



STRATEGIC BUSINESS PLAN (SBP)

IEC/TC OR SC:	SECRETARIAT:	DATE: 12 DECEMBER 2019
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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

IEC TC 34 Lighting

To map and maintain the standardization structure and to prepare, review and maintain international standards and related IEC deliverables regarding safety, performance and compatibility specifications for:

- (a) Electric lamps and electric light sources
- (b) Caps and holders
- (c) Controlgear and control devices for electric lamps, electric light sources, and electronic lighting equipment
- (d) Luminaires
- (e) Lighting systems
- (f) Miscellaneous equipment related to items (a), (b), (c), (d) and (e)

A lighting system is a combination of light sources, luminaires and related equipment interacting together to satisfy lighting application requirements such as human comfort, safety, the surrounding environment, and energy consumption. The lighting system may serve for visual function, or non-visual function. The lighting system can include physical components, communication between components, user interfaces, software and networks to provide central control and monitoring functions. A new definition of the term "lighting system" is under development in WG 14.

Compatibility specifications may include requirements necessary for coexistence, interoperability and interchangeability between components in a lighting system.

It is recognized that the border of TC 34 product responsibility, the interfaces and protocols to other products, and committees internal and external to IEC may need to be specified.

For lighting systems within building premises, TC 34 is responsible for light sources, luminaires, control gear, dedicated protocols, and certain aspects of dedicated networks.

Details of the work on control devices and lighting systems are currently under consideration in SEG 9/WG 5 "Advisory group on lighting 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 management structure of TC 34 is presently under review and changes are expected to be made accordingly. The actual TC34 structure is available from the IEC website.

Currently, there are 4 sub committees listed below which prepare international standards for the following products:

- SC 34A – Electric light sources
- SC 34B – Lamp caps and holders
- SC 34C – Auxiliaries for lamps
- SC 34D – Luminaires

TC 34 utilizes Advisory Groups to assist the chair and secretariat in tasks of an advisory nature. Currently, TC 34 has the following advisory groups:

- AG 1 – Chair's Advisory Group
- AG 4 – Lighting Systems
- AG 13 – IEC adoption of Zhaga publications

AG 15 – Horticultural lighting

TC 34 assigns Working Groups or Project Teams to prepare documents for:

- approved new IEC deliverables
- revisions to existing collections of IEC publications
- publications with relevance to multiple products (i.e. horizontal publications)

Presently, TC 34 has the following working groups and project teams:

- WG 5 – EMX: electromagnetic compatibility, fields and power quality
- WG 6 – Photobiological Safety
- WG 7 – Insulation Coordination
- WG 11 – Control interface
- WG 14 – Lighting systems
- PT 63103 – Apparatus for lighting purposes – Non-active mode power consumption
- PT 63116 – Lighting systems – General requirements
- PT 63117 – General requirements for lighting systems – Safety

TC 34 utilizes Maintenance Teams to prepare revisions for a specific publication or sets of publications.

Currently, TC 34 has the following maintenance team:

- MT 2 – Terminology
- MT 8 – Maintenance of IEC/TR 63037

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.

Historically, the lighting industry has relied on standards, and the products within the scope of these standards must have market relevance. The growth of the market depends on the existence of standards to define the safety and performance of products. Mechanical and electrical fit systems, lamp sizes and

shapes, temperature limitations, control gear specifications, and luminaire requirements are just some of the many elements in TC/SC 34 standards for performance and safety. These standards open the market for trustworthy interoperability and interchangeability of lighting components and products. With the present market transformation into new lighting technologies and complete lighting system development, the need for future TC 34 standards is as great as ever.

Rapid technological developments should be incorporated into the standards and publications within the TC 34 work plan. This is driven from the external environment and includes the need for interoperability with other equipment and/or installations (e. g. control devices). The TC 34 internal environment is to develop standards and publications, which both provide adequate information to application designers and engineers and enhance the interchangeability of replacement components.

Lighting products are highly regulated in jurisdictions throughout the world. In many, but not all cases, the regulatory body refers to IEC TC 34 standards making them important for assessing regulatory compliance in affected regions. TC 34 technical experts focus on developing voluntary standards for performance and safety. It is not in the scope of IEC to enter the realm of international regulatory harmonization.

