

Tuesday, 01 October 2019

17:30 - 19:30

Welcome Cocktail - Exhibition Hall

Wednesday, 02 October 2019

07:30 - 09:00

Registration - Exhibition Hall

Time

Venue: Pelindaba

09:00 - 09:15

Welcome - **Prince Moyo**, Chair, CIGRE Southern Africa

09:15 - 09:25

CIGRE International Update - **Rob Stephen**, President, CIGRE

09:25 - 09:40

Opening Address - **Mohamed Rashwan**, Chair, CIGRE Study Committee B4

09:40 - 10:20

Keynote Address - **Yusheng Xue**, Honorary President, State Grid Electric Power Research Institute

10:20 - 10:30

Q & A session

10:30 - 11:00

Tea/Coffee/Exhibition

Time

Venue: Pelindaba

Venue: Springbok

11:00 - 12:30

Session 1
Battery Energy Storage Systems Applications
Session Chair: Prudence Madiba

B4 Session 1
Network Stability
Session Chair: Bjarne Andersen

11:00 - 11:15

#139 Eskom experience on battery energy storage systems: the network planning perspective, **M. Soni**

#2 Real-time Modelling and Simulation of a Multi-terminal Hybrid UHVDC Transmission System, **G. Wenming**

11:15 - 11:30

#140 Detailed methodology to precisely assess the need for battery systems to solve congestions in the Turkish Transmission Grid, **P. Lienhart**

#11 Real-time simulation and analysis of phase shifting transformer for improvement of Tomsk power system transient stability, **O. Suslova**

11:30 - 11:45

#46 Electrification of Africa: Future prospects of the Provision of Ancillary Services in the WAPP system using the Battery Storage facilities of the Mini-grids, **S. Ki**

#18 Using a Series Blocking Reactor to Reduce Harmonic Filtering Requirements and Losses in Static VAR Compensators: Tauá SVC Experience, **M. Lima**

11:45 - 12:00

#45 Challenges and Opportunities of Battery Storage in the WAPP Interconnected HV Grid, **S. Mahapatra**

#19 Temporary DC Fault Clearing Sequence in a HVDC System with Voltage Source Converter and Overhead Line, **K. Fadzeyu**

12:00 - 12:15

#38 Studies to determine optimal battery storage for increasing variable renewable energy penetration on eight Pacific Islands, **G. Chown**

#27 Minimizing Loss of Transmitted Power by VSC during Overhead Line Fault, **P. Portugal**

12:15 - 12:30

#88 Microgrid / Battery Energy Storage Systems value stacking to defer distribution capacity upgrades for Radial Feeders, **R. Singh**

#30 Simulation Research on the Effect of Combination Modification of HVDC and STATCOM on the Stability of DC System in Weak AC Networks, **Q Guo**

12:30 - 13:30

Lunch/Exhibition

Time

Venue: Pelindaba 1

Venue: Pelindaba 2

Venue: Springbok

13:30 - 15:00

Session 2
Power system operation and control
Session Chair: Kehinde Awodele

Session 3
Integration of Distributed Energy Resources and Microgrids
Session Chair: Jarrad Wright

B4 Session 2
Renewable Energy
Session Chair: Les Brand

13:30 - 13:45

#116 High Penetration of Inverter Based Generators: Things to consider when conducting frequency studies, **N. Gumede**

#96 Emerging Regulatory Requirements for Small Modular Nuclear Reactors in Distributed Electrical Systems, **D. Nicholls**

#3 Design and Operational Experience of the World's First Three-terminal VSC HVDC system (Nan'ao MTDC) for Wind Power Integration and its Upgrade with DCCBs, **S. Xu**

13:45 - 14:00

#93 The Advantages of PMU Data Analytics in Power Systems with High Renewable Energy Penetration, **T. Machabe**

#105 Engineering Small Modular Nuclear Reactors for Micro and Nano Grid Application : The Case Study Based on NASA's 10 kilowatt unit, **S. Connell**

#7 Regional HVDC Interconnection and its Impact on Network Performance, **R. Hariharan**

14:00 - 14:15

#124 Challenges of operating a power system with integrated renewable energy generation: A case study, **B. Nhlapo**

#37 Integration of PV installations within grids: Impacts and solutions, **Q. Tran**

#17 Impact of Integration of Large Amount of Renewable Generation near Existing HVDC Terminals, **H. Suriyaarachchi**

14:15 - 14:30

#128 Constraining the intermittency of wind and photovoltaic systems through curtailment, **N. Mararakanye**

