

8th International Conference on Insulated Power Cables

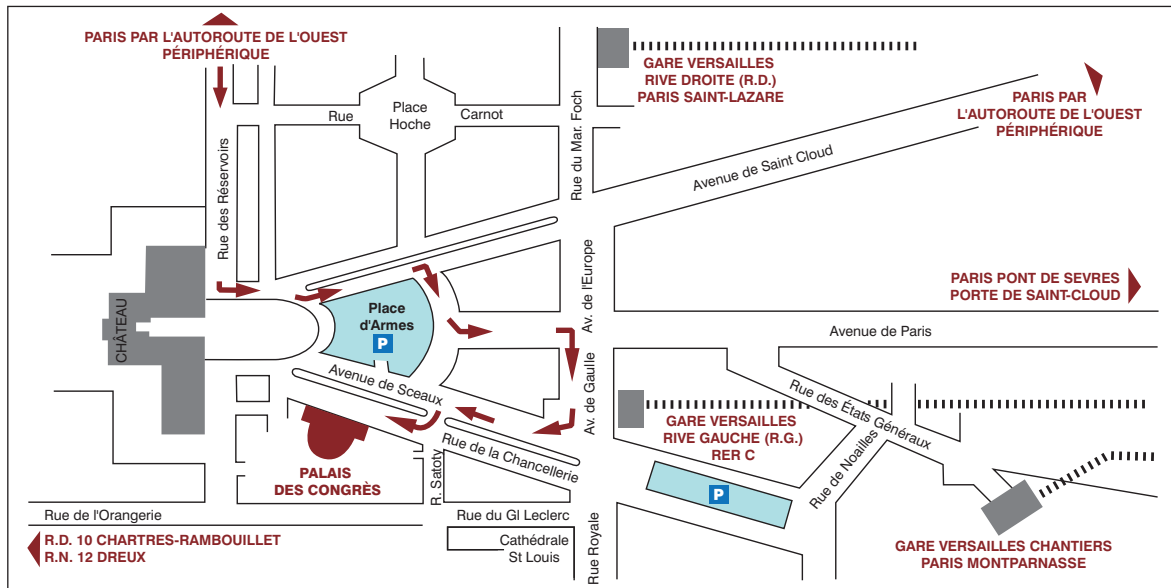


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- **PROGRAMME**
- **REGISTRATION**



19-23 June, 2011 - Paris-Versailles - France

Accès au Palais des Congrès de Versailles



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Organised by

- **SEE**, Société de l'Électricité, de l'Électronique et des Technologies de l'Information et de la Communication
- **CIGRÉ**, International Council on Large Electric Systems
- **SYCABEL**, Syndicat Professionnel des Fabricants de Fils et Câbles Électriques & de Communication
- **ERDF**, Électricité Réseau Distribution France
- **RTE**, Réseau de Transport d'Électricité
- **SERCE**, Syndicat des Entreprises de Génie Électrique et Climatique

With the Technical and Scientific Support of

- **AESIEAP**, Association of the Electricity Supply Industry of East Asia and the Western Pacific
- **AUPTDE**, Arab Union of Producers, Transporters and Distributors of Electricity (t.b.c.)
- **CIGRÉ**, International Council on Large Electric Systems, (International and French National Committee)
- **CIRED**, International Conference on Electricity Distribution
- **COMELEC**, Maghreb Committee of Electricity (t.b.c.)
- **ELECTROSUISSE**
- **ENTSO-E**, European Transmission System Operators for Electricity
- **EUROPACABLE**, The European Confederation of Associations of Manufacturers of Insulated Wires and Cables
- **IEEE, DEIS**, Dielectrics and Electrical Insulation Society
- **IEEE, ICC**, Insulated Conductors Committee
- **IEEE** Institute of Electrical and Electronics Engineers French Section
- **IET**, the Institution of Engineering and Technology
- **Prospective 2100**
- **SEE**, Société de l'Électricité, de l'Électronique et des Technologies de l'Information et de la Communication
- **SRBE / KBVE**, Société Royale Belge des Électriciens
- **UFE**, Union Française de l'Électricité
- **UPDEA**, Union of Producers, Conveyors and Distributors of Electric Power in Africa
- **UTE**, Union Technique de l'Électricité
- **VDE**, Verband der Elektrotechnik Informationstechnik e.V. / Deutscher Elektrotechniker

(t.b.c.): to be confirmed

Committees

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YUN Jiang, Shanghai Municipale; China

General Objectives and Topics

What is Jicable'11 ?

Jicable'11 is an international forum for the exchange of information in the fields of research, industrial development, installation, operation and diagnoses relating to insulated power cables and their accessories from low voltage and special cables up to ultra high voltage cables and new technology cables.

Why is Jicable'11 ?

Insulated power cables are increasingly used in electric power transmission and distribution networks. This is due to the significant progress achieved in the development of new technologies with higher performances, and motivated by increasing environmental pressure. Cables are recognized as a reliable means for the transmission and distribution of electrical energy.

Jicable'11 will allow in-depth analysis of the State-of-the-Art and future perspectives: new materials, evolution in technologies,

manufacturing process, maintenance policies and condition assessment, upgrading, refurbishment, lessons learnt from service, dielectric phenomena, thermal and thermo-mechanical behaviour... new innovative technical solutions for high power transmission: new superconductive materials as well as a closer look at major submarine cable projects connecting High Voltage networks in many countries.

Who will be taking part in Jicable'11 ?

As for the 7 earlier Jicable conferences held between 1984 and 2007 (581 delegates from 48 countries in 2007), Jicable'11 will prove very useful to the following segments of the cable industry: researchers, engineers, decision-makers, raw materials suppliers, manufacturers, consultants, installers and users.

The following topics will be discussed:

- 1. LV and MV Cable Systems**
- 2. HV and EHV Cable Systems**
- 3. Submarine Cables**
- 4. Economy and costs of Cable Systems**
- 5. Ageing, Diagnosis, Maintenance, Remaining Life Estimation and Management**
- 6. Cables for the future**
- 7. Technical challenges encountered with cable systems**
- 8. Industrial and Special Cables**
- 9. Cables, environment and sustainable development**
- 10. Design**
- 11. Testing Methods**

Technical Sessions

The technical programme of the congress is presented below.

Audiovisual Technical Presentations

The Jicable'11 Organization Committee has made it possible for research laboratories and companies to hold audiovisual presentations in a room especially equipped for this purpose. Audiovisual projections will take place during the conference from June 20th to June 22nd, 2011. They will be scheduled according to a programme available during the Conference.

Technical visits

Four technical visits are proposed:

V1: EDF Testing and Research facilities: Les Renardières

V2: Installation of a "long length" Medium Voltage Cable - Paris area

V3: Substation « Seine » and its underground installations

V4: National Laboratory of Metrology and Testing (LNE)

For each visit registrations will be considered in order of arrival (please state a second preference on your registration form).

For security reasons relative to the visit of industrial sites, visitors must provide a copy of their passport (or identity card for members of EU) before May 20th to Jicable's Secretariat. No access badge will be delivered otherwise.

V1 EDF Testing and Research facilities: Les Renardières

EDF Les Renardières Laboratories perform a large range of tests (investigation, qualification, or sampling in the framework of quality control) for generation, substation and network equipment (distribution and transmission).

The visit includes :

- large electrical equipment testing plants (power testing, dielectric, mechanical and climatic testing, thermomechanical test facilities)
- and material testing laboratories (degradation and ageing material study) including the new microscope TITAN (transmission electron microscope).

Duration: 1 day

Capacity: 30 people

Fee: 90 €, including transport and lunch.

V2 Installation of a “long length” Medium Voltage Cable - Paris area

In order to limit failures due to accessories on the medium voltage network, ERDF (French DSO) is studying and testing the possibility to realise “long length” underground links (about 1 km), mainly using 240 mm² cross-section cables.

When applied, mainly in rural areas, this solution allows to reduce the numbers of accessories (factor 2 or 3) in comparison with classical installation (drums with 300 m of cable)

We propose to follow the laying of a “long length” Medium Voltage cable, carried out with the partnership of a cable manufacturer. It comprises the installation of a cold-shrink MV accessory with a mechanical connector (main technology used by ERDF)

Duration: 1 day

Capacity: 30 people

Fee: 90 €, including transport and lunch.

V3 Substation « Seine » and its underground installations

The substation « Seine », a transformer substation 225 kV / 63 kV, will be a key of the « Ile-de-France » transmission network at the end of 2011.

Indeed, this installation will play a major role in the secure of power supply of North East « Ile-de-France ».

During the visit, supply system of Paris is presented as well as integration of Seine substation in the network. Security, environment and proximity aspects are mentioned.

In order to tackle equipment side, the principle of a metal enclosed substation is presented.

A visit of a technical gallery will allow to illustrate all the points above-cited.

Duration: 1/2 day

Capacity: 15 people

Fee: 55 €, including transport.

V4 National Laboratory of Metrology and Testing (LNE)

The LNE is in charge both of the French metrology (French NMI), and of safety and consumer protection.

The visit concerns two laboratories of LNE, Trappes site (within 15 km from Versailles): the high voltage metrology laboratory and fire behaviour laboratory.

The high voltage metrology laboratory perform electrical studies carried out mainly on the metrology of strong currents in the range of 1 kV to 250 kV DC or AC. It also deals with smart meters.

The fire behaviour laboratory deals with fire behaviour tests, modelling and studies on the fire performance of materials and products, including cables and other electrical products.

Duration: 1/2 day

Capacity: 40 people

Fee: 55 €, including transport.

Tutorials

Four high-level tutorials will be given in english by professors during the Sunday afternoon of June 20th, 2011 for a limited number of people:

T1: Towards an underground distribution network

T2: Accessories for high voltage extruded cables

T3: Electrical modelling of underground links

T4: Service experience of high voltage underground and submarine power cables

Registration to these tutorials may be made by use of the registration form attached or through internet.

T1 Towards an underground distribution network *By Alain DOULET, Former Technical Manager, ERDF*

Environmental constraints, local pressures on techniques for building distribution networks are becoming commonplace. This can lead to the replacement of overhead techniques by

underground techniques for the creation of new networks but it can also include transforming existing overhead lines into underground networks.

These guidelines may concern urban, suburban, but also rural networks. Yet, an underground network should not be considered as an overhead network buried underground. The choice of an underground network structure largely impacts the whole traditional business chain of the Distributor: network design, engineering, operations, maintenance. Beyond that, important aspects are affected by such an option: regulatory matters, for workers security, stakeholders and for the public, competencies. Approach to the issue of quality - the number and duration of predictable and unpredictable cuts - is strongly impacted. Finally, it is necessary to establish an economic balance upstream of any decision in order to identify the resources needed for the deployment of such a choice.

The tutorial will aim to give an overview of all these questions essentially as a tool to help in the decision making process for technicians to build such approaches to change, then to describe some efficient solutions as a starter for a possible discussion.

T2 Accessories for high voltage extruded cables *By Henk GEENE, Prysmian Cables and Systems B.V.*

Since the introduction of HV extruded cable systems more than 30 years ago, significant improvements have been made in the design of its accessories.

Nowadays, the market has almost completely moved towards the use of pre-molded (factory made and tested) accessories. Although with these accessories the reliability of extruded cable systems has significantly improved, there are still important aspects that need to be taken into account during its design and installation. The Tutorial will focus on these accessory related aspects and will include the results of recent work performed by CIGRE.

Topics to be discussed:

- The position of the different accessory types in cable networks
- Overview of accessory concepts in the market
- Accessory design aspects and the possible critical spots (conductor connection, interfaces, covering)
- Installation conditions (buried, tunnels, manholes)
- Workmanship of accessories
- Trends in accessory development (diagnostics, dry types...)

T3 Electrical modelling of underground links *By Éric DORISON, EDF R&D*

The tutorial involves 4 parts:

- The first one is dedicated to the derivation of cable primary impedances from Maxwell's equations, focusing on simplifying

assumptions. Models for transients studies are presented and a simple model, suitable to power frequency studies, is given.

- The second part deals with large cross section core and composite screens designs, stressing power frequency Joule losses calculation.
- The third part is devoted to sequence impedances calculations, taking into account screen bonding techniques.
- Finally, some concerns with special screen bonding designs are addressed, particularly earth potential rises during single-phase faults.

Comparison of calculated and measured relevant parameters are discussed where available.

T4 Service experience of high voltage underground and submarine power cables

*By **Robert ROSEVEAR**, Southampton Dielectric Consultant Ltd*

In recent years, significant quantities of land and submarine cables and accessories have been installed and the associated technology and laying techniques have matured and evolved. With the increasing demands on electrical power transmission and distribution systems, significant quantities of cable are currently being installed.

In 2008, CIGRE WG B1.10 completed a survey to collect and analyse data relating to the installed quantities of underground and submarine cable systems rated at 60 kV and above together with the service experience and the performance of existing underground and submarine cable systems. The CIGRE Technical Brochure TB 379 summarizing the findings was published in April 2009. The tutorial is based on this work. A 5 year period ending december 2005 has been considered for land cables compared to a 15 year period ending similarly for submarine cables. The previous statistics published some twenty years ago have therefore been updated and some emerging trends identified.

Jicable'11 Prize

A Jicable'11 prize will be awarded to the best communication.

Young Researchers Contest

The organizers of Jicable'11 are conducting a young researchers' contest to foster student and young researchers' participation in the conference.

The call for papers sent to Engineering Schools and Universities was based on 4 main topics:

- Materials,
- Ageing / Degradation,

- Modeling / Design,
- Environment

The best papers will be presented in a poster session during the conference.

The author of the winning paper will be awarded a prize.

Receptions

- Sunday 19 June 2011 from 18:15 to 19:30: Welcome Cocktail, at the Versailles Congress Center.
- On Tuesday 21 June 2011 at 20:00, the Jicable “Soirée” will be held in the magnificent Vaux-de-Cernay abbey, just outside Paris. A coach service will be provided from Versailles Congress Center. The Vaux-de-Cernay abbey, located in the Natural Park of the Upper Chevreuse Valley, was founded in the early twelfth century and affiliated in 1147 to the Cistercian Order. It was converted into mansion by Baron de Rothschild in the nineteenth century. Today, the Vaux-de-Cernay abbey is at the heart of a park conducive to peaceful walks around a pond where you can admire the magnificent remains: the church, its rose window, ... The evening Jicable will be held at the heart of this beautiful spot in the “Room of the Monks” of the thirteenth century with its arched roof.



International Technical Exhibition

An exhibition will be held from June 20 to 22, 2011 inside the “Palais des Congrès” at Versailles in the core of the Conference Area. Some 30 exhibitors are expected and will show materials, design, manufacturing, tests, laying and operation of polymer insulated power cables.

Access to the exhibition will be reserved for Jicable’11 delegates and holders of invitations which will be delivered by the exhibitors.

Companies participating at the Jicable’11 exhibition:

3M France	ARKEMA
AMSC American Superconductor	B2 electronic
AP Sensing	Baur

CST	nkt cables
DRAKA Paricable	Omicron Electronics Gmbh
Ellis Patent	Pfisterer
General Cable	Pourtier
H.V.T.S High Voltage Test	Power Diagnostix
Systems	Prysmian
HIGH VOLTAGE (NY)	RTE
HIGHVOLT	Seba-Dynatronic
INHOL BV	SEE
KEMA	SENSA
Megger	SF ELECTRIC
Mohaupt & Cable Cure	TECHIMP
Nexans	Wacker Chemie AG

General information

Date and venue

Jicable'11 will be held at Versailles Congress Center (Close to Paris).

The conference and audiovisual presentations will be held inside the Congress Center from June 20 - 22, 2011.

Tutorials will be held on Sunday 19 June and technical visits on Thursday 23 June, 2011.

The exhibition will be held in a specially adapted area inside the Versailles Congress Center on June 20 - 22, 2011.

Official languages

The official languages at Jicable'11 will be French and English.

