

2021

# Grid of the Future



OCTOBER 17-20, 2021

## Sunday, October 17, 2021

TIME	EVENT	EVENT TITLE	Event Speaker[s]	Description	ROOM NAME
7:00A - 5:00P	CIGRE - Registration				Narragansett Lobby
1:00P - 4:30P	NGN Tutorial	Solar+ Storage Site Tour, Cedar Rd - Attleboro, MA	Samer Arafa Justin woodard Tyler Krupa	One hour class from 1-1:45pm Safety Glasses, water, light snack (will be provided.) Leave hotel at 2pm and be back by 4:30pm	South County
5:30P - 7:30P	CIGRE Sponsored Reception	Welcome Reception Sponsored by <b>SIEMENS Energy</b>		Welcome Reception sponsored by <b>SIEMENS Energy</b>	Narragansett Pre-Function

## Monday, October 18, 2021

TIME	EVENT				ROOM
7:00A - 5:30P	CIGRE - Registration				Narragansett Lobby
7:00A - 7:45A	CIGRE - Breakfast Buffet Sponsored by Sediver	Breakfast Buffet		Breakfast Sponsored by <b>Sediver</b>	Narragansett C
7:00A - 7:45A	Women in Energy Breakfast	Women in Energy Breakfast	Carol Sedewitz (NationalGrid)	Breakfast Sponsored by <b>Mitsubishi Electric Power Products</b>	South County
7:45A - 8:15A	CIGRE General Session	Welcome Address - (Chris Root) Keynote Address	Chris Kelly (NationalGrid)		Narragansett A&B
8:15A - 9:15A	CIGRE Panel Session	Moderator: John McDonald (GE)	David Lovelady (NationalGrid) Josh Castaguay (Green Mountain Power)	Controlling the Distribution Grid of the Future	Narragansett A&B
9:15A - 9:30A	Morning Break	Morning Break		Coffee break sponsored by <b>Commonwealth Associates</b>	Narragansett Pre-Function
9:30A - 11:00A	CIGRE - Track 1	Paper Session 1A - Moderator: Vipul Bhagat - National Grid	J. A. Wischkaemper, TAMU F. Stadtmueller, PG&E N. M. Skoff, Dominion B. Berry, Reactive Technologies	<b>Distribution Technical Track</b>	Bristol / Kent
				<b>Wildfire Prevention, Ground Protection and Fault Measurement Session</b>	
				<i>Wildfire Ignition from Latent, Undiscovered Distribution Faults - Early Detection Using Signature Recognition</i> <b>J. A. Wischkaemper - Texas A&amp;M University</b> , B. D. Russell, C. L. Benner, K. Muthu-Manivannan	
				<i>Ground Fault Neutralizer for Wildfire Mitigation in California</i> <b>F. Stadtmueller - Pacific Gas &amp; Electric Co.</b> , S. Hayes	
				<i>Ground Protection Methods for Transmission Lines using Segmented Static Wires</i> <b>N. M. Skoff - Dominion Energy Virginia</b> , R. E. Tuck, G. B. Alvarez, P. D. Vansant, M. J. Till	
				<i>Fault Level Measurement Techniques in Power Systems</i> <b>B. Berry - Reactive Technologies</b> , D. Gheorghe	

