



6 - 8 March 2023

Symposium Programme

Hosted by



Inauguration ceremony

08:00 – 09:00 Registration & networking

09:00 – 09:05 Welcome speech & Holy Quran

09:05 – 09:10 Host country welcome address

09:10 – 09:15 Welcome Address

Ahmed Al Rahbi

CIGRE GCC Board Member and Representative of the Sultanate of Oman

09:15 – 09:20 CIGRE GCC address

Ahmed Nasser M. AlNaser

Chairman – CIGRE GCC National Committee

09:20 – 09:25 CIGRE address

Philippe Adam

Secretary General - CIGRE

09:25 – 09:30 Short video

09:30 – 09:40 Trophies distribution & sponsors awarding

09:40 – 10:00 End of opening ceremony and exhibition inauguration

10:00 – 11:00 NGN Presentation

Chaired By: Tarik Al Abri

Title : Design and Simulation of Dispatchable Hybrid Wind-PV Power Plant Control Scheme

By : **Mohammed Al-Busaidi**
Oman Electricity Transmission Company

Title : Intelligent Fuzzy Control Design for Grid-Connected Inverter

By : **Myada Shadoul**
Sultan Qaboos University

Title : Design and Implementation of Wide Area Protection System

By : **Mohammed Al-Mamari**
Muscat Electricity Distribution Company

Title : IOT based smart energy meter using BLYNK app

By : **Anas Al Balushi**

11:00 – 12:00 Short course – Part 1

High voltage overhead lines**Prof. Konstantin O. Papailiou**

Former Chairman CIGRE Study Committee B2 (Overhead Lines)

12:00 – 12:30 Coffee break

12:30 – 15:00 Short course – Part 2

High voltage overhead lines**Prof. Konstantin O. Papailiou**

Former Chairman CIGRE Study Committee B2 (Overhead Lines)

15:00 – 16:00 Lunch & end of day one

18:30 – 22:00 Reception (Gala dinner)

07:30 – 08:30		Registration & morning coffee	
Room One		Room Two	
08:30 – 10:00	<p>Tutorial One</p> <p>Title: Innovations & trends in transmission and distribution equipment</p> <p>Presented by: Nenad Uzelac Research Director - G&W Electric Co. Global</p>	08:30 – 10:00	<p>Tutorial Two</p> <p>Title: Overhead conductor motion phenomena and control methods (Aeolian vibrations and sub-span oscillations)</p> <p>Presented by: Pierre van Dyke Senior research scientist, Institut de recherche d'Hydro-Québec</p>
10:00 – 11:00	<p>Women in Energy</p> <p>Chaired by: Dr. Abeer Al-Maimouni</p> <p>Panelists Najla Al Jamali OQ Alternative Energy</p> <p>Ahlam Al-Kindi Oman Electricity Transmission Company</p> <p>Eng. Joanne Hu Founder and Vice President of RBJ Engineering</p>		
11:00 – 11:30		Coffee break	
		Product showcase	
11:30 – 13:00	<p>Session A1</p> <p>Cables and overhead lines</p> <p>Chaired By: Pierre van Dyke</p>	11:30 – 13:00	<p>Session B1</p> <p>Technology applications and trends</p> <p>Chaired By: Nenad Uzelac</p>
11:30 – 11:40	<p>Title: Photovoltaic Cables for Renewable Energy and Importance of Long-Term Testing</p> <p>By: Vitthal Sawant Prysmian group Sultanate of Oman</p>	11:30 – 11:40	<p>Title: Research on Key Technology of Ultra High Voltage DC High Speed Switch</p> <p>By: Changhong ZHANG Maintenance & Test centre of EHV Power Transmission Company of China Southern Power Grid China</p>
11:40 – 11:50	<p>Title: Polymeric terminations in MIND insulated HVDC cable systems</p> <p>By: Alwin Paul Prysmian cable systems United Arab Emirates</p>	11:40 – 11:50	<p>Title: Comparative Life Cycle Assessment of SF6-based SP-3 and SF6-free Eco 145kV Gas Insulated Switchgears</p> <p>By: Kedar Pandya Hyundai Electric Switzerland Ltd. Switzerland</p>
11:50 – 12:00	<p>Title: Design Improvements in Uprating Existing Transmission Lines – A Method with No Service Disruption</p> <p>By: Devine Davidson AECOM India Global Services Private Limited India</p>	11:50 – 12:00	<p>Title: Study on Effect of Environmental Ageing on Fiber Reinforced Plastic (FRP) rod used in Polymeric Insulator</p> <p>By: Kartik V Kulkarni Electrical Research and Development Association (ERDA) India</p>