Simultaneous translation will be provided in all two languages rooms A & B for all sessions (simultaneous translation shall not be available in rooms C & D).

Abstract booklet

The Jicable'11 booklet containing the abstracts of all papers will be mailed to each delegate after receiving his/her registration form and payment.

Proceedings

On arrival at the Welcome Desk, each participant will receive a conference bag with a printed copy of the proceedings containing the text of presentations included in the programme. Additional copies of the printed proceeding will be available on sale during and after the conference while stocks last.

The "Archives' DVDRoom" containing all proceedings for the 7th former Jicable's conferences will also be on sale (More than 900 communications from 3000 authors).

Badges

An admission badge will be delivered to each participant, giving access to the conference sessions, to the audiovisual presentation room and to the exhibition. It must be worn throughout the conference period at all times.

Practical Information

Meals

Since it is not possible to organize meals inside the Congress Center itself, all congress participants will be provided with a list of restaurants proposing menus at a wide range of prices around the Congress Center on their arrival.

Car parking

There is a very large car-park on the "Place d'Armes", located opposite the "Château de Versailles" and the Congress Center.

WiFi space

A Room will be available for Wireless internet users.

Insurance

The organizers cannot be held liable for any personal accident or for damage to, or the loss of any personal property, howsoever caused. Participants should therefore make their own insurance arrangements.

Useful tips

In the month of June, the temperature in Versailles is usually around 20°C with a probability of showers.

In France, the electric current is 220 V / 50 Hz. It is advised to consider the use of an electric adaptor.

Hotel reservations

As the conference will take place at a time when the demand for hotel accommodation in Paris and Versailles is rather high, participants are advised to make their reservation as soon as possible.

Voyages **C. MATHEZ VIAZUR**, the travel agency appointed by the organizers, has made special block bookings of rooms at reduced rates for Jicable'11 attendees, both in Paris and in Versailles.

To make your hotel reservation, please contact directly:

Voyages C. MATHEZ VIAZUR - *Pascale CASSAIGNE*

124 Bis, Avenue de Villiers - 75017 Paris - France

Tel : +33 (0) 1 43 18 28 25 - Fax : +33 (0) 1 43 18 28 29

Email : pascale.cassaigne@mathez-viazur.com

Site web : www.matheztravel.com

Getting to Versailles

From Roissy-Charles de Gaulle Airport:

- **By taxi:** Approximate cost 80 € plus 15 € night additional cost
- **By metro:** Take line B RER express train, direction St-Rémy-les-Chevreuse, change at St-Michel-Notre-Dame onto an RER line C and get off at Versailles Rive-Gauche (300 m from the Palais des Congrès). Approximate cost 12 €.

From Orly Airport:

- **By taxi:** Approximate cost 50-60 €
- **By metro:** Take the Orlyval metro link, change at Antony and get onto an RER line B express metro, direction Aéroport Roissy, change at St-Michel-Notre-Dame and get onto the RER line C. Get off at Versailles-Rive-Gauche (300 m from the Palais des Congrès). Approximate cost 13 €.

From Paris:

- **By metro:** Take the RER line C express metro and get off at Versailles Rive-Gauche (300 m from the Palais des Congrès). Approximate cost 3.50 €.

- **By train:**

From Paris St Lazare station or La Défense “Grande Arche” take a train toward Versailles “Rive Droite” (about 1 km from the Palais des Congrès”).

From Paris Montparnasse station, get a train towards “Plaisir Grignon” or “Chartres” and get off at “Versailles Chantiers” (about 1 km from the Palais des Congrès”). Approximate cost 3,50 €.

- **By road:**

- Motorway A 13, exit at “Versailles Centre”
- Motorway N 12, exit at “Versailles Chateau”

By air:

Jicable’s delegates are entitled to a reduction on the Air France domestic network and special rates on the international network (subject to conditions).



www.airfrance.fr - www.airfrance.com

Jicable identifying code: **12110AF**

■ Information and reservation:

From France ☎ 3654 (0,34 €/m), from 6:30 to 22:00, 7 days/7

Or online reservation: [http://www.airfrance.fr/FR/fr/local/www_](http://www.airfrance.fr/FR/fr/local/www_airfranceklm-globalmeetings_com.htm)
[airfranceklm-globalmeetings_com.htm](http://www.airfrance.fr/FR/fr/local/www_airfranceklm-globalmeetings_com.htm)

Validity dates: from June 14, 2011 to June 28, 2011

A proof of participation to the Jicable’11 conference could be required during your travel. This document can be provided on demand, by mail to SEE.

Delegates are also invited to consult others companies to get the best available fare.

Registration procedures and registration fees

Registration fees for the entire conference are as follow:

	Rate** until May 1 st 2011	Rate** from May 2 nd 2011
Standard Rate	850 €	970 €
Member*	800 €	900 €
Academic	650 €	700 €
Academic Member*	600 €	650 €

* Individual Members of SEE, Club Jicable and all other organizations which have supported the conference

** VAT included

These fees include:

- Access to the oral and poster sessions and to the audiovisual presentations
- Coffee breaks
- Access to the exhibition
- Delegate bag with the proceedings
- Mailing of the abstract booklet prior to the conference
- Mailing of the CDRom of the conference, after the conference

There is an extra fee of 90 € as a contribution towards the Jicable “Soirée” expenses. This reception will be organized on Tuesday evening, June 21st, 2011.

The technical visits and the tutorials are optional, not included in the registration fees and invoiced separately (see order form).

Tutorials (T) on June 19th

T1: Towards an underground distribution network	180 €
T2: Accessories for high voltage extruded cables	180 €
T3: Electrical modelling of underground links	180 €
T4: Service experience of high voltage underground and submarine power cables	180 €

Technical visits (V) on June 23rd

V1: EDF Testing and Research facilities: Les Renardières	90 €
V2: Installation of a “long length” Medium Voltage Cable - Paris area	90 €
V3: Substation “Seine” and its underground installations	55 €
V4: National Laboratory of Metrology and Testing (LNE)	55 €

For security reasons participants to technical visits must provide a copy of their passport (or identity card for members of EU) before May 20th (by email jicable@see.asso.fr or by fax:

+ 33 (0)1 56 90 37 08) and also provide the details required when registering on-line or into the registration form attached (Passport number etc..).

We strongly recommend to register online via the Conference Website <http://www.jicable.org/2011/>

Authors, lecturers and committees members are not exempt from paying registration fees.

Registration is valid only after the payment is received by the SEE. If the payment has been made by bank transfer, the participants are kindly required to bring with them the proof of payment at the conference venue. On-line registration will be closed on 15 June 2011. Badges withdraw and on-site registration will start on Saturday 18 June from 16:00, at the Palais des Congrès of Versailles.

The registration by purchase order is possible. To do so, please return the enclosed application form by fax together with the purchase order at +33 (0)1 56 90 37 08

Cancellation policy: refund of all prepaid fees will be made provided that an advance written notification is submitted by May 20th 2011. No refund will be made for cancellation received after this date.

Along with your registration, don't miss the **exceptional 45% sale discount** on the **Jicable's Archives dvdrom**. This dvd contains all papers submitted to the 7th former Jicable's conferences, ie Jicable'84 to Jicable'07, more than 900 papers from about 3000 authors. A powerfull search engine is provided to make easy your documentation works.

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Formalities

Some foreign nationals may require entry visas to France. Simultaneously to the completion of your conference registration, check with the French Embassy or with the French Consulate in your country: they will help you to complete the necessary visa formalities.

On demand, SEE will provide an invitation letter to the Jicable's Conference which is useful to obtain your visa.

The official form to obtain a visa can be downloaded from:
http://www.diplomatie.gouv.fr/fr/france_829/venir-france_4062/entrer-france_4063/colonne-droite_4266/services-formulaires_4269/formulaires-visas_46412.html

Sightseeing suggestions

■ Versailles Tourism office: <http://www.versailles-tourisme.com>
Created by King Louis XIVth of France to act as the vehicle for his government, Versailles is a New Town and a model of urbanism worldwide.

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Addresses to note

Before the conference

Inscription Jicable'11:

SEE - Jicable'11 - 17 rue de l'Amiral Hamelin

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Phone: +33 (0)1 56 90 37 11

Fax: +33 (0)1 56 90 37 08

Site Web: <http://www.jicable.org/2011/>

e-mail: jicable@see.asso.fr

During the conference

All services will be transferred to:

Palais des Congrès de Versailles

10, rue de la Chancellerie

78000 Versailles - France

Phone: +33 (0)1 30 97 89 00

Fax: +33 (0)1 30 21 15 82

Hotel reservations

Voyages C. MATHEZ VIAZUR - Pascale Cassaigne

124 Bis, Avenue de Villiers - 75017 Paris - France

Phone: +33 (0) 1 43 18 28 25

Fax: +33 (0) 1 43 18 28 29

Email: pascale.cassaigne@mathez-viazur.com

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Central reservation: +33 (0)1.44.55.60.00

Site web: <http://www.pariscityrama.fr/> - <http://fr.parisvision.com/>

Conference Welcome Desk Opening Hours

Saturday	18 June:	16:00-18:00
Sunday	19 June:	10:00-18:30
Monday	20 June:	08:00-18:30
Tuesday	21 June:	08:00-18:00
Wednesday	22 June:	08:00-18:00



Conference at a glance

	Room A	Room B	Room C	Room D	Room E Poster Sessions	Others
Saturday June 18 th						
16:00-18:00						Welcome of delegates
Sunday June 19 th						
10:00-18:00						Welcome of delegates
14:30-18:00						Tutorials : T1, T2, T3, T4
18:15-19:30						Welcome cocktail
Monday June 20 th						
09:00-10:30	Session A.0 - Opening Session					Jicable Exhibition Opening 10:30 -11:00
11:00-12:30	Session A.1 - HV Installation techniques	Session B.1 - EMF: Electric and Magnetic Fields	Session C.1 - MV cable accessories	Session D.1 - Economy and costs of cable systems		
14:30-16:00	Session A.2 - HVDC cables and accessories	Session B.2 - Environmental subjects - EMF and others	Session C.2 - LV and MV Cable Systems reliability	Session D.2 - Maintenance (1)		Audiovisual Presentations 8:30 – 18:30
16:30-18:15	Session A.3 - HV Service experience	Session B.3 - Challenges - Fire	Session C.3 - Testing methods - Water Trees and Partial Discharges	Session D.3 - Maintenance (2)		
18:15-18:30	Session A.3.bis: Presentation of Poster Session E.7.2	Session B.3.bis: Presentation of Poster Session E.7.1	Session C.3.bis: Presentation of Poster Session E.5.1	Session D.3.bis: Presentation of Poster Session E.5.2		
Tuesday June 21 st						
09:00-10:30	Session A.4 - HT - Dimensionnement des systèmes - EMF	Session B.4 - Challenges	Session C.4 - Testing methods	Session D.4 - Submarine - Cable performance		Audiovisual Presentations 8:30-18:00

11:00-12:30	Session A.5 - HT - Accessoires	Session B.5 - Long links & Gas Insulated Line (GIL)	Session C.5 - Cables for the future - Nano dielectrics		Sessions E.5.1 & 5.2 Ageing, Maintenance, remaining life estimation	Audiovisual Presentations 8:30-18:00
14:30-16:00	Session A.6 - Submarine - Cable Systems	Session B.6 - Ageing and life expectancy (1)	Session C.6 - Cables for the future - Superconductivity	Session D.6 - LV and MV Cable Systems		Jicable “Soirée” from 19:00
16:30-18:00	Session A.7 - Submarine - Cable performance	Session B.7 - Ageing and life expectancy (2)	Session C.7 - DTS: Distributed Temperature Sensing		Sessions E.7.1 & E.7.2 HV & EHV Cable Systems and Testings	
Wednesday 22 nd						
09:00-10:30	Session A.8 - Testing methods - Factory and after laying tests	Session B.8 - Partial discharges and diagnostics (1)	Session C.8 - Cable rating			Audiovisual Presentations 8:30 - 13:00
11:00-12:30	Session A.9 - Testing methods - Qualification and Qualification extension	Session B.9 - Partial discharges and diagnostics (2)	Session C.9 - Dynamic cable rating		Session E.9 - Young Researcher	
14:30-16:00	Session A.10 - Testing methods - On line testing	Session B.10 - Design	Session C.10 - Cable installation			
16:30-18:00	Session A.11 - Closing Session					
Thursday June 23 rd						
09:00-18:00						Technical Visits V1,V2, V3 & V4

Technical sessions

Monday June 20th, 2011

SESSIONS A.0 **Opening Session**

Monday June 20th, 2011 - 9:00 - 10:30

Room A

The session will include the opening ceremony and official welcome addresses.

Opening Lecture:

China's energy foresight and its networks (t.b.c.)

SESSION A.1 **HV Installation techniques**

Monday June 20th, 2011 - 11:00 - 12:30

Room A

Chairman : **Pierre ARGAUT** - Silec Cable (General Cable) / CIGRÉ
Rapporteur : **Yves MAUGAIN** - EDF / CIGRÉ (France)

A.1.1

New technique to install power cables into ducts

Willem GRIFFIOEN - Plumettaz SA, Rotterdam; The Netherlands

Patrice BLANCHET - Plumettaz SA, Bex; Switzerland

Gérard PLUMETTAZ - Plumettaz SA, Singapore; Singapore

A.1.2

Transition technologies for HV cable systems

Volker AUE, Dietmar MEURER - Nexans Deutschland GmbH,
Hannover; Germany

A.1.3

Oil filled cable leak location using PFT (Per-fluorocarbon tracing) - Non-intrusive oil filled cable leak location

Mike FAIRHURST - National Grid, Warwick; United Kingdom

Patrick KEELAN - PFT Tech, New York, NY; United States

A.1.4

First 220 kV city cable for retrofitting of steel pipe cables

Anika BOSSE, Tobias WOLLSCHLÄGER, Volker WASCHK -
nkt cables GmbH, Köln; Germany

A.1.5

New repair method of a 380 kV fluid-filled cable, damaged by impact

Georg SVEJDA, Johannes VAVRA - Wienstrom, Vienna; Austria

Manfred WANDA - Prysmian, Vienna; Austria

Nick CRANE - Prysmian, Bishopstoke; United Kingdom

A.1.6

Improved installation methodologies for EHV cables in underground tunnels

Per CHRISTENSEN, Jesper Lykke NIELSEN - nkt cables, Broendby; Denmark

Alwyn HANEKOM, David CHEALE - Balfour Beatty Utility Solutions Ltd, Dartford; United Kingdom

SESSION B.1

EMF: Electric and Magnetic Fields

Monday June 20th, 2011 - 11:00 - 12:30

Room B

Chairman : **Paolo MAIOLI** - Prysmian Cables and Systems (Italy)

Rapporteur : **Laetitia PASSOT** - RTE (France)

B.1.1

Impact of EMF on cable ratings and cable systems

Harry ORTON - OCEI, Vancouver, BC; Canada

Paolo MAIOLI - Prysmian Cables and Systems, Milan; Italy

Tim BARNES - Transgrid, Sydney; Australia

Heinrich BRAKELMANN - University Duisburg-Essen, Duisburg; Germany

Jarle BREMNES - Nexans Norway AS, Halden; Norway

Sudhakar CHERUKUPALLI - BC Hydro, Vancouver, BC; Canada

François COCHET - Nexans, Neuchatel; Switzerland

Jean HOEFFELMAN - Elia-Engineering, Brussels; Belgium

Frédéric LESUR - RTE-France, Paris; France

Julio LOPES - Inovatec Consultoria e Engenharia, Sao Paulo; Brazil

Josu ORELLA - IBERDROLA, Bilbao; Spain

Jacco SMIT - Liandon, Amsterdam; The Netherlands

B.1.2

EMF conductor management of cable systems

Frédéric LESUR - RTE, Paris ; France

B.1.3

SC-IES-Cables: Single-core cables with integrated electromagnetic shielding

Heinrich BRAKELMANN, Jan BRUEGGMANN - University Duisburg-Essen, Duisburg; Germany

