

**BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA**

Order Instituting Rulemaking  
Regarding Microgrids Pursuant to  
Senate Bill 1339 and Resiliency  
Strategies.

Rulemaking 19-09-009  
(Filed on September 12, 2019)

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**OPENING COMMENTS OF THE COUNTY OF LOS ANGELES ON  
ADMINISTRATIVE LAW JUDGE’S RULING ON POTENTIAL MICROGRID  
AND RESILIENCY SOLUTIONS FOR COMMISSION RELIABILITY ACTION  
TO ADDRESS GOVERNOR NEWSOM’S JULY 30, 2021, PROCLAMATION OF  
A STATE OF EMERGENCY**

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## I. INTRODUCTION

The County of Los Angeles (“the County”) respectfully submits Opening Comments on the *Administrative Law Judge’s Ruling on Potential Microgrid and Resiliency Solutions For Commission Reliability Action to Address Governor Newsom’s July 30, 2021 Proclamation of a State of Emergency* (“Ruling”) dated August 23, 2021. On July 30, 2021, Governor Gavin Newsom issued a Proclamation of a State of Emergency (“Proclamation”) in response to the significant and accelerating impacts of climate change in California.<sup>1</sup> The Ruling seeks parties’ comments on policy questions and seeks out proposals from parties for specific California Public Utilities Commission (“Commission”) action(s) that may result in resiliency and microgrid projects installed and delivering reliability benefits by Summer 2022 and/or Summer 2023.<sup>2</sup> The Ruling recognizes the immediacy of the need to deploy Microgrids and the implementation of Resiliency Strategies, that will help support the Governor’s and the Commission’s overall goals. In addition, the Ruling allows for proposals that may involve tariff modifications, or changes to Commission rules or requirements.<sup>3</sup>

The County’s Comments address this call to action and provide several proposals that build on best practices and historical successes while leveraging local government infrastructure to accelerate clean energy project development as soon as possible, particularly by the summer of 2022 and 2023 for net peak hours. These proposals leverage existing infrastructure, prioritized local government Distributed Energy Resource (DER) investment to expedite the construction, procurement, and rapid deployment of new clean energy and storage projects to mitigate the risk of capacity shortages and increase the availability of carbon-free energy at all times of day. Briefly, the County recognizes that the current climate crisis requires critical action and rapid deployment of new clean energy DER projects that couple energy storage, and renewable power to mitigate the risk of capacity shortages and provide net peak power during the high demand hours of 4:00 p.m. to 9:00 p.m.

In response to the Ruling, the County requests the following:

- 1) Commission funding to support the deployment of three local government projects that aim to provide a total of 6.25 MW in net peak demand savings.

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<sup>1</sup> Proclamation of a State of Emergency, Executive Department State of California, July 30, 2021.

<sup>2</sup> ALJ Ruling on Potential Microgrid and Resiliency Solutions.

<sup>3</sup> *Ibid.*

- 2) Authorization for the County to provide services to identify, implement, and incentivize installations of microgrid projects as a Regional Administrator for a Microgrid program.
- 3) Authorization to implement a Regional Microgrid Pilot Program for the Public Agency sector that leverages and supplements existing infrastructure and existing pipelines of public agency clean energy projects.
- 4) Commission authorization for associated funding for the 2022–2023 period to support the programs and projects proposed.
- 5) Policy changes to Net Energy Metering (NEM) and interconnection rules to enable DERs to better contribute to net peak load challenges.

## **II. THE COUNTY PROPOSES DETAILED PROJECTS AND A REGIONAL PROGRAM THAT WILL EXPEDITE CLEAN ENERGY PROJECTS AND PROVIDE 15.9 MW DURING PEAK DEMAND**

The County seeks to deploy three County facility projects and one Regional Public Agency Microgrid Program, described in these Opening Comments and detailed in the attached proposals, over the next two years. The Commission can support these proposals by authorizing supplemental funding for new activities that directly support clean energy development projects within public agencies that leverage the County’s existing facilities and program administration infrastructure. The County is requesting \$41,432,750 in funding across three projects and one program proposal that will deliver 15.95 MW in dispatchable peak demand savings, and 27,265 metric tons of greenhouse gas (GHG) reductions. All proposals are incremental to and not captured by existing programs or processes that currently exist.

The proposed projects and program listed below in Table 1 highlight the annual peak demand reduction to be achieved, as well as the corresponding kWh savings the County aims to achieve should the resources and authorization be provided. Summarized in brief detail are the Ruling-requested details for each project and the program proposed by the County. In addition, the County has prepared in-depth detailed attachments with further programmatic and project details for Commission consideration, located in Attachments A through D to this document. Should the Commission authorize the proposed program, the County would file a Tier 2 Advice Letter that describes the program’s implementation plan similar to the directive required for Investor-Owned Utilities (IOUs) in D.21-01-018 within 60 days of a Commission decision.

**Table 1. Summary of Los Angeles County Recommended Projects and Program**

<b>Project/ Program</b>	<b>Annual Solar Production</b>	<b>Peak Demand Reduction (4:00 p.m.- 9:00 p.m.)</b>	<b>Storage Capacity</b>	<b>Project Cost</b>	<b>Requested Funds</b>
Regional Public Agency Microgrid Program	4,170,000 kWh	9.7 MW	23.2 MWh	-----	\$22,780,000
Eastern Avenue Emergency Operations Microgrid	-	1MW	4.2MWh	\$3,599,750	\$2,752,750
Department of Public Health Solar/Battery Microgrid	779,707 kWh	250kW	1MWh	\$3,250,000	\$900,000
Pitchess Detention Center Solar/Battery Microgrid	33,523,603 kWh	5MW	20MWh	\$70,000,000	\$15,000,000
<b>Total</b>	<b>38,473,310 kWh</b>	<b>15.95 MW</b>	<b>48.4 MWh</b>	<b>\$76,849,750</b>	<b>\$41,432,750</b>

**Program Proposal: Local Government Regional Public Agency Microgrid Program**

In 2012, the Commission recognized the potential benefits and alternative administrative structures for the deployment and implementation of clean energy projects. The Commission recognized that local governments not only had access to additional funding sources that provided supplemental resources to help achieve Statewide goals, but also had a historical track record of implementing regionally localized clean energy programs and in fact, many local governments were better positioned to administer programs, specifically energy efficiency (EE) programs, than they had previously discerned.<sup>4</sup> With that, in 2012, the Commission authorized the County to implement a Regional Energy Network portfolio, the Southern California Regional Energy Network (SoCalREN).

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<sup>4</sup> D.12-05-015, page 23.

The County, through the SoCalREN, implements EE programs and services for residents, businesses, and public agencies within a region that encompasses 12 counties, over 700 public agencies and 20 million people—representing roughly half of California’s population. As a regional government organization representing hundreds of public agencies and their constituents, SoCalREN leverages public sector resources and expertise to provide turnkey solutions to its constituents. SoCalREN’s EE portfolio is unique in California as it was built to continuously engage local communities to expand energy efficiency efforts over time with the objective of reducing costs, increasing resiliency, and implementing local climate solutions. SoCalREN’s ongoing relationship with public agencies, and its understanding of these agencies’ energy infrastructure needs and plans, will enable the implementation of immediate solutions to alleviate stress on the grid. The County has the capacity and capability to provide more offerings than currently authorized by the Commission.

With the appropriate Commission authorization and accessing its current public sector portfolio of offerings, the County can work with the 200 actively enrolled public agencies who participate in SoCalREN’s Public Sector EE Programs to advance rapid and distributed strategies that target 4:00 p.m. to 9:00 p.m. peak demand reduction. In addition, by leveraging a regional approach that mirrors the existing SoCalREN structure, the potential to engage public agencies and lead them toward more clean energy investment is magnified due to the vast geographical reach. Furthermore, SoCalREN gives the County direct access to established public sector networks of customers, qualified contractors, and third-party implementers, with over 11.2 MW of identified and 5.6 MW of installed projects to date, just in the public sector. This same network can be directly leveraged to meet the current Emergency needs.

The County proposes a Regional Public Agency Microgrid Program which mirrors its SoCalREN administration, governance and funding structure, an 11-County regional program that would assist public agencies to implement resilient strategies and microgrid projects from project inception to project completion through a Microgrid project delivery pathway that overcomes barriers and challenges.<sup>5</sup> This program is intended to be piloted over the next two years and can deliver net peak demand hours for the summers of 2022 and 2023. The proposed program aims to deliver 9.7 MW and requested an authorized implementation budget of \$22,780,000 to be

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<sup>5</sup>This proposed program would exclude Imperial County which is out of the County’s IOU partner SCE territory.

administered by the County. Full administrative and programmatic details of the proposed microgrid regional program pilot are included in Attachment A.

Proposed program goals, savings, and timeline assume an expedited approval by the Commission. If Commission approval is received before the end of 2021, this proposed program could be in market by Q1 2022. In addition, the program proposal also assumes that the policy revisions recommended regarding NEM and interconnection rules to enable DERs to better contribute to net peak load challenges are also adopted.

**Project Proposal 1: County of Los Angeles Eastern Avenue Emergency Operations 1 MW, 4.2 MWh Battery Storage Project**

As the County experiences changing climate conditions, heat waves are projected to be more severe, prolonged, and frequent. There is a need to continue to operate essential infrastructure while reducing or eliminating County facilities' demand on the electric grid. In addition, the County is responsible for more than 4,000 facilities and building campuses that not only serve community members but also serve as emergency services to the public in categories that address public health and safety. This availability of property and space has a substantial opportunity for not only clean energy development but Microgrid deployment which can serve to supply the grid during times of constraint and extreme peak demand conditions.

In 2019, the County of Los Angeles' Board of Supervisors adopted *Our County LA* ("OurCounty"), a comprehensive plan to create equity, environmental sustainability, and climate resiliency for its 10 million residents. Goals 1 and 2 of OurCounty address the critical importance of investing in resilient infrastructure and addressing the health disparities of vulnerable populations. Goal 7 directs County operations to transition to zero-carbon energy systems. Under this context, the County of Los Angeles seeks to implement many microgrid projects to address the need to optimize the reliability of power supplied to critical infrastructure, minimize the grid demand during peak system hours, and maximum support to the residents of the County. The County has identified facilities that support critical operations needing large-scale backup power supply and areas that serve underrepresented and vulnerable populations.

