

Lake State Labs LLC - Ann Arbor VPP Pilot

LSL VPP Expertise

9/15/2025

Richard Boehnke at Lake State Labs LLC served as the Director of Demand Flexibility Markets at Recurve, where he led the design, development, and implementation of the Demand FLEXmarkets, a novel form of Virtual Power Plant (VPP) from the business unit's inception to \$5 million in revenue. As Director, Richard led the deployment of 10 Virtual Power Plants using the Demand FLEXmarket model, delivering over \$35 million of grid benefits within 18 months of the initial launch. In the summer of 2021, the California Public Utilities Commission (CPUC), recognizing the potential to rapidly and cost-effectively deploy resources to deliver peak reductions, created the California Market Access Programs based on the Demand FLEXmarkets. The CPUC allotted \$150M to the Market Access Programs to rapidly deploy distributed energy resources to address capacity shortfalls and accommodate peak demand for the State of California. This action was taken in response to the state of emergency declared by Gov. Newsom in response to the 3.4 GW shortfall projected in 2022 and 2023 in California.

Deployed Demand FLEXmarkets / Virtual Power Plants

	Residential	Commercial	PeakFLEX
Pacific Gas and Electric		x	
MCE Community Choice Energy	x	x	x
BayREN		x*	
3C-REN	x*		
East Bay Community Energy		x	
Penninsula Clean Energy		x	
Sanoma Clean Power	x	x	

*A focus on hard-to-reach customers

As Director, Richard was responsible for all aspects of the business unit, including program design, compliance, plan development, measurement and verification, client management, and stakeholder engagement, while simultaneously managing contracts for 16 utility clients delivering unprecedented transparency and impact of current distributed energy programs. Earlier, as Program Manager at Franklin Energy, Richard led cross-functional teams in designing and executing multimillion-dollar energy efficiency (EE) programs for commercial, industrial, and public sector clients, consistently exceeding savings targets and client expectations. Currently, Richard is advising Midwest stakeholders on Virtual Power Plant and Microgrid design and is writing testimony on behalf of residential ratepayers as an expert witness to Michigan Public Service Commission (MPSC) proceedings, shaping policy to support VPPs, distributed energy resource (DER) aggregation, and non-wires alternatives to load growth.

Richard brings a unique and rigorous foundation to energy system innovation, implementation, and policy, grounded in advanced academic training and hands-on industry leadership. He holds a Master of Science (MSc) and Master of Engineering (ir) in Sustainable Energy Technology

from Delft University of Technology in the Netherlands, where he studied as a Fulbright Scholar. The TU Delft SET Program is internationally recognized for its interdisciplinary approach, blending engineering, economics, and policy to prepare graduates to address complex challenges at the intersection of technology, society, and governance. This skill set is critical for navigating the evolving landscape of distributed energy resources and grid modernization. Richard's graduate research and publication in the Journal of Cleaner Production focused on overcoming barriers to municipal climate action, reflecting his commitment to identifying and sharing practical, relevant solutions in energy systems.

Richard's expertise in designing and implementing Virtual Power Plants and demand-side programs will provide critical support to the Sustainable Energy Utility as Ann Arbor addresses the simultaneous challenges of load growth, electrification, and decarbonization. As an industry expert in Virtual Power Plants and Ann Arbor native and local, Richard is uniquely positioned to support the City of Ann Arbor to deploy its first VPP and drive innovation, supporting affordability, reliability, and resilience for Sustainable Energy Utility ratepayers.