SMB/7351/R

STRATEGIC BUSINESS PLAN (SBP)

IEC/TC OR SC:	SECRETARIAT:	DATE:
TC 8	**ITALY**	**2021-05**

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

TC 8: System aspects of electrical energy supply

To prepare and coordinate, in co-operation with other TC/SCs, the development of international standards and other deliverables with emphasis on overall system aspects of electricity supply systems and acceptable balance between cost and quality for the users of electrical energy. Electricity supply system encompasses transmission and distribution networks, generators and loads with their network interfaces.

This scope includes, but is not limited to, standardization in the field of:

- Terminology for the electricity supply sector;
- Characteristics of electricity supplied by public networks;
- Network management from a system perspective;
- Connection of network users (generators and loads) and grid integration;
- Design and management of de-centralized electricity supply systems (e.g. microgrids, systems for rural electrification).

While relying on efficient and secure data communication and exchange, TC 8's scope does not include standards for communication with appliances and equipment connected to the electric grid or for communication infrastructure serving the electric grid.

TC 8 is responsible for basic publications (horizontal standards) on standard voltages, currents and frequencies ensuring the consistency of the IEC publications in these fields.

TC 8 cooperates also with several organizations active in the field of electricity supply such as CIGRE, CIRED, IEEE, AFSEC, IEA.

SC 8A: Grid Integration of Renewable Energy Generation

To prepare and coordinate, in co-operation with other TC/SCs, the development of international standards and other deliverables for grid integration of variable power generation from renewables such as PV, wind energy with emphasis on overall system aspects of electricity supply systems (grids) as defined in TC 8 scope, but not covering issues usually covered by regulation such as renewable energy policies (e.g. infeed tariff schemes for renewables). SC 8A focuses on the impact of a high percentage of renewables connected to the grid, considering that their variability and predictability impact the functioning of the whole electricity grid. It covers standards for integration into the grid and interaction between the grid and renewable energy power plants. This includes requirements for interconnection and related tests for grid code compliance, as well as standards or best practice documents for planning, modelling, forecasting, assessment, control and protection, scheduling and dispatching of renewables with a grid level perspective.

SC 8A deals with the grid level requirements enabling secure, non-discriminatory and cost effective operation of electricity supply systems with a significant share of renewable generation and cooperates with TC 82, TC 88, TC 95, TC 114, TC 115, TC 117, TC 120 and other product committees to ensure technical feasibility and verification of the implementation of the grid level requirements.

SC 8A coordinates with TC 8 and SC 8B which cover some topics related to Distributed Energy Resources (e.g. interconnection with the grid, design and operation of micro grids, aggregation through VPPs) and with SC 8C for topics relating to management of large interconnected networks.

SC 8B: Decentralized electrical energy systems

To develop IEC publications enabling the development of secure, reliable and cost-effective systems with decentralized management for electrical energy supply, which are alternative, complement or precursor to traditional large interconnected and highly centralized systems. This includes but is not limited to AC, DC, AC/DC hybrid decentralized electrical energy system, such as distributed generation, distributed energy storage, virtual power plants and electrical energy systems having interaction with multiple types of distributed energy resources.

A popular concept is currently the “microgrid” defined as a group of interconnected loads and distributed energy resources with defined electrical boundaries that acts as a single controllable entity and is able to operate in both grid-connected and island mode.

Decentralized electrical energy systems have applications for developing countries (focussing on access to electricity) as well as for developed countries (focusing on high reliability, black-out recovery and services). Interactions within decentralized multi energy systems should also be considered.

SC 8B coordinates with TC 8, SC 8A and SC 8C for topics such as renewable energy connection and management in micro grids or VPPs and microgrids/DEES (decentralized electrical energy system) interconnection with large interconnected networks.

Standardization activities in SC 8B will proceed with cooperation with concerned TCs, SCs and SyCs, including but not limited to IEC SyC Smart Energy, SyC LVDC, TC 2, TC 22, TC 57, TC 64, TC 82, TC 88, TC 95, TC 99, TC 114 and TC 120. Also, SC 8B will cooperate with organizations such as CIRED, CIGRE SC C6 and others.

