



COMITATO NAZIONALE ITALIANO

CIGRE Italian National Committee
C/o AEIT – Federazione Italiana di Elettrotecnica, Elettronica,
Automazione, Informatica e Telecomunicazioni
Via Mauro Macchi, 32 – 20124 Milano
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**Insulated cables for power transmission:
Asset management and testing**

- Tutorials presented by Cigré SC B1 -

7th March 2013 – CESI, via Rubattino 54, Milano

The Study Committee B1 of CIGRE (Insulated Cables) was established in 1927 (as SC 21) and therefore celebrated 85 years of activity. Scope of work of SC B1 includes theory, design, applications, manufacture, installation, testing, operation, maintenance and diagnostics techniques for land and submarine, AC and DC insulated cable systems.

A permanent Tutorial Advisory Group was installed in SC B1 with the scope to implement CIGRE Technical Committee's suggestion that "Study Committees have to deal with education, continuous training, tutorials and publications". Among other activities, TAG B1 is therefore promoting the Tutorials as a tool to explain the content of published documents and to stimulate discussion around them.

In this framework, a Tutorial is organized for the first time in Italy, with the following program:

9.00-9.15	Registration		
9.15-10.00	Welcome (Massimo Rebolini, Cigré NC Chairman) Introduction to the event (Marco Marelli, PAG B1 Convener) SC B1 presentation (Pierre Argaut, SC B1 Chairman) Tutorial Advisory Group presentation (Johan Karlstrand, TAG B1 Convener)		
10.00-10.45	TB 358 (WG B1.09)	Remaining Life Management and Replacement Program for HV Cables	(Wim Boone, NL)
10.45-11.00	Break		
11.00-11.45	TB 303 (WG B1.06)	Revision of Qualification Procedures for High Voltage and Extra High Voltage AC Extruded Underground Cable Systems	(Ernesto Zaccone, IT)
11.45-12.30	TB 490 (WG B1.27)	Recommendations for testing of long AC submarine cables for extruded insulation for system voltage above 30 (36) to 500 (550) kV	(Johan Karlstrand, SE)
12.30-14.00	Lunch		
14.00-14.45	TB 446 (WG B1.25)	Advanced Design of Metal Laminated Coverings	(Giovanni Pozzati, IT)
14.45-15.15	Q&A and conclusion		
15.15-16.15	Visit to CESI testing facilities for PQ of EHV and UHV cables, up to 800 kV (optional)		



CONSEIL INTERNATIONAL DES GRANDS RESEAUX ELECTRIQUES
INTERNATIONAL COUNCIL ON LARGE ELECTRIC SYSTEMS

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BRIEF INFORMATION ABOUT TUTORIALS AND PRESENTERS

Technical Brochure TB 358 deals with practical guidelines given to perform "remaining life management" on HV cables. The methodology for these guidelines is based on a combination of technical, economic and strategic criteria, resulting in recommendations about cable replacement or life extension program. In 7 case studies the proposed methodology is applied on practical cases to demonstrate the feasibility.

Wim Boone from The Netherlands obtained his Master Degree in Electrical Engineering from Delft University of Technology in The Netherlands and has more than forty years of experience with KEMA, now called DNVKEMA, in the field of underground Electrical Power Transmission and Distribution. He significantly contributed to the development of testing methods and related international standards for the electrical cable industry. He is now international senior consultant on the broad subject of power cables.

He is active within CIGRE Study Committee B1 Insulated Cables for more than 30 years, being a chairman of several working groups dealing with issues like PD testing, diagnostics, maintenance and remaining life management.

Technical Brochure TB 303 deals with the revision of qualification procedures of underground HV and EHV cable systems with possible changes in cables or accessories. WG B1.06 has completed this task in recommending a simplified "extension of qualification" test procedure for changes in EHV cable systems. For HV systems, a prequalification procedure is recommended for cable system design with high stresses when no earlier experience is available.