The dual purpose of providing resiliency to power outages for critical facilities as well as supporting the local grid by effectively reducing loads during peak demand hours, provides a

framework for prioritizing sites for microgrids. The County's Eastern Avenue campus houses the Emergency Operations Bureau, Sheriff Fleet Management, and Academy Training Centers, Fire Department Headquarters, and emergency communications systems. This complex has been operational throughout the COVID-19 pandemic and serves as a critical operations facility. It is in East Los Angeles, an area with a high CalEnviroScreen score of over 90 percent and surrounded by a population with a 96 percent pollution burden. The facility runs backup generators to provide backup power given the critical nature of the facility, further leading to high particulates in the area. The County proposes the installation of a grid-tied battery storage system to provide backup power during outages, shift load during high usage times and peak hours, and demand response needs. This new battery system will augment a recently completed 1.8 MW rooftop solar array. The facility's footprint will allow the addition of apparatus to facilitate constructing a behind-the-meter microgrid that will increase the facility's reliability and shed load on the electric grid by up to 1,017 kW battery power (4,235 kWh capacity) during peak hours running 50 percent of the base building load through a combination of existing solar with new battery storage. To support the installation of this system so that the project is economically feasible, the County is requesting \$2,752,750 in incremental funding. This project could potentially come online in the spring of 2023.

**Project Proposal 2: County of Los Angeles Department of Public Health, 500kW Solar, 250kW, 1MWh Battery Storage Project**

The County of Los Angeles' Department of Public Health's Environmental Health Division Headquarters serves as an important COVID-19 response center and has labs for environmental sample testing and analysis services, including water and wastewater toxicology assessments. This critical facility can benefit from additional resiliency provided by a proposed grid tied solar and battery storage microgrid project. The site is in Baldwin Park, an area with a high CalEnviroScreen score of 95 percent, and surrounded by a population with a 94 percent pollution burden. The proposed project will include a 500 kW solar carport array, along with a 250 kW, 1 MWh battery storage system configured as a microgrid. The system will generate 779,707 kWh of carbon free electricity per year and reduce 415 tons of CO<sub>2</sub> equivalent GHG emissions.



To support the installation of this system so that the project is economically feasible, the County is requesting \$900,000 in incremental funding. This project could potentially come online in the spring of 2023.

**Project Proposal 3: County of Los Angeles Pitchess Detention Center Complex 20MW Solar and 5MW, 20MWh Battery Microgrid**

The County of Los Angeles' Sherriff's Department operates the 2600-acre Peter J. Pitchess Detention Center Campus (PDC) in the northern part of the County and is in a CPUC Tier 3 Extreme High Fire Risk Area. The PDC is made up of multiple jails holding nearly 10,000 inmates and is the largest jail complex for the County. PDC is in Castaic, an area with a moderate CalEnviroScreen score of 69 percent, and surrounded by a population with a 58 percent pollution burden. PDC is served by two Southern California Edison (SCE) circuits feeding a substation on the campus with available capacity to add solar and storage, as until 2018, the County operated a 25 MW cogeneration plant at the site. The average load of PDC is about 4.5 MW and peak demand is about 7.1 MW. A proposed 20 MW solar and 5 MW, 20 MWh battery microgrid project would increase the PDC's resiliency and support the constrained SCE circuits in a high fire risk region. The system will generate 33.5 million kWh of carbon free electricity per year and reduce 15,584 tons of CO<sub>2</sub> equivalent GHG emissions.

To support the installation of this system so that the project is economically feasible, the County is requesting \$15,000,000 in incremental funding. Due to project size, the PDC solar/battery microgrid would not be expected to be online until 2024.

**III. RESPONSE TO QUESTIONS**

Lastly and in accordance with the ruling, the County provides responses to the questions provided in the Ruling in the same order in which the questions were presented in the ruling.<sup>6</sup>

**A. Prevention vs. Mitigation of System Capacity Shortfall**

1. Is the proposal intended to help prevent a system capacity shortfall from occurring, or does it help mitigate the impact of rotating outages, should they be needed? Specify how.

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<sup>6</sup> R.19-09-009. Administrative Law Judge's Ruling on Potential Microgrid and Resiliency Solutions For Commission Reliability Action to Address Governor Newsom's July 30, 2021 Proclamation of a State of Emergency, dated August 23, 2021

The proposals provided in these Opening Comments will directly support the current grid by offering grid-tied systems that can be deployed to help prevent a system capacity shortfall from occurring. Specifically, as outlined in Attachments B through D, which detail the proposed projects that can be implemented on County facilities and be available to supply any anticipated system capacity shortfall. The strategies to address the shortfall will be determined in day-ahead markets. The facilities will either island, or export power to the grid to meet capacity needs, or alternatively export to provide ancillary services for voltage and frequency regulation. In addition, the Regional Public Agency Microgrid Program proposed would also provide capacity that is incremental to what is available through Self-Generation Incentive Program (SGIP) funding during capacity shortfall per the requirements of the program incentives. It would also contain resiliency strategies within each supported project to ensure that they mitigate the impact of rotating outages in severely constrained pockets within the SCE distribution system.

The Regional Public Agency Microgrid Program Proposal would help prevent a system capacity shortfall from occurring by appropriately sizing the system to provide peak load reductions and ancillary services. Second, the system infrastructure would allow for isolating critical loads to provide minimum power supply to the facility to ensure public safety in the case the wider grid was not able to meet critical site demand. In this case, behind-the-meter investments are necessary to provide system control, flexibility and redundancy in the case on-site energy is simultaneously needed with net export capabilities. Appropriate switchgear and telemetry would be installed, with a protective loads panel, as well as device level instrumentation with on-board control logic would ensure that grid signals can be recognized through Institute of Electrical and Electronics Engineers (IEEE) 2030.5 standards or equivalent.

2. *How does the proposal address the potential conflict between making resources available to the system to help prevent a system capacity shortfall from occurring and reserving resources for private use to mitigate the impacts of a potential outage?*

By design of the system (hardware and software), the facilities can either exclusively operate in islanding mode, export mode, or hybrid mode to meet multiple needs. Multiple Department of Energy (DOE) National Research Laboratories are seeking technology deployment and commercialization projects for a suite of this exact scenario, where hardware/software combinations are capable of such hybrid systems. Examples include Lawrence Berkeley National Laboratory's (LBNL's) FlexAssist and Pacific Northwest National Laboratory (PNNL) offerings

using the Voltron platform. Further, site-level loads will be minimized to critical loads only during capacity shortfall events to help avoid grid system failure, allowing the maximum amount of stored energy to support the grid. Otherwise, the project will be islandable to meet public safety needs of the facilities and community services.

3. *If a proposal is intended to prevent system capacity shortfall from occurring and it includes customer-owned or customer-hosted resources, how will availability of those resources to prevent capacity shortfall be guaranteed? Specify how they will be measured and how safety will be ensured?*

By request to the Commission, the DERs in the microgrid shall be sized to meet multiple objectives not currently possible under interconnection rules. Of primary importance to the greater community is grid stability. A standby capacity shall be reserved in the system logic, primarily made available through IEEE 2030.5 hybrid inverters that coordinate solar and storage resources for maximum exports during needed dispatch windows. The isolation of critical loads will ensure safety at the local level and, through DER aggregation and orchestration, while also guaranteeing a specific number of resources to prevent capacity shortfall. The program will establish best practices and sequences of operations with key stakeholders and facility managers to ensure roles and responsibilities are maintained, and energy capacity will be available.

## **B. Islanding**

*Given that the ability to island is the primary factor distinguishing microgrids from other types of distributed energy resources:*

1. *Is islanding, separate from any associated reduction in load or increase in generation, essential to the ability of the proposal to address the system capacity shortfall? If so, please describe in detail how islanding is expected to directly help.*

Islanding depends on the specific grid needs at the time of emergency. Our projects will be designed to provide complete islanding at the time of grid failure. However, in response to day-ahead forecasts, the projects will be capable of shedding all non-critical load and offering the excess power into the wholesale market. If voltage and frequency regulation is needed, the projects with appropriate capacity will participate in ancillary services.

In the case of a grid failure, systems capable of net exports would currently require complete islanding of the system to ensure safety of the surrounding grid infrastructure and repair operations. An important component of this program is funding the incremental cost of system hardware to enable a hybridization of critical system operations and net surplus exports to

simultaneously provide grid services as requested and in coordination with SCE and/or the California Independent System Operator (CAISO). In islanding mode, the proposed microgrids can provide long duration energy autonomy for facilities that either do not have sufficient fossil fuel back-up or choose not to use fossil back-up in short term outages. Roll-up doors of fire stations, inmate cell operations in detention centers, radio towers for critical communications, public hospital air handling, and water conveyance are examples of how islanding not only helps but is preventative of ripple effects of severe grid outages. Therefore, islanding helps by maintaining essential operations of critical facilities and reducing demand that can alleviate net peak loads across the grid.

- 2. Does islanding indirectly supplement or enhance the ability of other resources like storage, generation, or demand response to help prevent a system capacity shortfall from occurring? If so, please describe in detail how islanding is expected to indirectly help. In the response, identify what types of generation or load reduction resources the microgrid would support.*

By islanding, there is a reduction in grid demand and therefore the overall capacity shortfall is reduced. This increases the value of all other demand response strategies that can further curtail load. The program proposes load reduction of all non-critical loads and stored solar photovoltaic (PV) energy at stationary batteries will serve as generation for both critical building loads and exports to the grid. By using tools such as LBNL's FlexAssist, a risk-based demand flexibility controller and software will prioritize candidate end uses in the building that will be powered by the on-site solar PV and stationary electric battery storage. Based on the day-ahead as well as real time grid conditions, the microgrid will scan the end uses and shed all loads to meet load reductions that maintain grid health. The FlexAssist platform will enhance the ability of the building to serve multiple objectives. Prior to islanding, the microgrid will have the ability to export energy to the grid for event-based dispatch, or to offer ancillary services. However, these grid services will be balanced with the on-site need to meet critical facilities' safety functions and maintain a reserve capacity for use in islanding mode.