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.

The market demand for lighting products is undergoing a rapid and dramatic shift due to two disruptive new technologies: LED based products and the emergence of connected lighting systems. LED based products are quickly becoming the most energy efficient and adaptable to specific application needs that the industry has to offer. The demand for LED product standards is very high and constantly changing as new innovative products are introduced every week. One main activity of TC 34 is to keep pace with the market demand for new LED standards and publications supporting this transitional marketplace.

In the field of energy efficiency, a system approach is increasingly utilized to further reduce energy consumption in both large scale and small-scale lighting applications. The emergence of the connected Internet of Things is driving the possibilities for lighting system devices that are enabled to communicate and respond and adapt to their environment. The market demand for optimal energy saving results are only met when the complete lighting system, including controls, is considered. Thus, the second main activity of TC 34 is to develop new standards in the area of lighting systems. An advisory group, AG 4, has been established to advise the TC 34 chairman and secretariat on what work should be carried out within TC 34 on lighting systems and collaboration with other relevant standardisation bodies.

Customers of the standards are manufacturers, certification and testing bodies, designers, end users, architects, retailers, consumers and government organisations. These customers are actively represented through National Committee appointment of experts to the working groups, project teams, advisory groups and maintenance teams of TC 34. The committee activities are well supported by the involvement of interested stakeholders.

TC 34 standards are widely adopted at both regional and national levels. In Europe, CENELEC has adopted the standards through parallel voting established with IEC with modifications only rarely introduced. A recent trend in Europe towards increased modifications is noticed due to harmonising standards with regulations. Widespread adoption of IEC TC 34 standards by China, Japan, Korea, Australia/New Zealand, India and South Africa is noted. Harmonisation and adoption of the standards with USA (ANSI) has greatly increased, resulting in fewer deviations worldwide. Many consortia are interested in IEC TC 34 work. TC 34 is open to normatively reference specifications from cooperating consortia using the referencing procedures outlined in the IEC Directive – Part 2.

Lighting products based on traditional technologies such as halogen, fluorescent and high intensity discharge lamps and light sources represent an enormous installed base in the industry. The market need to retain compatibility with new technologies while keeping standards for existing lighting installations updated is recognized. Work on preparing revisions to these traditional product standards continues to be an important activity within the subcommittees of TC 34 listed in section B of this document.

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 views presented in the next paragraphs reflect the expected trends from a technical point of view. Marketing views in this section are limited to their influence on the development of standards.

As described in section D, the Lighting world is rapidly changing due to disruptive technology. The following general trends are observed in the marketplace today:

- Changes from conventional to LED technology

- Emerging relevance of lighting systems
- Integration of Lighting into larger eco-systems and overall control systems
- Pressure to reduce environmental impact linked to energy consumption and materials resources

The emergence of light sources based on light emitting diodes technology (LEDs and OLEDs) is undeniable. The rapid introduction of LED light sources to the market is changing the traditional approach to luminaire construction and cap/holder fit systems and has quickly increased the diversity of light sources available for integration into luminaires. New aspects of these emerging technologies need consideration in standards. These include but are not limited to thermal management for performance (e.g. heat transport) and thermal safety (e. g. the accessibility of potentially hot heat sink surfaces) and electrical safety (e. g. avalanche effects due to faults in LED modules).

There are various estimates of the use of more energy efficient products including LED based products. The prediction is that by 2020 these products will be in the majority. It is important that our standards keep abreast with, and can support these developments.

There is a need for lighting systems with connected components for the future. Technologies such as wireless communication and communication via wire are enabling the development of these products. Standards are needed for these new systems to enable the interoperability between new light sources and the command system. A significant trend in the market for increased specification of controllable dimming enabled light sources is noted. These components of the lighting system place increased need of requirements on dimming to enable compatibility, safety and EMC. Additionally, a trend for lighting systems to interact with other systems such as the HVAC system in the whole building environment is also anticipated.

The lighting industry today is very conscious of the increased demand to develop products with less impact on the environment, using the guidance from IEC Guide 109 and taking environmental issues into account during maintenance and development of standards. Steady improvements are being made with the emerging technologies, (less toxic, recycling, lead-free, mercury reduction etc.) reducing harmful effects on the natural environment.