12:00 – 12:10

Title: Performance Evaluation of insulator under effect of environment condition

By:

Tirtha Shankar Vishwakarma

Electrical Research and Development Association (ERDA)

India

12:00 – 12:10

Title: CIGRE fourth reliability survey on substation equipment

By:

Hiroki Ito

Mitsubishi Electric Corporation

Japan

12:10 – 12:20

Title: Mitigating Overhead Conductor Temperature Risk with Engineered Surface Coatings: Bringing Sustainability for Grid

By:

Vitthal Sawant

Prysmian group

Sultanate of Oman

12:10 – 12:20

Title: On the Dielectric Properties of Recyclable Liquid Silicone Rubber under Thermal Aging

By:

Qiang Fu

Guangdong Key Laboratory of Electric Power Equipment Reliability, Electric Power Research Institute of Guangdong Power Grid Co., Ltd.

China

12:20 – 12:30

Title: Today`s Trends in Composite Insulator Technology and Application

By:

Christiane BAER

PFISTERER Switzerland AG

Switzerland

12:20 – 12:30

Title: Machine Learning Algorithm based Condition Monitoring of PV Solar Plant through Ultraviolet Image Processing

By:

Murali Krishna Boddu

University of Technology & Applied Science

Sultanate of Oman

12:30 – 13:00

Q & A

12:30 – 13:00

Q & A

13:00 – 13:30

Coffee break

13:30 – 15:00

Session A2

HVDC applications

Chaired By: **Joanne Hu**

13:30 – 15:00

Session B2

Managing DER integration

Chaired By: **Kurt Dedekind**

13:30 – 13:40

Title: A novel controllable line commutated converter for mitigating commutation failure in multi-infeed HVDC system

By:

Chong GAO

State Grid Smart Grid Research Institute CO.,LTD

China

13:30 – 13:40

Title: Power Distribution Estimation in VSC-based MT-MVDC Distribution Systems with Droop Control under Steady-State Operation

By:

Pingyang Sun

UNSW Sydney

Australia

13:40 – 13:50

Title: Application of AC choppers for HVDC systems connected to weak or isolated AC grids

By:

Chandana KARAWITA

TransGrid Solutions

Canada

13:40 – 13:50

Title: Verification of effectiveness of peak shift and voltage control technology toward mass PV penetration

By:

Keisuke MORITA

KANSAI Transmission and Distribution, Inc.

Japan

13:50 – 14:00

Title: Field experience of VSC HVDC Converter reactors – a review and outlook after 25 years' service experience

By:

Klaus Pointner

Trench Austria GmbH

Austria

13:50 – 14:00

Title: Investigating the PV Contribution's Limit with Utilizing Battery Energy Storage Systems to a Micro-grid: A Case Study on the Rafha Micro-Grid

By:

