



8TH SOUTHERN AFRICA REGIONAL CONFERENCE

14 - 17 NOVEMBER 2017



CONFERENCE PROGRAMME Wednesday, 15 November

Speakers and presentations may be subject to change

Time	Main Ballroom	Somerset Room
08:00 - 09:00	Registration	
09:00 - 09:10	Welcome , Mark Waldron, Technical Council Chair, Cigré	
09:10 - 09:40	Keynote Address: Dr Rob Stephen, President, Cigré	
09:40 - 09:55	AFSEC/Cigré MoU Signing , Paul Johnson, AFSEC & Dr Rob Stephen, Cigré	
09:55 - 10:30	Tea/Coffee/Exhibition	
	SESSION 1	SESSION 2
10:30 - 12:30	Challenges associated with the integration of Distributed Generation on Utility Networks	Materials and Asset management developments for the future in uncertain times
	Session Chair: Prof John van Coller	Session Chair: Dr Cuthbert Nyamupangedengu
10:30 - 10:45	Microgrids vs Centralized grids, <i>Ackeby S</i>	Field trial of carbon composite core covered conductor system, <i>Lee M</i>
10:45 - 11:00	Analysis of utility scale wind and solar plant performance in South Africa relative to daily electricity demand, <i>K Kemper</i>	Developing reproducible electrical tree-resistance epoxy nanodielectric with improved thermal performance, <i>Hank A</i>
11:00 - 11:15	Methodology for assessing the impact of intermittent generation on Utilities, <i>Leeburn D</i>	Performance of Insulators under Impulse AC and HVDC Voltage, <i>Swanson A</i>
11:15 - 11:30	Utility Scale Battery Storage The New Electricity Revolution, <i>Tuson P</i>	The use of 3D printing for high voltage applications and non-critical spares, <i>Mukuddem M</i>
11:30 - 11:45	Model validation for accurate representation of renewable power plant technologies in developing utilities to free up capacity, <i>Smith J</i>	Pre-emptive tripping of distribution power transformers for decaying auxiliary DC supply, <i>van Zyl S</i>
11:45 - 12:00	Understanding the impact of embedded renewable generation and its interaction with local load in the time-domain, <i>Lincoln Z</i>	Air Breakdown Voltage Decreases as Altitude Increases. A review from Chinese experiments, <i>Naidoo P</i>
12:00 - 12:15	Overcoming Hydraulic Issues Using a Hydro Power Scheme, <i>Drommi JL</i>	Evaluating Step and Touch Potential Risks on Earthing Systems of High Voltage Cable Systems, <i>Visagie DL</i>
12:15 - 12:30	Questions & Closing	Questions & Closing
12:30 - 13:30	Lunch / Exhibition	
	SESSION 3	SESSION 4
13:30 - 15:00	System Reliability and Performance improvement measures in the Wires Business	Towards Universal Access in Africa. Creating a platform to accelerate electrification on our continent
	Session Chair: Brandon Peterson	Session Chair: Monde Bala
13:30 - 13:45	Developing a model for the prediction of system reliability indices on distribution networks, <i>Herndler B</i>	Hybride model optimisation used for distributed generation in rural electrification in DR Congo <i>Prof Liassa Nkoy</i>
13:45 - 14:00	An integrated coherent Big Data network Performance management solution, <i>van Wyk W</i>	Servicing Backyard dwellings in the City of Cape Town, <i>Kotze B</i>
14:00 - 14:15	Clearing of transient faults in medium voltage networks by means of single-phase tripping, <i>van der Mescht CJ</i>	A Review on Policy and the Cost Associated With Electrification of Informal Settlements, <i>Soni M</i>
14:15 - 14:30	Magnetic induced currents and voltages on earthed lines due to faults on adjacent lines, <i>Dirkse van Schalkwyk W</i>	A tool for pre-feasibility techno-economic comparison of rural electrification options, <i>Rizzo F</i>
14:30 - 14:45	Advances in Power Quality Requirements for RPPs, <i>Botha G</i>	Modelling an electrification connection strategy, <i>Malapermal S</i>
14:45 - 15:00	Questions & Closing	Questions & Closing
15:00 - 15:30	Tea/Coffee/Exhibition	

Wednesday, 15 November (Cont)

Time	Main Ballroom	Somerset Room
15:30 - 17:00	SESSION 5	
	Transmission System integration challenges	
	Session Chair: Jacob Machinjike	
15:30 - 15:45	Operational Studies for the Synchronization of the WAPP Interconnected Power system, <i>Rizzo F</i>	
15:45 - 16:00	A Historic Perspective of Power System Disturbances in SAPP, <i>Zimba S</i>	
16:00 - 16:15	Recovery voltage analysis of the Matimba – Phokoje 400 kV transmission line during a single phase-to-earth fault, <i>Schutte P</i>	
16:15 - 16:30	Shortcomings and proposed improvements to asset health index of Eskom transmission lines, <i>Mushabe S</i>	
16:30 - 16:45	Optimise demand response for primary frequency control, <i>Gumede M</i>	
16:45 - 17:00	Questions & Closing	
17:00 - 20:00	Welcome Cocktail Function and Exhibition Opening	