Volker WASCHK - nkt cables GmbH, Köln; Germany

B.1.4

Shielding of the electromagnetic field generated by HV underground cable lines

Paolo MAIOLI - Prysmian Cables & Systems, Milan; Italy

B.1.5

Ampacity derating effects of magnetic field management techniques used with underground transmission cables

John COOPER - Power Delivery Consultants, Tijeras, New Mexico; United States

David FUGATE - Electric Research & Management, Pittsburgh, Pennsylvania; United States

Tiebin ZHAO - Electric Power Research Institute, Charlotte, North Carolina; United States

B.1.6

Magnetic mitigation of HV cable junction zone

Aldo CANOVA - Dipartimento Ingegneria Elettrica, Politecnica di Torino, Turin; Italy

Luca GIACCONE - NoField srl - Incubatore di Imprese Politecnico di Torino, Turin; Italy

SESSION C.1

MV cable accessories

Monday June 20th, 2011 - 11:00 - 12:30

Room C

Chairman: **Francis KRÄHENBÜHL** - Nexans Deutschland GmbH (Germany)

Rapporteur: **Bertrand JARRY** - ERDF (France)

C.1.1

15 year's experience of cold-shrinkable MV joints

Stéphane TOGNALI, Gérard LENCOT - Prysmian Câbles et Systèmes France, Gron; France

C.1.2

MV cable termination failure prevention: Online diagnostic method application at ERDF

Thierry ESPILIT, Fabrice ZORZI - EDF R&D, Moret-sur-Loing; France

Roger TAMBRUN - ERDF Direction Réseau, Paris La Défense; France

C.1.3

Connection to MV cable aluminium screen

Christophe TOURCHER - EDF R&D, Moret-sur-Loing ; France

Members of SYCABEL - SYCABEL, Paris ; France

Roger TAMBRUN - ERDF, Paris La Défense ; France

C.1.4

Experience with joint failures in new "smart grid" MV cable circuits

Jacco SMIT, Frank de VRIES - Liandon, Alkmaar; The Netherlands

Ger SEBREGTS - Liander, Arnhem; The Netherlands

C.1.5

Impact of filled-strand conductor on connector temperature for medium voltage joints

Thomas PARKER, Nigel R. HAMPTON - NEETRAC, Atlanta, GA; United States

C.1.6

Service experience and laboratory testing of MV XLPE cable accessories

Jan Tore BENJAMINSEN, Hallvard FAREMO, Sverre HVIDSTEN - SINTEF Energy Research, Trondheim; Norway

SESSION D.1

Economy and costs of cable systems

Monday June 20th, 2011 - 11:00 - 12:30

Room D

Chairman: **Mozart DE SIQUEIRA CAMPOS ARAÚJO** - Brennand Energia - Recife (Brazil)

Rapporteur: **Giao ROINEL** - RTE (France)

D.1.1

Simulation of life cycle costing analysis to evaluate project of installation high voltage undersea cable 150 kV-circuit III and IV Java-Bali

Ngapuli SINISUKA - Bandung Institute of Technology (ITB), Bandung; Indonesia

Iqbal FELANI, Novrizal ERDIANSYAH - Electricity Utility Company (PLN), Jakarta; Indonesia

D.1.2

Technical-economic analysis using aluminum instead of copper conductor for medium voltage cables and the practice in Zhejiang, China power grid

XUAN YuLong, SHAO XueJian - Hangzhou Electric Power Bureau, Hangzhou City; China

JIANG Wendong - Zhejiang Provincial Electric Power Bureau, Hangzhou City; China

D.1.3

Whole-life costs and environmental assessment of high voltage power cable systems

Gary STEVENS, Ben PHILPOT, Janet THOMAS - GnoSys UK Ltd, Guildford; United Kingdom

Ankit GOWADIA, Mike FAIRHURST - National Grid, Warwick; United Kingdom

D.1.4

Modern 3-core MV XLPE cables and their impact on TCO

Håkan BRINGSSELL, Lars EFRAIMSSON, Thomas CARLQVIST - Ericsson AB, Falun; Sweden

D.1.5

Economical design of cable conductors

Frédéric LESUR, Victor LEJOUR - RTE, Paris; France

D.1.6

Overall cost comparison between cable and overhead lines including the costs for repair of random failures

Roberto BENATO - University of Padova, Padova; Italy

Domenico NAPOLITANO - Free Lance, Venezia; Italy

SESSION A.2

HVDC cables and accessories

Monday June 20th, 2011 - 14:30 - 16:00

Room A

Chairman: **Steve SWINGLER** - University of Southampton (United Kingdom)

Rapporteur: **Paul PENSÉRINI** - RTE / CNER (France)

A.2.1

Specification for extruded HVDC land cable systems

Rémi VATONNE, Nathalie BOUDINET, Jonathan BENETEAU,

Pierre HONDAA, Frédéric LESUR - RTE, Paris; France

Gregorio DENCHE, José Manuel ARGUELLES ENJUANES -

Red Eléctrica de España, S.A., Madrid; Spain

A.2.2

Key parameters for extruded DC cable qualification

Wilfried FRELIN, Philippe EGROT - EDF R&D, Moret-sur-Loing; France

A.2.3

Development of pre-molded accessories for HVDC extruded cable system

SAKAI Yasuhiro, NIINOBE Hiroshi, HIRASAWA Takayuki -

VISCAS Corporation, Ichihara, Chiba; Japan

A.2.4

Development of a 270 kV XLPE cable system for HVDC applications

Mohamed MAMMERI, Marie Laure PAUPARDIN, Bernard

POISSON - Silec Cable (General Cable), Montereau; France

A.2.5

Development of high performance polymeric materials for HVDC cables

Andreas FARKAS, Carl-Olof OLSSON, Gustavo DOMINGUEZ -

ABB AB, High Voltage Cables, Karlskrona; Sweden

Villgot ENGLUND, Per-Ola HAGSTRAND, Ulf. H. NILSSON -

Borealis AB, Stenungsund; Sweden

A.2.6

Evolution of the distributions of electric field and of space charges in an extruded HVDC cable

Carl-Olof OLSSON - ABB AB, Corporate Research, Västerås; Sweden

Marc JEROENSE - ABB AB, High Voltage Cables, Karlskrona; Sweden

SESSION B.2

Environmental subjects - EMF and others

Monday June 20th, 2011 - 14:30 - 16:00

Room B

Chairman: **Harry E. ORTON** - Orton Consulting Ing. (Canada)

Rapporteur: **François DESCHAMPS** - RTE - CNER (France)

B.2.1

Evaluation of the magnetic induction on metal pipelines by AC power cable circuits

LIU Ying, MING LIU, CAO Xiaolong - Xi'an Jiaotong University, Xi'an, Shannxi; China

HAN Xiaopeng, ZHAO Rui - Beijing Electric Power Design Institute, Beijing; China

B.2.2

Cable systems in multi-purposes or shared structures

Jey JEYAPALAN - Cigre' WG-B1.08, Member from United States

Ray AWAD - Cigre' WG-B1.08, Member from Canada

Ken BARBER, Colin PEACOCK - Cigre' WG-B1.08, Member from Australia

Roberto BENATO - Cigre' WG-B1.08, Member from Italy

Ian BUTT - Cigre' WG-B1.08, Member from United Kingdom

Frank De WILD - Cigre' WG-B1.08, Member from The Netherlands

GOTO Takeshi, SAKUMA Susumu, TAKAHASHI Yoshihisa

Cigre' WG-B1.08, Members from Japan

KIM Jeong-tae - Cigre' WG-B1.08, Member from Rep. of Korea

Jordi MONTEYS - Cigre' WG-B1.08, Member from Spain

Christophe MOREAU - Cigre' WG-B1.08, Member from France

Kjell OBERGER - Cigre' WG-B1.08, Member from Sweden

Rudolph WOSCHITZ - Cigre' WG-B1.08, Member from Austria

Kok Thean YOON - Cigre' WG-B1.08, Member from Singapore

B.2.3

275 kV XLPE cable bridge crossings - Design and construction issues

John McCORMACK, Nicola MOFFA, Raju UPADHYAYA - ElectraNet, Adelaide, South Australia; Australia

KIM Jeong hyun - Taihan Electric Co, Seoul; Rep. of Korea

HEO Hoi-deok - LS Cable Ltd, Gumi, Gyeongbuk; Rep. of Korea

Henry KENT - Energy Action, Sydney; Australia

B.2.4

Underground links across fields

Alexandre IRLE, Jean ISOARD - RTE, Paris La Défense ; France

B.2.5

Development of new recyclable insulation material for power cable

CHO Kyucheol, KU Kwanghoi, LEE Jaesun - SK Energy, Daejeon; Rep. of Korea

CHO Kyucheol, KU Kwanghoi, SK Energy, Daejeon; Rep. of Korea

KIM Dongmyung, JOUNG Jongman, KWON Taeho - Kepco Research Institute, Daejeon; Rep. of Korea

B.2.6

New technology for recycling of plastics from cable waste

Annika BOSS - Swerea IVF, Mölndal; Sweden

Jan-Ove BOSTRÖM, Per-Håkan NILSSON - Ineos ChlorVinyls, Stenungsund; Sweden

Andreas FARKAS - ABB AB, Karlskrona; Sweden

Alf ERIKSSON - Nexans IKO Sweden AB, Grimsås; Sweden

Erik RASMUSSEN - Stena Metall AB, Gothenburg; Sweden

Elin SVENNINGSSON - Draka Kabel Sverige AB, Nässjö; Sweden

Mattias DALESJÖ - Volvo 3P, Gothenburg; Sweden

Alf JOHANSSON - Volvo Car Corporation, Gothenburg; Sweden

SESSION C.2

LV and MV Cable Systems reliability

Monday June 20th, 2011 - 14:30 - 16:00

Room C

Chairman: **Jacint ROVIRA** - Grupo General Cable Sistemas SA (Spain)

Rapporteur: **Alain DOULET** - ERDF (France)

C.2.1

Cable with optimized screen sheath complex

Isabelle DENIZET, Cécile LELIEVRE, Bernard POISSON - Silec Cable (General Cable), Montereau ; France

Rajae BENAKKI - General Cable, Manlleu, Barcelona; Spain

C.2.2

The influence of manufacturing technique to power frequency breakdown characteristics of XLPE power cable

YAN Mengkun, YANG Rongkai, MIAO Fugui, Quality Inspection and Test Center for Equipment of Electric Power, Wuhan, Hubei province; China

YANG Liming - State Grid Electric Power Research Institute, Wuhan, Hubei province; China

C.2.3

Improving distribution system reliability

Donald BAINBRIDGE - CitiPower & Powercor, Melbourne, Victoria; Australia

C.2.4

An enhanced TR-XLPE insulation for long life power cables

Paul CARONIA, Saurav SENGUPTA, Timothy PERSON - The Dow Chemical Company, Piscataway, NJ; United States
Steve CREE - Dow Europe GmbH, Horgen; Switzerland

C.2.5

Temperature factor impact on the cable service life of XLPE cable during the installation of cable accessories

LI Zhongqun, ZHAO Sen, WANG Wei - State Grid Electric Power Research Institute, Wuhan, Hubei province; China
LUO Jingsheng - Electric Power of Hangzhou, Hangzhou City; China

SESSION D.2

Maintenance (1)

Monday June 20th, 2011 - 14:30 - 16:00

Room D

Chairman: **Seung-Ik JEON** - LS Cable (Rep. of Korea)

Rapporteur: **Sylvéric LAUMOND** - Silec Cable (General Cable) (France)

D.2.1

Monitoring facilities for outage reduction of 380 kV power cables

Sander MEIJER - TenneT TSO bv, Arnhem; The Netherlands
Johan J. SMIT - Delft University of Technology, Delft; The Netherlands

Rogier JONGEN - Seitz Instruments AG, Niederrohrdorf; Switzerland

Edward GULSKI - onsite.hv.solutions AG, Luzern; Switzerland

D.2.2

Development of the electric potential method for HPFF cable systems

NISHIKAWA Tsuyoshi, AIHARA Yasuhiko, TSUCHIYA Shinichi, Tokyo Electric Power Company, Chiyoda-ku, Tokyo; Japan

D.2.3

Underground cables maintenance and repair

Patrick DELCOURT, Joël BOUYER - RTE, Paris ; France

D.2.4

Development of a simple method for condition assessment of oil filled XLPE terminations

Knut Brede LILAND, Sverre HVIDSTEN - SINTEF Energy Research, Trondheim; Norway

Geir BIRKENES, Frank MAUSETH - Department of Electric Power Engineering, NTNU, Trondheim; Norway
Eilert BJERKAN - Nortroll AS, Levanger; Norway

D.2.5

REE's power cable maintenance program

Rafael GARCÍA FERNÁNDEZ, Miguel Ángel PÉREZ LOUZAO - Red Eléctrica de España, S.A., Madrid; Spain

D.2.6

Materials and test methods for power cables exposed to heavy operating conditions

Christian CORNELISSEN - Nexans Deutschland, Moenchengladbach; Germany

SESSION A.3

HV Service experience

Monday June 20th, 2011 - 16:30 - 18:15

Room A

Chairman: **Kenneth BARBER** - Nexans Asia-Pacific (Australia)

Rapporteur: **Fabien CHARLES** - Silec Cable (General Cable) (France)

A.3.1

500 kV feed cable project for EXPO substation

JIANG Yun - Shanghai Municipale Electrical Power Company, Shanghai; China

JIANG Xiaojuan, WANG Zhigang - Power Grid Inspection & Maintenance Company, SMEPC (Shanghai Municipale Electrical Power Company), Shanghai; China

A.3.2

New 400 kV underground XLPE insulated cable system in UAE

SHIMIZU Toshio, AOKI Toshiji, KURATA Tatsuo - J-Power Systems Corporation, Osaka; Japan

SUKEGAWA Takuya, IGI Tsuyoshi - J-Power Systems Corporation, Hitachi, Ibaraki; Japan

MASHIO Shoji - J-Power Systems Corporation, Tokyo; Japan

A.3.3

Technical solution to completion of the world first 500 kV XLPE underground cable system in Shanghai

WONG Hai Ngiing, ABE Shunsuke, YAMAMOTO Shoji, TORAI Yasuo - VISCAS Corporation, Tokyo; Japan

JIANG Yun, YANG Wen Wei, FANG Hao - Shanghai Municipale Electrical Power Company, Shanghai; China

A.3.4

Prequalification test of 500 kV XLPE cable system in China

XIA Rong, **YANG Liming** - State Grid Electric Power Research Institute, Wuhan, Hubei province; China

YANG Rongkai - Quality Inspection and Test Center for Equipment of Electric Power, Wuhan, Hubei province; China

JIN Guangqi, **LV Gengming** - Shenyang Furukawa Cable Corp., LTD., Shenyang, Liaoning; China

TAKAO Nakano - VISCAS Corporation, Tokyo; Japan

A.3.5

Experience with developing and installing of a three core 150 kV power cable

Jacco SMIT, **Arie STEENIS**, **Alex GESCHIERE**,

Jens WOLCKEN, **Hendrik REITER** - Liandon, Alkmaar; The Netherlands

Volker WASCHK - nkt cables GmbH, Köln; Germany

A.3.6

Development, qualification and experiences with 500 kV XLPE cable systems

Johannes KAUMANN, **Andreas WEINLEIN**, **Gero SCHROEDER**,

Volker STROOT - Suedkabel GmbH, Mannheim; Germany

A.3.7

Return of experience of 380 kV power cable failures

Sander MEIJER - TenneT TSO bv, Arnhem; The Netherlands

Johan J. SMIT, **Xiaolin CHEN** - Delft University of Technology, Delft; The Netherlands

Wilfried FISCHER - 50Hertz Transmission GmbH, Berlin; Germany
Luigi COLLA - Terna S.p.A., Rome; Italy

SESSION A.3.bis

Presentation of Poster Session E.7.2

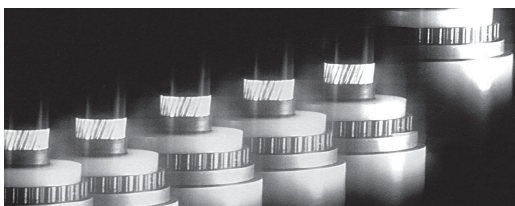
Monday June 20th, 2011 - 18:15 - 18:30

Room A

Chairman: **Kieron LEEBURN** - CBI-electric: African Cables Ltd (South Africa) (t.b.c)

Rapporteur: **Raymond PETRUS** - Silec Cable (General Cable) (France)

Presentation of the session by the chairman.