TIME	EVENT	EVENT TITLE	Event Speaker[s]	Description	ROOM NAME
9:30A - 11:00A	CIGRE - Track 2	Paper Session 1B - Moderator: Gianni Figueroa - National Grid	Z.Jiang, University of TN Z.Jiang, University of TN T. Manna, Burns & McDonnell P. Mahadanaarachchi, AEP	<b>System Analysis, Grid Control and Reliability Technical Track</b>	Newport / Washington
				<b>Reactive Power Compensation, PV Generation and GICs Impacts Session</b>	
				<i>Reactive Power Compensation Analysis of the U.S. Eastern Interconnection with Increased Renewable Penetration</i> <b>Z. Jiang - University of Tennessee</b> , S. You, L. Zhu, Y. Liu, M. J. Till, X. Li, R. Liu, J. Han	
				<i>Impacts of Photovoltaic Generation and Natural Gas-fired Generation on Large-scale Power Systems</i> <b>Z. Jiang - University of Tennessee</b> , S. You, L. Zhu, Y. Liu, M. J. Till, X. Li, R. Liu, J. Han	
				<i>Reactive Power Compensation Considerations for Offshore AC Networks</i> <b>T. Manna - Burns &amp; McDonnell</b>	
				<i>Measuring Geomagnetically-Induced Currents in each Phase of an Auto Transformer Bank</i> <b>P. Mahadanaarachchi - American Electric Power</b> , L. Anderson	
9:30A - 11:00A	CIGRE - Track 3	Paper Session 1C - Moderator: Francesca Urcia - Natioinal Grid	E.Inbar, Prisma Photonics J. Lehmer, Idaho National Laboratory W. Edmondson, Mott MacDonald S. Ziegler, IMCORP	<b>Advanced Technologies and Asset Management Technical Track</b>	South County
				<b>Innovation with Cables and Dynamic Line Rating Session</b>	
				<i>Innovative Optical Fiber-based Monitoring of Overhead Power Transmission Lines</i> <b>E. Inbar - Prisma Photonics</b> , A. Motil, E. Rowen, A. Ettlinger, C. Xu, M. Fuchs	
				<i>Computerized Wind Farm Generation Tie Line Infrastructure Footprint Routing and Subsequent Dynamic Line Rating</i> <b>J. Lehmer - Idaho National Laboratory</b> , T. Phillips, A. Abboud, J. Gentle	
				<i>Export Cable Energization in Offshore Wind Farms</i> <b>W. Edmondson - Mott MacDonald</b> , G. Wu, D. F. Canon, R. Hariharan	
				<i>Using Machine Learning and Deep Learning for Characterizing Partial Discharge in Underground Utility Cables for Predictive Maintenance Application</i> <b>S. Ziegler - IMCORP</b> , S. Shekhar	
9:30A - 11:00A	CIGRE - Track 4	Paper Session 1D - Moderator: Connor Skowyra - National Grid	A.C. West, SUBNET S. R. Knudsen, KeyLogic Systems A. Bordine, Anterix B. W. Albright, Burns McDonnell	<b>System Analysis, Grid Control and Reliability Technical Track</b>	Providence I & IV
				<b>Data, Communications and Cyber Security Session</b>	
				<i>All in this Together: Integrating Data across Disciplines and Functions</i> <b>A. C. West - SUBNET Solutions Pty Ltd</b>	
				<i>Prevent Cyber-attacks: Know Your Network</i> <b>S. R. Knudsen - KeyLogic Systems, Inc.</b>	
				<i>Network of Networks: The Power of Collectively Adopting Private LTE to Modernize the U.S. Electric Grid</i> <b>A. Bordine - Anterix</b>	
				<i>Public vs. Private Networks</i> <b>B. W. Albright - Burns McDonnell</b>	