Amer Salman Alsalman

National Grid SA/ Saudi Electricity Company

Saudi Arabia

14:00 – 14:10	<p>Title: Operational Challenges faced in protection coordination of DMR line in +/- 800kV Champa Kurukshetra Multipole HVDC Link</p> <p>By: Amaradeep Boddepalli POWERGRID Corporation of India Ltd. India</p>	14:00 – 14:10	<p>Title: A Novel Concept for a 100% Renewable Powered Grid with High Concentration of Co-Located Utility-Scale Converter-Based Generations</p> <p>By: Md Habibur Rahman ENOWA.NEOM Saudi Arabia</p>	
14:10 – 14:20	<p>Title: A Strategy for Maximum Utilization of Active and Reactive Power Capabilities and Increased Efficiency of Voltage Source Converter HVDC links</p> <p>By: Grain Philip Adam ENOWA.NEOM Saudi Arabia</p>	14:10 – 14:20	<p>Title: Performance analysis of grid forming inverter with different control strategies</p> <p>By: Khaled Sbeah AL-Maitah Electricity Distribution Company Jordan</p>	
14:20 – 14:30	<p>Title: Aspects of Long-Distance HVDC Transmission with Impact of Inverter-Based Renewable Generation and Assessment of Converter Interactions</p> <p>By: Gaurav Bansal TRANSCO United Arab Emirates</p>	14:20 – 14:30	<p>Title: Techno-Economic Feasibility Study Of Integration Of Various Renewable Energy Sources Into An Existing Grid System With Smart Grid And Energy Storage Device In Oman</p> <p>By: Said Salim Ahmed Al Mashaikhi Dhofar Integrated Services Company Sultanate of Oman</p>	
14:30 – 15:00	Q & A		14:30 – 15:00	Q & A
15:00 - 16:00	Lunch – End of day two			

07:30 – 08:30

Registration & morning coffee

08:30 – 10:00

Tutorial Three

Guide to develop real Time Simulation Models (RTSM) for HVDC Operational Studies

Presented by:

Qi GUO, PhD

Vice President of Electric Power Research Institute, China Southern Power Grid (CSG)

Mengjun LIAO

Senior Engineer of Electric Power Research Institute, China Southern Power Grid (CSG)

Dr. Ren Liu

Researcher, Electric Power Research Institute, China Southern Power Grid

Walid Ziad El-Khatib

Senior Lead Engineer, Vattenfall

08:30 – 10:00

Tutorial Four

Rural Electrification

Presented by:

Kurt Dedekind

Eskom, Planning Manager (Technology Group COE)

10:00 – 10:30

Coffee break

10:30 – 12:00

Session A3

HVDC Converters and Network characteristics

Chaired By: **Mohamed Rashwan**

10:30 – 10:40

Title: Enhanced Modular Multilevel Converter for HVDC Transmission Solutions in NetZero and 100% Renewable Powered Grids

By:

Grain Philip Adam

ENOWA.NEOM

Saudi Arabia

10:40 :10:50

Title: A Novel Grid-Following VSC Controller Without PLL for Systems with Very Low Short Circuit Strength

By:

Chandana KARAWITA

Transgrid Solutions

Canada

10:50 – 11:00

Title: Transient stability analysis and operational measures for resilience level events in power system

By:

M. Fayyaz Akram

POWER-tek Global Inc

USA

10:30 – 12:00

Session B3

Managing DER integration

Chaired By: : **Hilal Al Nasser**

10:30 – 10:40

Title: Practical comparison between a flywheel and Li-ion battery: A case beyond Li-ion batteries for small scale installations

By:

Rudí NEL

Renewed Projects

South Africa

10:40 :10:50

Title: Simplified design and selection method for solar thermal

By:

Nikita MOODLEY

Renewed Projects

South Africa

10:50 – 11:00

Title: A novel Study of Load Profiles

By:

