PAC World Conference 2023
Presentation Schedule

Raleigh, NC, USA, August 29-31, 2023
Last Updated: August 25, 2023

Tuesday Morning

TUM01 *	Modern Switchgear using Multi-Object PAC Systems	B.Vandiver, Hitachi Energy, USA
TUM02	LUMA Energy Distribution Feeder Protection Modernization Project	C. T. Ocasio Rodríguez, J. Aguilar, LUMA Energy, Puerto Rico; A. Smit, H. Self, T. Fix, J. Hudson, B. Zarovniaev, Quanta Technology, USA
TUM03	Comparison of Processes for Testing, Commissioning and Maintenance Methods - Digital Versus Conventional Substations	C. Wester, M. Ramlachan, GE Grid Solutions, USA; E. Carvalheira, OMICRON electronics, USA
TUM04	New Approach to Cloud-based End-to-End Testing of Line Differential Elements	A. Gonzalez, Megger, Canada; D. Mani, S. C. Reddy Thota, Megger, USA
TUM05	Accurate Multi-Ended Fault Locating Algorithm Using Incremental Sequence Quantities	A. Shrestha, S. Kumar Mutha, Schweitzer Engineering Laboratories, Inc., USA
TUM06	GNSS Vulnerability	D. Arnold, W. Abt, Meinberg USA, USA; Roel de Vries, Fugro, Belgium
TUM07	A Review of Current Protection Testing Practices	S. Cooper, OMICRON, USA
TUM08	Frequency Tracking Function in Numerical Protection Devices – Applications and Benefits	A. Stinskiy, E. de Oliveira, Siemens, USA
TUM09	Transformer Ground Differential Element Behavior with CT Error and Analysis of a Misoperation Event	A. Saad, Quanta Technology LLC, USA; J. Hughes, Qualus, USA; S. Barnes, T. Condra, Tennessee Valley Authority, USA
TUM10	15 Years Continuous Journey Securing and Managing Edge Devices	A. Hamdon, J. Atkins, SUBNET Solutions Inc., Canada

Tuesday Afternoon

TUA01	Advancing the Unified Grid Control Platform Concept	E. A. Udren, R. Hunt, Quanta Technology LLC, USA; P. Myrda, EPRI, USA; H. Falk, Outside the Box Consulting, USA
TUA02	One Utility's Experience: IEEE Std 1547™ MIC Devices to Meet the Grid's Distributed Energy Resource Interface Needs	TJ Stenger, A. O. Katigbak, D. Adams, Duke Energy, USA
TUA03	Reducing Risk, Cost,and Development Time using Functional Simulation	S. Shanghavi, Schneider Electric, USA; D. Goughnour, J. Moore, Triangle MicroWorks, Inc., USA
TUA04	Optimization of Distance Protection Performance used in Wind Farms' Collection Networks	A. TSYLIN, Ørsted, Denmark; Z. GAJIĆ, Hitachi Energy, Sweden; M. KOCKOTT, Hitachi Energy, USA
TUA05	Case Study: Defining and Measuring Protection Signal Transfer Speed, Latency, and Reliability Within Digital Trip Circuits	M. Ross, J. Bettler, Commonwealth Edison, USA; A. Sprenger, Puget Sound Energy, USA; J. Silva, Southern California Edison, USA; A.

* Paper was not available to be part of the CD at time of publishing

		Wade, D. Dolezilek,, M. Silveira, Schweitzer Engineering Laboratories, Inc., USA
TUA06	Real-time In-line Testing for Virtual Protection Systems and IEC61850 Networks	S. T. Jose, ASE / Kalkitech, USA
TUA07	State of Affairs with the Standardization and Testing of IEC 61850 based VPAC Systems	Dustin Tessier, Tesco Automation, Canada; Darren De Ronde, Tesco Automation, USA

Tuesday Afternoon - After the Break - Utilty Panel

Topic: Impact of IBRs on Transmission Protection
- o Jonathan Sykes (Quanta Technology) – Moderator
- o Jason Eruneo (Duke)
- o Rich Bauer (NERC)
- o Paul Martini (National Grid)
- o Juergen Holbach (Quanta Technology)
- o Bogdan Kasztenny (SEL)

Wednesday Morning

WEM01	Precision Timing in the Infrastructure as a Foundation for Better PAC Systems.	F. Steinhauser, OMICRON, Austria
WEM02	Experience with IEC 61850-7-500 from the 2021/2022 UCAIug IOP	K. Gray, C. Dyer, POWER Engineers, Inc., USA; S. Karimi, POWER Engineers, Inc., Canada
WEM03	Short-Circuit Updates in Con Edison's Power System: Methodology, Challenges, and Lessons Learned	H. Camara, G. Goddard, Con Edison Company of NY, Inc, USA; M. Malki, J. Li, J. Velez, Quanta Technology, LLC, USA
WEM04	Complete Monitoring Solution to Improve Reliability and Performance of Digital Secondary Systems	A. Kotryk, Companhia Paranaense de Energia, Brazil; E. Goncalves, R. Abboud, M. Silveira, P. Lima, V. Ferrari, Schweitzer Engineering Laboratories, Inc.; Brazil and USA
WEM05	Non-intrusive Transformer Asset Health Monitoring and Loss of Life Analysis	A. Venkateswaran, M. Kockott, Hitachi Energy, USA
WEM06	Detection Algorithm for High Impedance Faults with Downed Conductor	X. Meng, S. Chandra, D. Ishchenko, M. Nowak, S. Talukder, Eaton Corporation, USA
WEM07	How to Reduce IEC61850 Engineering Effort and Time using Virtual IEDs and Bays	S. T. Jose, ASE / Kalkitech, USA
WEM08	High Speed Switching Systems for Reliability on Medium Voltage: An Updated Approach to Protection and Control Testing and Commissioning - A Utility's Experience	A. Lilly, B. Hosseini, A. Katigbak, L. Soliman, D. Adams, Duke Energy, USA; C. Kidd, Schweitzer Engineering Labs, USA; C. Jegues, RTDS Technologies, Canada
WEM09	Infrared & AI Focused Asset Performance Management (APM) with IEC61850 MMS Integration	J. Nam, R. Harada, A. Rizzo, R. Midence, V. Vartolomei, Systems With Intelligence, Canada
WEM10	Some Practicalities of Applying DFRs in IEC 61850 Substations	R. Hunt, H. Self, Quanta Technology, LLC, USA