TIME	EVENT	EVENT TITLE	Event Speaker[s]	Description	ROOM NAME
9:30A - 11:00A	CIGRE - Track 5	Paper Session 1E - Moderator: Sid Ashok - National Grid	D. Desmond, S&C Electric S. Pandey, Commonwealth Edison Company R. K. Skinner, Wildan Corp J. A. Wischkaemper, TAMU	<b>Distribution Technical Track</b>	Narragansett A&B
				<b>Distribution System Resilience Session</b>	
				<i>Distribution Automation in Residential Underground Laterals</i> <b>D. Desmond - S&amp;C Electric Company</b> , R. Gaddis	
				<i>Development of a Resilience Framework for Storm Hardening and Recovery</i> <b>S. Pandey - Commonwealth Edison Company</b> , S. Aguilar, S. Latinwo, D. Kushner, A. Vukojevic, E. A. Paaso, Y. El-Tigani, A. Arab, A. Khodaei	
				<i>Customer Choice: The Paradigm Shift and Future Potential of Customer Owned Distributed Energy Resources (DERs)</i> <b>R. K. Skinner - Wildan Corp.</b> , E. Woychik, M. Martinez	
				<i>Sympathetic Events Resulting from Capacitor Transients</i> <b>J. A. Wischkaemper - Texas A&amp;M University</b> , B. D. Russell, K. Muthu-Manivannan	
11:00A - 11:15A	Break / Transition	Break / Transition			
11:15A - 12:30P	CIGRE - Sponsored Lunch	CIGRE - Sponsored Lunch			Narragansett C
11:15A - 12:30P	CIGRE USNC Executive Committee Lunch	CIGRE USNC Executive Committee Lunch	Chris Root, CIGRE USNC President		Providence II & III
12:30P-12:45P	Break / Transition	Break / Transition			
12:45P - 2:15P	CIGRE NGN Paper Competition	CIGRE NGN Paper Competition			Narragansett A&B
2:15P - 2:30P	Afternoon Break	Afternoon Break		Coffee break sponsored by <b>IMCORP</b>	Narragansett Pre-Function
2:30P - 4:00P	CIGRE - Track 1	Paper Session 2A - Moderator: Ozan Baskan - National Grid	G. Polizzi, Minsait ACE and F. Ding, NREL Y. Liu, Commonwealth Edison N. Gurung, Commonwealth Edison J. Philhower, Savant Power	<b>Distribution Technical Track</b>	Bristol / Kent
				<b>Microgrids and DERMS Session</b>	
				<i>Resilient Microgrids: Developing Community-scale Microgrids with High Solar Generation</i> <b>G. Polizzi - Minsait ACS and F. Ding - National Renewable Energy Laboratory (NREL)</b>	
				<i>Photovoltaic Generation Estimation for DERMS Curtailment Analysis</i> <b>Y. Liu - Commonwealth Edison Company</b> , M. G. Hernandez, A. Vukojevic	
				<i>Design and Development of a Sequence of Operation for Utility Microgrids</i> <b>N. Gurung - Commonwealth Edison Company</b> , R. Sharma, H. Chen, H. Zheng, O. Alizadeh	
				<i>Harmonic Analysis of Residential Microgrid Operating ON/OFF Grid with Non-linear Loads</i> <b>J. Philhower - Savant Power</b> , A. Demeo, K. Page	

TIME	EVENT	EVENT TITLE	Event Speaker[s]	Description	ROOM NAME
2:30P - 4:00P	CIGRE - Track 2	Paper Session 2B - Moderator: Nima Kalathil - National Grid	R. Zhang, S&C Electric M. Abdelmalak, University of Nevada Reno T. McGrail, Doble Engineering	<b>Advanced Technologies and Asset Management Technical Track</b>	<b>Newport / Washington</b>
				<b>Machine Learning and Artificial Intelligence Applications to the Grid Session</b> <i>Artificial Intelligence Application in Grid Edge Asset Health Monitoring</i> <b>R. Zhang - S&amp;C Electric Company</b> , D. Guinn, Q. Guo, V. Ostapchuk, W. Watts, Y. Sharon, M. Gao	
				<i>Reinforced Learning Approach Based on Topology Reconfiguration to Enhance Operational Resilience against Hurricanes</i> <b>M. Abdelmalak - University of Nevada Reno</b> , S. Morash, M. Benidris, A. F. Snyder	
				<i>Practical Machine Learning Applications</i> <b>T. McGrail - Doble Engineering</b> , T. Rhodes, I. Mitiche, F. Werner, P. Boreham	
2:30P - 4:00P	CIGRE - Track 3	Paper Session 2C - Moderator: Omar Muneeruddin - National Grid	A. G. Miles, University of Idaho A. Arab, University of Denver M. Khoshjahan, TAMU Z. Wu & A. V. Guerra, Commonwealth Edison	<b>System Analysis, Grid Control and Reliability Technical Track</b>	<b>South County</b>
				<b>Innovation in Electricity Markets Session</b> <i>An Integrated Transactive Energy Market and Distribution Grid Analysis Platform</i> <b>A. G. Miles - University of Idaho</b> , M. J. Holman, A. A. Jillepalli, D. Conte de Leon, Y. Chakhchoukh, B. K. Johnson, H. L. Hess	
				<i>Conceptual Design of a Consensus Mechanism for Renewable Energy Markets on Blockchain</i> <b>A. Arab - University of Denver</b> , A. Khodaei, M. Choobineh, H. Zheng, A. Vukojevic	
				<i>Impacts of Weather-Related Outages on DER Participation in the Wholesale Market Energy and Ancillary Services</i> <b>M. Khoshjahan - Texas A&amp;M University</b> , R. Baembitov, M. Kezunovic	
				<i>Case Studies of Distribution Locational Marginal Pricing Methodology Based on Bronzeville Community Microgrid</i> <b>Z. Wu &amp; A. V. Guerra - Commonwealth Edison Company</b> , J. Lam, W. Muneer, E. Ma, A. Lodder, V. Guo, S. Mortazavian, Y. Zhang	
2:30P - 4:00P	CIGRE - Track 4	Paper Session 2D - Moderator: Olivia Phillips - National Grid	S. Ashok, National Grid K. Deming, National Grid M. Nazir, Clemson University V. Powar, Clemson University	<b>Advanced Technologies and Asset Management Technical Track</b>	<b>Providence I &amp; IV</b>
				<b>HVDC Applications Session</b> <i>Novel Use Case of Robotic Dog Payloads for Asset Inspections at HVDC Site</i> <b>S. Ashok - National Grid</b> , J. Marcinkus, C. McCarthy	
				<i>Considerations in Strategic Long-Term Transmission Asset Replacement: An HVDC Case Study</i> <b>K. Deming - National Grid</b> , M. Perben, S. Ashok	
				<i>Hybrid Converter-station Transformer for Enhanced HVDC Robustness</i> <b>M. Nazir - Clemson University</b> , J. H. Enslin	
				<i>Photovoltaics and Lithium-ion Battery based Sustainable Energy Infrastructure</i> <b>V. Powar - Clemson University</b> , P. Paniyil, R. Singh	