#103 Evaluation and Impact Assessment of Solar Roof-Top PV on Electric Power Distribution Networks, **R. Reddy**

#21 Increasing Bulk Power Transfer of Renewable Generation with Modular FACTS to Lower Wholesale Costs to Consumers, **P. Harrington**

14:30 - 14:45

#65 Managing flexibility in power system planning: Modelling and cases of study, **A. Mansoldo**

#50 Virtual Synchronous Generator-Based Control in Power Systems: An Overview, **P. Simiyu**

14:45 - 15:00

#100 Exploiting Cascade Failure for the Calibration of Planning Assumptions and Operational Improvement, **M. Viljoen**

15:00 - 15:30

Tea/Coffee/Exhibition

Time

Venue: Pelindaba 1

Venue: Pelindaba 2

Venue: Springbok

15:30 - 16:30

Session 4
Photovoltaic Technologies, Small Scale Embedded Generation and Distribution Transformers
Session Chair: Pamela Kamera

Session 5
Markets and Regulations
Session Chair: Kurt Dedekind

B4 Session 3
LVDC and MVDC distribution and microgrids, Distributed FACTS devices, Synthetic inertia, HVDC Insulation
Session Chair: Dragan Jovic

15:30 - 15:45

#67 Performance characterization of different photovoltaic technologies in outdoor climatic conditions, **H.W. Mkasi**

#42 Integration Of Distributed Energy Resources (DER's) : A Revenue Impact Study & Tariff Optimization Analysis for Ethekwini Municipality, **L. Moodliar**

#26 Droop-based Control with Virtual Inertia and Stability Analysis of the Multi-terminal VSC MVDC Distribution Network with PV integrated, **P. Simiyu**

15:45 - 16:00

#135 Eskom Heritage Park rooftop PV Project, **A. Pandarum**

#104 Development of Small Modular Nuclear Reactors as Municipal Power Stations, **D. Nicholls**

#29 Performance of a VSC with Energy Storage Capability Compared to Virtual Synchronous Machine Control Strategy in Weak Grids, **H. Suriyaarachchi**

16:00 - 16:15

#41 The future of Distributed Solar PV in South Africa, **A. Pandarum**

#95 Evaluating capacity mechanisms in the South African Power Pool, **J.G. Wright**

#13 Pollution mapping methodology for selection of external insulation of HV DC and HV AC electric transmission, **O. Suslova**

16:15 - 16:30

#133 The Dead Grid Safety Lock, **H. Geldenhuys**

#120 Exploring a regulatory framework for Battery Energy Storage Systems, **Z. Lincoln**

#97 Leakage current monitoring on in-service composite and glass insulators of the Cahora Bassa HVDC transmission line, **N. Parus**

