



WETS'15 Workshop **World Energy Transmission System**

HV, EHV and UHV electrical long links by AC and DC insulated power cables: Availability of strategic power links

The evolution of the technical performance of HV, EHV and UHV AC & DC power insulated cables offer to electric power utilities new development opportunities beyond the areas of high density urban zone, river crossings, Throughout the world, several long lengths HV, EHV and UHV electrical links by AC and DC insulated power cables are already in service and plans for underground and submarine routes whose length exceeds ten kilometers are under development.

Despite the advantage of these solutions to environmental and societal acceptability, the extra cost compared to overhead techniques and the duration of unavailability in the event of damage are challenges to overcome.

The availability of these power links that are of strategic importance in the network should so be subject to special attention. This topic will be the focus of discussions of the workshop WETS'15

Discussion topics

1 – How to ensure the quality of a cable High Voltage system at commissioning?

- a) What is the relative impact of the production, transportation, civil engineering, laying and installation? How to globally optimize the actions of these project components?
- b) Which are the after laying tests recommended for dielectric system? What is the stake?
- c) Which are the after laying tests recommended for current transmission (conductor and screen)? What is the stake?

2 – Localization of a failure on a submarine link (HVAC, HVDC)

- a) What are the standard techniques?
- b) What is the sequence of techniques for improved efficiency (optimum time and location accuracy, the impact of the weather)?
- c) Coordination of experts and of intervention resources

3 – Repairing a submarine link (HVAC, HVDC):

- a) Availability of equipment - stock of spare parts.
- b) Mobilization of resources for intervention
- c) Coordination of experts and of intervention resources

4 – Preventive maintenance:

- a) Monitoring by temperature measurements
- b) Partial discharges, sheaths testing ...
- c) Monitoring diagnosis by measuring partial discharges