



SESEC Special Report
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SESEC III Special Report

Summary of CEEIA Standardization Work 2016/2017

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2016/2017

Background:

On 20 June 2017, CEEIA (China Electrical Equipment Industry Association) convened its 2017 General Assembly and Electrical equipment industry standardization meeting in Suzhou. In the meeting, the secretariat of CEEIA made an annual work report, which summarized achievements that CEEIA has made in 2016 and work plan for the following year. SESEC summarized CEEIA work report and meeting minutes and made a SESEC special report as below for your reference.

CEEIA Work Report:

1. Review on the standardization achievements in electro-technical industry in 2016

1.1 participated in and supported the national standardization reform, promoted the standardization of electrical power equipment in energy field

A) Streamlined mandatory national standards:

According to SAC notice on carrying out preliminary assessment for mandatory national standards streamlining, CEEIA reviewed the mandatory national standards in electro-technical industry, and proposed suggestions and solutions for the assessment of mandatory national standards streamlining. Based on the revision of *GB 19517 national safety technical code for electrical equipment*, CEEIA created top-design for mandatory standards in electro-technical industry, and solved step by step the major problems existing in current mandatory standard system, such as overlap, redundancy, contradiction, and formulating standards beyond original scopes. It laid a solid foundation for a new mandatory national standard system with reasonable architecture, appropriate scale, and scientific contents.

B) Reviewed recommended national/sectoral standards

In 2016, CEEIA reviewed 1467 national standards, 298 national standard proposals, 115 energy industrial standards, and 170 energy industrial standard proposals. As a result, CEEIA came up with the conclusion: 884 recommended national standards remained in force, 411 revised, 53 abolished, 15 transformed to national standards, 110 energy industrial standards remained in force, 4 abolished, 1 transformed to national standard, 153 energy industrial standard proposals remained in force, 15 abolished and 2 transformed to national standard proposals.

C) Facilitated standardization in emerging fields

In the management of technical committees, CEEIA put forward plans to establish 1 national sub technical committee and 3 energy industrial technical committees, and submitted plans to change the term of office for 10 national committees and 4 energy industrial committees.

In the formulation and revision of standards, CEEIA organized the electro-technical industry to submit applications for 111 national standard projects and 51 energy industrial standard projects, while 30 national standard projects and 42 energy industrial standard projects among them were

approved. Moreover, CEEIA completed 173 standard drafts for approval as well.

D) Improved standardization service system

CEEIA released the *guidance for 13th five-year standardization development in electro-technical industry* to improve standardization service system, and organized to draft the *case analysis for the formulation and revision of electro-technical standards*, which provided guidance for the development of electro-technical standards at a practical level.

In addition, CEEIA also carried out trainings on organizational management, application procedure, and the use of database, etc., to improve work effect on the feedback of implementation and benefit evaluation of standards.

1.2 Facilitated the development of association standards

A) Improved the organizational structure for association standardization

In 2016, CEEIA organized to establish the Expert Committee for the Promotion of Association Standards to take charge of strategic research on the promotion of association standards in electro-technical industry, and to coordinate and solve the major problems in the process. CEEIA established 31 association standard promotion special working groups, such as large generator working group, etc., to build association standard systems in respective relevant fields. Meanwhile, CEEIA released a series of management documents to normalize the management and the operation mechanism of association standardization. The documents included the *administrative measures for the formulation of CEEIA association standards (edition 2)*, the *administrative measures for intellectual property right of CEEIA association standards*, and the *guide for the formulation of CEEIA association standards*.

B) Facilitated the drafting and revision of association standards

In 2016, CEEIA launched 50 association standard projects and released 28 association standards. There were 12 association standards that has completed technical review and will be released soon, and 76 association standards that were being drafted. These standards covered different fields in electro-technical industry, such as electricity generation, electricity transmission, electricity distribution, electricity utilization, electro-technical materials and basics, as well as other emerging industrial fields.

C) Established standardization consortiums with upstream and downstream industries

In order to reduce overlaps in crossing fields and improve standard quality and adaptation, CEEIA signed association standardization cooperation agreements and established mutual recognition mechanisms with China Electro-technical Society, China Foundry Association, Chinese Society for Electrical Engineering, and other industrial associations. Furthermore, CEEIA reached the intention of cooperation with China Electricity Council and National Electrical Manufacturers Association (NEMA) in association standardization, aiming to enhance the popularity of CEEIA association standards in the industry, and to facilitate the establishment of mutual recognition of association standards with these organizations.

