THE NORTH AMERICAN SYNCHROPHASOR INITIATIVE
# WEBINAR SERIES

## Eric Andersen
## Pacific Northwest National Laboratory (PNNL)

## Human Machine Teaming

Mr. Andersen is a graduate of Washington State University (WSU) and has been with Pacific Northwest National Laboratory (PNNL) for over 32 years working as a mechanical engineer and project manager on first-of-a-kind design-build projects, testbed operations and management, domestic and international field deployments, and systems integration. He has responsibilities as the manager of PNNL's Electricity Infrastructure Operations Center (EIOC), with a focus on enabling cutting edge grid operations research in a world-class control room research environment. His electric grid research has been in the areas of transmission reliability and resilience, time-synchronized telemetry (synchrophasors), utility partnerships and data sharing, big data analytics, and control room efficiency research including realistic grid event simulation, human factors studies, human-in-the-loop, human-machine-interface (HMI), human-computer-interface, cognitive systems engineering, and user-centered design processes, and cybersecurity. He is a certified project management professional through the Project Management Institute.

The grid is undergoing dramatic changes due to the increased introduction of renewable generation, distributed energy resources, and technology advancements that are forcing utilities to reevaluate their traditional approaches to operations. There has been talk about automating operator functions, but the reality is that removing the human out of the loop is not practical. So, we must look not only at deploying new technologies, but how those technologies are deployed, and how they are most effectively used in the context of real-time operations, with humans in-the-loop.

This webinar will provide an overview of the various concepts in human factors that can provide guidance for designing technology to support power grid operators, engineers, and workflows. Traditional and emerging challenges for the power grid industry include well studied areas of human performance. From situational awareness to signal detection, human factors provide assessment methods and metrics for quantifying and addressing human and human-and-machine related components in the grid ecosystem. There are some immediate areas where this research could be most readily applied.

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**Wednesday, August 25, 2021**
**10:00 a.m. Pacific / 1:00 p.m. Eastern (1 hr.)**
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