Vasudevan Chetty

EThekwin Electricity

South Africa

11:00 – 11:10	<p>Title: Improving safety, reliability and operating efficiency of distribution networks</p> <p>By: Mr. Hugh Borland Anseris IQ Ireland</p>	11:00 – 11:10	<p>Title: Automated transmission network planning toolchain for the greenfield network design of NEOM</p> <p>By: Hans Barrios Siemens PTI Germany</p>	
11:10 – 11:20	<p>Title: Assessment of Inertia for Indian Power System</p> <p>By: Saibal Ghosh Grid Controller of India Limited India</p>	11:10 – 11:20	<p>Title: Dielectric fluid immersion cooling for thermal management of lithium-ion batteries: A review</p> <p>By: Vishal Vora Electrical research and development association India</p>	
11:20 – 12:00	Q & A	11:20 – 11:30	<p>Title: Practical comparison between water based solar photo-voltaic, solar thermal- and solar photo-voltaic-thermal systems</p> <p>By: Rakhi Rampersad Renewed Projects South Africa</p>	
12:00 – 12:30	Coffee break		11:30 – 12:00	Q & A
	Room 1		Room 2	
12:30 – 14:00	<p>Session A4</p> <p>Transformer characteristics and data management</p> <p>Chaired By: Tarik Al Abri</p>	12:30 – 14:00	<p>Session B4</p> <p>Network Operations management</p> <p>Chaired By: Sultan Al Rawahi</p>	
12:30 – 12:40	<p>Title: Studies on stray gassing characteristics in renewable and environmental-friendly liquid insulation for transformer</p> <p>By: Manjusha. S. Nambiar Electrical Research and Development Association India</p>	12:30 – 12:40	<p>Title: Automation Approach For Estimation Of Maximum Res Generation For Each Node Of The Distribution Network In Powerfactory Software</p> <p>By: Anna Prykhodko "DMCC-Engineering" Ltd. Ukraine</p>	
12:40 – 12:50	<p>Title: The Design and Multiphysics Simulation analysis of station service voltage transformer</p> <p>By: Yajun Qiang Sieyuan Electric Co., Ltd. China</p>	12:40 – 12:50	<p>Title: The Spinning Reserve Mechanism Options applied for Oman Electricity Transmission Network</p> <p>By: Halima AlAnsari Abdullah Al Hanshi Oman Electricity Transmission Company Sultanate of Oman</p>	
12:50 – 13:00	<p>Title: Defining the limits of No-load test parameters at over excitation to ensure no over-fluxing of core of Transformers based on a case study: A Perspective for Utilities</p> <p>By: Pranjal Johri NTPC Ltd. India</p>	12:50 – 13:00	<p>Title: Measuring, understanding and utilising the residual inertia of demand and embedded generation to secure and optimise system operation – The Great Britain case study</p> <p>By: Antonio Enas Reactive Technologies Ltd United Kingdom</p>	

13:00 – 13:10	<p>Title: Study and analysis of the impact of smart meter on emerging green technologies in Oman</p> <p>By: Alaa Al Kiyumi Muscat Electricity Distribution Company Sultanate of Oman</p>	13:00 – 13:10	<p>Title: Operational Planning Methodology in Indian Power System Under High Renewables Regime</p> <p>By: Prabhankar Porwal Grid Controller of India Limited (Grid - India) India</p>
13:10 – 13:20	<p>Title: When Human Intelligence meets Artificial Intelligence</p> <p>By: Dylan Behrmann Hitachi Energy Italy</p>	13:10 – 13:20	<p>Title: An Advanced Approach to Solve Economic and Emission Dispatch Problems Based on Lightning Search Algorithm</p> <p>By: Abdel Rahman Naser Al heyasat National Electric Power Company Jordan</p>
13:20 – 13:30	<p>Title: Big Data based maintenance planning – data mining and utilization</p> <p>By: Mitja Antoncic ELES Slovenia</p>	13:20 – 13:30	<p>Title: The regulatory arrangements for private renewable projects in view of Oman transmission business</p> <p>By: Zahra Al Rawahi Oman Electricity Transmission Company Sultanate of Oman</p>
13:30 – 14:00	Q & A	13:30 – 14:00	Q & A
14:00 – 14:30	Closing ceremony		
14:30 – 15:30	Lunch and the symposium end		