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WEM11	Optimized Distribution Protection & Control	W. Hartmann, C. Wester, GE Grid Solutions, USA
WEM12 *	Protection and Centralization in a Virtualized Environment	H. Falk, OTB Consulting, USA; P. Myrda, EPRI, USA

Wednesday Afternoon

WEA01	Understanding the Impact of Time Inaccuracy on Synchrophasors, Traveling-Wave Fault Locating, and Line Current Differential Protection	A. Shrestha, P. Nadkar, J. Fultz, Schweitzer Engineering Laboratories, Inc., USA
WEA02	Automating Transmission Line Constants Calculation for Improved Efficiency	Yifan Wang(Quanta Technology, Canada); Sagar Karki (Quanta Technology, USA); Luis Polanco (LUMA Energy, Puerto Rico); Alejandro Hernandez(LUMA Energy, Puerto Rico); Majida Malki(Quanta Technology, USA)
WEA03	OpenFault Trace Tool - GTC Case Studies	L. Hartzog, M. Browning, J. Lowery, GTC, USA; T. Laughner, Lifescale Analytics, USA
WEA04	Prioritizing Information Security Risks in Grid Control Centre IT and OT Systems:A Comprehensive Risk-Based Vulnerability Management	M. D. Kumar, Y. Prasanth, R. Anumasula, T. R. Ganesh, S. P. Kumar, K. Muralikrishna, Grid Controller of India Limited, India
WEA05	LAN Design Considerations and Testing Procedures for the Digital Substation	S. McCreery, OMICRON, Canada
WEA06	Enhancing Timekeeping in the Power Industry through Multi-Constellation GNSS Systems	J. Anderson, C. Seibel, NovaTech Automation, Germany
WEA07	Communication Bandwidth Considerations for Digital Substation Applications	J. Groat, Hitachi Energy, USA; G. Antonova, Hitachi Energy, Canada
WEA08	Comparative Analysis of the Distribution Lines Falling Conductor Protection Methods	M. Webster, A. Marquez, K. Tran, A. Torres - Southern California Edison Company, USA; C. Adewole, D. Ransom, GE Grid Solutions, USA
WEA09	Maintaining Precise Time for Power System Applications in the Event of Wide Area Loss of GPS	D. Williams, Burns & McDonnell, USA; R. Jodrie, Syncworks, USA; K. Fodero, P. Robertson, C. Huntley, M. Elshafi, Schweitzer Engineering Laboratories, Inc., USA
WEA10	Practical Considerations for Testing Generator Synch Functions	M. Wilson, J. Loyd, Megger, USA
WEA11	Reducing Transformer In Rush Current during Energization by using Point_On_Wave Switching	A. Soroush, SIEMENS, USA
WEA12	Automated Relay Testing and Management	H. Khani, J. Wagner, Quanta Technology, Canada; R. Perera, W. Wang: Hydro One Networks Inc., Canada

Thursday Morning

THM01	Slingshot Disconnection! Understanding the Effect of Disconnecting an Un-stabilized Ungrounded Source	S. Billaut, A. Miles, J. Steele, J. Johnson, Commonwealth Associates, Inc., USA; S. Miller, Energy Emissions Intelligence, USA; K. Banerjee, Eversource, USA

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THM02	Lessons Learned From Commissioning of IEC 61850 9-2 Process Bus-Based Busbar Protection System	R. Karmaker, Power Grid Company of Bangladesh, Bangladesh; J. Monzi Mathew, D. Dolezilek, M. Katuru, Schweitzer Engineering Laboratories, Inc., USA
THM03	Automated Protection Engineering Process from Standards and Simulation Studies to IED Configuration	Charles Adewole, Eric Chua, Nathan Dunn - GE Grid Solutions Ed Wong, Arturo Torres - Southern California Edison Company
THM04 *	UCAIug Update	H. Falk - USA
THM05 *	Identification of Non-Redundant Components of the Consolidated Edison Protection System for TPL-001-5	K. Judd, S. Rabiee, M. Malki, J. Schmidt, Quanta Technology, LLC., USA; B. Varughese, Consolidated Edison, USA
THM06	Application of Artificial Intelligence Techniques in Smart Grid Protection and Control	K. T. Akindeji, K. Moloi, Durban University of Technology, South Africa

Backup Papers

Backup01	Protection and Control Challenges of Low Voltage Networks with High Distributed Energy Resources Penetration	Z. Cheng, E. Udren, J. Holbach, Quanta Technology, USA; M. Reno, M. Ropp, Sandia National Lab, USA
Backup02	IEEE Standard C37.92-2023 – Simplified Relay Input Interfacing and Testing	E. A. Udren, Quanta Technology LLC, USA
Backup03	The Value of the Post-Event Analysis from IED Data	S. E. Vega Blasini, LUMA, USA; J. Holbach, Quanta Technology, USA
Backup04	Functional Security - a New Way To Protect the Grid	A. Apostolov, PAC World, USA

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