



PAC World Africa Conference Americas 2026 Johannesburg, South Africa

List of papers in order of presentation at the conference.

Tuesday Morning

- TUM01** What is MMS? Beyond SCADA to Comprehensive Substation Intelligence - R. Lehutso, NTCSA, South Africa
- TUM02** Proposal for Protection Settings Adjustments for Inter-Turn Fault Detection in Air-Core Shunt Reactors - L. C. Pereira Grilo, A. A. Pereira Cruz, T. Duarte Moreira, J. P. Bezerra Sampaio, TAESA, Brasil; Marcos Vinícius Pimentel Teixeira, IME, Brazil.
- TUM03** High Channel Density Fault Recording with IEC61850 Sampled Values - Challenges and Benefits - A. Madhyastha, AMETEK Power Instruments, India
- TUM04** Configuring and Testing a Multi-vendor Busbar Protection Scheme using IEC 61850 Sampled Values: An Experience Report from Cigré WG B5.74 - P. Flores, Axia, Brazil; D. Lellys, Consultant, Brazil; A. Dierks, Alectrix, South Africa; A. Melo, Schneider Electric, Spain; S. Vijayaraghavan, Spie, Netherlands; R. Goblirsch, Siemens, Germany
- TUM05** Forward or Reverse...in which direction should we go? - C. Louw, NTCSA, South Africa
- TUM06** From Terminal to Control Center: Automated Signal Testing for Reduced Verification Time - O. Durak, B. Tahincioglu, OMICRON electronics GmbH, Austria
- TUM07** Bus Transfer Application and Operational Failure Analysis on an 11 kV Reticulation System at a Coal-Fired Power Station - W. Seima, V. Mathebula, N. Tshikororo, L. Maseko, Eskom, South Africa
- TUM08** TBD

Tuesday Afternoon

- TUA01** AI-Driven Digital Transformation for Enhancing Industrial Physical Security in Unmanned Remote Operations: Physical Security Designs - Mmeli Mthembu, Samkelisiwe Khoza, Kgomotso Manyapetsa, Eskom, South Africa)
- TUA02** A Practical Guide to Designing and Deploying OT SDN Networks - R. Meine, Schweitzer Engineering Laboratories, Inc., USA
- TUA03** AI Based Substation Operating Interlocking Rules - H. Mhlongo, NTCSA, South Africa
- TUA04** From Oscilography to Implementation: The Disturbance Discussion Forum (DDF) as a Platform for Practical Learning in Power System Protection - L. Grilo, A. Cruz, J. Sampaio, T. Quintino, D.I Pereira, TAESA, Brazil; R. Jogaib, SEL, Australia.
- TUA05** IEC 61850 and Power Quality (PQDIF) in accordance with IEC TR 61850-90-17 - L. Rappel, A. Eberle GmbH & Co. KG, Germany

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- TUA06 Demystifying IT-OT Convergence: Strengthening Critical Infrastructure Security Through DMZ Implementation and Cross-Domain - K. Manyapetsa, Eskom NTCSA, T. Biyela, Siphulathuthu, South Africa
 - TUA07 Digital Twin as a Practical Engineering Tool for Improving Efficiency, Reliability and Execution Speed in Protection and Automation Systems - T. Pitso, D. Mabilo, Siemens, South Africa
 - TUA08 Digital Transformation of Distribution Management Systems - A Case of ZESCO Limited in Zambia - D. Katongo, R. Nsontaulwa, ZESCO Limited Zambia; A. Irudayasamy, OMICRON electronics Middle East, Bahrain
 - TUA09 GFM Integration to Legacy Schemes : Opportunities and Challenges - B. Green , T. Bruwer , N. Mdletshe, V.C. Mathebula, ESKOM, South Africa
 - TUA10 Evolving Practices for High-Quality SCD Files in Modern Integrated Substations - R. Singh, eThekwini Energy Management Directorate, South Africa; A. Irudayasamy, OMICRON electronics Middle East, Bahrain