TIME	EVENT	EVENT TITLE	Event Speaker[s]	Description	ROOM NAME
2:30P - 4:00P	CIGRE - Track 5	Paper Session 2E - Moderator: Sarah Roffo - National Grid	P. Yan, AEP Y. Lu, AEP J. Cordova, EPRI B. Enayati, National Grid	<p><b>System Analysis, Grid Control and Reliability Technical Track</b></p> <p><b>Power System Model Update and Analysis Session</b></p> <p><i>Simple Reformation of Conventional Power Flows to Enhance Resilient Power Grid Analysis</i> <b>P. Yan - American Electric Power</b>, H. Lao</p> <p><i>A CIM-based Incremental Approach for Real-time System Model Update</i> <b>Y. Lu - American Electric Power</b>, X. Xu, F. Tu, A. Ali</p> <p><i>Online Decision Support Framework for Power System Restoration by Use of Real-Time Simulation</i> <b>J. Cordova - Electric Power Research Institute</b>, H. Hooshyar, M. Patel, V. Singhvi</p> <p>Introducing the IEEE PES Transmission Subcommittee <b>B. Enayati - National Grid</b>, D. D. Sabin</p>	Narragansett A&B
4:00P - 4:15P	Afternoon Break	Afternoon Break			Narragansett Pre-Function
4:15P - 5:45P	CIGRE - Track 1	Paper Session 3A - Moderator: Mandy Olson - Burns & McDonnell	W. Fan, Commonwealth P. Pabst, Commonwealth A.Vukojevic, Commonwealth W.Fan, Commonwealth	<p><b>Distribution Technical Track</b></p> <p><b>CVR Deployment Applications Session</b></p> <p><i>Anomalous Voltage Data Detection: Utility Experience from Large Scale CVR Deployment</i> <b>W. Fan - Commonwealth Edison Company</b>, M. S. Hossan, A. Cook, S. A. Fard, E. A. Paaso, A. Khodaei</p> <p><i>Investigating the Practical Bounds of the CVR Factor</i> <b>P. Pabst - Commonwealth Edison Company</b>, A. Khodaei, Z. Hosseini, S. Hossan, W. Fan, M. Mahoor</p> <p><i>Benefits of Single-Phase Capacitor Switching in Conservation Voltage Reduction</i> <b>A. Vukojevic - Commonwealth Edison Company</b>, H. Zheng, K. Dsouza</p> <p><i>Distribution System Monitoring for CVR Operation and Performance Evaluation: A Utility Experience</i> <b>W. Fan - Commonwealth Edison Company</b>, M. S. Hossan, L. Workman, A. Cook, P. Pabst, E. A. Paaso</p>	Bristol / Kent
4:15P - 5:45P	CIGRE - Track 2	Paper Session 3B - Moderator: Jon Garrity - Tagup, Inc.	S. Yanikara, Quanta Technology C. Skowyra, National Grid L.Covert, Burns & McDonnell	<p><b>System Analysis, Grid Control and Reliability Technical Track</b></p> <p><b>Lessons in Sustainability Session</b></p> <p><i>A Comprehensive Metrics-based Climate/Resilience Plan and Investment Strategy</i> <b>S. Yanikara - Quanta Technology</b>, E. Ntakou, S. Bahramirad, J. Schlegelmilch, K. Mahani, R. Masiello</p> <p><i>The Importance of EVs and How to Sustainably Create Widespread Use</i> <b>C. Skowyra - National Grid</b></p> <p><i>Improving Grid Infrastructure Sustainability by BIM and Optioneering Design Approach</i> <b>L. Covert - Burns &amp; McDonnell</b>, P. Somboonyanon</p>	Newport / Washington

