

**CIGRE Study Committee B1**

**PROPOSAL FOR THE CREATION OF A NEW WORKING GROUP**

<b>WG 1<sup>o</sup> B1.86</b>	<b>Name of Convenor: Julio Lopes (BRAZIL)</b> <b>E-mail address: julio.lopes@inovatec-br.com</b>
<b>Strategic Directions #<sup>2</sup>: 2, 3</b>	<b>Sustainable Development Goal #<sup>3</sup>: 0</b>
<b>The WG applies to distribution networks: <input checked="" type="checkbox"/> Yes / <input type="checkbox"/> No</b>	
<b>Potential Benefit of WG work #<sup>4</sup>: 1, 2, 3, 5, 6</b>	
<b>Title of the Group: Assessment, Prevention and Mitigation of Safety Risk in Cable Systems</b>	
<b>Scope, deliverables and proposed time schedule of the WG:</b> <b>Background:</b> <p>In April 2019, working group B1.71 was launched with the title "Guidelines for Safety Risk Management in Cable Systems" and submitted their internal report to SC B1 in January 2021. Conclusions were also reported in CIGRE Newsletter "Future Connections" in May 2021.</p> <p>WG B1.71 evaluated all documents published by SC B1 (TB, Electra, Special Reports, etc.) and detected and understood the potential hazards and the related safety risks in cable systems. Also gaps in existing Cigre documents were identified and formed the bases for a new proposed WG.</p> <b>Scope:</b> <p>WG will focus on the following items for both underground- and submarine cable systems:</p> <ol style="list-style-type: none"> <li>1. Give definitions for relevant terms like: hazard, risk, etc.</li> <li>2. Create comprehensive guidelines for safety risk management in cable systems, including             <ol style="list-style-type: none"> <li>a. risk analysis</li> <li>b. risk assessments</li> <li>c. risk prevention</li> <li>d. mitigation measures</li> </ol> </li> <li>3. Risk shall be grouped for the following hazard classes:             <ol style="list-style-type: none"> <li>a. Electrical</li> <li>b. Chemical</li> <li>c. Mechanical</li> </ol> </li> <li>4. Safety risks should be addressed in all different lifetime phases of cable systems (e.g. engineering, manufacturing, transport, installation, site acceptance testing/commissioning, operation, maintenance/repair, disposal/de-commissioning) based on the inventory available in report of WG B1.71</li> <li>5. The technical brochure shall reference existing Cigre TBs when safety risks are already sufficiently covered (e. g. TB 801, "Guidelines for Safe Work under Induced Voltages or Currents"). All other risks have to be treated as indicated in No. 2.</li> <li>6. The WG should also explore available relevant literature of other international organizations (e.g. IEEE) I to develop the guidelines.</li> </ol> <p>The technical brochure shall include generic methods and best practices to avoid or to mitigate all identified safety risks during all lifetime phases for both, underground and subsea cables.</p>	

The provisions of the future technical brochure must not overlap and/or substitute the provisions specified by local administrations and authorities, and national/international health and safety guidelines and legislations.

**Deliverables:**

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

**Time Schedule:** start: Q4/2021

**Final Report:** Q4/2024  
(Draft Report Q2/2024)

**Approval by Technical Council Chairman:**

**Date:** November 9<sup>th</sup>, 2021



Notes: <sup>1</sup> Working Group (WG) or Joint WG (JWG), <sup>2</sup> See attached Table 1, <sup>3</sup> See attached Table 2 and CIGRE reference Paper: Sustainability – at the heart of CIGRE's work. <sup>4</sup> 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	<b>SDG 7: Affordable and clean energy</b> 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	<b>SDG 9: Industry, innovation and infrastructure</b> Facilitate sustainable infrastructure development; facilitate technological and technical support
11	<b>SDG 11: Sustainable cities and communities</b> Increase attention on sustainable and resilient buildings utilizing 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	<b>SDG 12: Responsible consumption and production</b> 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	<b>SDG 13: Climate action</b> E.g. Increase share of renewable or other CO <sub>2</sub> -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	<b>SDG 14: Life below water</b> E.g. Effects of offshore windfarms; effects of submarine cables on sea-life
15	<b>SDG 15: Life on land</b> E.g. Attention for vegetation management; bird collisions; integration of substations and lines into the landscape

**Table 3: Potential benefit of work**

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