Thursday, 16 November

Time	Main Ballroom	Somerset Room
08:00 - 10:00	SESSION 6	SESSION 7
	Technology solutions and innovations impacting on Transmission Design elements	Measuring Transformer health – diagnostic tools and other measures
	Session Chair: Riaz Vajeth	Session Chair: Simon Ryder
08:00 - 08:15	765 kV SS Acoustic Noise impact study by predictive software and computational approach, <i>Hubbard R</i>	Transformers within photovoltaic generation plants Challenges and possible solutions, <i>Murray R</i>
08:15 - 08:30	Review and improvement of Transco Dispatch, <i>Chown G</i>	Holistic approach to on-line transformer Monitoring, <i>Skelton M</i>
08:30 - 08:45	Inertia and Rate of Change of Frequency, <i>Wright J</i>	Transformer oil degradation on PV plants - A Case study, <i>Nyandeni D</i>
08:45 - 09:00	Assessing the need for additional surge arresters in an uprated high voltage substation, <i>Schutte P</i>	Alternate and sustainable materials in Power Sector for developing countries, <i>Shinde R</i>
09:00 - 09:15	Uprating of high voltage overhead transmission lines using intermediary catenary suspenders, <i>Henderson N</i>	Advantages derived from Gas Chromatographic identification of petroleum products and additives within the power industry, <i>Lombard A</i>
09:15 - 09:30	Strategic Plan for Integrating Future Renewable Energy Generators in South Africa, <i>Theku M, Ndlhovu C</i>	Employment of various strategies to optimize asset management of transformers, <i>Mukuddem M</i>
09:30 - 09:45	Questions & Closing	Natural Ester Oil Power Transformer Solution for PPC Slurry Substation, <i>Singh A</i>
09:45 - 10:00		Questions & Closing
10:00 - 10:30	Tea/Coffee/Exhibition	

Thursday, 16 November (Cont)

Time	Main Ballroom	Somerset Room
	SESSION 8	SESSION 9
10:30 - 12:30	Technology solutions and innovations impacting on Transmission Design elements	Integrating Network Planning Tools with Grid Code requirements
	Session Chair: Terry Krieg	Session Chair: Leslie Naidoo
10:30 - 10:45	Consideration to include High Surge Impedance loading lines as part of system planning in ESKOM, <i>Maphumulo L</i>	Cost of Unserved Energy in South Africa, <i>Minnaar U</i>
10:45 - 11:00	Use of Thyristor controlled Capacitors to enhance power system transient stability, <i>Gumunyu T</i>	Assessment of Geographical Based Load Forecast Technique at Eskom Distribution, <i>Soni M</i>
11:00 - 11:15	Improved methods for surface impedance estimation in modelling geomagnetically induced currents in power networks, <i>Oyedokun D</i>	Impacts of SSEG on SA MV Networks, <i>Pillay V</i>
11:15 - 11:30	Variable Shunt Reactors Applications and System Aspects, <i>Olsson K</i>	Innovative method to determine Distributed Energy Resource Hosting Capacity, <i>Bello M</i>
11:30 - 11:45	First off achievements used on the Kappa-Sterrekus 765kV overhead line, <i>Jacobs B</i>	Non-technical loss mitigation lessons for Africa from global experiences, <i>Beutel A</i>
11:45 - 12:00	Seasonal Variation of Soil Resistivity and the Correction Factor, <i>Thomas C</i>	Grid Code compliance tests of Renewable Technologies integrated on the NamPower Network, <i>Mukusuka J</i>
12:00 - 12:15	Elevated lightning activity at PV Plant - Hypothesis and Preliminary findings, <i>Pretorius P</i>	Testing & Technical Evaluation for compliance to South Africa Grid Code (SAGC) of the first 1800MW of Renewable energy, <i>Mvura D</i>
12:15 - 12:30	Questions & Closing	Questions & Closing
12:30 - 13:30	Lunch / Exhibition	
	SESSION 10	SESSION 11
13:30 - 15:00	Challenges associated with the integration of Distributed Generation on Utility Networks	Planning for System Resilience in Utilities
	Session Chair: Khayakazi Dioka	Session Chair: Dr Robert Koch
13:30 - 13:45	Investigating Capital deferment by installing a peak shaving and energy shifting battery storage system, <i>Neethling AD</i>	Protecting Critical Infrastructure by Adapting to Resilience Thinking for a National Blackout Risk Assessment Framework, <i>van Harte M</i>
13:45 - 14:00	Initial Feasibility Study of a Microgrid Implementation, <i>Khan I</i>	Power system resilience - Blackout recovery defence barrier, <i>van Harte M and Nambiar A</i>
14:00 - 14:15	How Digital Microgrids contribute to achieving the electrification challenge, <i>Harris S</i>	Addressing Emergency Decision Making in Complex incidents: Implementation of Advanced Incident Command System in Eskom, <i>Correia J</i>
14:15 - 14:30	Increasing the uptake variable renewable energy (VRE) sources through optimal placement of collector substations, <i>Mushwana C</i>	Network and Data security strategy of the Electric Power System, <i>Taljaard M</i>
14:30 - 14:45	Cost Containment Considerations by Utilities during Implementation of IPP Projects, <i>Hadebe D</i>	Going Digital – Opportunities across the life-cycle of the infrastructure, <i>Verhoef F</i>
14:45 - 15:00	Questions & Closing	Questions & Closing
15:00 - 15:30	Tea/Coffee/Exhibition	
15:30 - 16:00	Closing Ceremony & Prize Giving, Mr Prince Moyo, Chariman, Cigré SA	