TIME	EVENT	EVENT TITLE	Event Speaker[s]	Description	ROOM NAME
4:15P - 5:45P	CIGRE - Track 3	Paper Session 3C - Moderator: Josh Snodgrass - POWER Engineers, Inc.	G. Katsh, National Grid H.Othman, Quanta Technology J.Caspary, Grid Strategies L.Cecere, Vermont Electric Power Co.	<b>Advanced Technologies and Asset Management Technical Track</b>	South County
				<b>Impact of Future Technological Innovations on Transmission Session</b>	
				<i>Impacts of Fleet Electrification on Grid Infrastructure</i> <b>G. Katsh - National Grid</b> , M. Cloud, T. Hill, M. Perben, H. Snowmoro, R. Wheeler, J. Wilke, C. Aimone, J. Hou, S. Patel, G. Rackliffe, T. Wischmeyer, M. Ziemann	
				<i>Energy Storage Siting and Sizing Methodology to Unlock Transmission Transfer Capacity - A Case Study in the UK National Grid</i> <b>H. Othman - Quanta Technology LLC</b> , A. Thurumalla, X. Ding	
				<i>Unlocking the Queue with Grid-Enhancing Technologies: Case Study of the Southwest Power Pool</i> <b>J. Caspary - Grid Strategies</b> , B. Tsuchida, J. Schneider, T. Bloch-Rubin, J. Marmillo, P. Ruiz	
				<i>2021 Vermont Long-Range Transmission Plan</i> <b>L. Cecere - Vermont Electric Power Company</b>	
4:15P - 5:45P	CIGRE - Track 4	Paper Session 3D - Moderator: James Berger - POWER Engineers, Inc.	M. Kezunovic, TAMU K.Buffi, National Grid B. Curran, MPR Associates C. Malone, Dominion Energy	<b>Distribution Technical Track</b>	Providence I & IV
				<b>Innovations in Electric Grid Analysis Session</b>	
				<i>Machine Learning in Distribution Management Systems as Forecasting</i> <b>S. P. Morash - EnerNex</b> , A. F. Snyder, M. Humayun, J. Schoene, Y. Naman	
				<i>Experimental Quantum Computing to Solve Network DC Power Flow Problem</i> <b>R. Eskandarpour - Resilient Entanglement</b> , K. Ghosh, A. Khodaei, A. Paaso	
				<i>Creating the Electric Distribution Management System that Enables the Clean Energy Transition</i> <b>O. Baskan - National Grid</b> , A. Grant, J. Larochelle	
				<i>A Strategy to Modernizing the Electric Grid</i> <b>S. Arafa - National Grid</b>	
4:15P - 5:45P	CIGRE - Track 5	Paper Session 3E - Moderator: Mark McVey - Dominion Energy Virginia	D. A. Tarvin, Burns & McDonnell J. L. Lauletta, Exacter, Inc. S. Morovati, University of Tennessee	<b>System Analysis, Grid Control and Reliability Technical Track</b>	Narragansett A&B
				<b>Practical Applications of Analytics Session</b>	
				<i>Using Prescriptive Analytics to Optimize Electricity Distribution System Maintenance and Upgrades</i> <b>D. A. Tarvin - Burns &amp; McDonnell</b>	
				<i>Practical Analytic Applications for Grid Reliability and Resilience</i> <b>J. L. Lauletta - Exacter, Inc.</b>	
				<i>Transient Stability Analysis Framework for Performance Evaluation of Microgrids with an Energy Storage System and a Synchronous Condenser</i> <b>S. Morovati - The University of Tennessee</b> , F. Katiraei, S. Chuangpishit	
6:00P - 10:00P	CIGRE Welcome Reception sponsored by <b>NATIONAL GRID</b>			Fleming's Prime Steakhouse, Omni Providence Hotel (Heavy hors d'oeuvres will be served) One West Exchange Street, Providence, RI Sponsored by <b>National Grid</b>	