SC 8C: Network Management in Interconnected Electric Power Systems

Standardization in the field of network management in interconnected electric power systems, including functions with different time horizons (e.g. design, planning, operation, control and market integration).

SC 8C covers issues contributing to the resilience, reliability, security, stability of the interconnected electric power systems.

SC 8C develops normative deliverables/guidelines/technical reports such as:

- Terms and definitions in area of network management;
- Guidelines for network design, planning, operation, control, and market integration;
- Contingency criteria, classification, countermeasures, and controller response, as a basis of technical requirements for reliability, adequacy, security, stability and resilience analysis;
- Functional and technical requirements for network operation management systems, stability control systems, etc.
- Functional and technical requirements for energy, ancillary service and capacity markets;
- Technical profiling of reserve products for effective market integration;
- Technical requirements of wide-area operation, such as balancing reserve sharing, emergency power wheeling.

SC 8C cooperates with IEC Technical Committees: TC 22, SC 45A, TC 57, TC 82, TC 88, TC 95, TC 115, TC 120, TC 122 and international organizations, such as CIGRE, CIRED, ENTSO-E and IEEE to ensure technical feasibility and implementation of its developed standards.

Within TC 8, SC 8C coordinates with SC 8A and SC 8B for topics such as renewable energy generators or microgrids/DEES (decentralized electric energy systems) connection and impact to the electric power systems.

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.

The list of Working Groups, Project Teams and Maintenance Teams is available at:

- TC 8: http://www.iec.ch/dyn/www/f?p=103:29:0::::FSP_ORG_ID:1240#1;
- SC 8A: http://www.iec.ch/dyn/www/f?p=103:29:0::::FSP_ORG_ID:10072#1;
- SC 8B: http://www.iec.ch/dyn/www/f?p=103:29:0::::FSP_ORG_ID:20639#1;
- SC 8C: http://www.iec.ch/dyn/www/f?p=103:29:0::::FSP_ORG_ID:25987#1.

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.

The electricity supply market is undergoing rapid changes, with many new actors and fundamental changes in processes, replacing a market with vertically integrated monopolies.

The relations between various parties are increasing in complexity. In many parts of the world the infrastructures need to be renewed, and generally will grow to meet the demand and the fast growing phenomena of distributed generation. On the other hand developing countries need to invest a lot in order to provide electricity supply and build infrastructures for basic need and increasing demand.

In Europe, “Grid connection codes” have been developed under ENTSO-E leadership in view of being endorsed by the European Commission. At the same time, numerous pre-standardisation activities are conducted in CIGRE’s Study Committees.

By the end of 2016, many countries had started to develop wind power and the global installed capacity reached 486 GW, meanwhile, the global installed capacity of photovoltaic power reached

302 GW. RE generations is expected to have a broad application and a booming market because of its clean and sustainable characteristics. The impact of a high percentage of renewables connected to the grid, is dramatically changing the functioning of the whole electricity grid. The variability, predictability and controllability of RE generation has to be carefully considered in the period of time when the power grid is experiencing the transition to a high share of renewable energy.

More than 150 countries have developed their own renewable energy goal and issued supportive policies.

By the end of 2016, more than 60 million households (approximately 300 million population) have benefited from islanded renewable energy resources (electric power system with dispersed management) (data resource: Renewable Energy Capacity Statistics 2017, IRENA). As an efficient way utilizing renewable energy resource on spot, distributed energy resource has become the common choice of handling energy crisis and environment challenge around the world.

Microgrid is one of the most common form of decentralized energy systems, according to the Microgrid Deployment Tracker 2Q15 issued by Navigant Research, by the end of the 2ndquarter, 2015, the capacity of microgrid worldwide under application, planning, construction and operation has exceeded 12,000 MW. Credited itself with the active role in promoting utilization of renewable energy resource, microgrid has been widely deployed in both developed and developing countries.

As illustrated in IEC Whitepapers[1] “the decentralized energy systems, including management of distributed energy resources and microgrids, is changing the conventional power supply system.

Ensuring secure, stable, reliable, cost-effective operation of power systems has always been a top priority in electric power industries. The trend in power system planning is to develop tight operating margins, with less redundancy. At the same time, rapid development and deployment of distributed and renewable energy sources, increasing diversification of load types, large-scale use of power electronic equipment, and increasing complexity of power grid structure, make the power system more complex to plan, operate and control.