### **C. Leveraging Existing Microgrid & Resiliency Programs**

- 1. How should microgrid projects that participate in the suspension of the capacity reservation component of the standby charge, pursuant to Decision 21-07-011, be required to help address a system capacity shortfall, particularly during the net peak hours?*

Projects benefiting from the suspension of the capacity reservation should be required to island only if the grid conditions dictate that islanding is more advantageous than exporting power. It

should also be clarified that finding of Fact 11 in D.21-07-011 describes that the suspension of the capacity reservation component of the standby charge is only eligible for customers not receiving the SGIP incentives. The logic is that the customer is paid twice for the same benefits received under two pathways. In the case of the County's proposals, the benefits of each program are distinct and separate. SGIP is intended to discount the first costs of emergency reliability, and not for the benefit of everyday price arbitrage. The suspension of the capacity reservation yields benefits to public agencies that successfully operate their microgrid and are not relying on the grid for standby power. Therefore, the Commission should allow microgrid/DERs authorized in this proposal to receive both SGIP and suspension of capacity reservation charges. If the microgrid/DER was not to perform as intended, the Demand Assurance Amount per the Decision would still be reasonable for these projects.

2. How should existing programs like the Make Ready and Temporary Generation program be leveraged to address a system shortfall, particularly in the net peak hours?

For the Temporary Generation program, the objectives in the Diesel Alternatives Workshop Challenge Statement were: 1) Maximize the benefits to customers in safe-to-energize areas subject to transmission outages; and 2) Minimize the need to reserve a large fleet of diesel generation for the purpose of providing substation-scale power in 2021. The Make Ready and Temporary Generation programs should call on projects with the lowest GHG intensity to be dispatched first and highest GHG intensity dispatched last. The County's proposed program would address permanent generation options. In the case that a public agency site is located adjacent or reasonably near a substation, and has sufficient site DER capacity, SoCalREN would be interested in leveraging projects to contribute to the Temporary Generation program.

3. How should existing microgrids that have been awarded grant funds (e.g., projects awarded funding by the California Energy Commission or investor-owned utilities via EPIC) be further leveraged to reduce load, especially during net peak hours?

Any existing microgrids funded via grants should be leveraged and eligible for additional funding, as appropriate, to charge their batteries from the grid, which requires authorization from the Commission to depart from interconnection agreements for this specific purpose. If day-ahead forecasts, or monthly resource adequacy procurement, forecast a supply shortfall, behind-the-meter storage systems should be allowed to charge from the grid without penalty.

Grant-funded microgrids in development should receive additional funding to upsize the system to better support beyond critical facilities and the resiliency hubs in their original design. The funding can have immediate grid value since project delivery is being streamlined via existing projects.

In addition, existing microgrid grant teams should be given additional funding to coordinate and develop a roadmap—with the latest best practices—to pave for streamlined and optimized implementation of all projects to come. The grant teams can further serve in advisory capacity via a hands-on working group to achieve efficiencies and scale needed to address current needs but to bridge into standardization and support of a high DER future grid.

4. Approximately how many megawatts could existing programs address during the net peak hours in 2022? Please provide estimates per program.

Within the County’s existing Public Agency Energy Efficiency portfolio of programs, an additional 1.5 MW will be avoided during net peak hours in 2022. Unfortunately, the County cannot speak to any other programs outside of its current portfolio.

**D. Modifications to Existing Microgrid Tariffs**

1. Which specific existing tariffs should be modified, or further modified, to enable microgrids to address a system capacity shortfall during net peak hours (e.g., the behind-the-meter microgrid tariffs)?

a. Provide an overview of how the tariffs should be modified.

Three changes are requested. First, allow for system sizing to accommodate the full physical space available for generation and storage assets, beyond building baseline load. Long-term operations of critical facilities should not be constrained by interconnection rules. Second, the ability to charge a storage system from the grid should be authorized for critical facilities. D.20-06-017 authorized energy storage systems to charge from, but not export to, the grid in advance of a public safety power shutoff (PSPS) event. Whether the solar irradiance is low for a given day, the site load is high, or the economic conditions dictate that the battery should not charge—neither should be the reason that there is stranded capacity in physical assets that otherwise could be made available during net peak hours. At a minimum, energy storage systems should be authorized to charge from the grid for a specified period after receiving a CAISO system notification of potential capacity shortfall, such as a Flex Alert or demand response dispatch signal, in order for the grid

reliability value of these assets to be fully utilized. Third, the assets should be able to cycle as needed to provide the best economic value for the site during blue sky conditions.

- b. Describe the outcome that the tariff change is intended to achieve (e.g., accelerate deployment of new microgrids or enhance system benefits of existing microgrids) and an estimate of the megawatt potential, if possible.

Standby capacity, whether used on-site or for load modifying or supply side services, would be maximized if these changes are authorized. Fully maximizing the grid services value by not restricting how or when batteries can be discharged would accelerate the deployment of microgrids and increase the capacity available to prevent rotating outages or more catastrophic system failure.

In order to accelerate microgrid development in SCE territory, SCE's NEM 2.0 tariff schedules would need to be revised with regard to limits on energy storage system sizing. In the case that a microgrid included front of the meter assets, Wholesale Distribution Access Tariff (WDAT) interconnection rules would also require modification. Sizing requirements for NEM-paired storage were established in D.14-05-033 and D.19-01-030 and subsequently revised by D.20-06-017 to temporarily remove limits for NEM-paired energy storage systems with nameplate capacity greater than 10 kW for a period of three years.

D.20-06-017 Ordering Paragraph 6 directed IOUs to modify "NEM-paired storage" tariffs. In response, SCE filed AL-4255E and included:

"Large NEM-Paired Storage System: The maximum aggregate output capacity of the Integrated or Directly Connected Energy Storage Device(s) can be no greater than 150 percent of the Renewable Generator's maximum output capacity. For example, if the maximum output capacity of the Renewable Generator is 15 kW, the maximum aggregate output capacity of the Integrated or Directly Connected Energy Storage Device(s) can be no greater than 22.5 kW. Pursuant to D.20-06-017, the maximum aggregate output capacity limitation shall not apply for a period of three years beginning [insert effective date of the tariff modification] and ending on [insert date three years from the effective date of the tariff modification].

"NEM-V and NEM-V-ST - Large NEM-Paired Storage System: The maximum aggregate output capacity of the Integrated or Directly Connected Energy Storage Device(s) can be no greater than 150 percent of the Renewable Generator's maximum output capacity. For example, if the maximum output capacity of the Renewable Generator is 15 kW, the maximum aggregate output

capacity of the Integrated or Directly Connected Energy Storage Device(s) can be no greater than 30 kW.”

SCE’s current NEM 2.0 rate schedules have been updated to include this language and the temporary removal of the storage sizing limit has been established for the time period from August 16, 2020 to August 15, 2023 (SCE NEM-ST Section 6.a.ii). To provide improved market certainty and reduce risk to project developers and participants, the suspension of the sizing limits should be extended indefinitely and revisited at a time when grid capacity shortfalls are no longer an imminent threat to system safety and reliability.

D.21-01-018 authorizes electric IOUs to exempt up to 10 microgrid projects from Rule 18 [SCE and Pacific Gas & Electric (PG&E)] or 19 San Diego Gas & Electric (SDG&E) Section C, which will allow microgrids owned or operated by public agencies to supply energy for critical loads for a municipal corporation on an adjacent parcel during an outage event. To maximize the grid reliability and capacity availability services provided by microgrids, these exception limits should be waived, helping to maximize the scale of implementation and expedite project development timelines. In addition, to prioritize the prevention of grid outages ahead of mitigating the impacts of outages once they occur, this authorization should be expanded to include any CAISO system grid capacity shortfall notification or demand response dispatch event.

Furthermore, as identified by other parties in the R.19-09-019 proceeding, the Commission should take additional action to facilitate the commercialization of microgrids by revising Section E of Rule 18 for SCE and PG&E and Rule 19 for SDG&E, which currently prevents the resale of energy purchased from a public utility. In D.21-04-021, the Commission found that modification of Section E was not material to the modification of Section C in D.21-01-018, so this action is not precluded by previous decisions. The modification of Section C allowed for the supply of energy; however, commercialization requires not only the ability to supply a product or service, but also the ability to properly price and recover costs from supplying the product or service. Augmenting Section E would further enable commercialization of microgrids by improving price signals to the market and reducing risk for market actors. Allowing public agencies to sell power to other entities is already an authorized activity under Public Utilities Code (PUC) and would not violate the requirements of PUC 218. Since public agencies are the only entities authorized by D.21-01-018 to



supply power to adjacent parcels or across the street, revising Section E of Rules 18 and 19 would limit the authority to sell power under grid strain/grid outage circumstance to those entities.

- c. Describe how that outcome can help address a system capacity shortfall (e.g., by making additional generation or reducing load during net peak hours, or by reducing the impact of rotating outages) and how the availability of those resources will be ensured

Two outcomes would be made possible. First, critical public safety needs would be met for demand site reliability during a grid outage. Second, grid services would be maximized—whether through the microgrid’s qualifying capacity from a single site or through participation in an aggregator dispatch.

- d. Approximately how many MW could the changes address during the net peak hours in 2022?

We are estimating that battery storage systems will be sized to 150 percent of the net peak load to account for enhanced site resilience and the opportunity to export additional energy during peak hours. The capacity of the battery storage system would be 20 percent allocated for critical loads and resilience and 80 percent allocated for economic dispatch. Through this program, the tariff changes would produce an additional 300 kW of dispatchable demand reduction through battery storage systems in 2022.

- e. Name the existing tariffs by identifying the rate schedule, rule, contract, or other document, or combination of documents, that should be modified. f. Describe the specific changes to the document that should be made to achieve the desired outcome.

See responses to Question 1.b above.

## **E. Potential New Microgrid Programs and Projects**

1. What new microgrid projects, programs, or measures should be developed to address a system capacity shortfall, particularly in the net peak hours?

As stated in these comments, the County of Los Angeles is proposing that the Commission authorize three prioritized local government projects and one regional local government administered Regional Public Agency Microgrid Program.

Three projects have been proposed to contribute 6.25 MW and 1 program that would contribute 9.7 MW of load reduction during peak hours:

- **The County's Eastern Avenue campus.** The County is proposing to install a grid-tied battery storage system to provide backup power during outages, shift load during high usage times and peak hours, and demand response needs. This project will shed load on the electric grid by up to 1,017 kW battery power (4,235 kWh capacity) during peak hours.
- **The County of Los Angeles' Department of Public Health's Environmental Health Division Headquarters.** The proposed project will include a 500-kW solar carport array, along with a 250 kW, 1 MWh battery storage system configured as a microgrid. The system will generate 779,707 kWh of carbon free electricity per year and reduce 415 tons of CO<sub>2</sub> equivalent GHG emissions.
- **The County of Los Angeles' Sherriff's Department.** A proposed 20 MW solar and 5 MW, 20 MWh battery microgrid project would increase the PDC's resiliency and support the constrained SCE circuits in a high fire risk region. The system will generate 33.5 million kWh of carbon free electricity per year and reduce 15,584 tons of CO<sub>2</sub> equivalent GHG emissions.