Ernesto Zaccone from Italy is Special Technical Advisor of Prysmian Powerlink. He joined the power cable industry in 1969. Since that time he was involved in high voltage testing laboratories, development of premoulded accessories and the high voltage cable systems design. He is being involved in the study, the design and the realization of some major EHV underground and submarine cable projects. He has worked in the R&I (Research and Innovation) department of Prysmian Cables and System (formerly Pirelli Cables) based in Milano Italy. He is the Chairman of the CEI CT 20 Italian standardization body for power cables, Co-Convenor of the IEC TC20 WG 16 which is responsible for the international standardization of high voltage cables and their accessories, and he is an active member of CIGRE.

Technical Brochure TB 490 deals with new test recommendations for extruded AC submarine cables up to the highest voltages. The TB covers an introduction of EHV and HV AC submarine cable designs followed by sections for routine test, sample test, type test and prequalification (long term) tests. The new editions of the relevant IEC standards are taken into account as well as additions and clarifications for testing of joints and water tightness.

Johan Karlstrand from Sweden obtained his Master Degree in Electrical Engineering from Chalmers Technical University in Sweden in 1990. He started his career in the power utility business and joined ABB High Voltage Cables 1993 where he has had different technical positions. In 2011 he started JK Cablegrid Consulting. He is active member of CIGRE; he has been member of several working groups and is currently convenor of the Tutorial Advisory Group.



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Technical Brochure TB 446 deals with advanced laminate coverings that, due to environmental restrictions, are preferred to lead sheath to cover High Voltage extruded cables. The WG B1.25 has taken advantage of an operation survey in 13 countries to establish a recommendation for tests and a guide to use these advanced laminate coverings, where several layers of plain (not corrugated) metal and plastic materials are bonded together to get a special set of properties. It replaces Electra 141 (1992).

Giovanni Pozzati from Italy is currently Head of Product Development HV & Cables Technology at Prysmian SpA in Milan. He obtained his Master Degree in Mechanical Engineering at Politecnico di Milano, in Italy. He joined Pirelli Cables (now Prysmian) in 1985. Within the company he has been responsible of several R&D projects worldwide in energy and telecom cables technology. In 2000- 2002 he has been Chief Engineer at Pirelli Energie Câbles et Systèmes – France.

He is active member of CIGRE; he has been member of several working groups and is currently the Italian member of the SC B1.

HOW TO PARTICIPATE

For **Italian Cigré Members** (individual members and affiliate to collective members) the participation is free of charge.

For **Italians who are not Cigré members** participation fee is € 80

For **participants form outside Italy** participation fee is € 80

Participants need to register by filling-in the registration form provided (further details available within the registration form) **and to return it within February 22nd.**

For those needing hotel accommodations, suggestions include:

NH Hotel Milano 2 (<http://www.nh-hotels.com/nh/en/hotels/italy/milan/nh-milano-2.html>), close to CESI but transfer by taxi is needed.

Hotel Gamma (www.hotelgammamilano.it), well connected to CESI with public means.

Both hotels have special rates for guests of CESI. Other hotels are available in the area



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REGISTRATION FORM (to be returned within Feb 22nd)

NAME and SURNAME:
(Block capitals please)

COMPANY / NATIONAL ASSOCIATION:

EMAIL ADDRESS:

Put a tick in the left hand side column corresponding to your status

<input type="checkbox"/>	Italian individual member n. _____	€ 0
<input type="checkbox"/>	Italian collective member n. _____	€ 0
<input type="checkbox"/>	Italian new CIGRE member (provide copy of subscription request)	€ 0
<input type="checkbox"/>	Italian non CIGRE member (provide evidence of bank transfer execution)	€ 80
<input type="checkbox"/>	Participant from outside Italy (provide evidence of bank transfer execution)	€ 80

Participation fee is to be paid on the following bank account:

Bank transfer to: AEIT – COMITATO NAZIONALE ITALIANO CIGRE'
IBAN: IT 21 I 03589 01600 010570405027
ALLIANZ BANK – FINANCIAL ADVISORS, sede di Milano
Cin: I ABI: 03589 CAB: 01600 CONTO CORRENTE N. 405027
Description: TUTORIAL B1 – Name of participant(s)

Confirmation of payment shall be sent via email (cigre@prysmiangroup.com) or fax (+39 02 6613.2247), prior to the event.

For all participants: please fill and return this registration form within February 22nd to the email address: cigre@prysmiangroup.com or fax: +39 02 6613.2247