In recent years, several large-scale blackout events have occurred in the world due to power system reliability, stability and resilience problems. These blackouts have shown that the risk of large blackouts is no longer acceptable and can lead to very large and unexpected social and financial consequences. Increasing the security and economy of the power system, and reducing the risk of large scale blackouts require effective planning, operation and control approaches in power system.

Some organizations or regional regulation entities, such as IEEE, NERC, ENTSO-E. etc., have already developed some standards and guides related to power system planning, design, operation and control, but most of them are region-specific.

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.

There is a need for standards to support opening the market to new actors, for new forms of business and better conditions for consumers, but at the same time increase the quality and

[1] “Grid integration of large-capacity renewable energy sources and use of large-capacity electrical energy storage”, and “Microgrids for disaster preparedness and recovery with electricity continuity and systems”, published in 2012 and 2014, respectively.

availability, and more generally the dependability of supply. Although a lot of standards are in place or under development, it is necessary to improve the coordination between the existing committees involved and ensure that all necessary system aspects are covered, and develop a flexible framework.

TC 8 develops, as a response to market needs, standards that can be used to demonstrate compliance to Grid Codes or other applicable regulatory framework and guidelines for system designers or operators.

There is a general demand for publications and international standards that can be a reference for:

- implementation of harmonized rules in regulatory frameworks;
- specify and design flexible solutions that enable technical and commercial innovation;
- define the essential technical and economical characteristics, methods of assessment and measurement;
- clarify the conditions to be respected by the different involved parties for fair sharing of responsibilities, and proper operations (power producers, grid operators, distribution network operators, system and equipment manufacturers, suppliers, consumers, authorities, industrial and private users etc.);
- compare on a recognized basis performance of operators.

RE generation is more and more often the power technology of choice as national governments, utilities, energy developers seek to diversify their energy mix and reduce CO2 emissions. Some parts of the world already experience managing with high share of renewables.

Standards for RE grid connection can help to share these experiences by defining terms, ways of implementation and listing best practices; standardized grid support functions with accurate terms and definitions are of great value to manufacturers.

The market is also exploring “non-conventional” solutions. There is a need for standards enabling the development of secure, reliable and cost-effective decentralized systems for electrical energy supply, alternative/complement/precursor to traditional large interconnected and highly centralized systems. They have applications for developing countries (focussing on access to electricity) as well as for developed countries (focussing on high reliability, black-out recovery and/or services).

In order to contribute to a secure, stable, reliable and cost-effective power system, and to minimize the occurrence of blackouts worldwide, the following issues have to be addressed: non-uniform use of terms and definitions, lack of guidance for the selection, determination and coordination of various planning, designing, operation and control approaches, lack of guidance for the designing and operation of electricity market (including energy market, ancillary service market, capacity market, etc.), and lack of guidance for considering the market impact on power grid.

E. Sustainable Development Goals

Indicate the Sustainable Development Goals (SDGs) that are addressed by work within the TC/SC. Indicate each SDG Indicator affected (reference spreadsheet available at https://www.iec.ch/SDG/, and provide specific information about how the TC/SC is addressing the SDG. Consider both direct and indirect impacts of the work of the TC/SC.

☐ **GOAL 1:** No Poverty
☐ **GOAL 2:** Zero Hunger
☐ **GOAL 3:** Good Health and Well-being
☐ **GOAL 4:** Quality Education
☐ **GOAL 5:** Gender Equality
☐ **GOAL 6:** Clean Water and Sanitation
☒ **GOAL 7:** Affordable and Clean Energy
☒ **GOAL 8:** Decent Work & Economic Growth
☒ **GOAL 9:** Industry, Innovation & Infrastructure
☐ **GOAL 10:** Reduced Inequality
☒ **GOAL 11:** Sustainable Cities and Communities
☐ **GOAL 12:** Responsible Consumption & Production
☒ **GOAL 13:** Climate Action
☐ **GOAL 14:** Life Below Water
☐ **GOAL 15:** Life on Land
☐ **GOAL 16:** Peace, Justice Strong Institutions
☐ **GOAL 17:** Partnerships to achieve the Goals

F. 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.

Developments in information and communication technologies allowing a better connection of the end user to markets will allow new services and benefits. It will also allow new operating margins for example implementing demand response mechanisms, and enable energy efficiency to better respect the environment. Standardization will also foster markets of needed advanced commercial solutions for the benefits of users.

