



IEC/TC OR SC:	SECRETARIAT:	DATE:
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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.

A. STATE TITLE AND SCOPE OF TC

Are there any new or emerging trends in technology that will impact the scope and work activities of the TC? Please describe briefly.

Do you need to update your scope to reflect new and emerging technologies? If yes, will these changes impact another TC's scope or work activities?

If yes, describe how these will impact another TC(s) and list the TC(s) it would impact

Electrical Energy Storage (EES) Systems

1. Standardization in the field of grid integrated EES Systems.

- TC 120 focuses on system aspects on EES Systems rather than energy storage devices.

- TC 120 investigates system aspects and the need for new standards for EES Systems.

-TC 120 also focuses on the interaction between EES Systems and Electric Power Systems (EPS).

2. For the purpose of TC120, "grid" includes and is not limited to applications in :

- a) transmission grids
- b) distribution grids
- c) commercial grids
- d) industrial grids
- e) residential grids
- f) islanded grids
- g) MUSH(Municipal/Military, Utilities/Universities, Schools, Hospitals) grids
- h) ICI (Institutional, Commercial and Industrial) grids

It is also confirmed that TC120 can include "smart grid." Storage in railway systems is considered if it contributes as an EES System to the grid as referenced in 2 a-f.

Note: grid: electricity supply network (ISO/IEC 15067-3)

smart grid: electric power system that utilizes information exchange and control technologies, distributed computing and associated sensors and actuators, for purposes such as:

- to integrate the behaviour and actions of the network users and other stakeholders
- to efficiently deliver sustainable, economic and secure electricity supplies (IEV 617-04-13)

3. EES Systems include any type of grid-connected EES Systems which can both store electrical

energy from a grid or any other source and provide electrical energy to a grid. By that feature it maintains the balance between electrical energy demand and supply over a period of time.

TC 120 considers all storage technologies as long as they are capable to store and to discharge electrical energy. (Energy storage itself is not in the scope of the work.)

Note) Thermal storage systems are included in the scope, only from the electricity exchange point of view.

Unidirectional energy storage systems such as UPS are not included in the scope of TC 120.

4. The scope of TC 120 is to prepare normative documents dealing with the system aspects of EES Systems.

For example, TC 120 deals with defining unit parameters, testing methods, planning and installation, guide for environmental issues and system safety aspects.

B. MANAGEMENT STRUCTURE OF THE TC

Describe the management structure of the TC (use of an organizational chart is acceptable) (should be integrated by CO automatically) and, if relevant (for example an unusual structure is used), provide the rationale as to why this structure is used.

Note: Check if the information on the IEC website is complete.

When was the last time the TC reviewed its management structure? Describe any changes made. When does the TC intend to review its current management structure? In the future, will the TC change the current structure, for example due to new and emerging technologies, product withdrawal, change in regulations etc. Please describe.

Make sure the overview includes:

- any joint working groups with other committees,
- any special groups like advisory groups, editing groups, etc.

CAG

WG1 Terminology

WG2 Unit parameters and testing methods

WG3 Planning and installation

WG4 Environmental issues

WG5 Safety considerations

C. BUSINESS ENVIRONMENT

Provide the rationale for the market relevance of the future standards being produced in the TC.

If readily available, provide an indication of global or regional sales of products or services related to the TC/SC work and state the source of the data.

Specify if standards will be significantly effective for assessing regulatory compliance.

EES Systems become essential technologies to achieve global and continuing needs, for CO₂ reduction and more efficient and reliable electricity supply and use. These can be efficiently and quickly accomplished by maximizing the advantages of EES Systems integrated with Renewables Energy (RE) installation, Smart Grids and dispersed generations.

D. MARKET DEMAND

Provide a list of likely customers of the standards (suppliers, specifiers, testing bodies, regulators, installers, other TC/SC's etc.). Do not specify company names, only categories of customers.

As the RE market grows, the market for EES Systems, will also expand and require technical specifications and regulation frameworks for their grid interconnection. However, though we usually need B2B (Business to Business) coordination to introduce EES Systems, there are no specific standards, specifications nor procedure which formulates the integration of EES Systems in power systems. Furthermore, many aspects such as safety and environmental compatibility to utilize large numbers of EES Systems have not yet been thoroughly summarized to widely and safely deploy EES Systems in any countries. This situation cannot help EES System users easily installing them in every region and country.

E. TRENDS IN TECHNOLOGY AND IN THE MARKET

If any, indicate the current or expected trends in the technology or in the market covered by the products of your TC/SC.

