BUSINESS PLAN

CENELEC/TC or SC	Secretariat	Date
TC 57	Germany	2012-11-08

TC title: **Power system management and associated information exchange**

A Background

To support the European smart grid development, the European Standardization Organizations CEN, CENELEC, ETSI have been mandated through the mandate M/490, to propose a program of standardization work to fill the main standards gaps already identified in the joint working group report on smart grid. Among these gaps, several are related to power system management and associated information exchange.

Scope of TC 57:

To prepare international standards for power systems control equipment and systems including EMS (Energy Management Systems), SCADA (Supervisory Control And Data Acquisition), distribution automation, teleprotection, and associated information exchange for real-time and non-real-time information, used in the planning, operation and maintenance of power systems. Power systems management comprises control within control centers, substations and individual pieces of primary equipment including telecontrol and interfaces to equipment, systems and databases, which may be outside the scope of TC 57.

The special conditions in a high voltage environment have to be taken into consideration.

Note 1: Standards prepared by other technical committees of the CENELEC and organizations such as CEN and ETSI shall be used where applicable, as far as these standards or specifications fit consistently to TC 57 communication architecture.

Note 2: Although the work of TC 57 is chiefly concerned with standards for electric power systems, these standards may also be useful for application by the relevant bodies to other geographical widespread processes.

Note 3: Whereas standards related to measuring and protection relays and to the control and monitoring equipment used with these systems are treated by TC 95, TC 57 deals with the interface to the control systems and the transmission aspects for teleprotection systems. Whereas standards related to equipment for electrical metering and load control are treated by TC 13, TC 57 deals with the interface of equipment for interconnection lines and industrial consumers and producers requiring energy management type interfaces to the control system.

B Business Environment

B.1 General

The increasing competition among electric utilities due to e.g. the deregulation of the energy markets asks more and more for the integration of equipment and systems for controlling the electric power process into integrated system solutions for supporting the utilities' core processes. Former closed energy management systems will be opened to be able to exchange information with external systems not only for the planning, operation and maintenance of power systems but as well with business systems of system operators to optimize the use of the power system in the energy market. Consumers and distributed generation will increasingly play an active role in the power system management. Therefore, equipment and systems have to be interoperable, and interfaces, protocols and data models must be compatible to reach this goal. Well-proven, international standards in the utility business are the basis.

Although IEC/TC 57 standards are widely used throughout the world, there is an increasing emphasis in working in the European Community to propose European view at the International level.
Due to the recent action in Europe through the mandate M/490 on smart grid, it is becoming increasingly important to encourage European companies to devote adequate resources to the preparation of relevant European standards to meet the new smart grid requirement. The final goal for Europe will be to make proposals and support this technology at the IEC level.

B.2 Market demand

The customers of the standards developed by TC 57 are the power industry and the vendors of power systems control, protection and automation solutions. Both parties are actively represented in TC 57.

The standards developed by TC 57 are widely used worldwide (e.g. IEC/EN 61850, IEC/EN 60870-5 and IEC/EN 61968 / IEC/EN 61970) and there is an increasing demand for recently issued standards (e.g. IEC/EN 62351).

B.3 Trends in technology

The fast development of information technology (IT) and communication technology has impact on the work of TC 57. TC 57 needs to carefully observe this development in order to early pick up possible solutions and to strive for short implementation times for the standards.

The meter is increasingly becoming the source of data required for power systems control, e.g. for distribution automation (Advanced Metering Infrastructure- AMI, smart grid, etc.). Therefore, the communication aspects of metering are of strategic importance for TC 57.

B.4 Market trends

The market asks for interoperable and future proof products and solutions. In the Smart Grid context, interoperability is seen as key enabler for automated power systems. Therefore, TC 57 has to adopt these market requirements into the current and future standardization work.

B.5 Ecological environment

Not applicable to the current work programme of TC 57.

B.6 Involvement of societal stakeholders

Work and deliverables of CLC/TC 57 consider and support the deployment of smart power management system needed to achieve the 20-20-20 goal of Europe.

