

56th Annual Minnesota Power Systems Conference Program Schedule

November 3–5, 2020

Virtual Conference via Zoom

Tuesday, November 3, 2020

Program at a Glance

7:00 a.m.	Coffee Hour: Log in to Zoom and Slack applications, test your connection, say hello to colleagues!			
General Session				
8:00	Welcome and Opening Remarks			
8:15	Moving Energy at the Speed of Light			
9:00	Grid Reliability and Its Vital Signs			
9:45	Break			
10:15	Accelerating a Low-Impact Energy Future			
11:00	Engineering Ethics			
Noon	Lunch			
	Substation	Metering	Transmission	Relaying I
1:00 p.m.	IEEE 998-2013 Guide for Direct Lightning Stroke Shielding of Substations	Electric Utility Use Cases for Edge Intelligence	MISO Study on the System-Wide Impacts of Electrification	Transmission Line Protection for Systems with Inverter-Based Resources
1:40	Five-minute transition break			
1:45	Power System Studies for Solar and Wind Farms	You Don't Have to Have a PhD to Use Machine Learning!	The Future of North Dakota Transmission Capacity	Recent Utility Experience with High Impedance Fault Detection
2:30	Break			
3:00	Key Attributes of Xcel Energy's Transmission Asset Health Analytics (TAHA) Program	Data from the Edge: Consumer and Grid Benefits	NERC SPIDERWG: Addressing Impacts of Distributed Generation	Impact of Voltage Transients and System Impedance Ratio on Zone 1 Distance Relay Reach
3:40	Five-minute transition break			
3:45	The History and Significance of the Carbon Oxide Ratio for Power Transformers	Driving Intelligence to the Edge of the Distribution Grid: Meter-Based Distributed Intelligence	Energy Storage as a Transmission Asset in MISO	Automatic File Retrieval and Reporting
4:30	Adjourn			

7:30 a.m.	Coffee Hour: Log in to Zoom and Slack applications, test your connection, say hello to colleagues!			
	Distribution Automation/ Communications	Project Management	Generation	Emerging Technologies
8:30	To Broadband or Not to Broadband?		Incorporating Electromagnetic Transient Studies into the Generator Interconnection Process	Top Five Mistakes in Energy Storage
9:10	Five-minute transition break			
9:15	CVR Applied as Demand Response Using AMI Meter Data	Challenges and Lessons Learned from a 200 MW Wind Farm Interconnecting to a Weak 115 kV Transmission System	How Xcel Energy Developed the Largest Community Solar Garden Program in the Country	Utility Applications and Experience with Superconductor Cables in Chicago
10:00	Break			
10:30	Is Your Remote Alarm Unit Reaching End-of-Life? Don't Be ALARMED!	Rebuilding an Xcel Energy 69kV Transmission Line in the Mississippi Backwaters	Reactive Power-Voltage Control of Inverter-Based Resources	Transportation Electrification Transition Challenges
11:10	Five-minute transition break			
11:15	The Total Ownership Wireless Solution: Private Ownership of Both Wireless Equipment AND Frequency Spectrum	CU HVDC Upgrade	Solar Snow Management: Let the Sun Shine In	Dynamic Security Optimization for Hawai`i Island's Power Systems with 100% Inverter-Based Generation
Noon	Lunch break			
	Civil-Structural	Distribution	Relaying II	Safety/Security
1:00 p.m.	3D Substations: Design and Construction	Modeling Solar and Storage DER Using Distribution Engineering Model	Improving Protection Applications for Modern Distribution Switchgear Systems	Overview of Xcel Energy's Personal Protective Grounding Manual Development
1:40	Five-minute transition break			
1:45	Great River Energy Winter Storm Wesley Response	Panel-Distribution Switchgear Philosophies: Dead-Front vs. Live-Front	Case Studies of IEC 61850 Process Bus Systems Using GOOSE and Sampled Values: Recent Installations and Research	Calculating Cybersecurity Risk and Selecting Mitigations in Power
2:30	Break			

Wednesday, November 4, 2020 (continued)

Program at a Glance

3:00	Data Mining to Predict Subsurface Conditions	Updated MN DER Technical Requirements: Adopting IEEE 1547-2018	Analysis of Composite Protection System Misoperations	Physical Security: Innovation and Partnership
3:40	Five-minute transition break			
3:45	How Utilities are Utilizing UAS-Based LiDAR	Predictive Data Analytics for Fault Prevention	Challenges Replacing Electro-Mechanical Transformer Differential Relays	Panel Session: Arc Flash Considerations for Utility and Industrial Power Systems
4:30	Adjourn			

Thursday, November 5, 2020

Program at a Glance

7:30 a.m.	Coffee Hour: Log in to Zoom and Slack applications, test your connection, say hello to colleagues!			
	Tutorial I	Tutorial II	Tutorial III	Tutorial IV
8:30	Stray Voltage in Dairy Facilities	Engineering Career Development-Chapter 2	Cybersecurity for DER-Integrated Smart Grid	
10:00	Break			
10:30	(Cont.)	(Cont.)	(Cont.)	
Noon	Adjourn			