TIME	EVENT	EVENT TITLE	Event Speaker[s]	Description	ROOM NAME
<b>Tuesday, October 19, 2021</b>					
TIME	EVENT				ROOM NAME
7:00A - 4:30p	CIGRE - Registration				Narragansett Lobby
7:00A - 7:45A	CIGRE - Breakfast Buffet	Breakfast Buffet			Narragansett C
7:00A - 7:45A	NGN - Breakfast Buffet	CIGRE NGN Breakfast Speaker:	Natasha Deschne (NationalGrid)		South County
7:45A - 8:15A	CIGRE General Session	Keynote Address: Speaker:	Judith Judson (NationalGrid)		Narragansett A&B
8:15 - 8:30 A	NGN Paper Award Winner Announcement	NGN Vice Chair Paper Competition NGN Chair			
8:30A - 9:30A	CIGRE Panel Session	Moderator: Chris Root (VELCO)	JP Knauss (National Grid) Aftab Khan (Eversource)	Grid MOD & Telecom network as part of an Electric Utility	Narragansett A&B
9:30A - 9:45 A	Morning Break			Morning break sponsored by <b>MPR Associates.</b>	Narragansett Pre-Function
9:45A - 11:15A	CIGRE - Track 1	Paper Session 4A - Moderator: Theo Laughner - Lifescale Analytics	M. Kezunovic, TAMU K.Buffi, National Grid B. Curran, MPR Associates C. Malone, Dominion Energy	<b>Distribution Technical Track</b>	Bristol/Kent
				<b>BESS and Other Grid Modernization Initiatives Session</b>	
				<i>Harvesting the Nano-Grid Flexibility</i> <b>M. Kezunovic - Texas A&amp;M University, M. Khoshjahan, M. Soleimani</b>	
				<i>Volt/VAR Optimization and Interoperability with other Grid Modernization Initiatives</i> <b>K. Buffi - National Grid</b>	
				<i>Designing Battery Energy Storage Systems for Reliability</i> <b>B. Curran - MPR Associates, Inc.</b>	
				<i>Utilizing a BESS for Multi-Applications in a Distribution Grid</i> <b>C. Malone - Dominion Energy Virginia, Y. Wang, G. J. Warchol, A. Johnson</b>	
9:45A - 11:15A	CIGRE - Track 2	Paper Session 4B - Moderator: Senay Berhane - S&C Electric Company	C. Bowen, Burns & McDonnell A. Pagnotta, Burns & McDonnell D.D. Sabin, Schneider Electric	<b>System Analysis, Grid Control and Reliability Technical Track</b>	Newport / Washington
				<b>Climate and Electrical Load Impacts Session</b>	
				<i>The Impact of Extreme Events on Electrical Substation Infrastructure in Coastal Areas</i> <b>C. Bowen - Burns &amp; McDonnell, C. Jergensen, P. Somboonyanon</b>	
				<i>Embracing Carbon Abatement in Concrete for the Construction of Electrical Utility Networks</i> <b>A. Pagnotta - Burns &amp; McDonnell, P. Somboonyanon</b>	
				<i>Automating Analytics of Electrical Load Impact due to Voltage Sags</i> <b>D. D. Sabin - Schneider Electric, J. A. Bickel</b>	