Wednesday Morning

- WEM01 Strengthening NTCSA's Wide Area Monitoring Capability: Current PMU Status, Data Delivery Challenges and Standardization - C. Louw, NTCSA, South Africa
- WEM02 Data Digitization in Substations Using Mobile Devices and Generative Artificial Intelligence - J. C. Sánchez, F. Fink, OMICRON electronics, Austria
- WEM03 Digitization of Physical Layer Devices in Power Plants Incorporating Ethernet to Support Grid Stability & Resilience - K. Manyapetsa, M. Mthembu, S. Mhlongo, NTCSA, South Africa; M.i Dlamini, ESKOM, South Africa; S. Sithole NTCSA, South Africa
- WEM04 Redundant but not Resilient? – Fixing NTP Failover, PRP Designs and MACsec Gaps in Modern Substation Networks - R. Lehutso, NTCSA, South Africa
P. Diamandis, Quadnet Computer Systems, South Africa; T. Craven, H3iSquared Trading, South Africa
- WEM05 Modernizing Transmission Grid Operations: Implementing Secure Remote Access and Automated Data Collection with NTCSA's Engineering and Data Concentrator Solutions (EADS) - K. Manyapetsa, E. Mugivhi, S. Mkhatswa, Eskom NTCSA, South Africa; S. Wong, SUBNET Solutions Inc., Canada
- WEM06 Evaluation of Ultra-High-Speed Line Protection, Traveling-Wave Fault Locating, and Circuit Breaker Reignition Detection on a 220 kV Line in the Kalahari Basin, Namibia - S. Sharma, D. Joubert, R. Kirby, G. Smelich, Schweitzer Engineering Laboratories, Inc., USA and South Africa
- WEM07 Virtualisation Challenges in Supervisory Control and Data Acquisition Systems: A Case Study of Legacy Migration at Power Station Water Treatment Plant - S. Mhlongo, National Transmission Company South Africa, South Africa
- WEM08 Didactic Analysis of How Grid-Following IBR Modeling Influences Power Swing Dynamics and Protection Response in Low-Inertia Systems. - J. P. Bezerra Sampaio, TAESA, Brazil; F. Lopes, UFPB, Brazil; A. Cruz, L. Grilo, T. Quintino, TAESA, Brazil
- WEM09 Upstream Protection Intertripping: A Temporary Solution to Mitigate Against the Risk Posed by Accessing or Working in Close Proximity to Underrated Switchgear - E. Ngomane, Eskom Distribution, South Africa
- WEM10 Initial Results of Testing Redundant Time Synchronization and Recovery Analysis of Protective Relays - P. Francis-Mezger, OMICRON Energy, USA; G. Wrosinghert, Meinberg USA, USA

Wednesday Afternoon

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- WEA01** Implementation of Regular IED Firmware Updates: How Can the Pain be Relieved? - K. Jagdaw, Bongani Qwabe, NTCSA, South Africa; A. Dierks, Alectrix, South Africa; V. Jansen van Rensburg, Siemens, South Africa
- WEA02** Maximizing Inverter-Based Generation Performance for PV and Storage Generation Facilities - B. Waldron, Schweitzer Engineering Laboratories, Inc., USA
- WEA03** Automating Corrective Control – Deployment of a Wide Area Monitoring, Protection and Control System on the Zambian Interconnected Power System - S Lungu, D. Katongo - ZESCO Limited, Zambia
- WEA04** Challenging Lifespan Myths: Obsolescence Management in Cyber-Physical Power Systems - K. Manyapetsa, H. Mhlongo, Eskom NTCSA, South Africa
- WEA05** Homologation and Acceptance Testing Protocol of Protection IEDs in ultra-high Voltage Systems: Ensuring Power System Reliability through Compliance with the SIN Grid Code - L. Grilo, A. Cruz, J. Sampaio, T. Quintino, TAESA, Brasil
- WEA06** Automation Generation Control and Grid stability - N. Nxumalo, ESKOM, South Africa
- WEA07** Deterministic OT Cybersecurity for IEC 61850 Substations: From Protocol Monitoring to Automated Network Enforcement - A. Mohamed, OMICRON electronics Middle East, Bahrain; O. Durak, OMICRON electronics GmbH, Austria
- WEA08** The Role of IEC 61850 in Optimizing Substation Automation Systems and Configuration Tools Using a Bottom-Up Approach - T. Bereng, D. Motsoahole, S. Sithole, H. Mhlongo, D. Gojela, NTCSA, South Africa
- WEA09** Performance Evaluation and Field Validation of a Double-Ended Fault Location Method via Teleprotection Using Transient Simulation Software in FAT Environment - T. Duarte Moreira, Siemens, Brazil; L. Claver Grilo, A. Augusto Cruz, J. Sampaio, TAESA, Brazil; J. Jorge, OMICRON, Brazil.
- WEA10** Six-Phase Transmission - What? Why? & How? - A. Apostolov, PAC World, USA

Thursday Morning

- THM01** Enhancing Security in Substations: The Role of An Intrusion Detection System (IDS) in Substation Automation Networks - R. Lejusto, K. Halefose, K. Manyapetsa, S. Sithole, NTCSA, South Africa; T. Biyela, Siphulathuthu, South Africa
- THM02** Auxiliary Power and Communication Link Failures in Generator Protection Systems: Operational Lessons and Recommendations Fibre Cable - Case Study - Z. Mzekandaba, W. Seima, V. Mathebula, N. Tshikororo, Y. Dilinga, NTCSA, South Africa
- THM03** TBD
- THM04** Real-Time Enhanced Situational Awareness: Integrating IEDs, TW, and Environmental Intelligence in Transmission Control Centers - A. Cruz, L. Grilo, J. P. Bezerra, T. Quintino, TAESA, Brazil
- THM05** TBD

Backup Papers