In addition, a Regional Public Agency Microgrid Program is urgently needed to meet not only the State's overall objectives for clean energy development but also to ensure that these investments include strategies that support the grid and provide resiliency to the state's most impacted communities, specifically ratepayers. Local Governments (LGs) are key energy champions that help drive action in communities but first must act as the lead to shepherd not only markets but communities as a whole. In addition, current IOU efforts are cumbersome, lack transparency, and often do not address the current challenges faced for microgrid deployment but instead add additional barriers such as prolonged interconnection requirements. A more effective approach to piloting microgrids with communities in mind would be to develop them in the context of communities, empowering LGs to take the lead on designing, developing, and executing microgrids. If an alternate party were to administer microgrid pilot funds with a proven track record in implementing clean energy projects in a regional approach, such as the County as a Regional Pilot, the Commission may achieve a more proactive approach to addressing barriers and commercializing microgrids.

A primary objective for all LGs is to meet the needs of hard-to-reach (HTR) community members and Disadvantaged Communities (DACs), which have been disproportionately affected by grid outages. A Program Administrator (PA), managed by a local government, has an inherent

duty to serve HTR markets and DACs. A regional government PA would be well-suited to address microgrids in HTR markets and DACs, through deployment of independent yet parallel programs, initiatives, and actions specifically developed to respond to underserved constituents. As a result, the County can crosscut its clean energy programs onto a number of pre-existing government frameworks specifically designed for underserved and DAC communities, reducing administrative, development, and other costs. By contrast, IOU PAs must build these market-specific frameworks and these activities often over time become barriers to deployment of clean energy investments within the public.

If the Commission authorizes the County to implement a Regional Public Agency Microgrid Program its primary objectives and goals will be to:

- Provide missing technical resources that will get more microgrid projects implemented to support capacity shortfall;
- Include more public agencies in project implementation so additional resiliency strategies can be deployed in each microgrid and ensure that benefits not only support grid capacity shortfall but also support critical community infrastructure during power shut off events or climate change disasters;
- Leverage existing local government partnerships to implement these resources so that projects can be deployed expeditiously and meet the current statewide emergency; and,
- Provide centralized, regional program management and administration by a local government that leverages an existing administrative structure thus alleviating the cost burden on ratepayers.

*a. How would the program help address a system capacity shortfall?*

The stationary electric battery storage systems installed through this program would provide additional resources to the grid by design. Local solar PV will reduce electricity demands from the grid and will charge a stationary electrical battery that can further reduce or eliminate building loads during the distribution grid net peak load times. Building controls will add critical demand flexibility and allow facilities to optimize both local energy production and consumption and enable Demand Response program participation.

In addition, the energy efficiency measures offered through the companion programs will bring down total energy consumption and a portion of this will occur during peak demand period.

Projects can be designed to switch to critical load and island ahead of an outage to prevent system capacity shortfalls.

*b. What is the target resource, customer, and/or market participants?*

Any Public Agencies within the proposed regional territory and can include but not limited to cities, counties, school districts, and special districts.

Public agency building types, would include:

- Libraries
- City Halls
- Offices
- Police stations
- Public assembly facilities
- Public service facilities
- Parks and Recreation facilities
- Schools (k-12)
- Transportation terminals/stations

Additional building types could be pursued, resulting from agency outreach discussions and actual occupancy and use of the building, based on the experience and history of the specific building, and with reasonable demand reduction from historical data.

Furthermore, and to ensure projects identified are successful, the Regional Program would work with its electricity utility partner on cultivating pilot sites that meet preferred characteristics, accessible easement, and interconnection to ensure success.

*c. How should an administrator for the program be chosen?*

Due to the urgency of the Governor's proclamation and the Commission's needs to address potential and server capacity shortfalls, the County is including itself as the proposed Regional Program Administrator based on its existing record and infrastructure to be authorized as Regional Microgrid Program Administrator. As stated above, the County is currently the local government

administrator of the Southern California Regional Energy Network, which implements eight programs across four market sectors and represents 12 counties and 20 million constituents. In addition, the County SoCalREN has an existing governance structure that has not only proven successful but has provided peer-to-peer collaboration with 15 local government agencies who currently sit on the Advisory Committee and provide necessary feedback and engagement for 300 local cities, counties, and coalitions of governments.

As an existing authorized Commission regional Program Administrator, the County also has in place fiscal funding mechanisms with its partner electric IOU (SCE) which was adopted in 2012 in D.12-11-015 and has served successfully over the last nine years.<sup>7</sup> The Commission could authorize a similar approach here and require the same fiscal management from the County SoCalREN electric IOU partner SCE. The Commission could direct the electric utilities as the fiscal manager to disperse funds to the Program Administrator of the proposed Regional Public Agency Microgrid Program and conduct general management and monitoring activities in compliance with Commission directives. Thus, the County will, by necessity, have a contractual relationship with its electric utility partner and as a local government administrator all transactions henceforth public and transparent.

Lastly, if authorized by the Commission to be a Regional Program Administrator for the proposed Regional Public Agency Microgrid Program, the County also recommends the administration status be held as pilot until a study can be performed after one program cycle (i.e., 2022–2023). This will allow not only the Commission to assess the validity of the proposed approach but also stakeholders should the study be allowed and could be filed through the Advice Letter process.

*d. Is it feasible to develop, launch, and operate the program in such a way that it can address net peak hours by the summer of 2022? If not, what timeline could the program be launched?*

The existing SoCalREN Public Agency programs currently provide public agencies with an initial review and audit support for DERs, with limited program support beyond this assessment. However, the funding utilized to support that activity will be gone at the end of the year, so it is urgent that public agencies receive much needed support to implement DERs that can reduce

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<sup>7</sup>D.12-11-015.

reliance on the grid and peak demand consumption going forward. The proposed Regional Public Agency Microgrid Program accelerates the development of clean energy projects and microgrid applications through comprehensive support in the form of technical services, procurement, funding, and financing. As an existing Regional Administrator of clean energy programs, the County has the necessary contracts and partnerships in place to start this program immediately and implement initial projects by June of 2022. Projects in the current pipeline (66 GWh) can quickly be modified to include these new microgrid interventions. While programmatic details for savings will need to be developed, this program will build off of existing SoCalREN offerings, streamlining development activities and infrastructure.

However, the more significant portion of on-peak demand savings would not likely occur until summer of 2023, due to the current conditions in the clean energy project market including the impacts of COVID-19 on the labor market and equipment supply chain. In addition, interconnection processes, although improved, are still lengthy; though the support project services offered in this program will assist with project delivery, local governments are often faced with extensive approval processes causing a time lag in project completion. However, once approved and contracted, a microgrid project could be implemented within an 18- to 24-month period.

Briefly, leveraging existing infrastructure and project scopes already identified through an existing clean energy program administered by the County, the resulting Regional Public Agency Microgrid Program could deliver critical peak load savings during the summers of 2022, 2023, and beyond.

e. *Approximately how many megawatts could the program address during the net peak hours in 2022?*

As mentioned above due to project lag and other market conditions, net peak hours savings potential will likely be 407 kW in 2022. However, if Commission approved, the Regional Public Agency Microgrid Program could deliver 9.3 MW in 2023. Subject to its success and evaluation, the program has the potential to provide significant additional MW peak demand savings in the long term. The three identified County projects would yield an incremental 6.25 MW of capacity in addition to its load shedding capabilities.

#### IV. CONCLUSION

The County of Los Angeles appreciates the opportunity to provide Opening Comments for the Commission's consideration and respectfully requests the Commission consider approval of the proposed program, projects, and the associated funding requested.

Respectfully submitted,

/s/ Minh S. Le

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September 10, 2021

# **Attachment A: Regional Public Agency Microgrid Program**



**Attachment A: Regional Public Agency Microgrid Program**

The County of Los Angeles is proposing a Regional Public Agency Microgrid Program administered by a non-IOU regional program administrator to support the immediate urgent need to alleviate demand on the grid, provide supply for capacity shortfall and to encourage public sector clean energy resilient microgrid development. Provided in this attachment are the specific programmatic and administrative details for Commission consideration. Should the Commission authorize the proposed program the County would file a Tier 2 Advice Letter implementation plan similar to the directive required for the IOUs in D.21-01-018 within 60 days of a Commission decision.

**Program Rationale**

As an existing local government program administrator, the County through its Regional Energy Network portfolio, mission is to bring together a wide variety of services with one common goal: achieving unprecedented levels of energy savings and clean energy action throughout Southern California. The County LA's SoCalREN Public Sector Programs unlock the power of public agencies to lead their communities towards a safe, secure, resilient, affordable and sustainable clean energy future. Through these regionally implemented programs comprehensive services are offered at no cost to public agencies to identify lean energy projects that yield electricity and gas savings, overcome common barriers to implementation, and energy savings to the grid.

The proposed Regional Public Agency Microgrid Program is a new program that can be implemented through existing Regional Program Administrative clean energy portfolio processes, with modifications. The Public Sector is an untapped resource for demand flexibility that can make a significant contribution to California's 2022 and 2023 net peak load challenges. The County as a local government program administrator through the SoCalREN has demonstrated success through existing Public Agency Programs and has developed shovel-ready projects that can unlock significant savings.

By leveraging an existing regional administration approach the Regional Public Agency Microgrid Program would have access to engage with 11 counties and over 700 public agencies thus exponentially expanding the potential of available clean energy deployment.

As critical services and operations are leveraged by public agencies to support in emergencies, public agency assets and facilities need to operate if the larger grid were to experience interruptions. Public safety is a primary role of public agencies, and this program will result in significant demand flexibility, grid services, and critical infrastructure resilience. In this hybrid approach, strategic public facilities will maintain critical operations during grid stress events and also provide dispatchable and/or ancillary services to the grid when emergency events occur - which are made possible by streamlined microgrid deployments.

The uniqueness of public agency responsibilities requires such a program to meet both objectives of grid and community resiliency, which is only possible through the emergency authorization of this program.