TIME	EVENT	EVENT TITLE	Event Speaker[s]	Description	ROOM NAME
9:45A - 11:15A	CIGRE -Track 3	Paper Session 4C - Moderator: Steven Judd - ISO New England, Inc.	E. P.Casale, S&C Electric H. Hooshyar, EPRI T. Laughner, Lifescale Analytics T. Phillips, Idaho National Laboratory	<b>Advanced Technologies and Asset Management Technical Track</b>	South County
				<b>Power System Technical Performance Session</b>	
				<i>Benefits of Low-Energy Interruption and Low-Energy Testing Technology Applied at Transmission Circuits with Falling Inertia</i> <b>E. P. Casale - S&amp;C Electric Company, M. G. Ennis</b>	
				<i>PMU Limitations in Monitoring Fast Dynamics in Low Inertia Systems</i> , <b>H. Hooshyar - Electric Power Research Institute (EPRI)</b> A. Haddadi, E. Farantatos, M. Patel	
				<i>High-Density Distributed Sensor Network for Monitoring Grid Events</i> <b>T. Laughner - Lifescale Analytics, R. King, B. Marshall, C. Sloop, J. Wellinghoff</b>	
				<i>Forecasting Dynamic Line Rating with Spatial Variation Considerations</i> <b>T. Phillips - Idaho National Laboratory, A. Abboud, B. Starks, J. Lehmer, J. Gentle</b>	
9:45A - 11:15A	CIGRE -Track 4	Paper Session 4D - Moderator: Travis Heintzelman - Burns McDonnell	R. Hunt, Quanta Technology B. Wang, Virginia Polytechnic M. Adhikari, Rensselaer Polytechnic S.A.Dorado-Rojas,Rennselaer Polytechnic	<b>System Analysis, Grid Control and Reliability Technical Track</b>	Providence I & IV
				<b>Protection and Automation Session</b>	
				<i>What is Sustainable Design?</i> <b>R. Hunt - Quanta Technology, E. Udren</b>	
				<i>Hardware-in-the-loop Testing of Overcurrent Protection in a Substation Power System with PV Generation</i> <b>B. Wang - Virginia Polytechnic Institute and State University, R. Liu, G. Alvarez, M. Till</b>	
				<i>Real-Time Controller Hardware-in-the-Loop (RT CHIL) Analysis of Ground Fault Overvoltages (GFOVs) in Inverter-based Distributed Energy Resources (DERs)</i> <b>P. M. Adhikari - Rensselaer Polytechnic Institute, L. Vanfretti, M. Ruppert, M. Ropp</b>	
				<i>Transformer Differential Protection Studies for Dominion Energy's Blackstart Operations</i> <b>S. A. Dorado-Rojas - Rensselaer Polytechnic Institute, X. Li, R. Liu, M. J. Till</b>	
9:45A - 11:15A	CIGRE - Track 5	Paper Session 4E - Moderator: David Roop, Mitsubishi Electric Power Products, Inc.	A.A. Ademola, Dominion T. McGrail, Doble Engineering R. Thaikkat, Tagup, Inc. X.Wu, AEP	<b>Advanced Technologies and Asset Management Technical Track</b>	Narragansett A&B
				<b>Advancements in Power Transformers and Circuit Breakers Session</b>	
				<i>Comparative Study of the Reactive Power Consumption of a Dominion Energy Virginia Autotransformer due to Geomagnetically-induced Current</i> <b>A. A. Ademola - Dominion Energy Virginia, X. Li, D. Yang, M. J. Till</b>	
				<i>Lessons from Action Planning in Power Transformer Monitoring</i> <b>T. McGrail - Doble Engineering, J. Beardsall, T. Salmon, S. Rhoads, P. Boreham</b>	
				<i>Using Machine Learning to Predict Ratio Transformer Failure</i> <b>R. Thaikkat - Tagup, Inc., V. Dechiaro, J. Garrity, S. McCormick, R. Polera, A. MacMullen</b>	
				<i>Surge Arrester Separation Distance Considerations for High-Voltage Substation Circuit Breakers</i> <b>X. Wu - American Electric Power, A. Gaunce, R. Wellman, T. Momme, K. Posey</b>	



