Item #6: Coordinated Holistic Orchestration of Inverter-based Resources (CHOIR) – GFO-25-302

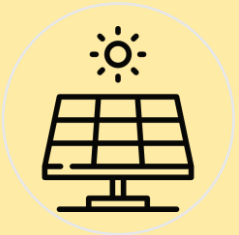
October 19, 2026 Business Meeting

Liet Le, Renewable Integration Electrical Engineer

Energy Research and Development Division, Renewable Integration Unit

Background

TODAY'S VIRTUAL POWER PLANTS (VPPs)



AGGREGATE RESOURCES



SUPPORT BROAD SYSTEM NEEDS



REDUCE DEMAND DURING PEAKS

ADVANCED DISTRIBUTION-LEVEL VPPs



ORCHESTRATE RESOURCES BY LOCATION



RELIEVE CONGESTION



PROVIDE LOCAL GRID SERVICES

Purpose of Solicitation

Demonstrate/advance capabilities of virtual power plants (VPPs) through distribution-level DER orchestration.

- Performance
- Interoperability
- Scalability
- Cost-Effectiveness

Summary of Awards

Recipient	Distribution-Level VPP Deployment	Recommended Funding
DER Security Corp	• City of San Leandro • Residential and industrial sites • Standardized "plug-and-play" gateways	$3,360,000
UC Riverside	• Multiple feeders and cities • (17) commercial sites • Cloud-connected participation	$3,483,212
	Total:	**$6,843,212**

Project Map



PROJECT APPROACH

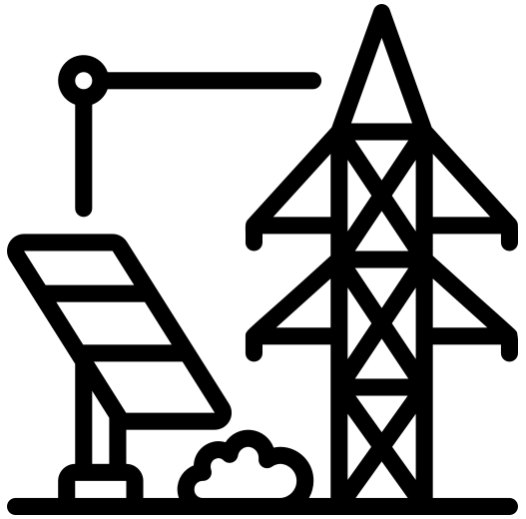
EMERGING POLICY FRAMWORK

- PRIORITY GRID SERVICES
- OPERATIONAL NEEDS
- VALUATION APPROACHES

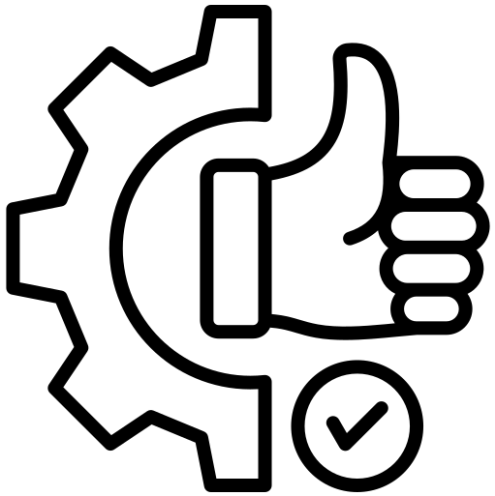
CHOIR IMPLEMENTATION

- REAL-WORLD PERFORMANCE
- PRACTICAL OPERATING EXPERIENCE
- COST AND SCALABILITY EVIDENCE

Benefits to California Ratepayers



Better Grid Utilization



Improved Local Reliability



Long-Term Affordability

Staff's Recommendation

- Approve grant agreements
- Adopt staff's determination that projects are exempt from CEQA