

**DOCKETED**

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## **EPIC 4 Investments - MCE Comments on Virtual Power Plants**

On July 18, MCE staff attended the CEC's workshop on advancing virtual power plant (VPP) approaches for increased demand flexibility. Inspired by the conversation, staff would like to submit the following commentary about the EPIC 4 Investment Plan (attached).

*Additional submitted attachment is included below.*



MARIN COUNTY | NAPA COUNTY | UNINCORPORATED CONTRA COSTA COUNTY | UNINCORPORATED SOLANO COUNTY  
BENICIA | CONCORD | DANVILLE | EL CERRITO | FAIRFIELD | LAFAYETTE | MARTINEZ | MORAGA | OAKLEY  
PINOLE | PITTSBURG | PLEASANT HILL | RICHMOND | SAN PABLO | SAN RAMON | VALLEJO | WALNUT CREEK

July 31, 2023

MCE applauds the CEC for its current and future investments in VPPs. As a partner on the CEC's Advanced Energy Communities (AEC) grant in the City of Richmond, MCE is building a bidirectional VPP with real time monitoring and autonomous and predictive controls that can aggregate distributed energy resources for cost-effective, flexible, and renewable electricity generation and use. These aggregated resources will be CAISO market integrated, allowing for full market participation and enabling the VPP to provide direct regional grid-support, financial benefits to participants, as well as energy and resource adequacy value to MCE.

This project is ambitious on many fronts and reflects our commitment to addressing social injustice. The City of Richmond is an incredible place, with a creative community, a vibrant social and political life, and an important history. It is a living legacy of industry and internal migration. It also carries with it the history of redlining, racist zoning practices, and environmental injustice.

MCE's VPP pilot is engaging low-income Richmond residents to maximize their solar production while modernizing their housing stock. We're partnering with local community-based organizations to tap into innovative financial mechanisms to buy dilapidated or abandoned homes and transform them into state-of-the-art zero-net-carbon homes, sold at a discount to first-time lower-income homeowners. In an area where redlining and restrictive deeds and covenants have historically limited home ownership to white families, this community-oriented strategy attempts to address historic inequities, one home at a time.

MCE's VPP pilot is also engaging participation from commercial, industrial, and municipal facilities which will allow us to demonstrate a wide range of VPP use cases using a diversified set of DERs and customer types. This includes large multifamily commercial properties, wastewater treatment facilities, municipal buildings, industrial pumping operations, schools, nonprofits, and more.

All customers participating in the pilot will be compensated for their contributions to the VPP through an innovative VPP Tariff and transparent value-sharing agreement that yields monthly bill credits for participants. This represents a major stride in our efforts to provide opportunities for all customers to earn real equity in the energy system, while playing an active role in supporting MCE's climate protection and community vitality goals. Upon successful completion of the pilot, we envision growing this VPP to serve MCE's service area - Contra Costa, Marin, Napa, and Solano Counties.

As outlined in the CEC's Final Commission Report - EPIC Proposed 2021–2025 Investment Plan, MCE agrees with the CEC's vision for CCAs to be innovative promoters of demand flexibility and emerging technology adoption. We have the potential to be the hubs for decarbonization and grid services and would benefit from technical and financial support.

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MCE's current bidirectional VPP pilot already is working toward many of the stated goals of within EPIC's Investment Plan, including direct alignment the following Equity R&D topics:

- 4. Short Duration Energy Storage Technology Demonstrations to Support Grid Reliability
- 6. Energy Storage Use Case Demonstrations to Support Grid Reliability
- 10. Technology Demonstrations to Address Grid Congestion in a Decarbonized CA
- 13. Improving Forecasts of Behind-The-Meter Solar, Storage, and Load Flexibility
- 15. Behind-the-Meter Renewable Backup Power Technologies
- 16. Design-Build Competitions for Advancing Grid-Interactive Efficient Buildings
- 17. Enabling Grid Resilience with Load Flexibility in Industrial, Agriculture & Water Sectors
- 18. Virtual Power Plants with Autonomous and Predictive Controls
- 19. Increasing Reliability and Interoperability of Load Flexible Technologies
- 20. Efficient Transportation Electrification and Charging Technologies
- 22. Integrating Distributed Energy Resources for Grid-Supportive Vehicle Charging
- 25. High Efficiency and Low-Global Warming Potential (GWP) Heat Pump Water Heaters and Heating, Ventilation, and Air Conditioning (HVAC) Heat Pumps
- 27. Combination Heat Pump for Domestic Hot Water and Space Conditioning
- 29. Demonstrate Smart Energy Management Systems to Accelerate Electrification of Homes at a Reduced Cost

Of note, this VPP pilot is already developing the specific intention of section 18 to “develop and demonstrate open-source data and management controls to help aggregate customer loads, (for example, use of telemetry, measurement, and verification; real-time data collection and analysis practices; and various hardware and software systems).”

As the primary and default electricity provider to over 500,000 customers, MCE is poised to grow this pilot into a regional hub that can offer standardized agreements, pay-backs, and systems for a cohesive VPP experience, simplifying customer engagement and grid participation. By offering a standardized system, MCE can make it easier for consumers to engage with load modifications, provide load flexibility to the grid and participate in the wholesale market and utility programs. We intend to offer a standardized pathway for vendors and suppliers to participate in the program, which will help to support a rapid scale up and a robust suite of customer choices and value propositions.

To fully unleash the potential of VPPs, accurate and timely data is crucial for CCAs and other Load Serving Entities to adjust the predictive forecasting to optimize operations and grid support within the wholesale market. Staff would like to thank the CEC in advance for any support that can be provided toward this end and would happily share the valuable insight, lessons learned, and strategies developed to address these constraints in our VPP pilot.

MCE is ready to work with the CEC to tackle these emerging challenges, striving for grid strength and equitable outcomes for all communities. Thank you,



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