D) Supported industrial policies and achieved remarkable results after implementation

CEEIA carried out several standard projects in emerging fields, such as energy storage, power battery, and photovoltaic electricity generation equipment. These standards filled in the gaps existing in national and sectoral standard systems, meanwhile, these standards provided support for

production, use, procurement, inspection and test, acceptance in these areas. In addition, CEEIA revised a number of association standards to support the implementation of relevant national policies, such as *energy efficiency improvement of distribution transformer, green manufacturing of lead-acid battery, etc.*

1.3 Promoted the internationalization of electrical industry standards

A) Standards translation

In 2016, CEEIA translated 8 national standards and 2 energy industrial standards into English. The 8 national standards included the serial standards of *control and protection equipment of HVDC electricity transmission system*, as well as the *all-vanadium redox flow battery*. The 2 energy industry standards were the *alternating-current metal-enclosed intelligent switch-gear and control-gear*, and the *metal-oxide surge arresters without gaps for DC systems*.

B) Provided international standardization service based on IEC/SMB Expert Working Group

As the secretariat of IEC/SMB in China, CEEIA completed its work reports of 2013, 2014, and 2015, and rationalized its organizational architecture and work procedure. Furthermore, CEEIA cooperated with standardization competent authority to complete the *data report on the adoption of international standards in electro-technical industry*.

C) Actively participated in international/domestic standardization operation

CEEIA launched international standardization projects in many technical areas in which China had independent intellectual property. The areas included hydroelectric power generation equipment, high voltage direct current power transmission and distribution equipment, energy storage batteries, explosion-proof equipment, small home appliances, insulation systems, etc. Moreover, CEEIA proposed to be the Chinese counterpart of IEC/ Low-Voltage DC Distribution System Committee Technical.

In the aspect of international bilateral standardization cooperation, CEEIA and NEMA came to an agreement of intent on the adoption of NEMA standards in CEEIA association standards.

D) Investigated standard requirements on oversea engineering projects

Commissioned by the National Energy Board, CEEIA completed the research topic of *analysis for power equipment standard applied overseas*. This paper summarized the current situation of the transformation from Chinese standards into international standards in electric power equipment field, the application of the Chinese electric power equipment standards in overseas markets, the means that Chinese standards went global, as well as the translation of Chinese national/sectoral standards into English.

1.4 Implemented “standards + innovation” strategy to promote the standardization of emerging industries

A) Carried out researches on NQI fundamental technologies and their key applications

CEEIA implemented the *guidance opinions on the development of the "Internet +" intelligent energy*, and carried out researches on standardization top-design for the “energy internet”. Focusing on the construction of standard system and the development of key standards in intelligent electrical safety, photo-thermal power generation equipment, fuel cell power generation, CEEIA launched 2 key projects of the 2016 Annual NQI Common Technology Research And Application: *sub-topic of the research on important international standards in advantage and specialty fields - research*

on international standards in electric power equipment and engineering construction fields, as well as the research on key international standards of new energy and electric vehicles.

B) Applied for the research projects of the Standardization and Quality Improvement Plan in Equipment Manufacturing Industry

In order to establish the standard system of intelligent manufacturing equipment industry, CEEIA organized electro-technical industry to apply for the research project of “standardization project for the update of intelligent manufacturing and equipment”, highlighting 4 key areas, e.g. electricity generation, electricity transmission and transformation, electricity distribution and use, electro-technical basics and materials.

C) Participated in the development of standards of key energy-saving technologies and in the establishment of standard system of energy-saving

CEEIA applied for the SAC project of the “development of energy saving key technical standards and construction of energy saving standard system”. Based on electro-technical fundamental technologies, CEEIA chose its sub-projects and promoted the construction of energy saving standard system.

D) Promoted the “standardization + new energy” strategy

In the past year, CEEIA carried out electric power equipment standardization in “energy internet” field, including wind power equipment, solar photovoltaic photo-thermal power generation equipment, distributed access and key electrical equipment in micro-grid, demand side management, flexible DC transmission equipment, HVDC transmission, power storage devices, etc.

1.5 Improved the capability of standardization service

- A) Completed the review for the 2017 Electrical Standard – Zhengtai Innovation Reward.** CEEIA increased reward for technical innovation, and expended the scope of the reward, so that to enhance the work enthusiasm and initiative of the entire industry.
- B) Completed the assessment of the Electro-technical Standardization Good Practice Demonstration Enterprise.** There were 34 enterprises entitled to be the Electro-technical Standardization Good Practice Demonstration Enterprise in 2016.
- C) Carried out preliminary work for the level evaluation for standards publicized by enterprises.** CEEIA established the Expert Committee for the Evaluation of Enterprise Standard and Technology in Electro-Technical Industry, will initiate level evaluation for standards publicized by enterprise, and will formulate the product standard list, the key index list, as well as the index system and evaluation method for level evaluation in pilot areas.
- D) Strengthened the management and publicity of TCs’ standardization work.** In 2016, CEEIA released the CEEIA Rules (revised) to strengthen management, and published dozens of electro-technical periodicals to disseminate its standardization achievements.