Energy use during operation of lighting products may account for around 90% of the environmental impact of the whole product life cycle. As such, the use of more energy efficient products has a very positive influence on reducing the environmental impact.

F. SYSTEMS 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?

As described in sections D and E, there is a significant and growing market demand and technology trend for lighting systems in the industry. Thus, TC 34 has determined a definite need for a systems approach and have concluded that the work should be done within TC 34 and not delegated to a new subcommittee or proposed any new TC or combination of multiple TCs for the work. TC 34 has formed an advisory group (AG 4) to advise the TC 34 chairman and secretariat on what work should be carried out within TC 34 on lighting systems and collaboration with other relevant standardisation bodies. TC 34 works in close cooperation with TC 23 regarding lighting systems within the building premises. A liaison with TC 23 to incorporate the adjacent work of mutual interest into lighting standards has been established.

At this time there is no Systems Evaluation Group (SEG), Systems Committee (SyC) or Systems Resource Group deployed to exclusively address lighting systems. However, SEG 9 "Smart home/office building systems" includes lighting systems to a certain extend. Lighting systems coordination encapsulates more technical expertise knowledge and processes than any one technical committee or subcommittee may

possess. Whilst various technical committees will have important expertise and inputs into lighting systems requirements, there needs to be overarching leadership at IEC level to ensure the coordination and cooperative activities occur without unnecessary duplication or loss of integration of the various aspects.

TC 34 lighting systems standards may be relevant to the work of ISO TC 274 by forming a solid technical basis of standards to support compatibility needs of lighting systems in their application oriented standards. Consortia have been working independently of the IEC on various aspects of lighting systems. Examples of consortia and other bodies may include but are not limited to:

- IEEE
- Zigbee
- Bluetooth
- EnOcean
- Thread
- WiFi
- ASHRAE
- ANSI C137
- ECHONET

Collaboration with consortia will be recommended by AG 4. Such recommendations concern normative referencing of consortia specifications or standards in preparing specific IEC TC 34 lighting systems standards. The recommendations should be considered by TC 34 and implemented by the assigned WG/PT.

G CONFORMITY ASSESSMENT

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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.

All publications are in line with the requirements related to conformity assessment aspects.

TC/SC publications may be used for IEC Conformity Assessment Systems (IECEE, IECEx, IECQ, and IECRE).

Standards include test specifications, reproducible test requirements, and test methods.

No projects to add special conformity assessment requirements to TC 34 standards are envisaged.

H. HORIZONTAL ISSUES

Indicate here how the TC/SC deals with horizontal issues such as energy efficiency, environmental aspects, safety, security...

Provide information on the interaction with SMB Advisory Committees, if applicable.

TC 34 deals with horizontal issues by considering the relevant standards and guides and by maintaining liaisons with the relevant committees. Liaisons are listed on the TC 34 dashboard. The need for liaisons is under annual review.

Energy efficiency methods of measurement, environmental aspects, safety, and security for lighting products and systems are standardized in TC 34 and its SCs.

At present there are no TC 34 representatives active in the SMB Advisory Committees.

The content of Section H is preliminary in the sense that it has been approved by TC 34 AG 1, all SC chairs and the TC chair but not yet by the national committees.

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
Develop new standards for the emerging lighting systems market	<p>Form advisory group (AG 4) to collect and merge proposals in the preliminary stage and advise the TC 34 chair and secretary on the preparatory work for publications.</p> <p>TC 34 publishes NPs recommended by AG 4.</p> <p>After review and approval, TC 34 should:</p> <ul style="list-style-type: none"> - initiate WG/PT to prepare the publications for committee vote - initiate appropriate liaisons 	Ongoing
To build partnerships with relevant bodies inside and outside TC 34	Select relevant bodies and reach out to build partnerships	In progress, within the scope of AG 4
Develop horizontal standards for TC 34 with relevance to multiple products	<p>Initiate TC 34 projects with specific IEC deliverables.</p> <p>Form working groups or project teams with assignments to prepare the publications.</p>	Publication(s) – ongoing.
Maintain publications for traditional lighting products	SC 34A, SC 34B, SC 34C and SC 34D should prepare revisions of existing standards for long term stability dates.	Ongoing
Note: The progress on the actions should be reported in the RSMB.		