**Value Proposition**

The County's SoCalREN Public Sector programs currently address barriers that the public sector faces when implementing energy projects. Specifically, the programs offer a project delivery pathway from project inception to project completion at no cost. These services include technical assistance, audits, DER assessments, procurement support, project management and financing identification. Over time the portfolio has found that public agency clean energy projects are often delayed not only because of capital access but due to lack of available resources that would serve to have a complex project implemented to completion. They often lack project management, subject matter expertise, technical assistance and the understanding of the types of financial mechanisms that can make a project economically feasible.

In order to accelerate clean energy project development specifically for microgrids within the public sector, the Regional Public Agency Microgrid Program will build on the public agency programs' success and extend assistance for energy projects with solar, storage, and energy export opportunities as well as incorporate resiliency strategies in each project. The Program will unlock shovel-ready projects where there is ownership and stakeholder support to allow for expedited project installation and availability to peak capacity.

The Program takes a targeted approach to clean energy solutions to maximize savings and reduce overall electricity load during peak hours by pairing demand side management with solar and storage microgrids at critical public facilities. The energy saved through energy efficiency installations contribute to additional battery storage opportunities that are needed to extend islanding duration of the microgrid as needed.

The Regional Public Agency Microgrid Program will leverage its existing public agency network to provide additional targeted support for identifying and accelerating the implementation of microgrid project opportunities. The Program will have immediate ramp up by unlocking opportunities already identified through relationships with public agencies that have accessed or are pursuing the Regionally Administered SoCalREN public agency programs. No other program in operation has the scale and deep access to customers that own and operate large portfolios of sites with substantial energy savings and dispatch potential.

Additionally, this program aims to tackle of one obvious barrier to microgrid development, the economic feasibility. The program will leverage PPA and ESCO financing coupled with incentives to produce economically viable projects that will be easily approved by public agencies boards thus employing approach that not only empowers public agencies in clean energy investment but fuels the market development exponentially faster than any approach previously approved.

Furthermore, leveraging an existing regional program administration model will allow for cost-efficiencies administration and implementation of the program thus lessening the cost-burden to ratepayers.

### **General Program Description**

The program will provide microgrid development services not currently available to public agencies, with a focus on critical facilities with suitable hosting capacity for solar PV and stationary electric storage, all with demand flexibility, through a variety of streamlined project contracting paths, such as Energy Service Companies (ESCOs) and Power Purchase Agreements (PPAs). In order to balance the need to provide grid benefits while also reserving resources to power critical systems within a public facility in case of an outage, this program

proposes to allow long-duration energy autonomy with the possibility of providing ancillary grid services. This would include islanding capabilities during power outages or at-risk peak demand periods.

The Regional Public Agency Microgrid Program will assist public agencies by offering project management and support services from project development to completion. This program would also offer additional one-time, up-front incentives for DERs beyond SGIP and will require that resilient strategies being included in projects receiving incentives.

Regional Public Agency Microgrid Program will serve as the public agency advisor while pursuing contracts with third party PPA providers, ESCOs, or developers, in collaboration with scheduling coordinators and demand response providers (DRP) and/or CAISO distributed energy resource provider (DERP) to leverage additional funding through grid services. Public agencies will then receive advisory services to determine the best financial model to realize additional revenues, focusing on wholesale market participation in load modifying and supply side DR, as well as economic dispatch and ancillary services where available. This program will develop a model PPA and focus on ESCO or PPA contracts to help public agencies deliver comprehensive energy projects that include microgrid services and resiliency. By working with both project developers and market aggregators/scheduling coordinators, the program will tap into procurement and financing paths that would unlock new potential in streamlined fashion. This coordination would extend into interconnection support, system commissioning and synchronization/telemetry as required, measurement and verification.

### **A. Program Objectives**

The Regional Public Agency Microgrid Program to meet the following objectives:

1. Support design of clean microgrids with demand flexibility to provide grid benefits while also reserving resources to power critical systems
2. Accelerate the installation of clean microgrids at public facilities that can continue to provide critical community services during an outage
3. Accelerate the installation of public sector demand flexibility controls, and solar + storage projects
4. Increase public agency sites participating in current available microgrid programs (i.e., SGIP) and develop public agency capacity and expertise in the value of Grid-Interactive Efficient Buildings (GEBs)
5. Increase the ability of public agencies to meet local, regional, and state Microgrid and resiliency energy goals.

### **B. Target Market, Population Served and Building Type**

Any Public sector agencies within proposed regional territory and includes but not limited to cities, counties, school districts, and special districts.

Public agency building types will include but not limited to:

- Libraries
- City Halls

- Offices
- Police stations
- Public assembly facilities
- Public service facilities
- Parks and Recreation facilities
- Schools (k-12)
- Transportation terminal / stations

Additional building types could be pursued, resulting from agency outreach discussions and actual occupancy and use of the building, based on the experience and history of the specific building, and with reasonable demand reduction from historical data.

Furthermore, and to ensure projects identified are successful, the Regional Program would work with its electricity utility partner on cultivating pilot sites that meet preferred characteristics, accessible easement, and interconnection to ensure success.

### **C. Program Savings Potential**

Local solar PV will reduce electricity demands from the grid and will charge a stationary electrical battery storage system that can further reduce or eliminate building loads during the distribution grid net peak load times. Building controls will add critical demand flexibility and allow facilities to optimize both local energy production and consumption and enable additional clean energy program participation.

Using a combination of solar, battery storage, and demand flexible controls, the peak demand is assumed to be met during high heat events by the combination of technologies. A targeted approach will be developed to enroll additional facilities with a large existing maximum demand load. Battery systems will be sized to 150% of existing baseload.

#### **2022 Projects**

Since comprehensive energy projects (specifically solar and storage) take around 12 months from identification to completion, we will only look to existing project opportunities to be implemented by June of 2022. This includes looking at adding storage to the three existing solar facilities that have already been audited through the existing clean energy programs within the County's existing portfolio. Based on the audit findings, a total of 407 kW of peak demand can be offset through the recommended battery storage systems once they are upsized to 150% of base load.

#### **2023 Projects**

For 2023, based on current estimates, there would be 17 total projects with solar + storage installed. Three (3) of these projects have already been identified through the County's existing portfolio of clean energy programs and 14 additional projects would be identified leveraging existing partnerships and outreach channels. Facilities would be targeted based on size and capacity to meet the needs of the program. It is estimated that a total of 9,260 kW of peak demand can be offset through projects completed in 2023.

**Table 6. Estimated Regional Public Agency Microgrid Program Savings**

	2022	2023	Total
Demand reduction per grid event	407 kW	9,260 kW	9,666 kW

**D. Eligible Measures and Treatment**

This program will support the following additional measures:

- Solar PV
- Battery storage (incentives offered)
- Thermal storage
- Demand flexibility enablement (building controls, sensors, energy management systems)
- Risk-based control logic for dynamic load control via the LBNL FlexAssist platform

**E. Incentive Structure**

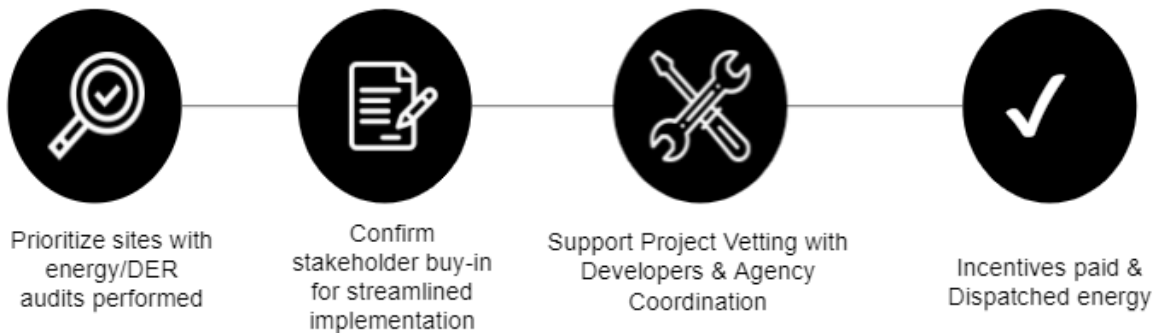
Incentives will be used to offset battery storage system costs for projects that are looking for enhanced resiliency. While SGIP funds may be available, we have found that they are not enough to make enhanced resiliency storage systems economical for the public sector. Public facilities require resilience capabilities and are well positioned to provide community services during power outages and natural disasters, making enhanced resiliency systems an important project offering.

The Regional Public Agency Microgrid Program proposed would also provide additional available capacity during capacity shortfall per the requirements of the program incentives.

**F. Program Process**

The following program process outlines at a high level the customer and program activities that would take place at each stage of typical eligible projects if the proposed Regional Public Agency Microgrid Program is approved.

*Streamlined Shovel-Ready Public Agency Projects with project management support throughout*



- i) **Prioritize sites with energy/DER audits performed.** Within the existing pipeline of audited projects, prioritize high microgrid potential buildings through building energy level data analysis, and qualitative screens of critical public infrastructure
  - (1) Includes sufficiently high consumption, adequate sq. ft. of building, and available space for solar PV + battery
  - (2) Screening for critical facilities as defined by either the CPUC or functional needs of the agency and community
- ii) **For sites with No existing audits performed-Prioritize based on Community and highest impact for resiliency** - prioritize high microgrid potential buildings within communities that are low income and most vulnerable to grid reliability - through building energy level data analysis, and qualitative screens of critical public infrastructure
  - (1) Includes sufficiently high consumption, adequate sq. ft. of building, and available space for solar PV + battery
  - (2) Screening for critical facilities as defined by either the CPUC or functional needs of the agency and community
- iii) **Confirm stakeholder buy-in for streamlined implementation**
  - (1) Complete urgent building technical analysis to identify microgrid configuration opportunities that will keep public agency facilities powered during emergency conditions for public safety, as well as for contributing to overall grid stability. Facilities with battery storage will have islanding capabilities for maximum grid services -- both eliminating demand and supplying energy.
    - (a) This will be performed by program technical engineers or 3rd party ESCOs in coordination with a demand response provider (DRP), aggregator, and/or CAISO distributed energy resource provider (DERP)
  - (2) Develop project proposal presentation for agency
    - (a) The program will perform initial financial analysis and identify incentives or financing mechanisms including wholesale market revenues
    - (b) It will also perform incentive application support for other SW programs thus driving down projects' costs and burden to ratepayers.
- iv) **Support Project Vetting with Developers & Agency Coordination.**

- (1) Leverage and customize the program master/model PPA developed through this program with appropriate review and due diligence to build confidence for agencies on a turnkey process
- (2) Include an approved list of project developers who agree to PPA terms
- (3) Support agency review of project procurement methods for streamlined implementation
- (4) Turnkey procurement and construction agreements

v) **Incentives paid & Dispatched energy**

The program will monitor building and agency level project performance and savings and determine ways to improve load dispatching that align with operational needs of facilities and provide consistent and predictable grid support.