SESSION B.3

Challenges - Fire

Monday June 20th, 2011 - 16:30 - 18:15

Room B

Chairman: **Jean BECKER** - Nexans / SART Consult (Belgium)
Rapporteur: **Jean-Louis PONS** - Prysmian Câbles et Systèmes (France)

B.3.1

Fire performance of HV and EHV XLPE insulated cables

James ROBINSON, Wendy LOYENS - Borealis Polymers NV, Beringen; Belgium
Graeme ALEXANDER - Olex Cables, Victoria; Australia

B.3.2

The role of the EU Construction Products Directive in supporting the application of improved low fire-hazard cables

Jan SCHUTTEN - Europacable, Brussels; Belgium

B.3.3

IEEE, API and IEC Standards update for testing, selection and installation of fire-rated circuit integrity cables

Arturo MALDONADO - A&M Technology Group LLC, Naples, Florida; United States

B.3.4

Study on the reaction to fire of medium voltage cables systems

Neus GENERÓ, Jacint ROVIRA, Juan de Dios MARTÍNEZ - Grupo General Cable Sistemas S.A., Manlleu, Barcelona; Spain
Saturnino MARTÍN, Gonzalo MAÍZ - IBERDROLA, Bilbao; Spain
Gregorio DENCHE - Red Eléctrica de España, S.A., Madrid; Spain

B.3.5

Fire performance cables under current overload conditions

Ivan IVANOV, Graeme ALEXANDER - Olex, a Nexans company, Melbourne, Victoria; Australia
Richard HOSIER, Ken BARBER - Nexans Asia Pacific, Singapore

B.3.6

Fire equipment system in underground tunnels of KEPCO

PAIK Nam-yeol, KIM Hong-lae - KEPCO, Seoul; Rep. of Korea

B.3.7

Assessment of the reaction to fire performance of electric cables under the EU construction products directive

Terence JOURNEAUX - Prysmian Cables & Systems Limited, Eastleigh; United Kingdom

SESSION B.3.bis

Presentation of Poster Session E.7.1

Monday June 20th, 2011 - 18:15 - 18:30

Room B

Chairman: **John R. DENSLEY** - ArborLec Solutions Inc. (Canada)

Rapporteur: **Jérôme MATALLANA** - Nexans (France)

Presentation of the session by the chairman.

SESSION C.3

Testing methods - Water Trees and Partial Discharges

Monday June 20th, 2011 - 16:30 - 18:15

Room C

Chairman: **Mark FENGER** - Kinectrics (Canada) (t.b.c.)

Rapporteur: **Bernard POISSON** - Silec Cable (General Cable) (France)

C.3.1

Non-destructive water-tree detection in XLPE cables

Willem BOONE - KEMA Nederland BV, Arnhem;

The Netherlands

John DENSLEY - Arborlec Solutions, Mississauga; Canada

Sverre HVIDSTEN - SINTEF Energy Research, Trondheim; Norway

C.3.2

Tree-retardant crosslinked (TRXLPE) reduced insulation wall accelerated cable life test (ACLT) results

John T. SMITH III - General Cable Corporation, Scottsville, TX; United States

C.3.3

3 kHz accelerated growth of water trees in medium voltage extruded cables

Blandine HENNUY, Quentin DE CLERCK - Laborelec, Linkebeek; Belgium

Alain FRANÇOIS, Daniel TENRET - Ores, Louvain-La-Neuve; Belgium

Pieter LEEMANS, Joachim MARGINET - Eandis, Melle; Belgium

C.3.4

A new approach to avoid negative superposition errors for PD measurements on lengths of extruded power cable

Kay RETHMEIER, Alexander KRAETGE, Michael KRÜGER - Omicron, Klaus, Vorarlberg; Austria

C.3.5

A new method of adopting distributed PD measurement in series resonance frequency voltage resistance test of high voltage cable

ZHOU Lijun, JIANG Xiaojuan - Power Grid Inspection & Maintenance Company, SMEPC (Shanghai Municipale Electrical Power Company), Shanghai; China

C.3.6

Measuring partial discharges with enhanced noise reduction by use of multi-band PD bandpass filters

Kay RETHMEIER, Alexander KRAETGE, Michael KRÜGER - Omicron, Klaus, Vorarlberg; Austria

SESSION C.3.bis

Presentation of Poster Session E.5.1

Monday June 20th, 2011 - 18:15 - 18:30

Room C

Chairman : **François COCHET** - Nexans (Switzerland)

Rapporteur : **Serge COLOMBIER** - Prysmian Câbles et Systèmes (France)

Presentation of the session by the chairman.

SESSION D.3

Maintenance (2)

Monday June 20th, 2011 - 16:30 - 18:15

Room D

Chairman: **Xiaolong CAO** - Univ. of Xian Jiaotong (China) (t.b.c.)

Rapporteur: **Christian RÉMY** - Prysmian Câbles et Systèmes (France)

D.3.1

Application of artificial intelligence to the problem of selecting the appropriate diagnostic for cable systems

Yamille DEL VALLE, Nigel HAMPTON - NEETRAC, Atlanta, GA; United States

D.3.2

Implementation of low and medium voltage cable ageing management at nuclear power plants

Gary TOMAN - Electric Power Research Institute, Charlotte, NC; United States

D.3.3

New technique for fault location in underground medium voltage cable

Lionel REYNAUD, Daniel PINEAU - Institut de recherche d'Hydro-Québec (IREQ), Varennes, Québec; Canada

Jacques CÔTÉ - Hydro-Québec Distribution, Montréal, Québec; Canada

D.3.4

Implementation of modern methods of on-site testing and diagnosis of HV power cables

Edward GULSKI - onsite.hv.solutions AG, Lucerna; Switzerland

Aleksandra RAKOWSKA, Krzysztof SIODLA - Poznan University of Technology, Poznan; Poland

Piotr CICHECKI - onsite.hv.solutions Benelux B.V., Delft; The Netherlands

Laurens D. POTS - BV Twentsche Kabelfabriek, Haaksbergen; The Netherlands

Johan J. SMIT - Delft University of Technology, Delft; The Netherlands

D.3.5

Hydro-Québec experience with infrared imaging for the maintenance of the underground medium voltage cable system

Jacques CÔTÉ, André BELLEMARE - Hydro-Québec, Montréal, Québec; Canada

D.3.6

Investigation into the downtown Vancouver outage of 14 July 2008

Khaled ABDOLALL, John VANDERMAAR - Powertech Labs Inc., Surrey, BC; Canada

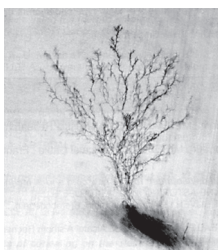
Dexter TARAMPI - BC Hydro, Vancouver, BC; Canada

D.3.7

Condition based maintenance of LV cable network of public lighting

Zoltán Ádám TAMUS, Norbert FEKETE - Budapest University of Technology and Economics, Budapest; Hungary

Tamás SCHACHINGER, Róbert EGYED - GA Hungary Ltd., Törökbálint; Hungary



SESSION D.3.bis
Presentation of Poster Session E.5.2

Monday June 20th, 2011 - 18:15 - 18:30

Room D

Chairman: **Robert DONAGHY** - ESB International (Ireland)
Rapporteur: **Isabelle DENIZET** - Silec Cable (General Cable)
(France)

Presentation of the session by the chairman.

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Tuesday June 21st, 2011

SESSIONS A.4
HV System design - EMF (Electric and
Magnetic Fields)

Tuesday June 21st, 2011 - 9:00 - 10:30

Room A

Chairman: **Alain GILLE** - Elia Engineering (Belgium)
Rapporteur: **Pierre MIREBEAU** - Nexans France (France)

A.4.1

Retrofitting of pipe-type cables

Pierre HONDAA, Martial GUILLEMIN, Frédéric LESUR - RTE,
Paris ; France

A.4.2

HVAC cables with ferromagnetic sheathings

Jacco SMIT - Liandon, Alkmaar; The Netherlands
Heiner BRAKELMANN, Jorg STAMMEN, Jan BRUEGGMANN -
University Duisburg-Essen, Duisburg; Germany
Volker WASCHK - nkt cables GmbH, Köln; Germany

A.4.3

Towards smart grid approach: Data acquisition from on-line monitoring of high voltage XLPE/oil-filled transition joints

Luigi TESTA - Techimp, Bologna; Italy
Andrea CAVALLINI, Gian Carlo MONTANARI - University of
Bologna, Bologna; Italy
Arie MAKOVOZ - ConEdison, New York, NY; United States

A.4.4

The impact of transmission cable system construction and design on commissioning test options and results

Steven CAMPBELL - General Cable / Silec Cable, Carrollton,
Georgia; United States
Benjamin LANZ - IMCORP, Manchester, Connecticut;
United States

A.4.5

Feasibility study and cable system optimization in application of 500 kV XLPE cable in Edmonton region of Alberta

Ali DARIANI - SNC LAVALIN T&D, Calgary Alberta; Canada

A.4.6

Recent experiences with AC High voltage test equipment and PD commissioning testing of XLPE cable systems rated 69 kV and above

Mark FENGER - Kinectrics Inc., Toronto, Ontario; Canada

SESSION B.4 Challenges

Tuesday June 21st, 2011 - 9:00 - 10:30

Room B

Chairman: **Marcello DEL BRENNIA** - Prysmian Powerlink Srl (Italy)

Rapporteur: **Rémi VATONNE** - RTE (France)

B.4.1

HVDC XLPE cable systems applicable for higher temperature and polarity reversal operation

MURATA Yoshinao, ABE Kazutoshi, MATSUNAGA Osamu, ASAI Shinya, KATAKAI Shoshi - J-Power Systems Corporation, Hitachi, Ibaraki; Japan

MASHIO Shoji, SUIZU Makoto - J-Power Systems Corporation, Minato-ku, Tokyo; Japan

B.4.2

Electric field measurements on XLPE/EPDM 2-layer insulation systems under DC stress

Jérôme MATAALLANA, Ludovic BOYER, Jean-François BRAME, Pierre MIREBEAU - Nexans France, Calais ; France

Jérôme CASTELLON, Petru NOTINGHER, Serge AGNEL, Alain TOUREILLE - Institut d'Electronique du Sud - Université Montpellier 2, Montpellier ; France

B.4.3

Dielectric characterization of non-linear materials subjected to high DC and transient stresses

Ludovic BOYER, Jérôme MATAALLANA, Xavier MEERSSEMAN - Nexans France, Calais ; France

Björn SONERUD - Nexans Norway AS, Halden; Norway

Arnaud ALLAIS - Nexans Research Centre, Lyon ; France

Jérôme CASTELLON, Petru NOTINGHER - Institut d'Electronique du Sud - Université Montpellier 2, Montpellier ; France

B.4.4

Further developed fully insulated high voltage aerial cables

Lars EFRAIMSSON, Bengt STRÖM, Thomas CARLQVIST - Ericsson AB, Falun; Sweden

B.4.5

Introduction of mitigation technique to control magnetic field radiated by underground cables

Kamal BEN HAMMADI, Fabien CHARLES, Bernard DHUICQ - Silec Cable (General Cable), Montereau ; France

SESSION C.4

Testing methods

Tuesday June 21st, 2011 - 9:00 - 10:30

Room C

Chairman: **Nigel HAMPTON** - Georgia Tech NEETRAC (USA)
Rapporteur: **Emmanuel BIC** - Silec Cable (General Cable) (France)

C.4.1

On-site testing with compact AC test-system at the first 500 kV XLPE cable project in South America

Andreas WEINLEIN, Gero SCHROEDER - Suedkabel GmbH, Mannheim; Germany

Harald GEYER - agea-kull ag, Derendingen; Switzerland

C.4.2

A methodology for the assessment of HVDC-XLPE cable insulation

Bertrand VISSOUVANADIN, Gilbert TEYSSÉDRE, Séverine LE ROY, Christian LAURENT - Laboratoire LAPLACE, Toulouse ; France

Isabelle DENIZET, Mohamed MAMMERI, Bernard POISSON - Silec Cable (General Cable), Montereau ; France

C.4.3

Online-monitoring of the conductor temperature in MV power cable production using ultrasonic diagnosis

Gregor BRAMMER, Armin SCHNETTLER - Institute for high voltage technologies, Aachen; Germany

C.4.4

Modern methods of installation and diagnostic testing of distribution power cables

Edward GULSKI - onsite.hv.solutions AG, Luzern; Switzerland

Frank De VRIES - Liandon, Alkmaar; The Netherlands

Piotr CICHECKI - onsite.hv.solutions Benelux B.V., Werkendam; The Netherlands

Johan J. SMIT - Delft University of Technology, Delft; The Netherlands

C.4.5

Challenges associated with the interpretation of dielectric loss data from power cable system measurements

Joshua PERKEL, Nigel HAMPTON - NEETRAC, Atlanta, GA; United States

Jean Carlos HERNANDEZ - Universidad de Los Andes, Mérida, Mérida; Venezuela

Jean-François DRAPEAU - Institut de recherche d'Hydro-Québec (IREQ), Montréal, Québec; Canada

John DENSLEY - Arborlec Solutions, Toronto, Ontario; Canada

C.4.6

Next generation 200 kV VLF field testing and diagnosing of high voltage power cables

Mohammad Eyad AL-SIBAI - High Voltage Inc., Copake, New York; United States

SESSION D.4

Submarine - Cable performance

Tuesday June 21st, 2011 - 9:00 - 10:30

Room D

Chairman: **Marco MARELLI** - Prysmian (Italy)

Rapporteur: **Vincent VENTURINI** - RTE (France)

D.4.1

Collective versus individual screening of “wet design” (Um ≤ 36 kV) power cores for multi-core cables

Jarle J BREMNES - Nexans Norway AS, Halden; Norway

Hallvard FAREMO - SINTEF Energy Research, Trondheim; Norway

D.4.2

Analysis of transmission capacity of Zhoushan-mainland 110 kV submarine cables

WU Mingxiang - Zhejiang Provincial Electric Power Test and Research Institute, Hangzhou City; China

D.4.3

The Hawon-Anjwa project: Development and installation of the AC 154 kV XLPE 3 cores fiber optic embedded submarine power cable system

KIM Nam-yu, KIM Sung-yun, JEON Seung-ik, KWUN Young-guk, LEE Kwang-yeol - LS Cable Ltd, Gumi, Gyeongbuk; Rep. of Korea

D.4.4

Water drop discharges and surface flashover at the solid - solid interface of submarine cable connectors

Seyed Majid HASHEMINEZHAD, Erling ILDSTAD - Department of Electric Power Engineering, Norwegian Univ. of Technology and Science, Trondheim; Norway

D.4.5

The Oslo fjord project - The first project with long length 420 kV XLPE insulated submarine cables

Tor SKEIE, Jostein ELDERS, Alf Erik RØD - Nexans Norway
AS, Halden; Norway

Bjørn SANDEN, Jørgen THON - Statnett, Oslo; Norway

D.4.6

Qualification of a long 345 kV submarine XLPE cable system

Johan KARLSTRAND, Danijela PALMGREN, Jörn ANTONISCHKI,
Jonas JOHANSSON, Björn ZETTERVALL - ABB, Karlskrona;
Sweden

