group had given consideration to the ongoing standardization work in a subcommittee of TC 23 dealing with DC supply systems in the home and in computer operations room.

SG 1 now invites the SMB to decide on recommendations 13 to 20 submitted in Annex A to this report.

ACTION

The SMB is invited to decide on recommendations 13 to 20 before 2009-05-08.

The recommendations are forwarded to TCs TC 8, TC 13, TC 57, TC 59 + SCs, TC 96, TC 100 and TC 108 in parallel for their input before 2009-05-01.

Report to SMB following the 4th meeting and the 5th meeting of SMB/SG 1

4th meeting held on 2008-06-04 in Geneva
the meeting was attended by 12 Members and 3 guests

5th meeting held on 2008-10-30 in Orlando
the meeting was attended by 9 Members

The following report summarizes the main achievements and SG 1 decisions:

- SG 1, noting SMB approval of Recommendations 1 to 12, decided that implementation aspects are not SG 1 responsibility
- Reconsidered Recommendation 2 „Guideline for the operation of electrical power plants“, which should be a topic for discussion with ISO/SAG E in 2009 postponed
- Recommendation regarding Smart Grid, household appliances, consumer products, IT products and equipment, consumer electronics (recommendations 13 to 20) have been agreed
- Further discussions and recommendations on areas of Consumption Matrix (household appliances, consumer electronics, IT equipment)
- Initial discussion of ISO/IEC/IEA Workshop March 2009
- Discussion on electrical saving potential in commercial buildings regarding heating and cooling (including HVAC)

A presentation of the above mentioned results is given by SMB/3865/DC. No comments were received on this SMB enquiry.

Next Meeting is scheduled in conjunction with the IEA/ISO/IEC Workshop and a Joint Meeting of ISO/SAG E and IEC/SMB SG 1 in March 2009, Paris.

SMB is invited to decide on recommendations 13 to 20 submitted by SG 1, see Annex A.

SMB/SG 1 Energy Efficiency and renewable resources

Summary and status of Recommendations from SG 1

Area	Priority	Recommendation	Who, Lead	Remarks	Status
Terminology, calculation methods	1	SG1 Recommendation 1: To develop a common general terminology, metrics, general calculation methods and criteria in the field of energy efficiency in order to provide a generic framework as the basis for further detailed domain specific requirements. This should be a joint activity of IEC, ISO and possibly ITU incl. the cooperation with the International Energy Agency (IEA).	IEC, ISO, ITU	Attention is drawn to IEC/TC 111's project 62542 "Standardization of environmental aspects - Glossary of terms" as well as existing definitions of IEC product committees. Furthermore, the work of ISO/TC 203 "Technical energy systems" and possibly other TCs should be checked for relevance.	approved (SMB/3718B/R SMB/3718C/C C)
Electrical Power plant	1	SG1 Recommendation 2: To develop a guideline on best practices for the operation of an electrical power plant, which allows for the determination of the performance/efficiency of a plant and a comparison with other plants.	New body required	As there is no Technical Committee for this subject and expertise from various fields is required (including from ISO), SMB should consider the establishment of a Project Committee to deal with this purpose. IEC/TCs to participate are e.g. TC 4, TC 5, TC 65	approved (SMB/3718B/R SMB/3718C/C C)
Power transformers	1	SG1 Recommendation 3a: IEC/TC 14 "Power transformers" to develop a common classification and associated calculation methods for power transformers with a view to facilitate harmonization of energy labelling schemes existing at various national and regional levels. It is anticipated that the resulting IEC publication will be of particular interest for use in industrial distribution systems.	IEC/TC 14	Note 1: Attention is drawn to (among others) CENELC EN 50464-1:2007, which provides a loss level classification for three-phase oil-immersed distribution transformers 50 Hz, from 50 kVA to 2 500 kVA with highest voltage for equipment not exceeding 36 kV. See item 4 in SMB-SG1/Italy02 for further national standards to be considered in this context. Note 2: As a first step of harmonisation, a Technical Report or a Technical Specification could be considered,	approved (SMB/3718B/R SMB/3718C/C C)

