

CIGRE Study Committee B3

PROPOSAL FOR THE CREATION OF A NEW WORKING GROUP

WG 'N° B3.65	Name of Convenor: Espen MASVIK (NORWAY)	
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Strategic Directions #2: 1 , 2		Sustainable Development Goal #3: 9
The WG applies to distribution networks: <input checked="" type="checkbox"/> Yes / <input type="checkbox"/> No		
Potential Benefit of WG work #4 : 2, 3, 5, 6		
Title of the Group: Guidelines for the Selection and Design of escape routes for substations rated above 1kV AC and 1.5 kV DC		
Scope, deliverables and proposed time schedule of the WG:		
Background:		
<p>IEC Technical Committee TC99 “Insulation coordination and system engineering of high voltage electrical power installations above 1,0 kV AC and 1,5 kV DC” has identified that there is a need to have an in-depth examination of escape routes for substations rated above 1.0 kV AC and 1.5 kV DC as defined in IEC 61936 “Power installations exceeding 1 kV AC and 1,5 kV DC”.</p> <p>Concern has been expressed that the requirements set out in IEC 61936-1 with respect to escape routes do not provide an adequate basis for users of the standard to deal with the risks and define designs of electrical power installations.</p> <p>While various clauses are expressed in terms such as “operational safety of electrical power shall be designed so that the escape and rescue paths and the emergency exit can be safely used in the event of a fire, and that protection and environmental compatibility are ensured’, the basis of achieving such objectives are unclear.</p> <p>Various escape route paths and widths are defined without a clear basis for such requirements being set, other than being based on industry practice.</p> <p>The definition of escape routes in different rooms and buildings needs to be better defined in terms of space for evacuation, direction of escape, length of escape route in terms of travel distance, and emergency exits. This includes consideration of fire safety, risks associated with escape, influence of various building codes including installations underground and what HV electrical installations should be present.</p>		
Scope:		
1	Examination of industry practices with respect to escape routes associated with high voltage substations. This examination covers all types of electrical installations. This includes identifying any issues that arise due to building codes in the various countries.	
2	Development of definitions and appropriate design parameters for prescribing requirements for escape routes in high voltage substations (> 1.0 kV AC and > 1.5 kV DC) accessible to authorised personnel and escape routes outside such areas, with particular requirements for buildings.	

3 Guide to carrying out risk assessment for electrical power installations, including defining which entity in the design process is responsible for such risk assessment.

Refer to IEC document 99/338/INF 2021-09-03

Remarks:

Deliverables:

- Technical Brochure and Executive Summary in Electra
- Electra Report
- Future Connections
- CSE
- Tutorial
- Webinar

Time Schedule: start: August 2022

Final Report: August 2024

Approval by Technical Council Chairman:



Date: August 9, 2022

Notes: ¹ Working Group (WG) or Joint WG (JWG), ² See attached Table 1, ³ See attached Table 2 and CIGRE reference Paper: Sustainability – at the heart of CIGRE's work. ⁴ See attached Table 3

Table 1: Strategic directions of the Technical Council

1	The electrical power system of the future reinforcing the End-to-End nature of CIGRE: respond to speed of changes in the industry by preparing and disseminating state-of-the-art technological advances
2	Making the best use of the existing systems
3	Focus on the environment and sustainability (in case the WG shows a direct contribution to at least one SDG)
4	Preparation of material readable for non-technical audience

Table 2: Environmental requirements and sustainable development goals

	CIGRE selected the 7 SDGs that are the most relevant to CIGRE. In case the WG work refers to other SDGs or do not address any specific SDG, it will be quoted 0.
0	Other SDGs or not applied
7	SDG 7: Affordable and clean energy Increase share of renewable energy; e.g. expand infrastructure for supplying sustainable energy services; ensure universal access to affordable, reliable, and modern energy services; energy efficiency; facilitate access to clean energy research and technology
9	SDG 9: Industry, innovation and infrastructure Facilitate sustainable infrastructure development; facilitate technological and technical support
11	SDG 11: Sustainable cities and communities Increase attention on sustainable and resilient buildings utilising local (raw) materials, power for electric vehicles, strengthening long-line transmission and distribution systems to import necessary power to cities, developing micro-grids to reinforce the sustainable nature of cities; protect and safeguard the world's cultural and natural heritage; reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and waste management
12	SDG 12: Responsible consumption and production E.g. Promote public procurement practices that are sustainable; address reducing use of SF6 and promote alternatives, encourage companies to adopt sustainable practices and to integrate sustainability information into their reporting cycle, address inefficient fossil-fuel subsidies that encourage wasteful consumption
13	SDG 13: Climate action E.g. Increase share of renewable or other CO ₂ -free energy; energy efficiency; expand infrastructure for supplying sustainable energy; strengthen resilience and adaptive capacity to climate-related hazards and natural disasters; integrate climate change measures into national policies, strategies and planning; improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning
14	SDG 14: Life below water E.g. Effects of offshore windfarms; effects of submarine cables on sea-life
15	SDG 15: Life on land E.g. Attention for vegetation management; bird collisions; integration of substations and lines into the landscape

Table 3: Potential benefit of work

1	Commercial, business, social and economic benefits for industry or the community can be identified as a direct result of this work
2	Existing or future high interest in the work from a wide range of stakeholders
3	Work is likely to contribute to new or revised industry standards or with other long term interest for the Electric Power Industry
4	State-of-the-art or innovative solutions or new technical directions
5	Guide or survey related to existing techniques; or an update on past work or previous Technical Brochures
6	Work likely to contribute to improved safety.

Comments:

1) CIGRE Official Study Committee Rules re WG Membership:

<https://www.cigre.org/GB/about/official-documents>

No more than one member per country unless by SC Chair exception.

WG nominees must first be supported by their National Committee (or local SC Member) as an appropriate representative of their country.

Acceptance of the nomination is granted by the SC Chair and advised to the WG Convener

2) CIGRE will provision a dedicated Space for the Working Group in the Knowledge Management System. The WG will use the KMS for drafting collaboration, capture and retention of discussion and meeting records. WG Members will be sent registration instructions by the Convener.

<https://www.cigre.org/article/GB/collaborative-tools-2>