**G. Leveraging Existing Success Driven Program Partnerships**

This program will utilize the existing partnerships within the County’s Regionally Administered public sector portfolio of programs and its Advisory Committee members to engage and outreach the program. In addition, the program will be able to leverage the existing IOU partnership that the County has maintained over the last 9 years. This will help to fuel engagement not only in this program but within IOU existing programs thus supporting the entire industry and state’s clean energy objectives. Further details on each partnership will be included in the detailed Implementation Plan should this program be approved.

In addition, the County’s proposed program will be able to leverage recently developed relationships and coordination strategies with several prominent ESCOs. Lastly, the program will explore expanding relationships with renewable energy and storage developers that have supported previous public sector projects. The partnerships will be key for an expedited deployment of microgrid projects.

**H. Funding Requested**

If authorized as a Regional Program Administrator for a Regional Public Agency Microgrid Program, the County is requesting \$22.78 million over the next two years. This includes all direct implementation costs, admin, marketing and incentives.

*Table 7. Estimated Regional Public Agency Microgrid Program Budget Request*

<b><u>Cost category</u></b>	<b><u>2022</u></b>	<b><u>2023</u></b>	<b><u>Total</u></b>
<b><u>Admin</u></b>	\$ 200,000	\$ 200,000	\$ 400,000
<b><u>Marketing, Education and Outreach</u></b>	\$ 150,000	\$ 130,000	\$ 280,000
<b><u>Program Implementation</u></b>	\$ 1,250,000	\$ 1,750,000	\$ 3,000,000
<b><u>Incentive</u></b>	\$ 1,000,000	\$ 18,100,000	\$ 19,100,000
<b><u>Total</u></b>	<b>\$ 2,600,000</b>	<b>\$ 20,180,000</b>	<b>\$ 22,780,000</b>

**I. Evaluation, Valuation and Measurement Plan**

If authorized by the Commission to be a Regional Program Administrator for the proposed Regional Public Agency Microgrid Program, the County also recommends the administration status be held as pilot until a study can be performed after one program cycle (i.e., 22-23). This will allow not only the Commission to assess the validity of the proposed approach but also stakeholders should the study be allowed and could be filed through the advice letter process.

In its detailed implementation plan, the Regional Public Agency Microgrid Program will include a detailed EM&V plan which outline the evaluation and valuation of program's performance and project savings will be validated.

## **J. Reporting and Metrics**

Similar to the programs within the existing SoCalREN portfolio, the Regional Public Agency Microgrid Program will be reported monthly, and quarterly to the Commission Energy Division through an identified template approved by ED. This template would be drafted and provided to ED for review, edit and approval. Once approved it would be utilized to track on-going program performance. For annual reports, this program would propose that a Tier 1 advice letter be at end of each program year detailing the impacts, lessons learned, performance metrics and best practices.

In addition to Commission reporting, the Regional Public Agency Microgrid Program will include but not limited to the collection and tracking of the following data/performance metrics:

- Dispatchable peak demand savings
- Permanent peak demand savings
- % reduction of electric demand during peak demand periods
- Annual kWh savings (through efficiency and production)
- Total nameplate capacity of solar installed
- Total nameplate capacity of storage installed
- Number of projects within low-income and DACs
- Non-ratepayer funds spent on project costs
- SGIP incentives claimed on projects

## **K. Program Administration**

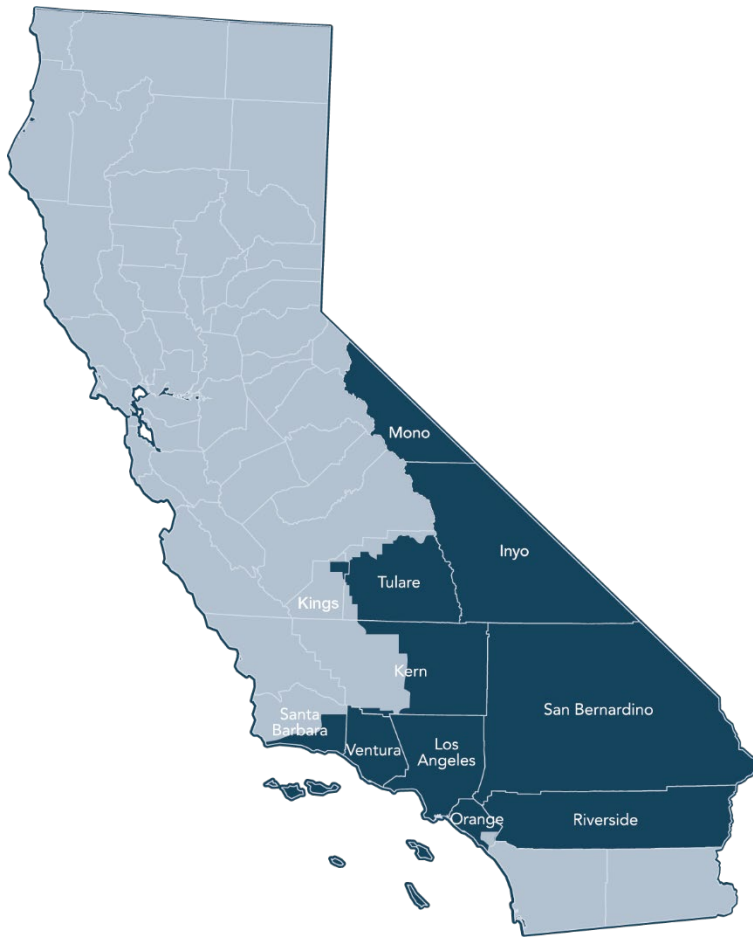
Due to the urgency of the Governor's proclamation and the Commission's needs to address potential and server capacity shortfalls, the County is proposing that it serve as the Regional Program Administrator for the proposed Regional Public Agency Microgrid Program based on its existing record and infrastructure. As stated above, the County is currently the local government administrator of the Southern California Regional Energy Network, which implements over 8 programs across four market sectors and represents 12 counties and 20 million constituents. For this program administration, the County is proposing a similar administrator model of implementation, 11 Counties (excludes Imperial County) and 20 million constituents.<sup>8</sup>

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<sup>8</sup> This proposed program would exclude Imperial County which is out of the County's IOU partner SCE territory.



**Figure 2. Regional Public Agency Microgrid Program Territory**

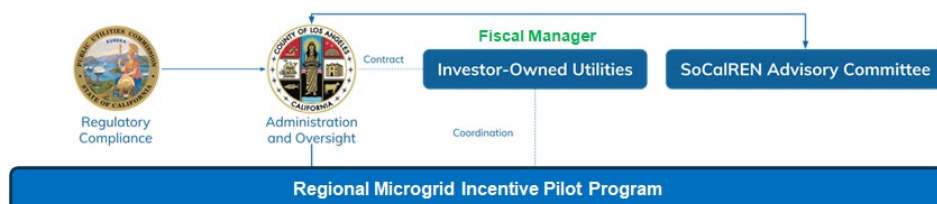


In addition, the County SoCalREN has an existing governance structure that has not only proven successful but has provided peer-to-peer collaboration with 23 local government agencies who currently sit on the Advisory Committee and provide necessary feedback and engagement for 300 local cities, counties, coalitions of governments.

**1. Governance Structure**

Similar to its existing authorization, the County is proposing that this program also leverage an existing governance structure by leveraging the County’s existing SoCalREN. Figure 3 is an illustrative view of the proposed program governance structure.

**Figure 3. Proposed Regional Public Agency Microgrid Program Governance Structure**



The **Advisory Committee** is made up of 17 local government leaders to ensure the program is delivering maximum benefit across all communities and 11 counties the program would serve. The Advisory Committee will provide the necessary feedback and advisement. This Advisory Committee will also serve to provide direct engagement opportunities and outreach to local governments they represent and assist them in participating in microgrid deployment. Last and most importantly, as with all its other programs the County will utilize its Advisory Committee to report on the progress and program performance and leverage any insight from Board members on improvements or enhancements to be made. Meetings will be held quarterly and hosted by the County.

## 2. **Funding Structure**

The County as an existing authorized Commission Regional Administration has in place a fiscal funding mechanism with its partner electric IOU (SCE) which was adopted in 2012 in D.12-11-015 and has served successfully over the last 9 years.<sup>9</sup> The program proposes to utilize a similar mechanism through a contractual agreement with its electric utility partner. The electric utility partner would serve as the fiscal manager to disperse funds to the County as the Program Administrator of the proposed Regional Public Agency Microgrid Program and conduct general management and monitoring activities in compliance with Commission directives. Thus, the County will, by necessity, have a contractual relationship with its electric utility partner and as a local government administrator all transactions henceforth public and transparent.

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<sup>9</sup> D.12-11-015.

**Attachment B: Eastern Avenue  
Emergency Operations Battery Storage  
Microgrid Project**

**Attachment B: Los Angeles Avenue Emergency Operations Battery Storage  
Microgrid Project**

**A. Project Principles and Rationale**

As Los Angeles County experiences changing climate conditions, heat waves are projected to be more severe, prolonged, and frequent. U.S. average temperatures have increased by 1.3°F to 1.9°F since record-keeping began in 1895. The most recent decade was the hottest on record, and the National Oceanic and Atmospheric Administration (NOAA) is projecting this year to be Earth's warmest on record. By 2050, the Los Angeles County region could see 4-5° F increases in the average maximum temperatures (California's Fourth Climate Change Report, Los Angeles Regional Assessment). Urban heat islands, extreme heat events, long-term temperature increases, and heat-related drought stem from changing climate conditions, impacting county residents and critical infrastructure reliability. There is a need to continue to operate essential infrastructure while reducing or eliminating County facilities ' demand on the electric grid. In response to the dynamics mentioned above, the County of Los Angeles has published and implemented the Los Angeles Countywide Sustainability Plan.