SESSION A.5 HV Accessories

Tuesday June 21st, 2011 - 11:00 - 12:30

Room A

Chairman: **Aleksandra RAKOWSKA** - Tu Poznan University
of Technology (Poland)

Rapporteur: **François GAHUNGU** - Nexans (France)

A.5.1

Cable accessories workmanship - US perspective

Milan UZELAC, Steve WARTON - G&W Electric Company,
Blue Island, IL; United States

Frank FRENTZAS - Exelon-Commonwealth Edison, Chicago,
IL; United States

A.5.2

Development of dry outdoor termination with silicone gel for self-standing

MORI Anna, MARUICHI Shinji, NIINOBE Hiroshi, SUETSUGU
Masahiro - VISCAS Corporation, Ichihara, Chiba; Japan

A.5.3

Dry terminations for high voltage cable systems

Pascal STREIT - Nexans Switzerland, Penthalaz ; Switzerland

A.5.4

Remedial action and further quality assuring measures after a failure in a 400 kV GIS cable termination

Frank JAKOB, Frank KOWALOWSKI, Claus KUHN, Wilfried
FISCHER - 50Hertz Transmission GmbH, Berlin; Germany
Sigurdur A. HANSEN - Suedkabel GmbH, Mannheim;
Germany

A.5.5

Long time operational experience with 400 kV XLPE power cable systems in Berlin

Claus Georg HENNINGSEN, Wilfried FISCHER - 50Hertz
Transmission GmbH, Berlin; Germany

A.5.6

Red Electrica's operating experience on 400 kV submarine and underground interconnection between Spain and Morocco

Rafael GARCÍA FERNÁNDEZ, Miguel Ángel PÉREZ LOUZAQ,
Maria Dolores LÓPEZ-MENCHERO CÓRDOBA - Red Eléctrica
de España, S.A., Alcobendas; Spain

SESSION B.5

Long links & Gas Insulated Line (GIL)

Tuesday June 21st, 2011 - 11:00 - 12:30

Room B

Chairman: **Ray AWAD** - Hydro-Québec TransÉnergie (Canada)
Rapporteur: **Éric DORISON** - EDF R&D (France)

B.5.1

Feasibility of a 100 km underground cable system to supply or deliver 135 MVA to or from a remote plant

Mark STEMMLE - Nexans Deutschland GmbH, Hannover;
Germany

Ken BARBER - Nexans Asia-Pacific, Singapore; Singapore

B.5.2

Electrical studies performed to insert long AC cables in the French grid - First conclusions

Sébastien DENNETIERE, Jonathan DUFOUR,
Alexandre PARISOT, Jean-Pierre TAISNE, Yannick VERNAY -
RTE, Paris la Défense ; France

B.5.3

Contribution to localization of a fault on a long extruded submarine cable by LV Time Domain Reflectometry

Alain HERBRETEAU - OTC, Avignon ; France

Bernard DHUICQ - Silec Cable (General Cable), Montereau ; France

B.5.4

Challenges during planning, development and performance at a 275 kV XLPE cable project in the city of Liverpool

Sebastian EBERT, Horst MEMMER, Johannes KAUMANN,
Andreas WEINLEIN, Gero SCHROEDER - Suedkabel GmbH,
Mannheim; Germany

B.5.5

GIL for power transmission in specific site conditions

Alberto BERTINATO, Alain GIRODET - Alstom GRID,
Villeurbanne ; France

Mathieu BERNARD, Jean-Luc RAYON, Arnaud FICHEUX -
Alstom GRID, Aix-Les-Bains ; France

B.5.6

Pilot installation of a 380 kV directly buried gas insulated line (GIL)

Claus NEUMANN - Siemens AG, Erlangen; Germany

Stephan POEHLER - Amprion GmbH, Dortmund; Germany

SESSION C.5

Cables for the future - Nano dielectrics

Tuesday June 21st, 2011 - 11:00 - 12:30

Room C

Chairman: **Michel FRÉCHETTE** - Institut de recherche d'Hydro-Québec (IREQ), Varennes, Québec; (Canada)

Rapporteur : **Jérôme CASTELLON** - Université de Montpellier (France)

C.5.1

Progress in the field of nanodielectrics : potentiality for HV cable applications

Michel F. FRÉCHETTE - IREQ; Canada

Arnaud ALLAIS, Lazhar KEBBABI - Nexans; France

Jérôme CASTELLON - IES; France

Hugues COUDERC, Christele VANGA - ÉTS/IREQ; Canada

C.5.2

Effect of conductive inorganic filler on space charge characteristics in XLPE as a HVDC insulating material

MIZUNO Takehiko, TAKAHASHI Tohru - VISCAS Corporation, Ichihara, Chiba; Japan

HARADA Hiroshi, HAYASHI Nobuya, TANAKA Yasuhiro - Tokyo City University, Setagaya-ku, Tokyo; Japan

MAENO Takeshi - National Institute of Information and Communication Technology, Koganei, Tokyo; Japan

C.5.3

Dielectric properties analysis of HDPE/SiO₂ nanodielectric materials for future cable insulation

Jérôme CASTELLON, Laurent BANET, Ioana PREDA, Serge AGNEL, Alain TOUREILLE - Institut d'Électronique du Sud - Université Montpellier 2, Montpellier; France

Éric DAVID, Abdelkhalek SAMI - École de Technologie Supérieure - Université du Québec, Québec, QC; Canada

Michel F. FRÉCHETTE - Institut de recherche d'Hydro-Québec (IREQ), Québec, QC; Canada

C.5.4

Voltage stabilizing additive assessment in polyethylene insulation

Timothy PERSON, Bret NEESE - The Dow Chemical Company, Piscataway, NJ; United States

C.5.5

Dielectric response of polyethylene loaded with nano particules of SiO₂

Éric DAVID, Abdelkhalek SAMI - École de Technologie Supérieure - Université du Québec, Québec, QC; Canada

Michel F. FRÉCHETTE - Hydro-Québec's Research Institute, Québec, QC; Canada

C.5.6

PEA assessment of XLPE and semiconductive compounds for HVDC application: Measurements on plaques and mini-cables

Barry LENNON, Peter MORSHUIS - Delft University of Technology, Delft; The Netherlands

Timothy PERSON - The Dow Chemical Company, Piscataway, NJ; United States

Simon SUTTON - Dow Chemical Company Ltd, Staines; United Kingdom

SESSION E.5.1

Ageing, Maintenance, remaining life estimation and management (1)

Tuesday June 21st, 2011 - 11:00 - 12:30

Room E:
Poster Session

Chairman: **François COCHET** - Nexans (Switzerland)

Rapporteur: **Serge COLOMBIER** - Prysmian Câbles et Systèmes (France)

E.5.1.1

Effects of cross-linking method on insulation properties of cross-linked polyethylene

ZHU Xiao-hui, ZHOU Feng-zheng - Tianjin Electrical Power Research Institute, Tianjin; China

DU Bo-xue, GAO Yu - School of Electrical Engineering and Automation, Tianjin University, Tianjin; China

E.5.1.2

The effect of the peroxide ratio on crosslinking of cable materials

Amin SHABANI, Emmanuel RICHAUD, Xavier COLIN - Arts et Métiers ParisTech, Paris ; France

Gregory MARQUE, Carole MONCHY-LEROY - EDF R&D, Moret-sur-Loing ; France

E.5.1.3

Study of the stabilization of polyethylene and ethylene-propylene copolymers by a phenolic antioxydant

Wissam BANNOUF, Emmanuel RICHAUD, Xavier COLIN - Arts et Métiers ParisTech, Paris ; France

Grégory MARQUE, Carole MONCHY-LEROY - EDF R&D, Moret-sur-Loing ; France

E.5.1.4

Electric properties of XLPE model cables under AC and DC field at various temperatures

Le WANG, Davide FABIANI, Gian Carlo MONTANARI, Fabrizio PALMIERI - University of Bologna, Bologna; Italy
Ulf. H. NILSSON - Borealis AB, Stenungsund; Sweden

E.5.1.5

A new method for monitoring the antioxidant content in cable compounds during e-beam crosslinking

Matthias MEYER, Inge DUEMMER - Nexans Research Center, Nuremberg; Germany

E.5.1.6

Development of a diagnosis technique for assessing the properties of nuclear aged cables

Domitille PITARD, Carole MONCHY-LEROY - EDF R&D, Moret-sur-Loing ; France
Patrice THÉRON - EDF SEPTEN, Villeurbanne ; France

E.5.1.7

Rapid qualification of power cables materials

Henryk HERMAN, Gary STEVENS, Janet THOMAS - GnoSys UK Ltd, Guildford; United Kingdom

E.5.1.8

The effect of water ingress on dielectric properties of polyethylene cable insulation

Simon BERNIER, Jean-François DRAPEAU - Institut de recherche d'Hydro-Québec (IREQ), Varennes, Québec ; Canada
Éric DAVID - École de Technologie Supérieure - Université du Québec, Montréal, Québec ; Canada

E.5.1.9

Analysis of the resistivity loss of aged PVC cables and effects on their dielectric strength

Pierre QUENNEHEN, Fabrice ZORZI, Thierry ESPILIT - EDF R&D, Moret-sur-Loing ; France
Patrice THÉRON - EDF SEPTEN, Villeurbanne ; France
Isabelle ROYAUD, Gérard SEYTRE - IMP/LMPB Université Lyon 1, Villeurbanne ; France
Pascal RAIN - G2ELab, Grenoble ; France

E.5.1.10

Evaluation of field rejuvenated medium-voltage extruded cables

Serge PÉLISSOU, Saleman ALIBHAY - Institut de recherche d'Hydro-Québec (IREQ), Varennes, Québec ; Canada

E.5.1.11

Study on the maintenance policy based on RCM for power cable lines

ZHAO Jiangkang, LUO Junhua - State Grid Electric Power Research Institute of China, Wuhan, Hubei province; China

ZHANG Li - Power Grid Inspection & Maintenance Company, SMEPC (Shanghai Municipale Electrical Power Company), Shanghai; China

LI Honglei - East China Electric Power Test & Research Institute Co., Ltd., Shanghai; China

E.5.1.12

Underground cable description data management

Patrick DELCOURT, Joël BOUYER - RTE, Paris ; France

E.5.1.13

Replacement strategies for customer minutes lost reduction in medium voltage cable networks

Peter BUYS, Dik Van HOUWELINGEN, Edward COSTER - Stedin BV, Rotterdam; The Netherlands

E.5.1.14

Evaluation of insulating systems quality for HVDC power cable design toward space charge criterion

Jérôme CASTELLON, Serge AGNEL, Alain TOUREILLE - Institut d'Électronique du Sud - Université Montpellier 2, Montpellier ; France

Arnaud ALLAIS, Lorrene BAYON - Nexans Research Center, Lyon ; France

E.5.1.15

On-line diagnostic system for SVL device on underground power cables

MYUNG Keun-Sik, YOON Huyng-hee, KIM Heung joo - KEPCO, Seoul; Rep. of Korea

JEONG Jae ki, JEONG Yun-kee, CHOI Yun-Jong - HanbitEDS Co. Ltd, DaeJeon; Rep. of Korea

SESSION E.5.2

Ageing, Maintenance, remaining life estimation and management (2)

Tuesday June 21st, 2011 - 11:00 - 12:30

Room E:
Poster Session

Chairman: **Robert DONAGHY** - ESB International (Ireland)

Rapporteur: **Isabelle DENIZET** - Silec Cable (General Cable) (France)

E.5.2.1

Partial discharge (PD) automatic diagnosis tool for workers' safety in underground vaults

François LÉONARD, Lionel REYNAUD, Jacques BHERER, Daniel PINEAU, Didier MUSSARD, Sylvain POIRIER - Hydro-Québec, Québec, QC; Canada

E.5.2.2

Temperature dependency of tan delta measurements at 0.1 Hz in XLPE medium voltage power cables

Cuthbert NYAMUPANGEDENGU - University of the Witwatersrand, Johannesburg; South Africa

Jerry WALKER - Walmet Technologies (Pty) Ltd, Vereeniging; South Africa

E.5.2.3

Partial discharges pattern characteristics of 220 kV XLPE power cable joints with artificial defect

ZHANG Xuejin, PAN Leilei - Shanxi Taiyuan Electric Power Supply Company, Taiyuan; China

LUO Junhua, LI Wenjie, XIA Rong - State Grid Electric Power Research Institute, Wuhan, Hubei province; China

E.5.2.4

High frequency signal propagation in solid dielectric tape shielded power cables

Jun (Jim) GUO, Rick STAGI - Utilx Corporation, Kent, WA; United States

E.5.2.5

Dependency of the dissipation factor on the test-voltage and the ageing status of MV PILC cables

Ivana MLADENOVIC, Christian WEINDL - University of Erlangen-Nuremberg, Institute of Electrical Power Systems, Erlangen; Germany

E.5.2.6

A novel anti-interference method for partial discharges on-line measurement of HV power cables

LI Wenjie, LUO Junhua, ZHAO Jiankang, XIA Rong, MENG Shaoxin - State Grid Electric Power Research Institute, Wuhan, Hubei province; China

ZHANG Xuejin, PAN Leilei - Shanxi Taiyuan Electric Power Supply Company, Taiyuan; China

E.5.2.7

Electrical trees and partial discharges degradation characteristics in XLPE cable insulation at high temperature

FENG Yi - Beijing Electric Test and Research Institute, Beijing; China

CHEN Xiangrong, XU Yang, CAO Xiaolong - State Key Laboratory of Electrical Insulation and Power Equipment, Xi'an Jiaotong University, Xi'an; China

E.5.2.8

VLF tan-delta measurement on submarine cables in KEPCO

LEE Jae-bong, JUNG Yeon-ha - KEPCO Research Institute, Daejeon; Rep. of Korea

KIM Sung-min, KWON Tae-joon - KEPCO Head Office, Seoul; Rep. of Korea

E.5.2.9

Partial discharge feature selection and evaluation using an enhanced recursive feature elimination (RFE) algorithm

Jean Carlos HERNÁNDEZ, Jesús VELAZCO - Universidad de Los Andes, Mérida, Mérida; Venezuela

Joshua PERKER - Georgia Institute of Technology, Atlanta, GA; United States

E.5.2.10

Investigation of power frequency current transformer as partial discharge sensor in medium voltage cables

Faisal PEER MOHAMED, Wah Hoon SIEW, John SORAGHUN, Scott STRACHAN - University of Strathclyde, Glasgow, Scotland; United Kingdom

E.5.2.11

A new lumped model for electrical treeing in XLPE cable insulations

Abbas NAJAFIPOUR, Sayyed Mohammad SHAHRTASH - Iran University of Science and Technology (IUST), Tehran; Islamic Republic of Iran

E.5.2.12

PD signal compensation in cable terminals and classification for HV cable insulation assessment

Mohsen BAKHSHI ASHTIANI, Mohammad SHAHRTASH - Iran University of Science and Technology (IUST), Tehran; Islamic Republic of Iran

E.5.2.13

Pulse signal propagation characteristics on the aged XLPE cable

TAKAHASHI Toshihiro, KURAISHI Takashi, TAKAHASHI Tsuguhiro, SUZUKI Hiroshi, OKAMOTO Tatsuki - Central Research Institute of Electric Power Industry (CRIEPI), Yokosuka; Japan

E.5.2.14

Equipment for fast water trees resistance measurement of power cable insulations

Sorin GRIGORESCU, Mihai Gabriel PLOPEANU, Petru NOTINGER Politehnica University of Bucharest, Bucharest; Romania