Area	Priority	Recommendation	Who, Lead	Remarks	Status
				however, eventually an International Standard seems to be desirable.	
Power transformers	1	SG1 Recommendation 3b: Furthermore, a guideline document (Technical Report) is required on the choice of the optimal transformer in a given application.	IEC/TC 14		approved (SMB/3718B/R SMB/3718C/C C)
Power distribution network	2	SG1 Recommendation 4: A guidance of best practise is to be developed regarding the reduction of network losses in the distribution system.	IEC/TC 8	Customers (i.e. users of the T&D equipment) should be involved in the process of establishing the requirements. System operators, those who manage the various electrical grids (regional transmission organisations), have to comply with grid codes that are in many cases set by regulatory bodies. First order priorities for grid codes are safety and reliability. Energy efficiency should become an equally important priority if not already.	approved (SMB/3718B/R SMB/3718C/C C)
Power distribution network	2	SG1 Recommendation 5: As a long term activity the minimization of network losses in general needs to be addressed from a system point of view.	IEC/TC 8		approved (SMB/3718B/R SMB/3718C/C C)

Area	Priority	Recommendation	Who, Lead	Remarks	Status
Lighting	1	<p>SG1 Recommendation 6: IEC/TC 34 and its subcommittees</p> <ul style="list-style-type: none"> - to develop energy saving calculation standards or guidelines for lighting - to improve standards adding energy efficiency tests to check the minimum efficiency levels established by law in national regulations - to modify incandescent lamp standards to provide guidance for avoidance of use of some types of these lamps. - to develop (a) Technical Report(s) on how to design lighting installations under energy efficiency criteria as a complementary document to IEC 62368 “Digital control interface for electronic lamp controlgear (DALI)”. - to require that manufacturers include in the technical documentation the performance ratio of the luminaire according to the measurement procedures established in the standards. This information is fundamental for the contractor or designer of the full installation. 	IEC/TC 34 & SCs with cooperation from CIE	Concerning the 4 th indent, SC 34C should closely cooperate with ISO/IEC JTC 1/SC 25 WG 1, which is dealing with home automation and intelligent (smart) house standardization.	approved (SMB/3718B/R SMB/3718C/C C)
Industrial automation	1	<p>SG1 Recommendation 7: IEC/TC 2, SC 22G and TC 65 together with ISO/TC 184 should develop guidelines for the design and operation of energy efficient systems in the field of industrial automation and industrial process control from a</p>	IEC/TC 2, SC 22G, TC 65, ISO/TC 184	<p>1 IEC to organize a Workshop, where a detailed action plan for standardization activities are determined.</p> <p>2 To establish a JWG with IEC lead</p>	approved (SMB/3718B/R SMB/3718C/C C)

Area	Priority	Recommendation	Who, Lead	Remarks	Status
		system point of view.			
Electrical trains	1	SG1 Recommendation 8: TC 9 should explore further possibilities for standardization projects to assist the reduction of energy consumption in trains and associated infrastructures.	IEC/TC 9		approved (SMB/3718B/R SMB/3718C/C C)
Electric road vehicles/trucks	2	SG1 Recommendation 9: TC 69 should consider the feasibility of including requirements regarding energy efficiency/reduction of energy use in their standards, where appropriate.	IEC/TC 69	Cooperation with ISO/TC 22 and its SCs is required.	approved (SMB/3718B/R SMB/3718C/C C)
Other transportation systems with electrical drives	2	SG1 Recommendation 10: The need for and the feasibility of standardization activities for the energy efficiency of other transportation systems, such as lifts/elevators, escalators, moving walkways, which are widely used both in industry and publicly accessible areas and buildings areas should be considered. Examples are luggage transportation in airports, moving walkways in airports and other large buildings, escalators used to access underground transportation or within big stores.	No IEC/TC for these products / systems, ISO/TC 178	Cooperation with relevant IEC committees such as TC 2, SC 22G required. Note: ISO/TC 178 "Lifts, escalators and moving walks", in particular WG 10 "Energy efficiency"	approved (SMB/3718B/R SMB/3718C/C C)
Electroheating	2	SG1 Recommendation 11: TC 27 should consider the development of guidelines for the classification of industrial electroheating systems, which allows for the determination of the performance/efficiency of a given system and a comparison with other systems of	IEC/TC 27		approved (SMB/3718B/R SMB/3718C/C C)

