

# Presentation Proposal

19th International Conference on Renewable Energies and Power Quality (ICREPQ'21)

28-30 July 2021

## **TITLE:**

Continuous Waveform Capture for Proactive PQ Monitoring Analysis

## **SUMMARY:**

In the electric power industry, the voltage and current waveforms are the rawest forms of data that are analyzed for power system anomalies. An electric utility generates 4,320,000 one-cycle waveforms per day (5,184,000 for 60Hz). However, today, most power quality monitors are configured to record waveform data only when an arbitrary threshold, that may impact loads, is crossed—usually 90% of nominal voltage or 10% variation in the voltage waveform. All other variations between 91% to 99% are ignored. This means we are sampling our product only when it is near a point of causing problems, which is more reactive than a proactive approach. This presentation will cover new methods of continuous waveform capture that may present problems before they occur—saving a company costs from impending catastrophic failures.

## **PRESENTERS:**

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***Bill Howe, PE, CEM***

*Program Manager, EPRI*



Bill Howe is the Program Manager for Power Quality Research (Program 1) in the Power Delivery and Utilization Sector. Mr. Howe's primary areas of expertise are: power quality research, information and knowledge development and deployment, industrial and commercial power quality analysis, industrial and

commercial electric and control system design and optimization, demand response, electric energy efficiency, and market research. Mr. Howe manages the entire PQ Research portfolio for EPRI. His key responsibilities are strategic planning, project management, information products, and multi-client studies covering topics related to quality, reliability, and efficiency of energy delivery. Mr. Howe also manages EPRI's flagship power quality information offering, PQ Knowledge-Based Services, the premier international power quality information resource.

Before joining EPRI, Mr. Howe worked nearly 20 years in management and senior engineering positions within a number of Fortune 500 companies and has experience in medium-voltage power quality product development, product testing, substation and distribution-system design and construction, motors and drive systems, and process automation. He is a registered professional engineer.

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### ***Thomas A. Cooke***

*Senior Technical Leader, EPRI*



Thomas “Tom” Cooke manages Project Set B, PQ Data and Monitoring, for EPRI Program 1. His primary focus is working with utilities and industry experts to identify and develop research for the PQ & power monitoring industry. Recent research has been applied towards large PQ dataset management through advanced consolidation, visualization, and data validation. Other efforts include the continuous improvement of advancing PQ monitoring systems through laboratory assessments and contributing to industry standards.

With over 23 years supporting the PQ industry, Tom has contributed to design and development of several advanced monitoring applications, including non-contact devices for detecting contact voltage and underground cable arcing to protect against both electric shock and vault events, both of which have been issued U.S. patents..

Mr. Cooke received an A.A.S. degree from Pellissippi State Technical Community College in Electronics Engineering Technology, a B.S. degree in Engineering Technology from East Tennessee State University, and an M.S. degree in Technology from East Tennessee State University.