

CIGRE Study Committees D1 & B1
PROPOSAL FOR THE CREATION OF A NEW WORKING GROUP

JWG ¹N° D1/B1.75	Name of Convenor: Joe Tusek (AU)	
Technical Issues #²: 10		Strategic Directions #³: 3
The WG applies to distribution networks⁴: Yes		
Potential Benefit of WG work #⁵: 2, 6		
Title of the Group: Strategies and tools for corrosion prevention for cable systems		
<p>Scope, deliverables and proposed time schedule of the WG:</p> <p>Background:</p> <p>Working Group D1.71, “Understanding and mitigating corrosion”, provided a high-level introduction to the subject of corrosion for non-specialists. It covered corrosion terminology, basic science, and different forms of corrosion and explained some of the methods to protect assets from the detrimental effects of corrosion; where possible the Technical Brochure was illustrated with photos from the power industry.</p> <p>The WG, which followed on from a Task Force in Advisory Group D1-03 (Solid Materials), was successful in finding a number of corrosion specialists within the CIGRE community. During the course of D1.71, members of the WG shared examples of unexpected cases of corrosion and the steps put in place to both resolve the immediate issue and prevent reoccurrence in the future. Strategies included enhanced factory inspection, materials testing of delivered goods and changes to specifications.</p> <p>It is the intention of the proposed WG to collect a broad range of examples across a wide range of assets to demonstrate what asset owners can proactively do to prevent corrosion.</p> <p>First part of the work will be about insulated cable systems (SC B1). JWG will also cooperate with other Study Committees to identify case studies relevant to other equipment or sub-systems for future work.</p> <p>Scope:</p> <ol style="list-style-type: none"> 1. Collect case studies of unexpected corrosion and detail the root cause of the problem. 2. Report on practical measures adopted by asset owners to mitigate against corrosion, either through enhanced specifications, factory audits, onsite testing etc. 3. Strategies adopted by asset owners to safeguard against corrosion in service. <p>Deliverables:</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Technical Brochure and Executive Summary in Electra <input checked="" type="checkbox"/> Electra Report <input checked="" type="checkbox"/> Tutorial⁶ <input checked="" type="checkbox"/> Webinar⁶ 		

Time Schedule: start: January 2020

Final Report: September 2021

Approval by Technical Council Chairman:

Date: January 30th, 2020



Notes: ¹ Working Group (WG) or Joint WG (JWG), ² See attached Table 1, ³ See attached Table 2, ⁴ Delete as appropriate, ⁵ See attached Table 3,
⁶ Presentation of the work done by the WG

Table 1: Technical Issues for creation of a new WG

1	Active Distribution Networks resulting in bidirectional power and data flows within distribution levels up to higher voltage networks
2	Digitalization of the Electric Power Units (EPU): Real-time data acquisition includes advanced metering, processing large data sets (Big Data), emerging technologies such as Internet of Things (IoT), 3D, virtual and augmented reality, secure and efficient telecommunication network
3	The growth of direct current (DC) and power electronics (PE) at all voltage levels and its impact on power quality, system control, system operation, system security, and standardisation
4	The need for the development and significant installation of energy storage systems, and electric transportation, considering the impact they can have on the power system development, operation and performance
5	New concepts for system operation, control and planning to take account of active customer interactions, and different generation types, and new technology solutions for active and reactive power flow control
6	New concepts for protection to respond to the developing grid and different generation characteristics
7	New concepts in all aspects of power systems to take into account increasing environmental constraints and to address relevant sustainable development goals.
8	New tools for system technical performance assessment, because of new Customer, Generator and Network characteristics
9	Increase of right of way capacity through the use of overhead, underground and submarine infrastructure, and its consequence on the technical performance and reliability of the network
10	An increasing need for keeping Stakeholders and Regulators aware of the technical and commercial consequences and keeping them engaged during the development of their future network

Table 2: Strategic directions of the Technical Council

1	The electrical power system of the future: respond to speed of changes in the industry
2	Making the best use of the existing systems
3	Focus on the environment and sustainability
4	Preparation of material readable for non-technical audience

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.
7	Work addressing environmental requirements and sustainable development goals.