Area	Priority	Recommendation	Who, Lead	Remarks	Status
		that class.			
High-performant electrical storage systems	1	SG1 Recommendation 12: TC 21/SC 21A to develop (an) international standard(s) for batteries suitable for large scale storage of electricity (high generation – low consumption vs. low generation – high consumption), which are required in (highly) decentralized electrical grids fed by wind mills, photovoltaic systems and/or similar renewables.	IEC/TC 21		approved (SMB/3718B/R SMB/3718C/C C)
Smart grid	1	SG 1 Recommendation 13: IEC to organize a Workshop on the topic of “Advanced supply and demand side balance in electrical grids” in order to inform on the state-of-the-art in standardization and to further propose concrete new standardization activities. This encompasses a) the integration of renewable energy sources into existing grids as well as b) techniques aiming at the optimization of electricity supply versus electricity demand.	TC 8, TC 57, TC 13	Primarily concerned IEC/TCs are TC 8 “System aspects of electrical energy supply” and in particular TC 57 “Power systems management and associated information exchange”.	Recommendation introduced by SMB/3865/DC (no comments received from SMB enquiry)
Household appliances	1	SG 1 Recommendation 14: TC 59 and its SCs to develop/update International Standards on measurement procedures required to define energy efficiency classes of electrical household appliances. The relevant evaluation methods shall take into account a realistic simulation of the actual use of each type of appliance.	TC 59 + SCs		Recommendation introduced by SMB/3865/DC (no comments received from SMB enquiry)

Area	Priority	Recommendation	Who, Lead	Remarks	Status
Household appliances		SG 1 Recommendation 15: TC 59 and its SCs to develop a harmonized international system of energy consumption classes including a labelling scheme to determine the energy consumption/energy efficiency of household appliances, taking into account the existing regional and national standards in this field.	TC 59 + SCs		Recommendation introduced by SMB/3865/DC (no comments received from SMB enquiry)
Household appliances		SG 1 Recommendation 16: TC 59 and its SCs to take into account both standby losses and off-mode losses in their product standards.	TC 59 + SCs	Note: Definition of standby mode(s) and off-mode losses, as well as measurement techniques, need to be harmonized throughout IEC Technical Bodies	Recommendation introduced by SMB/3865/DC (no comments received from SMB enquiry)
Household appliances, consumer products, IT products		SG 1 Recommendation 17: TC 96 "Small power transformers, reactors, power supply units and similar products" to take into account standby operation and energy efficiency of power supplies in their standardization activities.	TC 96	Note: Definition of standby mode(s) and off-mode losses, as well as measurement techniques, need to be harmonized throughout IEC Technical Bodies	Recommendation introduced by SMB/3865/DC (no comments received from SMB enquiry)
IT equipment, consumer electronics		SG 1 Recommendation 18: TC 100 and TC 108 should take into account both standby losses and off-mode losses in their standards. This implies external power supplies (AC/DC converters) to be considered as integral parts of the pertinent equipment (i.e. same treatment as for internal power supplies). For true zero standby and off-mode losses, the power supply shall be completely disconnected from the mains power by	TC 100, TC 108		Recommendation introduced by SMB/3865/DC (no comments received from SMB enquiry)

Area	Priority	Recommendation	Who, Lead	Remarks	Status
		appropriate means.			
IT equipment, consumer electronics		<p>SG 1 Recommendation 19: TC 100 and TC 108 to develop/update International Standards on measurement procedures for IT equipment and consumer electronics, which are the basis for establishing energy consumption / energy efficiency classes or other performance indicators.</p>	TC 100, TC 108		Recommendation introduced by SMB/3865/DC (no comments received from SMB enquiry)
IT equipment, consumer electronics		<p>SG 1 Recommendation 20: TC 100 and TC 108 to develop a harmonized international system of energy consumption classes or other performance indicators including e.g. a labelling scheme to determine the energy consumption / energy efficiency of consumer electronic products, such as TV sets, set-top boxes, cable modems, DSL routers etc.</p>	TC 100, TC 108		Recommendation introduced by SMB/3865/DC (no comments received from SMB enquiry)