Under this context, the County of Los Angeles seeks to implement microgrid projects to address the need to optimize the reliability of power supplied to critical infrastructure, minimize the grid demand during peak system hours, and maximum support to the residents of the County of Los Angeles. The County's Board of Supervisors adopted OurCounty LA, the first-ever comprehensive sustainability plan. Goals 1 and 2 of OurCounty address the critical importance of investing in resilient infrastructure and addressing the health disparities of vulnerable populations. Goal 7 directs County operations to transition to zero-carbon energy systems. The County has identified facilities that support critical operations needing large-scale backup power supply and areas that serve underrepresented and vulnerable populations.

The County of Los Angeles Department Eastern Complex contains the Emergency Operations Bureau, Sheriff Fleet Management and Academy Training Centers, Fire Department Headquarters, and emergency communications systems. This complex has been operational throughout the Covid pandemic and serves as a critical operations facility. It is located in East Los Angeles, an area with a high CalEnviroScreen score of over 90% and surrounded by a population with a 96 percent pollution burden. The facility runs backup generators to provide backup power given the critical nature of the facility, further leading to high particulates in the area.

**B. Project Description**

The County seeks to install a grid-tied battery storage system to provide backup power during outages, shift load during high usage times and peak hours, and demand response needs. The facility's footprint will allow the addition of apparatus to facilitate constructing a behind-the-meter microgrid that will increase the facility's reliability and shed load on the electric grid by up to 1,017 kW battery power (4,235 kW-h capacity) during peak hours running 50% of the base building load. A combination of a recently completed 1.8MW solar array with a new battery storage system integrated with existing backup generators in a microgrid configuration will provide additional resiliency and support local grid operations.

### C. Project Location and Segments Supported

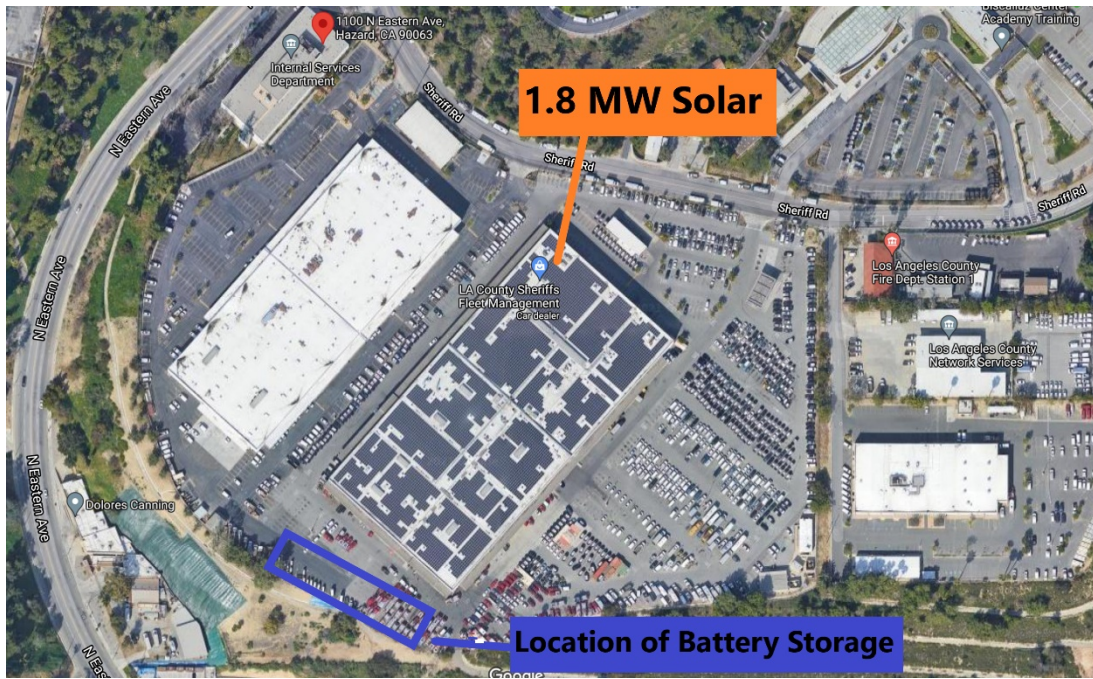


Figure 1. Eastern Complex Site Map with Proposed Project Site

#### **Project Location:**

Los Angeles County – Eastern Complex

(1060 – 1320) N Eastern Ave, Hazard, CA 90063

The proposed project site is on the southwest side of the complex. In figure 1, this site's blue outline and approximately 200 meters away from the existing rooftop solar array that currently serves the complex.

#### **Segments Supported:**

The complex contains the headquarters for the County's Fire Department, Sheriff's Training Center, Fleet Management, Network Services, and Internal Services Department. It serves all residents of the County of Los Angeles.

**D. Technical Measures and Applications**

We calculated the required battery storage using National Renewable Energy Laboratory's (NREL) REopt modeling tool.

The following parameters are in the battery sizing model:

- Average yearly consumption of 39M kWh
- 1,800 kW existing rooftop solar (see Figure 1)
- Four (4) hour duration outage mitigation
- 50% complex-wide energy capacity maintained during peak times
- The battery is assumed to discharge to a minimum of 20% capacity

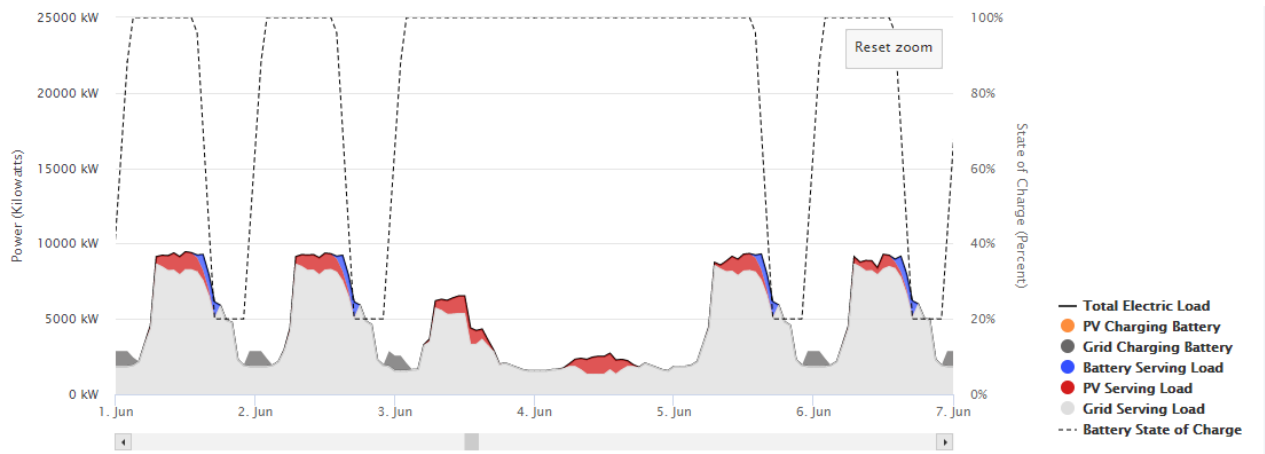


Figure 2. Simulated Load Profile with Combined BESS and Existing Solar

**Solution:**

After running the model, the following is the optimal solution:

- Battery Energy Storage System (BESS) power: 1,017 kW
- Battery Energy Storage System (BESS) capacity: 4,235 kWh

**Footprint:**

Measure Description	Nominal System Size (kWh)	Volume Size (ft <sup>3</sup> )	Footprint Size (ft <sup>2</sup> )*
BESS	4235	1401	1000

Table 1. Equipment Space Requirements

**E. Project Timeline**

Activity	Duration
Contract Bid	10/30/2021 - 01/30/2021
Design-Build	02/30/2022 - 02/30/23
Owner Occupancy	3/15/2023

Table 2. Project Timeline

**F. Fiscal Impact Potential**

Our cost estimate assumes \$1,500 per kWh for the battery system and inverter as well as installation in a microgrid configuration. This slightly higher than average cost estimate per kWh assumes a complex installation and microgrid configuration on a critical government facility. The County would utilize existing incentives such as the Statewide Self Generation Incentive Program (SGIP) where possible.

Measure Description	Nominal System Size (kWh)	Estimated Installed Cost (USD)	Potential SGIP Incentive (USD)	Net Measure Cost (USD)
BESS	4,235	\$6,352,500	\$3,599,750	\$2,752,750

Table 3. Project Cost and Potential Equity Incentive

**G. Funding Requested**

To execute this project, the requested funding amount of \$2.75M will cover the Net Measure Cost (see Table 3).

Financing Breakdown	Upfront Capital Cost Sharing	
Potential SGIP Incentives	57%	\$3,599,750

CPUC Funds requested	43%	\$2,752,750
Total		\$6,352,500

Table 4. Upfront Capital Cost Sharing Breakdown

**H. Project overarching Theory and Value Proposition**

Establishing a microgrid at this complex will increase the operations' reliability and reduce energy demand during peak hours. This benefits not just the critical County emergency operations, but also nearby residents and businesses as the project will improve regional grid reliability.

**G. Conclusion**

The Los Angeles County Eastern Avenue complex, with a recently completed 1.8 MW solar array, is an ideal location to add energy storage for the County's operations as it houses critical County communications, the County's Emergency Operations Center, and the headquarters and other important facilities for the County Fire Department, Sherriff's Department, and Internal Services Department. With \$2.75M in funding to support this project, 1 MW and 4 MWh of energy storage can be connected to the local grid to provide support services and help meet statewide energy storage needs.



**Attachment C: Los Angeles Department of  
Public Health Solar and Battery Storage  
Project**

**Attachment C: Los Angeles County Department of Public Health Solar and Battery Storage Microgrid Project**

**A. Project Principles and Rationale**

As Los Angeles County experiences changing climate conditions, heat waves are projected to be more severe, prolonged, and frequent. U.S. average temperatures have increased by 1.3°F to 1.9°F since record-keeping began in 1895. The most recent decade was the hottest on record, and the National Oceanic and Atmospheric Administration (NOAA) is projecting this year to be Earth's warmest on record. By 2050, the Los Angeles County region could see 4-5° F increases in the average maximum temperatures (California's Fourth Climate Change Report, Los Angeles Regional Assessment). Urban heat islands, extreme heat events, long-term temperature increases, and heat-related drought stem from changing climate conditions, impacting county residents and critical infrastructure reliability. There is a need to continue to operate essential infrastructure while reducing or eliminating County facilities' demand on the electric grid. In response to the dynamics mentioned above, the County of Los Angeles has published and implemented the Los Angeles Countywide Sustainability Plan.