The transition from passive to active networks relies on the deployment of smart grid technologies including smart metering systems, as well as on the modification of existing roles and business processes of the EHV, HV and MV/LV System Operators. Such evolutions will also tend to modify the relations between EHV, HV and MV/LV System Operators as well as the other actors of the Electric Power System, such as Grid Users, Regulators, Balance Responsible Parties, Retailers, or Flexibility Operators.

New forms of generation, primarily based on renewable form of energy sources as well as electric energy storage, are being developed and introduced into the electricity networks. Incorporating more RE generation will bring additional variability and uncertainty into the grid. Worldwide studies and experiences in recent years have shown that new technical solutions are needed to address this new situation. The new solutions will include new technologies, methods and practices, applied in order to provide more flexibility and improve the efficiency of power systems, constantly balancing generation and load to make the power systems reliable and maintain security of supply, e.g. avoid any interruption in the supply of power.

RE generation community is developing technologies aiming at:

- Advanced grid performance of RE generation;
- Testing and assessment of the grid performance of RE power plant;
- Centralized voltage control and power control of RE generation cluster;
- Smart operational state monitoring and maintenance of RE power plant;

- RE generation modelling improvements;
- More accurate RE power forecasts and better use of them in system operation;
- Enhancement of optimized dispatching & operation tools and practices.

Decentralized energy systems have applications for developing countries (focussing on access to electricity) as well as for developed countries (focussing on high reliability, black-out recovery and/or services). Fast development of renewable energy generation, energy storage technology and integration with ICT, as well as the change of end-user consumption, will reshaped the power supply systems. The grid-friendly integration, safe and efficient operation of decentralized energy system have become the research focus. Related developments include are not limited to:

- technologies enabling grid-friendly integration such as microgrid and virtual power plant;
- technologies enabling optimal control such as power electronic control and power control;
- technologies enabling operation monitoring, power forecast and optimal operation, such as advanced information process (data mining, cloud computing, etc.), communication and active distribution network;
- technologies enabling interaction between user of distributed energy resource and distribution network, such as demand response.

Ensuring secure, stable, reliable, cost-effective operation of large power systems has always been a top priority in electric power industries. Due to the limits in right-of-way and the economic constraints, it becomes more and more difficult to build new transmission lines and generators, the trend in power system is to develop tight operating margins, with less redundancy. At the same time, rapid development and deployment of distributed and renewable energy sources, increasing diversification of load types, large-scale use of power electronic equipment, and increasing complexity of power grid structure, make the power system more complex to plan, design, operate and control. In the meantime, the electric power industry has been moving from a regulated monopoly structure to a deregulated market structure in many countries.

Current developments include and are not limited to:

- technologies enabling economy and reliability balanced power grid planning, including the medium- and long-term load forecasting, resource planning and expansion planning; generation interconnection, transmission access, etc.
- technologies enabling effective power grid design, including the transmission line, substation, interconnected power system, etc.
- technologies of power grid operation planning enabling grid security and adequacy, including short-term load forecasting, ATC calculation, outage coordination, unit commitment, reactive power management, etc.

- technologies of power grid operation enabling grid security and stability, including ancillary service, economic dispatch, contingency analysis, system operator coordination, transmission load relief, etc.

- technologies enabling effective power grid normal state control, including AGC, AVC, oscillation damping, system stabilizer, etc.

- technologies enabling effective and coordinated power grid stability control under abnormal states, including preventive control, event-based control, response-based control, etc.

- technologies enabling power grid resilience under extreme events, such as disasters, sever weathers, cyber-attacks, etc.

- technologies enabling designing and operation of efficient and secure electricity market, including energy market, ancillary service market, capacity market, etc.