Cristina STANCU - INCDIE ICPE CA, Bucharest; Romania

E.5.2.15

VLF tan-delta criteria for XLPE insulated power cables in KEPCO

LEE Jae-bong, JUNG Yeon-ha - KEPCO Research Institute, Daejeon; Rep. of Korea

KIM Sung-min, KWON Tae-joon - KEPCO Head Office, Seoul; Rep. of Korea

E.5.2.16

Experiences of diagnosis of HV cables with damped AC technique

Zoltán Ádám TAMUS, Richárd CSELKÓ - Budapest University of Technology and Economics, Budapest; Hungary

Tamás SCHACHINGER, Róbert EGYED - GA Hungary Ltd., Törökbálint; Hungary

E.5.2.17

Thermal step method - A non-destructive tool for lifetime estimation of treed cables insulation

Cristina STANCU - INCDIE ICPE CA, Bucharest; Romania

Petru NOTINGHER JR. - Université Montpellier 2, Institut d'Électronique du Sud, Groupe Énergie et Matériaux, Montpellier; France

Petru V. NOTINGHER, Mihai Gabriel PLOPEANU - Politehnica University of Bucharest, Bucharest; Romania

SESSION A.6

Submarine - Cable Systems

Tuesday June 21st, 2011 - 14:30 - 16:00

Room A

Chairman: **Anders H. GUSTAFSSON** - ABB AB / High Voltage Cables (Sweden)

Rapporteur: **David DUBOIS** - Nexans (France)

A.6.1

Offshore wind parks grids connection projects in German North Sea

Dongping ZHANG, Jochen JUNG, Thomas Jan LEBIODA - Tennet Offshore GmbH, Bayreuth; Germany

A.6.2

High capacity HVDC subsea link for the UK

Gareth PARKER - NGET, Warwick; United Kingdom

Paul CUNNINGHAM - Scottish Power, Glasgow, Scotland; United Kingdom

A.6.3

Cables for deep water applications

Marco BACCHINI, Marco MARELLI, Ambrogio ORINI - Prysmian PowerLink, Milan; Italy

A.6.4

Application of XLPE submarine power cable for extra high voltage

YANAGAWA Hiroyuki, MATSUNAGA Osamu, NAKAGAWA Toshihiro, ASAI Shinya - J-Power Systems Corporation, Hitachi, Ibaraki; Japan

KURATA Tatsuo - J-Power Systems Corporation, Osaka; Japan

MASHIO Shoji - J-Power Systems Corporation, Tokyo; Japan

A.6.5

HVAC power transmission to the Gjøa platform

Erik ERIKSSON, Marc JEROENSE, Magnus LARSSON-HOFFSTEIN, Claes SONESSON - ABB AB, High Voltage Cables, Karlskrona; Sweden

Knut-Aril FARNES, Rolf Ove RÅD, Karl Atle STENEVIK - Statoil AS, Stavanger; Norway

A.6.6

Corrosion behaviour of submarine power cables in seawater environments

Daniel ISUS, Juan de Dios MARTÍNEZ - General Cable Sistemas S.A., Manlleu, Barcelona; Spain

Virginia MADINA, Patricia SANTA COLOMA - TECNALIA, San Sebastián; Spain

SESSION B.6

Ageing and life expectancy (1)

Tuesday June 21st, 2011 - 14:30 - 16:00

Room B

Chairman: **John SMITH III** - General Cable Corporation (USA)

Rapporteur: **Frédéric PEURTON** - Nexans (France)

B.6.1

Nuclear cables: Lifetime simulation and new approach for the study of polymer ageing

Carole MONCHY-LEROY - EDF R&D, Moret-sur-Loing ; France

Patrice THÉRON - EDF SEPTEN, Villeurbanne ; France

B.6.2

Condition assessment of transmission power cables

Edward GULSKI - onsite.hv.solutions AG, Luzern; Switzerland

Piotr CICHECKI, Johan J. SMIT - Delft University of Technology, Delft; The Netherlands

Frank De VRIES - Liandon, Alkmaar; The Netherlands

Jan PELLIS - Stedin, Rotterdam; The Netherlands

Frank WESTER - TenneT, Arnhem; The Netherlands

B.6.3

Development of external diagnosis for XLPE cable terminations

SUYAMA Hiroshi, KOHAMA Takaharu, MORISHITA Yukinobu - Chubu Electric Power Co., Inc., Nagoya; Japan

WATANABE Masao, NAGAYAMA Tadanori - Tohoku Electric Power Co., Inc., Sendai; Japan

ABE Kazutoshi, SUZUKI Hiroshi - J-Power Systems Corporation, Hitachi, Ibaraki; Japan

B.6.4

Ageing performance of the new type outdoor termination using composite insulator

IIDA Tomoo, SHIRO Tadahiko, TANIGOCHI Minoru - The Kansai Electric Power Co., Inc., Osaka; Japan

HOMMA Hiroya - Central Research Institute of Electric Power Industry (CRIEPI), Yokosuka; Japan

INOUE Yoshiyuki, HAGISAWA Kazuhisa - J-Power Systems Corporation, Tokyo; Japan

B.6.5

Ageing UG systems: The SmartLife initiative

Hallvard FAREMO - SINTEF Energy Research, Trondheim; Norway

Frank De WILD - KEMA, Arnhem; The Netherlands

Éric DORISON - Électricité de France, Moret-sur-Loing ; France

B.6.6

Improvement of an health index from ageing studies and field outcome

Benoît PULUHEN, Éric DORISON, Yves BRUMENT - EDF R&D, Moret-sur-Loing ; France

SESSION C.6

Cables for the future - Superconductivity

Tuesday June 21st, 2011 - 14:30 - 16:00

Room C

Chairman: **David LINDSAY** - EPRI (USA)

Rapporteur: **Jean-Maxime SAUGRAIN** - Nexans (France)

C.6.1

Operation experience and further development of a high temperature superconducting power cable in the Long Island Power Authority grid

Frank SCHMIDT, Rainer SOIKA - Nexans Deutschland GmbH, Hannover; Germany

James MAGUIRE, Jie YUAN - American Superconductor Corporation, Devens, MA; United States

Shawn BRATT - Air Liquide Advanced Technologies US LLC, Newark, NJ; United States

Tom WELSH - Long Island Power Authority, Hicksville; United States

C.6.2

Development of 275 kV 3 kA HTS power cable

MUKOYAMA Shinichi, YAGI Masashi, YONEMURA Tokui,
NOMURA Tomoya, TENG Jun, Furukawa Electric, Ichihara,
Chiba; Japan

OHKUMA Takeshi, MARUYAMA Osamu - Superconductivity
Research Laboratory, Shinonome, Tokyo; Japan

AOKI Yuji - SWCC Showa Cable Systems, Sagamihara,
Kanagawa; Japan

SAITOU Takashi - Fujikura, Sakura, Chiba; Japan

AMEMIYA Naoyuki - Kyoto University, Saikyo-ku, Kyoto; Japan

ISHIYAMA Atsushi - Waseda University, Shinjuku-ku, Tokyo;
Japan

HAYAKAWA Naoyuki - Nagoya University, Chigusa-ku, Nagoya;
Japan

C.6.3

A breakthrough in the development of long-length HTS cables with integrated FCL property

Irina MELNIK, Alex GESCHIERE - Alliander, Duiven;
The Netherlands

Dag WILLÉN - nkt cables, Broendby; Denmark

Oleg CHEVTCHENKO - TU Delft, Delft; The Netherlands

C.6.4

Superconducting HVDC power cables: Concepts and potential

Rainer SOIKA, Erik MARZAHN, Frank SCHMIDT, Mark STEMMLE,
Beate WEST - Nexans Deutschland GmbH, Hannover;
Germany

Nicolas LALLOUET - Nexans France, Calais; France

C.6.5

HTS cable project in Yokohama

MASUDA Takato, YUMURA Hiroyasu, HIROTA Hirofumi -
Sumitomo Electric Industries, Ltd., Osaka; Japan

HONJO Shoichi, HARA Tsukushi - Tokyo Electric Power
Company, Yokohama; Japan

C.6.6

Novel grid concepts for urban area power supply

Mark STEMMLE - Nexans Deutschland GmbH, Hannover;
Germany

Frank MERSCHER - RWE Rheinland Westfalen Netz AG,
Essen; Germany

Bernd R. OSWALD - Leibniz University of Hannover, Hannover;
Germany

Mathias NOE - Karlsruhe Institute of Technology, Karlsruhe;
Germany

SESSION D.6

LV and MV Cable Systems

Tuesday June 21st, 2011 - 14:30 - 16:00

Room D

Chairman : **Ngapulir Irmea SINISUKA** - ITB, Institut Teknologi Bandung (Indonesia)

Rapporteur : **Stéphane TOGNALI** - Prysmian Câbles et Systèmes (France)

D.6.1

Ultra low weight combined LV/FO cable for steep cable car pathway

Boris DARDEL, Marc BRESSENELE, Jean WITTWER, François COCHET - Nexans Suisse SA, Cortaillod; Switzerland

D.6.2

Influence of the additives on the water-treeing in XLPE insulated cables

Emeric LONG, Isabelle DENIZET, Bernard POISSON - Silec Cable (General Cable), Montereau; France

Elisenda CASALS - General Cable, Manlleu, Barcelona; Spain

D.6.3

Reliability evaluation of distribution cable diagnosis instruments with field test

PARK Noh-joon - Center for Advanced Electric Application, Wonkwang University, Iksan, Jeonbuk; Rep. of Korea

PARK Dae-hee - Dept. of Electrical, Information & Communication Engineering, Wonkwang University, Iksan, Jeonbuk; Rep. of Korea

D.6.4

The application of optical fiber composite low-voltage cable (OPLC) in smart grid of China

BAO Jicong, QIAO Xinxia, QIAN Ziming - Jiangsu Hengtong Power Cable Co., Ltd, Wujiang City, Jiangsu Province; China

D.6.5

Insulation state analysis and upgrading feasibility study of existing AC 10 kV XLPE distribution cables in Jiangsu grid of China

ZHANG Ziyang, FEI Yijun - Jiangsu Electric Power Research Institute Corporation LTD, Nanjing, Jiangsu; China

D.6.6

70 years of MV cables in Brazil: Reliability of cables, splices and potheads

Geraldo de ALMEIDA, Luiz ZANETTA - University of Sao Paulo - USP, Sao Paulo; Brazil

Ricardo BRANDÃO - AES Eletropaulo, Sao Paulo; Brazil

Walter PINHEIRO - Matrix Engenharia, Sao Paulo; Brazil

SESSION A.7

Submarine - Cable performance

Tuesday June 21st, 2011 - 16:30 - 18:15

Room A

Chairman : **Gunnar EVENSET** - Nexans Norway AS (Norway)

Rapporteur : **Nathalie BOUDINET** - RTE - CNER (France)

A.7.1

Submarine cable metallic sheath diagnostic

Harry ORTON - Orton International Consulting, Vancouver, BC; Canada

Avaral RAO - Powertech, Vancouver, BC; Canada

David KUNG - Powertech, Vancouver, BC; Canada

David HICKS - Newfoundland Hydro, St Johns, NFLD; Canada

A.7.2

Influence of subsea conditions on the long term performance of AC XLPE cables

Kenneth JOHANSSON, Anna DAVIDSSON - Draka Sverige AB, Nässjö; Sweden

Martin JAKOBSSON, Ulf. H. NILSSON, Jan-Ove BOSTRÖM - Borealis AB, Stenungsund; Sweden

Hallvard FAREMO, Odd LILLEVIK - SINTEF Energy Research, Trondheim; Norway

A.7.3

Armouring loss in three-core submarine XLPE cables

Danijela PALMGREN, Johan KARLSTRAND, Gunnar HENNING - ABB, Karlskrona; Sweden

A.7.4

On the optimum burial depth of submarine power cables

Thomas WORZYK, Johan KARLSTRAND - ABB, Karlskrona; Sweden

A.7.5

Development and qualification of deepest water power umbilical

Arild FIGENSCHOU, Jan Ole DUNSERUD - Aker Solutions, Oslo; Norway

Daniel ISUS - Grupo General Cable Sistemas S.A., Manlleu, Barcelona; Spain

Emmanuel BIC - Silec Cable (General Cable), Montereau; France

A.7.6

Dielectric loss characterization of Hydro-Québec medium voltage (MV) submarine cables - Phase 1

Jean-François DRAPEAU - Institut de recherche d'Hydro-Québec (IREQ), Varennes, Québec; Canada

Bruno CANTIN - Hydro-Québec Distribution, Québec, QC; Canada

Nigel HAMPTON, Joshua PERKEL - NEETRAC, Atlanta, GA; United States

SESSION B.7

Ageing and life expectancy (2)

Tuesday June 21st., 2011 - 16:30 - 18:15

Room B

Chairman : **Ja Yoon KOO** - School of Elect. Eng. and Computer Science, Hanyang University (Rep. of Korea)

Rapporteur : **Mohamed MAMMERI** - Silec Cable (General Cable) (France)

B.7.1

US industry practices for MV cable fleet management

David LINDSAY, Matthew OLEARCZYK - EPRI, Charlotte, North Carolina; United States

B.7.2

Condition and life assessment of laminar dielectric cable systems through dissolved gas analysis based on field trials and extensive field data

Nirmal SINGH, Sandeep SINGH - DTE Energy, Detroit, MI; United States

Rommy REYES, Pierre LINOIS - RTE, Nanterre, Paris; France

Steve ECKROAD - EPRI, Charlotte, NC; United States

B.7.3

Condition monitoring of electrical cables using line resonance analysis (LIRA)

Franco Paolo FANTONI - Wirescan AS, Halden; Norway

B.7.4

Investigation of remained withstand voltage level and water tree degradation on aged and removed XLPE cable

TAKAHASHI Toshihiro, KURAISHI Takashi,

TAKAHASHI Tsuguhiro, SUZUKI Hiroshi, OKAMOTO Tatsuki -

Central Research Institute of Electric Power Industry (CRIEPI), Yokosuka; Japan

TANAKA Sachika, SHIRO Tadahiko, MATSUYA Yuuji -

The Kansai Electric Power Co., Inc., Osaka; Japan

B.7.5

Evaluation results of PILC cables field aged 7 to 68 years

Vitaliy YAROSLAVSKY, Carlos KATZ - Cable Technology Laboratories, New Brunswick, NJ; United States

David LINDSAY, Matthew OLEARCZYK - Electric Power Research Institute, Charlotte, NC; United States

B.7.6

A study on the effect of performing VLF withstand tests on field aged degraded joints

Jean-François DRAPEAU, Simon BERNIER - Institut de recherche d'Hydro-Québec (IREQ), Varennes, Québec; Canada

Jacques CÔTÉ - Hydro-Québec Distribution, Montréal, Québec; Canada

SESSION C.7

DTS: Distributed Temperature Sensing

Tuesday June 21st., 2011 - 16:30 - 18:15

Room C

Chairman : **Mohamed CHAABAN** - Institut de recherche d'Hydro-Québec (Canada)

Rapporteur : **Christophe MOREAU** - EDF R&D (France)

C.7.1

Improvements of underground cable distribution systems in the area of Mexico City

Edgar ROBLES - Instituto de Investigaciones Electricas, Cuernavaca, Morelos; Mexico

Victor SIERRA - ECSA, Huixquilucan, Estado de México; Mexico

C.7.2

The research on temperature precision influenced by fiber loss based on distributed temperature system in cable monitoring

LIU Qianqian, WANG Wei, ZHAO Sen - WHVRI Power Electric Science and Technology Stock, Wuhan, Hubei province; China

C.7.3

Research on online temperature monitoring method for cable connector

XU Jun, SU Wenqun - Power Grid Inspection & Maintenance Company, SMEPC (Shanghai Municipale Electrical Power Company), shanghai; China

C.7.4

The necessity analysis of distributed fiber-optic temperature monitoring by Xiamen power cable alarm case study