TIME	EVENT	EVENT TITLE	Event Speaker[s]	Description	ROOM NAME
11:15A - 11:30A	Break / Transition	Break / Transition			
11:30A - 12:45P	CIGRE - Lunch	USNC Awards to be presented		CIGRE USNC Awards to be presented during lunch - 12:00 pm.	Narragansett C
12:45P - 1:00P	Break / Transition	Break / Transition			
1:00P - 2:00P	CIGRE Panel Session	Moderator: Amanda Olson (Burns & McDonnell)	Dr. Danielle Merfeld (GE) Bill Chiu (Sothern Cali. Edison)	Clean Energy Goals & Affordable Pathways (Net Zero goals)	Narragansett A&B
2:00P - 2:15P	Afternoon Break	Afternoon Break		Afternoon break sponsored by <b>Schweitzer Engineering Laboratories</b> .	Narragansett Pre-Function
2:15P - 3:45P	CIGRE - Track 1	Paper Session 5A - Moderator: Edgar Casale - S&C Electric Company	G. Wang, Quanta Technology S.L. Judd, ISO New England D.Yung, National Grid	<b>System Analysis, Grid Control and Reliability Technical Track</b>	Bristol/Kent
				<b>Power System Analysis and Development Session</b>	
				<i>Hurdles in Renewable Integration - Some Practical Considerations</i> <b>G. Wang - Quanta Technology</b> , H. Chao, F. Wang	
				<i>Stochastic Analysis of Wind, Solar, and Load across New England</i> <b>S. L. Judd - ISO New England, Inc.</b> , C. Hayes	
				<i>The Asset Management Vacation</i> <b>D. Yung - National Grid</b>	
2:15P - 3:45P	CIGRE - Track 2	Paper Session 5B - Moderator: Logan Lillis - Burns & McDonnell	S.Berhane, S&C Electric S.Patel, Hitachi ABB Power Grids W.Nation, Commonwealth Edison N.Bhusal, University of Nevada Reno	<b>Distribution Technical Track</b>	Newport / Washington
				<b>Electric Vehicle Impacts and Hosting Capacity Session</b>	
				<i>Impacts of High EV Penetration on Distribution Networks and its Mitigation: A Study Framework</i> <b>S. Berhane - S&amp;C Electric Company</b> , Y. Kenarangui, F. Harirchi	
				<i>Sensitivity Analysis of the Fleet Charging Impact on Feeder Load</i> <b>S. Patel - Hitachi ABB Power Grids</b> , M. Cloud, T. Hill, G. Katsh, M. Perben, H. Snowmoro, R. Wheeler, J. Wilke, C. Aimone, J. Hou, G. Rackliffe, T. Wischmeyer, M. Ziemann	
				<i>Preparing the Grid for Electric Vehicle Charger Installations Serving Multi-Unit Dwellings</i> <b>W. Nation - Commonwealth Edison Company</b> , S. Aguilar, O. Ogunnubi, M. Lelic, R. Alkan	
				<i>Hosting Capacity Approach Implications</i> <b>N. Bhusal - University of Nevada Reno</b> , A. Sadikovic, M. Ben-Idris	
3:45P - 4:00P	Afternoon Break	Afternoon Break			Narragansett Pre-Function
4:00P -5:00P	CIGRE Panel Session	Moderator : Amin Khodaei (University of Denver)	Darcy Immerman (AECOM) Aleksi Paaso (ComEd)	Handing the Grid to a Super Computer (Big Data and Artificial Intelligence and Autonomy Grid Operation)	Narragansett A&B
5:30P - 7:30P	NGN Sponsored Dinner (Invitation only)			Sponsored by <b>Burns &amp; McDonnell</b> Sarto Restaurant Providence	

TIME	EVENT	EVENT TITLE	Event Speaker[s]	Description	ROOM NAME
<b>Wednesday, October 20, 2021</b>					
TIME	EVENT				ROOM
7:00 am - 8:00 am	No Breakfast - Donuts and coffee provided				Narragansett Pre-Function
8:00A - 12:00P	8:00am - 9:00am Classroom Tutorial 9:00am - 9:30am Break/Transit to the station (Boxed lunch to go) 9:30am - 11:45am Visiting Substation 11:45am - 12:00pm Returning to hotel	Natioanl Grid SPOT Robot Tutorial with HVDC Use-case, Demo and South St. Substation Tour	Presenter: Sid Ashok, Dean Berlin	EH Rated safety boot, Cotton Clothing are required (Participant). Hard hat and safety glasses will be provided.	Bristol/Kent
8:00A - 12:00P	Leave Hotel at 8:00 am Arrive Hotel at 12:00 pm	IEC 61850 Tutorial & Lab	Brian Degner, Laura Dembitzki, Paul Robinson, Al Moniz		Meet at pre-function area before loading on bus