Last but not least, LVDC appears to be an option, again, for electricity distribution, inside buildings (e.g. in IT industry) and outside (e.g. for Energy access in developing countries). TC 8 is first concerned with basic characteristics (standard voltages, currents) and then with potential application in decentralized supply systems (SC 8B).

G. SYSTEMS APPROACH ASPECTS (SEE DIRECTIVES PART 1 ANNEX SP)

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

If so:

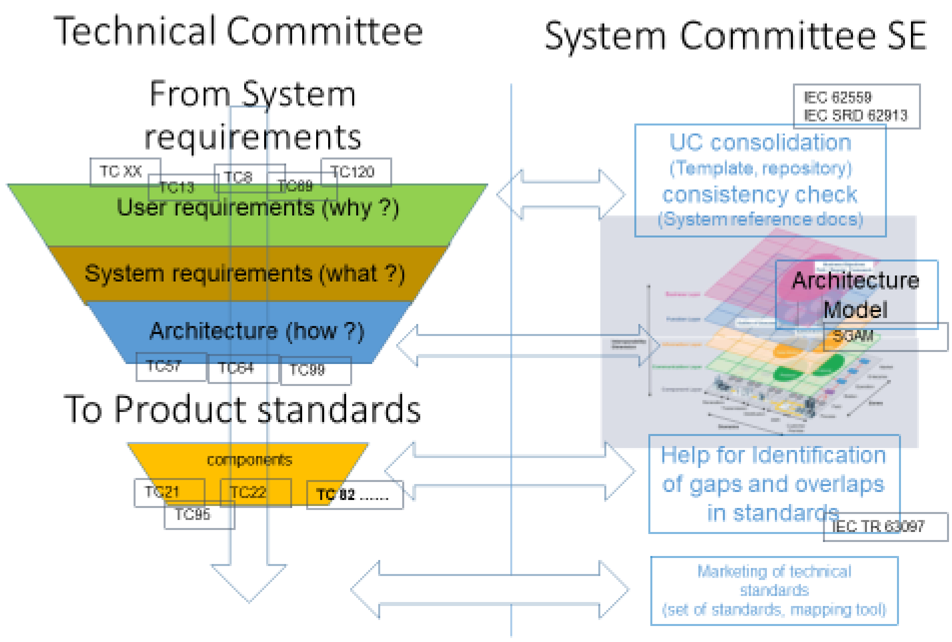
- Will the Systems work be in a single TC or in multiple TCs?
- Will a Standardization Evaluation Group (SEG), Systems Committee (SyC), or Systems Resource Group be required?
- Is your TC/SC work of relevance to ISO?
- Is or are there fora or consortia working in parallel to IEC? Is there a chance to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

The object and scope of TC 8 deals with general aspects of electricity supply and this influence many stakeholders. For this reason, several Technical Committees and international organizations (CIGRE, CIRED, ENTSO-E and IEEE) have been requested to participate in TC 8 work. TC 8 participates in SMB/ACTAD.

TC 8 and SCs contributes in the context of System Committees actions, especially Smart Energy and LVDC, by supporting the development of Use cases and by closing identified gaps within their scope. A description of such collaborative way of working is given in the Figure below.

TC8 projects, as part of IEC system approach



TC 8 set up an Advisory Group AG13 "Development and usage of Digital Contents for system approach in TC 8" with following objectives:

- To manage and promote UCs developed by TC 8 and SC 8X WGs;
- To inform/train/support TC 8 and SC 8X Experts on tools (IEC 62559 series, IEC SRD 62913 series, UML modelling tool, IEC UCMR, IEC mapping tool etc.).
- To liaise closely and coordinate with SMB/SG12 'Digital transformation and system approach' (especially their Methodology group and Committee Forum), SyC Smart Energy and TCs involved in system approach such as IEC TC 57, TC 69, TC 120 etc.

TC8 has liaisons with many Technical Committees such as TC 1, TC 2, TC 9, TC 13, TC 18, TC 21, TC 22, TC 22/SC 22E, TC 23, TC 57, TC 64, TC 73, TC 77, TC 77/SC 77A, TC 82, TC 85, TC 88, TC 95, TC 99, TC 105, TC 108, TC 114, TC 115, TC 120, TC 122, TC 123, ISO/TC 301, CIRED, EURELECTRIC, IEA, to ensure technical feasibility and implementation of its system level requirements.

