



PSERC WEBINAR

Strategic investment planning for cyberinfrastructure considering emerging security technologies, implications of supply chain and grid operation

Chee-Wooi Ten

Michigan Technological University

The bulk power system is governed by a complex cyber system that requires ongoing maintenance. Substations are the critical junctions of the polyphase circuits that have been automated, connecting switchgear with a local/remote control system. Over the past decades, multiple generations of substation technologies have been commissioned. The recent surge of ransomware incidents is at an alarming rate that may affect operational decisions through the spread of malware. While many researchers have been putting efforts into establishing an anomaly detection framework, such cost implications associated with the new addition of software systems may affect the integration of future new computing platforms. Disruption of new software system failure would interrupt business continuity (reliability) when a control action cannot be made in a timely manner. This webinar will revisit some of the fundamentals of cyber-physical system security on the subject of security technologies, grid impacts, and potential how software bugs and variants (vulnerabilities) in some substations may affect system upgrade and patch management.

JANUARY 25, 2022

2:00-3:00 P.M. EST

[LINK TO WEBINAR](#)

(11:00-12:00 P.M. PST)

Chee-Wooi Ten is an Associate Professor of Electrical and Computer Engineering at Michigan Technological University and the current PSERC site director. He received the B.S.E.E and M.S.E.E. degrees from Iowa State University and the Ph.D. degree in electrical engineering from University College Dublin, National University of Ireland. His primary research interests include modeling for interdependent critical cyberinfrastructures and supervisory control and data acquisition automation applications for a power grid. He has been an Active Reviewer for IEEE Power and Energy Society (PES) Transactions and was a member of the IEEE PES Computer and Analytical Method for Cybersecurity Task Force and associate editor for IEEE Transactions on Smart Grid. He has recently published a textbook entitled Electric Power: Distribution Emergency Operation addressing the reconfigurability (a notion of resilience) of distribution feeders and promotion of large-scale data extraction of topologies from geographic information system database for advanced distribution.