YAN Youxiang, SU Xueyuan - Xiamen power Utility, Xiamen, Fujian; China

XIAO Chuanqiang - SINDIA, Beijing; China

C.7.5

Low loss micro grid

Lars EFRAIMSSON, Johan ÅHMAN, Thomas CARLQVIST - Ericsson AB, Falun; Sweden

C.7.6

New characterization and design of power cables systems

Josu ORELLA, Jesus BESTEIRO, Virginia MACIAS - IBERDROLA, Bilbao; Spain

SESSION E.7.1

Cable Systems and Testing

Tuesday June 21st., 2011 - 16:30 - 18:15

Room E
Poster Session

Chairman : **John R. DENSLEY** - ArborLec Solutions Inc. (Canada)
Rapporteur : **Jérôme MATALLANA** - Nexans (France)

E.7.1.1

The application of the Y-branch joints in TEPCO

WATANABE Kensuke, AIHARA Yasuhiko, TSUCHIYA Shinichi -
Tokyo Electric Power Company, Chiyoda-ku, Tokyo; Japan

E.7.1.2

Environmentally sound lead-free insulation material for medium voltage energy cables

Amalendu SARKAR, John T. SMITH, III - General Cable Corporation, Indianapolis, Indiana; United States

E.7.1.3

Distribution of peroxide by-products along degassed XLPE HV cables

Christian ANDERSSON - Ericsson AB, Falun; Sweden
Martin JAKOBSSON, Annika SMEDBERG, Jan-Ove BOSTRÖM - Borealis AB, Stenungsund; Sweden

E.7.1.4

XLPE for medium and high voltage cables insulation: Determination of organic peroxide's decomposition products by the most suitable analysis

Alfredo DEFRANCISCI, Sandra GRIMALDI, Edwin-Jeffrey COURTIAL - ARKEMA Centre de Recherche Rhône-Alpes, Pierre-Bénite; France

E.7.1.5

Prototype for detection of delaminations in the sheath system of high voltage power cables using ultrasonic diagnosis

Gregor BRAMMER, Armin SCHNETTLER - Institute for high voltage technologies, Aachen; Germany

E.7.1.6

Photoacoustics: An approach for online process control of degassing XLPE insulated high voltage cables

Hans BETTERMANN, Thomas GRETHE - Heinrich-Heine-university of Duesseldorf, Duesseldorf; Germany
Anika BOSSE, Volker WASCHK - nkt cables GmbH, Köln; Germany

E.7.1.7

The research on XLPE cable insulation based on ground current method on-line monitoring technique

GU yonggang, ZHONG Pengjiao - WHVRI Power Electric Science and Technology Stock, Wuhan, Hubei province; China

WANG Wei - State Grid Electric Power Research Institute, Wuhan, Hubei province; China

E.7.1.8

A versatile system for electrical treeing tests under AC and DC stress using wire electrodes

Anette JOHANSSON, Stanislaw GUBANSKI, Markus JARVID, Mats ANDERSSON - Chalmers University of Technology, Gothenburg; Sweden

Björn SONERUD - Nexans Norway AS, Halden; Norway

Villgot ENGLUND - Borealis AB, Stenungsund; Sweden

Andreas FARKAS - ABB AB, Karlskrona; Sweden

E.7.1.9

Experimental study on detection equivalence of partial discharges at damped AC voltages and 50 Hz AC voltages in 110 kV XLPE power cables

XIA Rong, ZHAO Jiankang - State Grid Electric Power Research Institute, Wuhan, Hubei province; China

Edward GULSKI - Delft University of Technology, Delft; The Netherlands

E.7.1.10

Partial discharge test and disassembly analyze of cable termination in Huanghoudian, Beijing

ZHAO Yu, LI Huachun, HUANG Heming, XUE Qiang - Power Cable Company of Beijing Electric Power Corporation, Beijing; China

JIANG Xiaoying - BeiJing Electric Power Cable Company, Beijing; China

E.7.1.11

Power frequency magnetic field test and analyse of HV cables in tunnel

LI Huachun, WANG Li, LIU Hao - BeiJing Electric Power Cable Company, Beijing; China

GUO Jianfu, ZHANG Wenxin - BeiJing Electric Power Cable Company, Beijing; China

E.7.1.12

Negative k-factor setting for power cables explained via sequence impedance measurements

Wernich DE VILLIERS, Ulrich KLAPPER - Omicron, Klaus, Vorarlberg; Austria

E.7.1.13

Various cable terminal defect types and environmental factors impact on the results of PD tests

TU Na, WANG Wei - WHVRI Power Electric Science and Technology Stock, Wuhan, Hubei province; China

E.7.1.14

Frequency characteristics of partial discharges in MV extruded cables using non-conventional sensors

LEE Young-jo, KIM Jong-yeol, SEO In-jin, KOO Ja-yoon - Hanyang University, Ansan, Gyeong-Gi; Rep. of Korea

JEONG Jae-cheol, KIM Jeong-tae - Daejin University, Phochon, Gyeong-Gi; Rep. of Korea

E.7.1.15

PD monitoring system of HV cables

Miguel Ángel SÁNCHEZ URÁN, Fernando GARNACHO VECINO, Javier ORTEGO, Jorge MORENO, Fernando ÁLVAREZ, Oscar PERPIÑAN - Polytechnik University of Madrid, Madrid; Spain

Julio GONZALO GARCÍA, José Luis VALLEJO DIEZ - GasNatural Fenosa, Madrid; Spain

E.7.1.16

Using after installation commissioning tests to assure power cable systems meet manufacturers' standards

Stefaan JESPERES - Cegelec, Brussels; Belgium

Massimo VANOSSI - Foster Wheeler Italiana, Corsico, Milan; Italy

Marco GREEN - IMCORP, Rendsburg; Germany

Benjamin LANZ - IMCORP, Manchester, Connecticut; United States

SESSION E.7.2

HV and EHV Cable Systems and Design

Tuesday June 21st, 2011 - 16:30 - 18:15

Room E
Poster Session

Chairman : **Kieron LEEBURN** - CBI-electric: African Cables Ltd (South Africa) (t.b.c.)

Rapporteur : **Raymond PETRUS** - Silec Cable (General Cable) (France)

E.7.2.1

Silicone technology for reliable performance of joints and terminations for high voltage polymer power cables

Ruben VOGELSANG, Hansjörg GRAMESPACHER - Brugg Cables, Brugg; Switzerland

Hans-Jörg WINTER, Martin GRUNWALD - Wacker Chemie AG, Brugghausen; Germany

E.7.2.2

Improving surface smoothness of semi conductive shields by blending ethylene copolymers

Laurent GERVAT, Sébastien QUINEBECHE - ARKEMA, Serquigny; France

Oliver HISSMANN - OCS, Witten; Germany

E.7.2.3

Influence of voids within electric fields in HVDC cables

Sebastián GUTIERREZ, Sancho IÑAKI, Luis FONTAN, Jose MALUMBRES - CEIT and Tecnun (University of Navarra), San Sebastián, Gipuzkoa; Spain

E.7.2.4

Investigation of the life curve for high voltage cable insulation

Mikhail Y. SHUVALOV, Vladimir L. OVSIENKO - Russian Cable Scientific Research and Development Institute (VNIIEP), Moscow; Russia

E.7.2.5

Selection research of protection earthing set-up of HV cable

ZHOU Li, ZHOU Zhicheng - Jiangsu Electric Power Research Institute Corporation LTD, Nanjing, Jiangsu; China

Ji Wenlu - Nanjing Power Supply Company, Nanjing, Jiangsu; China

E.7.2.6

The investigation and application of multi-state monitoring system to high voltage cables and tunnels

ZHOU Zuochun, ZHANG Yanyan - Beijing Electric Test and Research Institute, Beijing; China

CONG Guang - Beijing Electric Power Cable Company, Beijing; China

WANG Li, XUE Qiang, LI Huachun - Power Cable Company of Beijing Electric Power Corporation, Beijing; China

ZHANG Wenxin - Beijing Power Engineering Company, Beijing; China

E.7.2.7

AC withstand voltage test of 345 kV cable system

KIM Jae-seung, MIN Byeong-wook, KIM Tai-young - KEPCO, Seoul; Rep. of Korea

E.7.2.8

Voltage stabilizers for XLPE cable insulation

Thomas HJERTBERG, Villgot ENGLUND - Borealis AB, Stenungsund; Sweden

E.7.2.9

Development and construction of 345 kV Power-Optical Fiber Composite XLPE 2500 mm² with prefabricated joints

YOON Hyung-hee, PAIK Nam-yeol, LEE Koan-seong, KIM Soo-hwan, OH Jong-ok, LEE Seung-hyun - Korea Electric Power Corporation (KEPCO), Seoul; Rep. of Korea

E.7.2.10

Study and application of cable network operation monitoring system in Beijing

WANG Li, LI Huachun, XUE Qiang - BeiJing Electric Power Cable Company, Beijing; China

ZHOU Zuochun, CONG Guang - BeiJing Electric Power Cable Company, Beijing; China

E.7.2.11

High temperature silicone elastomers for rolling stock cables

Bernard DALBE - Nexans Research Center, Lyon; France

E.7.2.12

Electrical, thermal and thermo-mechanical design of MV XLPE cables

Rohini BHATTACHARYYA - Dubai Cable Company Pvt. Ltd. (Ducab), Dubai; UAE

E.7.2.13

Study of 500 kV cable terminal insulation structure

WANG Wei, ZHAO Sen, LI Zhongqun - State Grid Electric Power Research Institute, Wuhan, Hubei province; China

WANG Xixing - WHVRI Power Electric Science and Technology Stock, Wuhan, Hubei province; China

E.7.2.14

Multiconductor cell analysis of shunt compensated cable lines

Roberto BENATO - University of Padova, Padova; Italy

E.7.2.15

Optimal design for power cable metal sheath voltage compensation device

WANG Guangming, ZHANG Xing, WANF Donghai, WANG Chunling - Nanjing Power Supply Company, Nanjing, Jiangsu; China

MA Hongzhong - HoHai University, Nanjing, Jiangsu; China

E.7.2.16

Sequence impedance computation by means of multiconductor method

Roberto BENATO, Leandro CACIOLLI, Ernesto ZACCONE - Prysmian Powerlink, Milan; Italy

E.7.2.17

Implementation of cable models for studies of compatibility of electric components in wind farms

Andrzej HOLDYK, Joachim HOLBOELL - Technical University of Denmark, Department of Electrical Engineering, Kongens Lyngby; Denmark

E.7.2.18

Performance tests on large conductors connectors

François GAHUNGU, Pierre MIREBEAU - Nexans, Calais; France
Pascal STREIT - Nexans, Cossonay; Switzerland

E.7.2.19

Performance analysis of optical fiber composite low-voltage cable

ZHANG Ye, CHEN xi, ZHAO daping, QI Liyan, HOU Jiyong, LIU Hao, WANG Peng, AN Huirong, WANG Shuling, JIA Meijian, XU Gaoxiong, FENG Xuebin - China Electric Power Research Institute, Beijing, Haidian; China

E.7.2.20

EMF mitigation using steel pipes : Effect on cable thermal rating

Thierry BOUCHER, Éric DORISON - EDF R&D, Moret-sur-Loing; France

E.7.2.21

P-Laser: 10.000 km of installed cables based on a worldwide new technology

Sergio BELLI, Gabriele PEREGO, Luigi CAIMI, Alberto BAREGGI, Vincenzo CRISCI, Giovanni POZZATI, Stefano FRANCHI, Marco ALBERTINI, Fabrizio DONAZZI, Ernesto ZACCONE, Agusti VALLS - Prysmian S.p.A., Milan; Italy

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Wednesday June 22nd, 2011

SESSIONS A.8

Testing methods - Factory and after laying tests

Wednesday June 22nd, 2011 - 9:00 - 10:30

Room A

Chairman : **Dirk RITTINGHAUS** - Energycableconsult (Germany)

Rapporteur : **Bernard DHUICQ** - Silec Cable (General Cable) (France)

A.8.1

A measuring system of conductor AC and DC resistance

Karl-Erik RYDLER - SP Technical Research Institute of Sweden, Borås; Sweden

Mats SJOBERG, Jorgen SVAHN - ABB AB, Karlskrona; Sweden

A.8.2

Advanced measurement of AC resistance on skin-effect reduced large conductor power cables

Gero SCHROEDER, Johannes KAUMANN - Suedkabel GmbH, Mannheim; Germany

Ronald PLATH - Ing.-Büro HPS Berlin, Berlin; Germany

A.8.3

New generation of on-site testing technology for transmission power cables

Rogier JONGEN, Paul SEITZ, Ben QUAK - Seitz Instruments AG, Niederrohrdorf; Switzerland

Frank De VRIES - Liandon BV, Alkmaar; The Netherlands

Piotr CICHECKI - Delft University of Technology, Delft; The Netherlands

A.8.4

A new approach for testing long HV and UHV cables

Peter MOHAUPT, Tobias MEHL - Mohaupt High Voltage GmbH, Mieders; Austria

A.8.5

Alternatives for HVAC testing of long HV cables in the factory and on-site

Frank SCHREITER, Stefan SCHIERIG, Peter COORS - HIGHVOLT Prüftechnik Dresden GmbH, Dresden, Saxony; Germany

A.8.6

Effectiveness of variable frequency resonant method for after-laying test on high voltage extruded cable

ZHAO Jiankang, OUYANG Benhong, RAO Wenbin, LI Wenjie, XIA Rong - State Grid Electric Power Research Institute, Wuhan, Hubei province; China

SESSION B.8

Partial discharges and diagnostics (1)

Wednesday June 22nd, 2011 - 9:00 - 10:30

Room B

Chairman : **Ronald PLATH** - Ing.-Büro HPS (Germany)

Rapporteur : **Minh Nguyen TUAN** - EDF - R&D (France)

B.8.1

Evaluation of PD measurements on MV cable systems by means of a web database

Frank PETZOLD - SebaKMT GmbH, Baunach; Germany

Steffen BÖTTCHER - FSG GmbH, Freital; Germany

B.8.2

Intelligent DTS and PD monitoring system for underground distribution network

KIM Juyong, CHO Jintae, SONG Ilkeun, LEE Jae-bong - KEPCO, Daejeon; Rep. of Korea

CHOI Taesik - LS Cable Ltd, Anyang; Rep. of Korea

B.8.3

Comparison of different methodologies to assess the lifetime of cable

Jean Christophe GARD, Karine BIC, Bernard POISSON - Silec Cable (General Cable), Montereau; France

Francisco ESPINOSA - General Cable, Manlleu, Barcelona; Spain

B.8.4

Optical PD detection in stress cones of HV cable accessories

Markus HABEL, Klaus VATERRODT, Gerd HEIDMANN - IPH
- Institut "Prueffeld fuer elektrische Hochleistungstechnik"
GmbH, Berlin; Germany

Wolfgang HABEL - Bundesanstalt fuer Materialforschung und
-pruefung, Berlin; Germany

Ruben VOGELSANG, Werner WEISSENBERG, Oldrich SEKULA
- Brugg Cables, Brugg; Switzerland

Daniel PEPPER - Beuth Hochschule fuer Technik, Berlin;
Germany

Ronald PLATH - HPS Berlin, Berlin; Germany

Harald EMANUEL - Omicron, Klaus, Vorarlberg; Austria

B.8.5

PD monitoring of 132 kV XLPE cable outdoor terminations: Practical experience

Valentinas DUBICKAS, Andreas DERNFALK - STRI AB, Ludvika;
Sweden

B.8.6

Critical review of three capacitor model for PD estimation in micro-voids of polymer insulated cables

Luigi TESTA - Techimp, Bologna; Italy

Andrea CAVALLINI, Gian Carlo MONTANARI - University of
Bologna, Bologna; Italy

SESSION C.8

Cable rating

Wednesday June 22nd, 2011 - 9:00 - 10:30

Room C

Chairman : **Robert ROSEVEAR** - Southampton Dielectric
Consultant Ltd. (UK)

Rapporteur : **Frédéric LESUR** - RTE (France)