Where more effective cooperation is needed with several TCs, TC 8 (and SCs) participate in, or have established, Joint Working Groups.

H. CONFORMITY ASSESSMENT

With reference to Clause 33 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.

TC 8 currently doesn't have standards directly used by IEC CA Systems. Projects, e.g. projects on interconnection with the grid, might generate need for conformity assessment requirements in future, in relation to Grid Codes.

I. 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
TC 8		
To develop and keep update the terms and definition inside TC 8 and for the related section of International Electrotechnical Vocabulary.	TC 8 WG 1 will update the IEV (IEC 60050 series) sections dealing with electricity supply system, namely 601, 602, 603, 605, 614, 617 and 691 moreover assisting other TC/SCs by reviewing terms and definitions relating to the scope of TC 8, where needed (e.g IEC SC 8s, SMB/ACTAD, ISO TC 301 etc.).	2023
To maintain major reference standards (IEC 60038, IEC 60059 and IEC 60196) and technical specifications (IEC TS 62749).	MT 1 is amending IEC 60038 and especially close gaps for DC systems (LVDC and HVDC voltages for supply systems). WG11 will start a new maintenance for the IEC TS 62749 by collecting information from different region of the world and cooperate with IEC SC 77A for improving the consistency between power quality and compatibility levels.	2024
To develop or maintain, in cooperation with other TCs, requirements for the connection of distributed generation and standards permitting to demonstrate compliance with them, as a series of publications IEC 62786.	IEC 62786 series for distributed energy resources (DER) interconnection with the grid is under elaboration duly taking into consideration the practices of the different Countries generally bound by laws and standards already developed driven by local Regulators, Authorities and Governments. Further developments and maintenance are made in cooperation with other TCs and especially TC 82, SC 22E, TC 88, TC 21 and TC 120. NOTE: As most of distributed energy resources are RE generators, coordination with SC 8A is necessary.	2024
To define guidelines for the management of electrical energy supply networks.	TC 8 WG11 has started the IEC 63222 series on Power quality management. TC 8 has published IEC TS 63060 (Electric energy supply networks - General aspects and methods for the maintenance of installations and equipment), the aspects of network management with a system perspective will be considered by SC 8C (e.g. based on the different aspects listed IEC 62913-2-1: Generic Smart Grid Requirements - Grid related Domains or in IEC White Paper on “Stable grid operations in a future of distributed electric power”).	2023
To continue technical work on LVDC systems.	To revise, in cooperation with SyC LVDC, SC77A SC 8B and others, the IEC TR 63282, about LVDC systems - Assessment of standard voltages and power quality requirements.	2024
TC 8 SC 8A		
To develop a roadmap report for grid integration of RE generation under AHG3.	Collect the common market needs on international standards for grid integration of RE generation; collect information from regulatory context in different	2021

	countries, e.g. network codes, renewable policies, and identify relevant issues for information sharing and standardization; work out a roadmap by AHG 3. The roadmap report (version 1.0) was finished as a supporting document and IEC CO will upload it onto IEC SC 8A dashboard. Maintenance cycle of that document is intended to be every 2 years.	
To finalize the existing projects tasks of WG1, WG2 and JWG4.	Finish the development of IS on terms and definitions related to grid integration of RE, TS on grid compliance assessment and TR on RE power forecast.	2021
To develop four TRs concerning RE grid performances, weak AC grid connection, etc. to conclude the best practices in RE grid integration area.	Four project teams were built up in JWG5, covering the development of TRs concerning grid performances of RE including fault ride through, fast frequency response, super and sub-synchronous control interaction, weak AC grid connection, as well as coordination, utilization and performance of electrical balance of plant equipment.	2022
To develop technical specifications and report in WG6 concerning the application of HVDC in the grid connection of RE, particular offshore wind power plants, with the support of TC 115.	Finish the development of PWI TR 8A-21 IEC TR 6XXXX ED1 “Grid Connection of Offshore Wind via VSC-HVDC System”.	2022
To develop technical specifications and report in WG7 concerning the application of LVDC in the grid connection of distributed PV.	Finish the development of PWI TR 8A-20 IEC TR 6XXXX ED1 “Integrating distributed PV into LVDC systems and use cases”.	2022
TC 8 SC 8B		
Maintain the SEG 6 final report to track the technology, market, and related policy development, and serve as resource for future SC 8B work.	AHG 2 is responsible to: • review and transform the SEG6 final report to SMB into a TR; • develop a roadmap for SC 8B and publish as a TR.	2022
To deliver and maintain guidelines and specifications on grid-connected AC microgrids planning and operation, taking into account new challenges from deregulated electrical market and new actors on the network.	WG 1 and WG 3 will develop and maintain the IEC 62898 series, including: • Maintenance of IEC TS 62898-1:2017 ED1, IEC TS 62898-2:2018 ED1 and IEC TS 62898-3-1: 2020 ED1 (WG 1); • To publish IEC TS 62898-3-2 Microgrids – Technical requirements-Energy management systems (WG 3), IEC TS 62898-3-3 Microgrids - Technical requirements - Self-regulation of dispatchable loads (WG 1), and IEC TS 62898-3-4 Microgrids – Technical requirements – Monitoring and Control systems (WG 3).	2023