The total EES System market is expected to be large, but will remain very sensitive to cost. Given the cost sensitivity, lifetime cost and well-described planning and installation methods should be considered, not simply installation cost but also cost of operation and disposal. Low raw material cost, which is a part of total installation cost, may also become a specific selection criterion for EES System technology. This means that not only further R&D and highly-motivated policy goals but the development of uniform technical parameters at the right moment are vital as well.

EES Systems have played at least three major roles for years and are also coming to be more important in near future. First, EES Systems reduce electricity costs by storing electricity obtained at off-peak times when its price is lower, for use at peak times. Secondly, in order to improve the reliability of the power supply, EES Systems support users when power network failures occur, for example, due to natural disasters. Their third role is to maintain and improve power quality, frequency and voltage.

EES Systems maintain the balance between electrical energy demand and supply. Furthermore EES Systems are responsible to provide grid stability forming parameters like short circuit power, reactive / active power, and damping of sudden power fluctuation by providing inertia like-properties and other parameters which will be defined during TC120's work. In certain situations, the EES System is the only energy source within the respective electrical grid. As such it must be capable to ensure the functionality and reliability of the grid as well as providing the black-start capability if required.

TC 120 considers all storage technologies as long as they are capable to store and to discharge electrical energy. For example, the EES System can be considered as a black box however with a set of standardized parameters essential for electrical grid planners and EES System manufactures.

With rollout of the Smart Grid and microgrids, implying storage installed at customer sites, the market for small and dispersed EES Systems is also expected to be quite large. EES Systems will be used not only for single applications but simultaneously for several objectives by integrating multiple dispersed storage sites.

F. SYSTEM APPROACH ASPECTS (REFERENCE - AC/33/2013)

Does your TC/SC have a need for a systems approach?

If so:

- Will the Systems work be in a single TC or in multiple TCs?
- Will a Systems Evaluation Group (SEG), Systems Committee (SyC), or Systems Resource Group be required?
- Is your TC/SC work of relevance to ISO?
- Is or are there fora or consortia working in parallel to IEC? Is there a chance to integrate this work in your TC/SC?

This should not only be restricted to the customer/supplier relationships with other TC/SCs indicating types of co-operation (e.g. liaisons, joint working groups) but be of a more generic nature.

If there is no need for a systems approach as outlined in AC/33/2013, is it intended a TC would not be requested to report on general systems approach considerations such as customer/supplier relationships, liaisons, joint WGs, etc. as referenced in the system approach matrix illustrated in slide 14 of the presentation attached to AC/37/2006?

In order to introduce EES Systems in electrical grids, users shall understand the EES Systems composed of numerous technologies, for example, battery cells, battery units, control system, interface, grid elements and their safety and environmental aspects. Therefore, it is essential to implement system approaches for not only fully integrating necessary technical requirements but also avoiding any duplications and/or contradictions in a system. TC120 will cover these systems to help all users to efficiently and effectively install EES Systems which meet different technical needs and optimized economics to be most attractive to the market.

G. CONFORMITY ASSESSMENT

With reference to clause 6.7 of Part 2 of the ISO/IEC directives, are all your publications in line with the requirements related to conformity assessment aspects?

Will the TC/SC publications be used for IEC Conformity Assessment Systems (IECEE, IECEx, IECQ, IECRE)?

Will any of your standards include test specifications, reproducible test requirements, and test methods?

Are there likely to be special conformity assessment requirements generated by any standards projects? If yes, list which projects.

Documents made by WG2 and WG5 include test requirements.

H. 3-5 YEAR PROJECTED STRATEGIC OBJECTIVES, ACTIONS, TARGET DATES

STRATEGIC OBJECTIVES 3-5 YEARS	ACTIONS TO SUPPORT THE STRATEGIC OBJECTIVES	TARGET DATE(S) TO COMPLETE THE ACTIONS
Objectives of TC 120 is to be the one stop-shop in order to plan, integrate, control and manage EES Systems beyond mechanical and thermal storage domains.	- Classification of applications and architectures of EES Systems will be developed to formulate necessary components to be standardized.	2016
	- Given the architectures, the standardization strategy and roadmap will be developed.	2014, May
	- Based on the strategy and roadmap, necessary WG will be formed and initiate the activities while cooperating with relevant	2014, May

	organizations	
	-WG1 to publish Standards related documents.	2017-04
	-WG2 to publish Standards related documents.	2017-12
	-WG3 to publish Standards related documents.	2017-10
	-WG4 to publish Standards related documents.	2017-12
	-WG5 to publish Standards related documents.	2017-12
	Ensure coordination with each WG, Terminology, Parameters and testing methods, Planning and installation, Safety Considerations, Environmental Issues.	2017-12

Note: The progress on the actions should be reported in the RSMB.