C.8.1

Factors affecting the optimal cable placement in duct banks or casings for best ampacity or power

Wael MOUTASSEM - University of Toronto (Canada) /
Underground Systems Inc., New-York; United States

George ANDERS - Kinectrics Inc., Toronto, Ontario; Canada

C.8.2

Finite element analysis of SIWO-KUL™ cables

François COCHET - Nexans Suisse SA, Cortaillod; Switzerland

Bruno WEIDER - Nexans Schweiz AG, Breitenbach; Switzerland

Yann BRETON - Nexans Research Center, Lyon; France

C.8.3

Current rating of cables installed in deep or ventilated tunnels

Éric DORISON - Électricité de France, Moret-sur-Loing; France

George ANDERS - Kinectrics Inc., Toronto, Ontario; Canada

C.8.4

Reduction in current carrying capacity due to cables crossing

Mohamed CHAABAN, Jean LEDUC - Institut de recherche d'Hydro-Québec (IREQ), Varennes, Québec; Canada

C.8.5

Research on ampacity testing for middle-voltage cross-linked polyethylene (XLPE) cable

CAI Chengliang, WANG Yongqin - Hubei Electric Power Testing and Research Institute, Wuhan, Hubei province; China

C.8.6

Research of upgrading ampacity for high voltage XLPE power cable

FAN Youbing, ZHAO Jiankang, LIU Songhua, MENG Shaoxin, RAO Wenbin - State Grid Electric Power Research Institute, Wuhan, Hubei province; China

SESSION A.9

Testing methods-Qualification and Qualification extension

Wednesday June 22nd, 2011 - 11:00 - 12:30

Room A

Chairman : **Willem BOONE** - Kema Nederland BV
(The Netherlands)

Rapporteur : **Jonathan BENETEAU** - RTE - CNER (France)

A.9.1

Working out extension of qualification procedures for HV and VHV cable systems

Pierre HONDAA - RTE, Paris; France

Éric DORISON - EDF R&D, Moret-sur-Loing; France

A.9.2

Results of robustness test on medium voltage joints

Christophe TOURCHER, Christophe MOREAU - EDF R&D, Moret-sur-Loing; France

Roger TAMBRUN - ERDF, Paris La Défense; France

A.9.3

Tests of outer protection for buried joints, experience and recommendation

Edwin PULTRUM, Pieter KUIJPERS, Wouter SLOOT - KEMA, Arnhem; The Netherlands

A.9.4

Development of technology and equipment of Pre Qualification test for 500 kV XLPE cable systems

YANG Liming, XU Linhua, MENG Shaoxin, XIA Rong - State Grid Electric Power Research Institute, Wuhan, Hubei province; China

YANG Rongkai, HOU Junping - Quality Inspection and Test Center for Equipment of Electric Power, Wuhan, Hubei province; China

A.9.5

HV cable qualification for IEC 62067-2006 and ICEA S-108-720-2004

Caryn RILEY, Raymond C. HILL, Nigel R. HAMPTON - NEETRAC, Atlanta, GA; United States

A.9.6

Special heat cycle voltage test of 275 kV XLPE cable system

Bernardo DAVID, Nicola MOFFA, John McCORMACK, Peter BUTTERFIELD-ROSSI - Electranet, Adelaide, South Australia; Australia

KIM Jeong hyun - Taihan Electric Co, Seoul; Rep. of Korea

HEO Hoi-deok - LS Cable Ltd, Gumi, Gyeongbuk; Rep. of Korea

George BUCEA - Consultant, Sydney; Australia

Hans MAYER - Consultant, Melbourne, Victoria; Australia

Henry KENT - Energy Action, Sydney; Australia

SESSION B.9

Partial discharges and diagnostics (2)

Wednesday June 22nd, 2011 - 11:00 - 12:30

Room B

Chairman : **Shoshi KATAKAI** - J-Powers Systems Co. (Japan)

Rapporteur : **Alain TOUREILLE** - Montpellier University (France)

B.9.1

Continuous PD monitoring of HV XLPE cable lines

Wojciech KOLTUNOWICZ, Alija OBRALIC, Alexander BELKOV, Dietmar GISELBRECHT - Omicron Electronics, Klaus, Vorarlberg; Austria

B.9.2

The need for smart diagnostics in future smart grids - A practical example for MV cables

Peter Van der WIELEN - KEMA Nederland BV, Arnhem; The Netherlands

Fred STEENNIS - Eindhoven University of Technology, Eindhoven; The Netherlands

Denny HARMSSEN - Alliander N.V., Arnhem; The Netherlands

Danny GELDTMEIJER - Enexis B.V., Rosmalen; The Netherlands

B.9.3

On-line partial discharge monitoring for MV cables with SCG - Practical experiences in the period 2007 to 2010

Fred STEENNIS, Ad KERSTENS - KEMA, Arnhem;

The Netherlands

Theo Van RIJN, Piet SOEPBOER - Alliander, Arnhem;

The Netherlands

Jan MOSTERD, Leon BOKMA - Westland Infra, Poeldijk;

The Netherlands

Alfred ARTS - Enexis, Arnhem; The Netherlands

Nico Van DONK, Branko CARLI - Stedin, Rotterdam;

The Netherlands

B.9.4

The thermo mechanical behavior of joints in MV cable systems exposed to high current loads

Fred STEENNIS - KEMA, Arnhem; The Netherlands

Piet SOEPBOER - Enexis, Arnhem; The Netherlands

Jan MOSTERD - Alliander, Arnhem; The Netherlands

Peter BUYS - Stedin, Rotterdam; The Netherlands

Piet OOSTERLEE - DELTA Netwerkbedrijf, Middelburg;

The Netherlands

Leon BOKMA - Westland Infra, Poeldijk; The Netherlands

Ralf MEIER - Lovink Enertech, Terborg; The Netherlands

B.9.5

On-line PD spot testing and continuous monitoring for in service power cables - Techniques and field experiences

Malcolm SELTZER-GRANT, Lee RENFORTH, Ross MACKINLAY

- HVPD Ltd, Manchester; United Kingdom

Denis DENISOV, Hubert SCHLAPP, Frank PETZOLD -

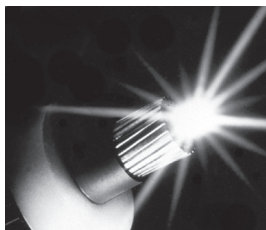
SebaKMT, Baunach; Germany

B.9.6

Sensitivity assessment for field PD measurements for HV and EHV cable accessories via laboratory tests

Mark FENGER - Kinectrics Inc., Toronto, Ontario; Canada

Jody LEVINE - HydroOne Networks, Toronto, Ontario; Canada



SESSION C.9

Dynamic cable rating

Wednesday June 22nd, 2011 - 11:00 - 12:30

Room C

Chairman : **Frank DE WILD** - Kema (The Netherlands)

Rapporteur : **Olivier MOREAU** - EDF CIST (France)

C.9.1

Statistical feedback approach in cyclic rating factor sizing

Irina GARZULINO, Nicolas POUPARDIN, Anne CHAUVANCY,
Frédéric LESUR, Xavier ROLLAND-NEVIERE - RTE, Paris;
France

C.9.2

Dynamic rating of transmission cables

Erik JACOBSEN, Jonas Fabricius NIELSEN, Steen Beck

NIELSEN - SEAS-NVE Holding, Haslev; Denmark

Sven SALWIN - nkt cables A/S, Copenhagen; Denmark

Karl-Heinz COHNEN, Andreas MOHRS - nkt cables GmbH,
Köln; Germany

C.9.3

Online ampacity determination of a 220 kV cable using an optical fibre based monitoring system

Michael SCHMALE - TenneT TSO GmbH, Bayreuth; Germany

Ralf PUFFER - RWTH Aachen University, Aachen; Germany

Ulrich GLOMBITZA - OSSCAD GmbH & Co. KG, Bergisch
Gladbach; Germany

Henrik HOFF - AP Sensing GmbH, Boeblingen; Germany

C.9.4

Study of the dynamic rating of a 138 kV XLPE Cable System by optical fiber monitoring system

IGI Tsuyoshi, KOMEDA Hidehiko - J-Power Systems Corporation, Hitachi, Ibaraki; Japan

MASHIO Shoji - J-Power Systems Corporation, Tokyo; Japan

Jade WONG, Arnold WONG - ConEdison, New York, NY;
United States

C.9.5

Real time load optimisation of cable based transmission grids

Rasmus Schmidt OLSEN, Unnur Stella GUDMUNDSDÓTTIR -
Energinet.dk, Fredericia; Denmark

Joachim HOLBOELL - Technical University of Denmark,
Kongens Lyngby; Denmark

C.9.6

Impact of moisture migration on the current rating of high operating temperature cables

James PILGRIM, David SWAFFIELD, Paul LEWIN - University of Southampton, Southampton; United Kingdom

Steve SWINGLER - Southampton Dielectric Consultants, Southampton; United Kingdom

Francis WAITE, David PAYNE - National Grid, Warwick; United Kingdom

SESSION E.9

Young Researcher Contest

Wednesday June 22nd, 2011 - 11:00 - 12:30

Room E:
Poster Session

Chairman : **Nouredine HADJ-SAID** - Grenoble INP (France)

Rapporteur : **Jérôme HERRÉROS** - RTE (France)

Program published later: see the Jicable's website.

SESSION A.10

Testing methods - On line testing

Wednesday June 22nd, 2011 - 14:30 - 16:00

Room A

Chairman : **Antony FALCONER** - Aberdare Cables (South Africa)

Rapporteur : **Laurent BENARD** - Prysmian Câbles et Systèmes (France)

A.10.1

Investigation on the technologies for defect localization and characterization on medium voltage underground lines

Gonzalo MAIZ - Iberdrola Distribución, Bilbao; Spain

Armando RODRIGO - Instituto Tecnológico de la Energía, Paterna; Spain

Pedro LLOVERA-SEGOVIA - Instituto de Tecnología Eléctrica - Universidad Politécnica de Valencia, Valencia; Spain

Lluís SALES - Prysmian Cables y Sistemas, Barcelona; Spain

Xavier BALZA - General Cable, Barcelona; Spain

A.10.2

First practical utility implementations of monitored withstand diagnostics in the USA

Chris FLETCHER - Duke Energy, Charlotte, NC; United States

Nigel HAMPTON, Joshua PERKEL - NEETRAC, Atlanta, GA; United States

Jean Carlos HERNANDEZ - Universidad de Los Andes, Mérida, Mérida; Venezuela

Jeff HESSE - Duke Energy, Cincinnati, OH; United States
Mike PEARMAN - Georgia Power, Atlanta, GA; United States
Tim WALL - Alabama Power, Birmingham, AL; United States
Walter ZENGER - Pacific Gas & Electric, San Francisco, CA; United States

A.10.3

A new testing method of LV underground cable insulation

Janislaw TARNOWSKI, Jacques CÔTÉ, André GAUDREAU, Pierre GINGRAS, Mircea IORDANESCU - Hydro-Québec, Varennes, Québec; Canada

A.10.4

Integral cable condition assessment for the complete network

Alexander GERSTNER - Baur Prüf - und Messtechnik, Sulz; Austria

A.10.5

Effect of supply voltage frequency on testing medium voltage cable in the grid

Fabrice ZORZI, Thierry ESPILIT - EDF R&D, Moret-sur-Loing; France

Roger TAMBRUN - ERDF Direction Réseau, Paris La Défense; France

A.10.6

On-line screening of MV cable network grid through partial discharge measurements

Marco TOZZI, Andrea CAVALLINI, Gian Carlo MONTANARI - Techimp HQ srl, Bologna; Italy

SESSION B.10

Design

Wednesday June 22nd, 2011 - 14:30 - 16:00

Room B

Chairman : **Candelario SALDIVAR** - Viakon Conductores Monterrey (Mexico)

Rapporteur : **José SANTANA** - Prysmian Câbles et Systèmes (France)

B.10.1

Selecting the optimized conductor design

Riccardo BODEGA, Henk GEENE, Jos Van ROSSUM - Prysmian, Delft; The Netherlands

Ron Van den THILLARD - TenneT, Arnhem; The Netherlands

Jacco SMIT - Liandon, Alkmaar; The Netherlands

Mark Van VLIET - Joulz, Rotterdam; The Netherlands

B.10.2

Investigations into the design of EMF mitigation techniques

Matthieu CABAU, Nadja MARAZANOF, Frédéric LESUR, Nathalie BOUDINET, Anne CHAUVANCY, Rémi VATONNE - RTE, Paris; France

B.10.3

Development of cold-shrink HVCA in regard to the critical set of physical properties

Ivan JOVANOVIĆ, Milan UZELAC - G&W Electric Company, Blue Island, IL; United States

B.10.4

Evolution in method and performance for bonding the metal screen of UG HV power cable

David DUBOIS, Pierre MIREBEAU, Pascal STREIT - Nexans, Calais; France

Pierre ARGAUT - Silec Cable (General Cable), Montereau; France

Laurent BENARD - Prysmian Câbles et Systèmes, Sens; France

Aude BARRALON - RTE, Paris; France

Eric DORISON - EDF R&D, Moret-sur-Loing; France

B.10.5

Special bonding and earthing of cables for a 230 kV three phase system with four cables

Márcio COELHO - Procable Energia e Telecomunicações SA, Diadema, Sao Paulo; Brazil

Geraldo ALMEIDA - Techsys Tecnologia e Sistemas S/C Ltda, Santo André, Sao Paulo; Brazil

Luiz ZANETTA - University of Sao Paulo - USP, Sao Paulo; Brazil

B.10.6

Special sheath bonding system for HVAC cables

Heinrich BRAKELMANN, Tao DONG - University Duisburg-Essen, Duisburg; Germany

Volker WASCHK - nkt cables GmbH, Köln; Germany

SESSION C.10

Cable installation

Wednesday June 22nd, 2011 - 14:30 - 16:00

Room C

Chairman : **Hans A. MAYER** - Consultant (Australia)

Rapporteur : **Jean-Louis RAUD** - Consultant - SERCE (France)

C.10.1

Investigation into the benefits of installing high operating temperature cables in tunnels

James PILGRIM, David SWAFFIELD, Paul LEWIN - University of Southampton, Southampton; United Kingdom

Steve SWINGLER - Southampton Dielectric Consultants, Southampton; United Kingdom

Francis WAITE, David PAYNE - National Grid, Warwick; United Kingdom

C.10.2

A new backfill material with an extremely high thermal conductivity

Heinrich BRAKELMANN, Joerg STAMMEN - University Duisburg-Essen, Duisburg; Germany

Joerg DIETRICH - HeidelbergCement Geotechnik, Ennigerloh; Germany

Raymund BÖING - Heidelberg Beton, Heidelberg; Germany

Hans-Peter MAY - nkt cables GmbH, Köln; Germany

C.10.3

Backfill replacement saves underground transmission lines cost and postpones investments

Geraldo de ALMEIDA, Luis ZANETTA - University of Sao Paulo - USP, Sao Paulo; Brazil

Athayde MACEDO, Carla DAMASCENO - Ligth SESA, Rio de Janeiro; Brazil

C.10.4

Improved cooling of high voltage cables

Herbert NYFFENEGGER, Detlef WALD - Brugg Kabel AG, Brugg; Switzerland

Harry ORTON - Orton International Consulting, Vancouver, BC; Canada

C.10.5

Hybrid high capacity transmission circuits - Challenges for cables in series with EHV overhead lines

Glenn STAPLETON - Powerlink Queensland, Virginia, Queensland; Australia

Simon LLOYD - Cable Consulting International, Kent, WA; United Kingdom

SESSION A.11 Closing Session

Wednesday June 22nd, 2011 - 16:30 - 18:00

Room A

The closing session will present two parts:

- Round table : State of the art and future prospects of HVDC links by power insulated cables.
- Jicable'11 Award and closing of the conference.