To develop and update terminologies related to decentralized energy systems.	Develop terminologies related to decentralized energy systems under the frame of TC 8/WG 1's work.	long term
To deliver and maintain publications to support the development and application of virtual power plants.	WG 4 will develop and maintain the IEC 63189 series, including: • IEC 63189-1 Virtual Power Plants – Part 1: Architecture and Functional Requirements; • IEC TS 63189-2 Virtual Power Plants- Part 2: Use Cases.	2022
To deliver a specification providing guideline for the hosting capacity evaluation of distribution networks for distributed generations.	PT 63276 was established to develop the IEC TS 63276 Guideline for the hosting capacity evaluation of distribution networks for distributed generations, in cooperation with SC 8A.	2022
To initiate standardization work on the application of DC technology in decentralized electrical energy systems and non-conventional distribution systems.	WG 5 is established to develop publications, in cooperation with TC 8, SC 8A, SyC LVDC and others, to enable the application of DC technology in decentralized electrical energy systems and non-conventional distribution systems to develop IEC TS 63354 ED1 Guideline for the planning and design of the decentralized direct current distribution systems.	2024
To initiate standardization work in the area of demand side resource utilization.	To develop publications facilitating the utilization of demand side resources (DSR), including distributed generation, distributed energy storage, loads, and other types of electrical energy installations connected to distribution systems and/or aggregated in decentralized electrical energy systems.	2026
To implement system approach in the area of decentralized electrical energy systems, and contribute to relevant works led by TC 8 and SyC Smart Energy.	Three projects under development adopted the system approach, especially the use case methodology, including: • PWI TR 8B-1 Decentralized electrical energy systems roadmap; • IEC TR 62898-4 ED1 Roadmap for decentralized electrical energy systems - Part 2: Microgrid use cases; • IEC TS 63189-2 ED1 Virtual Power Plants- Part 2: Use Cases.	2022
TC 8 SC 8C		
To develop the IEC TS 63384-1 Power System Stability Control – Part 1: Guideline for framework design of power system stability control under WG3.	On the basis of the result of voting on 8C/21/NP, a new working group is established. WG 3 encourages experts from P-members to join their work and will held its kick-off meeting. WG 3: Power System Stability Control	2023
To develop a roadmap report under AHG 1.	To develop a roadmap report for SC 8C to identify near term tasks based on market need prioritization leading to a strategic action plan of SC 8C. The first version of roadmap report should be focused on developing 3-4 foundational areas for a TS or any other standards over the next 1-5 years. Maintenance cycle of that document is intended to be	2022

	every year.	
To develop a TR about Market catalogue for stable grid operation under WG 2.	On the basis of the 8C/11/DL, a new working group is established. WG 2 encourages experts from P-members to join their work and will held its kick-off meeting on May. WG 2: Electricity market integration.	2023
To initiate 1 standardization work on power grid planning and operational planning.	1 new WG/JWG or project team will be established, to develop power grid planning and operation planning related standards/guidelines.	2022
Note: The progress on the actions should be reported in the RSMB.		