Of course, expectations from associations of electrical utilities, electrical manufacturers should be welcome to have efficient work on standards for power system management and associated information exchange.

B.7 Involvement of SMEs

Up to now, standards for power systems control equipment, automation and protection equipment are mainly targeting equipment manufacturers and laboratories and generally, these products are partly built and used also by Small or Medium Enterprises.

C System approach aspects

TC 57 will actively continue to promote the establishment of liaisons to other committees, cooperation with system committees and beneficial liaisons targeted to new emerging technologies are in our focus.

TC 57 as supplier of standards	TC 13	Electrical energy measurement and load control
	TC 38	Instrument transformers
	TC 88	Wind turbines
	TC 95	Measuring relays and protection equipment
	SR 118	Smart grid user interface
	TC 205	Home and Building Electronic Systems (HBES)
	TC 69X	Electrical systems for electric road vehicles
System Committees (TC 57 as customer of standards)	TC 8X	Systems aspects for electrical energy supply
	TC 65X	Industrial-process measurement, control and automation
	TC 210	Electromagnetic Compatibility (EMC)
	TC 215	Electrotechnical aspects of telecommunication equipment
Other Committees (committees that produce standards used by TC 57)	TC 4	Hydraulic turbines
	TC 38	Instrument transformers
	TC 95	Measuring relays and protection equipment
Other Committees (committees that produce standards in neighbouring domains to be in liaison with for technical consistency)	TC 13	Electrical energy measurement, tariff- and load control
	TC 69X	Electrical systems for road vehicles
	TC 88	Wind turbines
	TC 59	Performance of household and similar electrical appliances
	TC 65X	Industrial-process measurement, control and automation

D Objectives and strategies (3 to 5 years)

Objectives and strategy for the future work of TC 57 are derived from the following 5 major aspects of the business environment:

- Shortage of energy resources and increasing energy costs require efficient energy usage and optimization of energy management processes.
- Conversion of the power system for the increasing integration of renewable energy resources.
- By the decoupling of power generation, transmission and distribution, different actors need to communicate and interact along the value chain.
- The fast progress in information and communication technologies
- Strong demand for cyber security for the grid as critical infrastructure

Objectives:

- Provide smart grid interoperability standards for power system management and operation.
- Establish simplification of use of TC 57 standards
- Propagate and promote IEC 61850 as the Smart Grid core communication standard for power system automation of field devices and systems, both within and outside of substations (e.g. for distribution automation, distributed energy resources, monitoring & control in hydroelectric power plants and wind turbines).
- Propagate and promote the use of IEC 61968, IEC 61970 and IEC 62325 CIM standards for operation, enterprise and market level, Smart Grid functions both within an individual utility enterprise as well as between utilities, transmission system operators (TSOs), and regional transmission operators (RTOs).
- Ensure interoperability and compatibility of TC 57 standards in the long term, including backward compatibility, migration strategies and paths for legacy protocols
- Provide standardized communication means for system operators and other market participants to interface to the liberalized energy market, by allowing the multiple technologies to hide from the applications and by extending the Common Information Model (CIM) for the market place needs.
- Provide guidelines and standards addressing the more active role of consumers in managing loads and distributed energy resources, using CIM and IEC 61850 as appropriate.
- Promote use of IEC 62351 addressing cyber security issues

Strategy:

- Apply use case and requirements oriented approach for standards development
- Open proprietary structures by standardization of data exchange interfaces among IT systems and software applications, avoid to standardize applications them selves
- Use of state of the art standard information and communication technology platforms wherever available and applicable

Ensure quality and consistency of TC 57 standards portfolio

E Action plan

Concentrate on speedy completion of projects, under consideration of making complex standards manageable, making standards transferable to neighboring smart grid domains, and ensuring high quality and consistency.

For detailed actions, refer to working program.

F Useful links to CENELEC web site

TC home page giving access to Membership, TC/SC Officers, Scope, Publications, Work programme [password-protected area].

http://www.cenelec.eu/dyn/www/f?p=104:7:1526529966060169::::FSP_ORG_ID,FSP_LANG_ID:10649,25

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