2. New situations in front of electro-technical standardization

A) According to the *scheme for deepening standardization reform*, the reform will enter the second phase in 2017. In this phase, the scheme required to accelerate the implementation of mandatory standards streamlining, to promote the transition of recommended standards to commonweal standards, to facilitate association standardization, and to improve standardization service mechanism.

- B) *Made in China 2025 strategy and plan for the improvement of quality and standardization in equipment manufacturing industry* to be implemented.
- C) *13th five-year Plan for the development of energy industry* to be implemented to deepen supply-side structural reform in energy industry
- D) *Action plan for standards connecting “Belt and Road” (2015 - 2017)* to be fully implemented.
- E) According to SAC’s opinions on the cultivation and development of standardized service industry, CEEIA needed to improve its capability and level of standardization service.

3. Standardization tasks for 2017

3.1 Continue implementing the standardization reform

CEEIA will cooperate with SAC to carry out the drafting of the *national standardization strategic outline*, and facilitate the establishment of new standard system in electro-technical industry. Firstly, CEEIA will continue the top-design of electro-technical mandatory standard system, and speed up the revision of mandatory standard GB 19517 according to the review results of mandatory standards streamlining. Secondly, implement the review results of recommended standards in electro-technical industry, organize and manage the application of standard revision projects. Thirdly, optimize the management of TCs. Complete review on annual work report of TCs, organize the change of the term of office for 17 TCs and the adjustment of the committee members for 40 TCs. Last, build up a complete standard database for electro-technical industry to realize the sharing of industrial information as well as the improvement of work efficiency.

3.2 Facilitate standardization in energy industry

CEEIA will actively carry out the energy standardization strategy. Firstly, improve standardization management system, such as revise the *administrative measures for standardization in energy industry*. Secondly, carry out standard system researches in emerging fields, such as solar power generation, energy storage systems and equipment, shore power facilities, low voltage DC transmission, etc. Organize to establish energy industrial standardization technical committees for high temperature fuel cells, sodium batteries, super capacitors, and so on. Thirdly, strengthen standardization in key areas, actively participate in the formulation and revision of key technical standards, such as solar power generation, energy internet, etc. Last, cooperate with other organizations to establish the energy saving standard system, and promote its implementation.

3.3 Cultivate and develop association standards

CEEIA will continue promoting the formulation of association standards as well as the upgrade of electro-technical industry. Firstly, improve CEEIA organizational architectures for association standardization to ensure the implementation of the approved association standards proposals, as well as ensure the quality of these standards. Secondly, develop a series of association standards to support industrial policies. Thirdly, keep communicating with relevant industrial organizations to build up connection and mutual standard recognition mechanism. Fourthly, strengthen the publicity of association standards and facilitate the application of the standards. Last, carry out relevant trainings on association standardization procedures in key areas.

3.4 Standardization research

CEEIA will carry out a series of research projects according to the *national 13th five-year plan for innovation of technical standard and technology*. Firstly, apply for electro-technical research

projects in the 2017 NQI National Quality Infrastructure Special Projects. Secondly, improve the research contents and performance check indicators for the *engineering project of energy saving and energy efficiency standardization in the key areas of electricity power energy system and equipment*. Thirdly, based on the *plan for improvement of standardization and quality in equipment manufacturing industry*, continue to carry out standardization pilot projects for high-end equipment manufacturing. Fourthly, participate in the drafting of the *guide for the construction of national intelligent manufacturing standard system (2017)*. Last, implement the *development plan for the standardization of strategic emerging industry* and the *project for the promotion of a hundred of energy saving standards*. Strengthen the development of key technical standards.

3.5 Support “Belt and Road” via standardization

Firstly, carry out pilot work of performance evaluation for the counterparts of IEC / TC / SC in electro-technical industry, form a scientific and rational evaluation index system for international standardization, and strengthen the resources sharing of domestic and international standard information. Secondly, on the basis of the comparison between domestic and international electric power equipment standards in energy field, CEEIA will carry out researches on China and Russia electric power standards. Thirdly, organize to translate a number of urgent electro-technical standards, such as power generation equipment, transmission and distribution equipment to support oversea applications. Concurrently formulate the English version and Chinese version of standards in key areas. Last, support Chinese advanced technical standards to be international standards, facilitate the growth of China-led international standards.

3.6 Improve standardization service

CEEIA will continue to organize the **2018 Electrical Standard – Zhengtai Innovation Reward**, the assessment of **2017 Electro-technical Standardization Good Practice Demonstration Enterprise**, and the pilot projects for the evaluation of technical level of enterprise standards, as well as to strengthen the publicity of CEEIA standardization.

Conclusion:

As the most important electrical equipment standardization organization in China, CEEIA develops standards almost covering all electro-technical areas, except of household appliance. Its work report will be helpful to have a better understanding of the new development that China has made, as well as its future focuses in this standardization field.