19:00 - 23:00

Gala Dinner - Carnivore Restaurant

Thursday, 03 October 2019

Thursday, 03 October 2019			
Registration - Exhibition Hall			
Time	Venue: Pelindaba 1	Venue: Pelindaba 2	Venue: Springbok
08:00 - 09:00	Registration - Exhibition Hall		
09:00 - 10:30	Session 6 Emerging Technology in Power Transformers <i>Session Chair: Mokwape Lekganyane</i>	Session 7 Emerging Technologies <i>Session Chair: Zwelandle Mbebe</i>	B4 Session 4 HVDC Reliability, Refurbishment and upgrades of HVDC and FACTS installations <i>Session Chair: Carsten Bartzsch</i>
09:00 - 09:15	#49 Effects of Surface Discharges on the Lightning Impulse Breakdown Voltage of Ester Oil-Impregnated Pressboard Insulation in Power Transformers, B. Ndlovu	#52 Experience with an Industrial IoT 800 kW Microgrid in Africa, A. Hank	#1 Future Proofing HVDC Systems, M. Bennett
09:15 - 09:30	#64 Applicability of Dissolved Gas Analysis in canola-based natural ester oil under high energy discharge fault, H. Mnisi	#62 Viability of plastic hardware for telecommunications, M. Hoosen	#28 Improving HVDC system reliability, T. Rauhala
09:30 - 09:45	#68 A study of cavity partial discharge time-evolution characteristics in ester oil-impregnated transformer press-board insulation, K. Mosala	#99 Neutronics and thermal hydraulics modelling for a single fuel element immersed in a helium thermal fluid for a distributed energy source, S. Connell	#34 Use of HVDC reliability and availability data in power system analysis - approaches, challenges and opportunities, T. Rauhala
09:45 - 10:00	#73 Ten Years of Experience with Natural Ester Dielectric Fluid in 245kV: Shunt Reactor of Vilhena Substation - Eletronorte, R. Da Silva	#119 Artificial intelligence inclusion in infrared thermography programs: A use case, J. Becker	#91 Parallel Operation of the Two Poles on One Line in the Inga-Kolwezi HVDC Scheme, E. Lubini
10:00 - 10:15	#84 Solar Power Plant Transformer Loss Computation under Harmonic Currents using Field Element Method, B.A. Thango	#70 Electroluminescence (EL) Imaging characterization for Photovoltaic (PV) modules, M. T. Malefajana	
10:15 - 10:30	#78 Recognition of the benefits by the use of Transformers and Reactors immersed in insulating fluid with high fire point (k class): the case of Fire Department of Sao Paulo state in Brazil, R. Da Silva	#136 Single phase energisation resonance of small distribution Transformers, H. Geldenhuys	
10:30 - 11:00	Tea/Coffee/Exhibition		
Time	Venue: Pelindaba 1	Venue: Pelindaba 2	Venue: Springbok
11:00 - 12:30	Session 8 Power system technical performance <i>Session Chair: Matankiso Mohlokoana</i>	Session 9 Power Lines <i>Session Chair: Milliah Ripinga</i>	B4 Session 5 HVDC and FACTS Equipment and Technology <i>Session Chair: Abhay Kumar</i>
11:00 - 11:15	#77 Validation of EMT Models of Renewable Power Plants in South Africa, A. Bartylak	#44 Advantages and disadvantages of low insulation level on overhead MV power lines, A. Beutel	#5 Failure mode analysis of Hybrid DC Circuit Breaker, D. Jovcic
11:15 - 11:30	#58 Considerations in the development of a distributor's blackout load restoration and recovery plan, U. Heideman	#115 The Application of Remotely Piloted Aircraft Systems (RPAS) for Powerline Inspections, S. Biyela	#22 Loss Optimized Design Of Air-core Reactors, A. Gaun
11:30 - 11:45	#48 Low frequency electric safety analysis of a utility scale photovoltaic plant, P.H. Pretorius	#117 Considerations for Transmission Line Emergency Restoration, S. Nzama	#31 Functional Real Time Testing of HVDC IEDs, G. Chaffey
11:45 - 12:00	#47 Lightning risk considerations related to wire-line technology applied in large utility scale PV plant, P.H. Pretorius	#109 Overhead Line Tower Member Theft, G. Strelec	#36 Parallel connection of IGBT devices in VSC for HVDC, J. Dorn
12:00 - 12:15	#6 Harmonic emission assessment in a dynamic environment using aggregated harmonic phasors, B. Peterson	#121 Eskom experiences with innovative foundation solutions, S. Dubazana	#80 Modelling, testing and evaluation of HVDC equipment- HVDC Converters, DC Breakers, DC Transformers, N. Gwatidzo
12:15 - 12:30	#66 Automatic Service Restoration on Distribution Networks for the Implementation of Fault Location, Isolation and Service Restoration (FLISR), F. Mthethwa	#102 Pollution Monitoring for HVDC Transmission, M. Mathebula	
12:30 - 13:30	Lunch/Exhibition		
Time	Venue: Pelindaba		
13:30 - 15:00	Joint Session Regional Interconnections <i>Session Chair: Mohamed Rashwan</i>		
13:30 - 13:45	#54 Improving the security of the power corridor between South Africa and Namibia: Eskom-NamPower 2nd 400kV interconnector case study, S. Ncwane		
13:45 - 14:00	#74 Network planning studies to evaluate the impact of the Botswana - South Africa (BOSA) interconnector on the SAPP Network, T. Mokoena		
14:00 - 14:15	#20 Strategy for Northeast Asia Power System Interconnection - Technical Assistance to Mongolia, P. Lienhart		
14:15 - 14:30	#16 The Eastern Electricity Highway Project - Design Aspects and Major Technical Features of the new HVDC Interconnector, C. Bartzsch		
14:30 - 14:45	#24 System Design of the 3*1000MW Luxi Back-to-Back with hybrid LCC and VSC technology for regional interconnection, S. Xu		
14:45 - 15:00	#35 Design considerations for ±800kV, 6000MW Raigarh-Pugalur HVDC, Interconnecting Central and South India, R. Patola		
15:00 - 15:30	Tea/Coffee/Exhibition		
15:30 - 16:00	Closing Ceremony - Best Paper Awards		