



TEXAS A&M UNIVERSITY

Department of Electrical
& Computer Engineering

TRANSFORMING ENGINEERING EDUCATION

ENERGY & POWER SEMINAR

Connecting the Grids: A Feasibility Assessment of Synchronous Operations of North American Interconnections and Economic Impact

Abstract

This study focuses on the synchronization of North America's two largest grids, the Eastern Interconnect and the Western Electricity Coordinating Council, with a specific emphasis on assessing their economic implications. The investigation involves the integration of load demand and weather variables. Load



demand data is gathered from FERC, enabling the analysis of load-use patterns across various regions. Weather data from stations all across the country dating back to the 1940s is integrated into renewable generation output calculations. These factors are then used to formulate diverse scenarios, incorporating outlying points as well as baseline data. The study examines the performance of the interconnected grid in each of these scenarios, comparing it directly to the grid's performance in a separate state. This research aims to provide valuable insights into the economic viability of this synchronous grid connection. Additionally, it provides situational awareness through visualizations of large-scale grid operations.

Jordan Cook

PhD Student
Electrical & Computer Engineering
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Friday, November 10

11:30 am - 12:20 pm

244 ZACH

Biography

Jordan Cook holds a B.S. degree in electrical and computer engineering from Baylor University in Waco, Texas, awarded in May 2022. She is currently in the second year of pursuing her Ph.D. in electrical engineering at Texas A&M University in College Station, TX. Her research interests encompass synchronous grid connections, the integration of weather and load data, and generator cost analysis.

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