Under this context, the County of Los Angeles seeks to implement microgrid projects to address the need to optimize the reliability of power supplied to critical infrastructure, minimize the grid demand during peak system hours, and maximum support to the residents of the County of Los Angeles. The County's Board of Supervisors adopted OurCounty LA, the first-ever comprehensive sustainability plan. Goals 1 and 2 of OurCounty address the critical importance of investing in resilient infrastructure and addressing the health disparities of vulnerable populations. Goal 7 directs County operations to transition to zero-carbon energy systems. The County has identified facilities that support critical operations needing large-scale backup power supply and areas that serve underrepresented and vulnerable populations.

The County of Los Angeles' facilities in Baldwin Park houses the Department of Public Health's Environmental Health Division's Headquarters and has labs for environmental sample testing and analysis services, including water and wastewater toxicology assessments. Samples are stored and tested on-site. This facility has been operational throughout the Covid pandemic and serves as a critical operations facility. It is in Baldwin Park, an area with a high CalEnviroScreen score of 95%, and surrounded by a population with a 94% pollution burden. The facility runs backup generators to provide backup power given the critical nature of the facility, further leading to high particulates in the area.

**B. Project Description**

The County plans to install a grid-tied hybrid microgrid system to provide backup power during outages, shift load during high usage times and peak hours, and demand response needs. The facility's footprint will allow the addition of apparatus to facilitate constructing a

behind-the-meter microgrid that will increase the facility's reliability and shed load on the electric grid by up to 500kW via solar array and 1,000 kWh from battery storage during peak hours.



Figure 1. Site Map with Proposed Project Site

### **c. Project Location and Segments Supported**

#### **Project Location:**

Los Angeles County – Department of Public Health  
5050 Commerce Dr, Baldwin Park, CA 91706

The facility is the headquarters for the County's Department of Public Health and serves all residents of the County of Los Angeles.

The proposed project site is on the southwest side of the complex. In figure 1, this site's outlined and approximately 50 meters away from the facility. The battery system and carport solar are proposed proximal to each other.

#### **Segments Supported:**

The facility is the headquarters for the County's Department of Public Health and serves all residents of the County of Los Angeles. The County of Los Angeles Department of

Public Health Environmental Health Headquarters provides several environmental sample testing and analysis services, including water and wastewater toxicology assessments. Samples are stored and tested on-site.

#### D. Technical Measures and Applications

We calculated a solar and battery storage solution using the National Renewable Energy Laboratory's (NREL) REopt modeling tool.

The following parameters are in the model:

- Average yearly consumption of 4M kWh
- 500 kW maximum PV size (see Figure 1)
- 1,000 kWh battery capacity
- Four (4) hour duration outage mitigation
- 50% complex-wide energy capacity maintained during peak times
- The battery is assumed to discharge to a minimum of 20% capacity

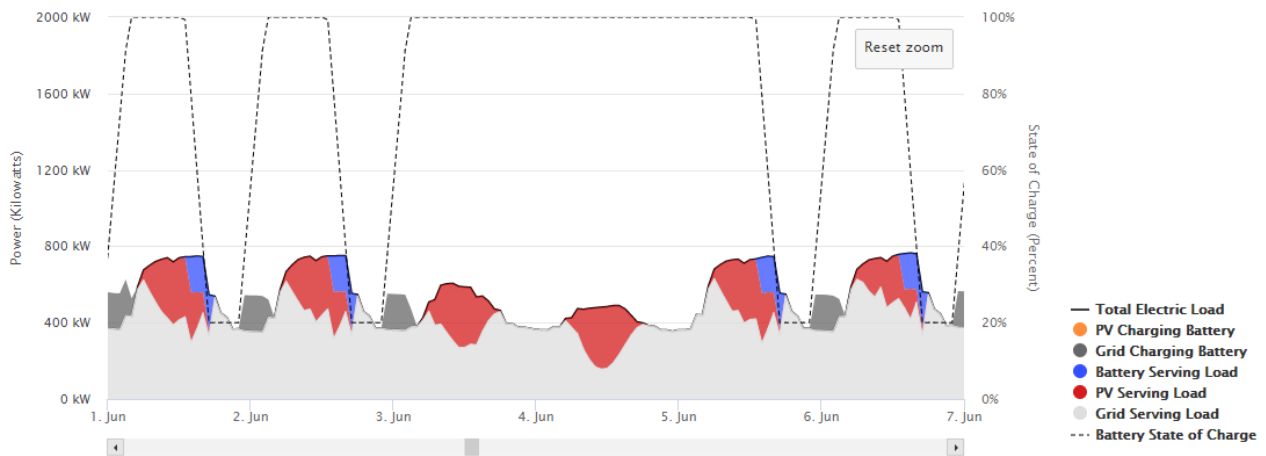


Figure 2. Simulated Load Profile with Combined BESS and Solar Carport

#### **Solution:**

After running the model, the following is the optimal solution:

- Battery Energy Storage System (BESS) power: 188 kW
- Battery Energy Storage System (BESS) capacity: 1,000 kWh
- Solar Carport power (PV): 500 kW (779,707 kWh per year)
- GHG reduction of 415 tons per year

#### **Footprint:**

Table 1. Equipment Space Requirements

Measure Description	Nominal System Size	Volume Size	Footprint Size
BESS	1,000 kWh	400 (ft <sup>3</sup> )	200 (ft <sup>2</sup> )
PV	500 kW	-	35,000 (ft <sup>2</sup> )

**E. Project Timeline**

Table 2. Project Timeline

Activity	Duration
Contract Bid	10/30/2021 - 01/30/2021
Design-Build	02/30/2022 - 02/30/23
Owner Occupancy	3/15/2023

**F. Fiscal Impact Potential**

Our cost estimate assumes \$1,500 per kWh for the battery system, \$3,500 per kW for a solar carport, and inverter as well as installation in a microgrid configuration. This slightly higher than average cost estimate per kWh assumes a complex installation and microgrid configuration on a critical government facility. The County would utilize existing incentives such as the Statewide Self Generation Incentive Program (SGIP) where it is possible to lower the cost of the battery system and finance most of the solar through a Power Purchase Agreement (PPA).

Table 3. Project Cost and Potential Equity Incentive

Measure Description	Nominal System Size	Estimated Installed Cost (USD)	Potential SGIP Incentive (USD)	Financed through PPA	Net Measure Cost (USD)
BESS	1,000 kWh	\$1,500,000	\$850,000	-	\$650,000
PV	500 kW	\$1,750,000	-	\$1,500,000	\$250,000
Total					\$900,000

**G. Funding Requested**

To execute this project, the requested funding amount of \$900k will cover the Net Measure Cost (see Table 3).

Table 4. Upfront Capital Cost Sharing Breakdown

<b>Financing Breakdown</b>	<b>Upfront Capital Cost Sharing</b>	
PPA Financing	46%	\$1,500,000
Potential SGIP Incentives	26%	\$850,000
CPUC funds requested	28%	\$900,000
	Total	\$3,250,000

#### **H. Project overarching Theory and Value Proposition**

Establishing a microgrid at this complex will increase the operations' reliability and reduce energy demand during peak hours. This benefits not just nearby residents and businesses, but also regional grid reliability.

#### **G. Conclusion**

Establishing a behind-the-meter microgrid at this facility will increase the operations' reliability and reduce energy demand during peak hours. The site serves as the headquarters for the County of Los Angeles' Department of Public Health's Environmental Health Division. This benefits Los Angeles County residents and other utility customers in that utility district. With \$900k in funding to support this project, 500 kW of solar and 1,000 kWh of energy storage can be connected to the local grid to provide support services and help meet statewide energy storage needs.

# **Attachment D: Pitchess Detention Center Solar and Battery Storage Project**

**Attachment D: Los Angeles County Sheriff's Department – Pitchess Detention Center 20MW Solar, 5MW, 20MWh Battery Microgrid Project**

**A. Project Principles and Rationale**

As Los Angeles County experiences changing climate conditions, heat waves are projected to be more severe, prolonged, and frequent. U.S. average temperatures have increased by 1.3°F to 1.9°F since record-keeping began in 1895. The most recent decade was the hottest on record, and the National Oceanic and Atmospheric Administration (NOAA) is projecting this year to be Earth's warmest on record. By 2050, the Los Angeles County region could see 4-5° F increases in the average maximum temperatures (California's Fourth Climate Change Report, Los Angeles Regional Assessment). Urban heat islands, extreme heat events, long-term temperature increases, and heat-related drought stem from changing climate conditions, impacting county residents and critical infrastructure reliability. There is a need to continue to operate essential infrastructure while reducing or eliminating County facilities' demand on the electric grid. In response to the dynamics mentioned above, the County of Los Angeles has published and implemented the Los Angeles Countywide Sustainability Plan.

Under this context, the County of Los Angeles seeks to implement microgrid projects to address the need to optimize the reliability of power supplied to critical infrastructure, minimize the grid demand during peak system hours, and maximum support to the residents of the County of Los Angeles. The County's Board of Supervisors adopted OurCounty LA, the first-ever comprehensive sustainability plan. Goals 1 and 2 of OurCounty address the critical importance of investing in resilient infrastructure and addressing the health disparities of vulnerable populations. Goal 7 directs County operations to transition to zero-carbon energy systems. The County has identified facilities that support critical operations needing large-scale backup power supply and areas that serve underrepresented and vulnerable populations.

The County of Los Angeles' Sheriff's Department operates the 2600-acre Peter J. Pitchess Detention Center Campus (PDC) in the northern part of the County and is in a CPUC Tier 3 Extreme High Fire Risk Area. The detention center is made up of multiple jails holding nearly 10,000 inmates and is the largest jail complex for the County. PDC is in Castaic, CA, an area with a moderate CalEnviroScreen score of 69%, and surrounded by a population with a 58% pollution burden. PDC is served by 2 SCE circuits feeding a substation on the campus with available capacity to add solar and storage, as until 2018, the County operated a 25MW cogeneration plant at the site.

**B. Project Description**

The County plans to install a grid-tied hybrid microgrid system to provide backup power during outages, shift load during high usage times and peak hours, and demand response needs. The facility's footprint will allow the addition of apparatus to facilitate constructing a



behind-the-meter microgrid that will increase the facility's reliability and shed load on the electric grid by up to 20MW via solar array and 20MWh from battery storage during peak hours.



Figure 1. Site Map Showing up to 200 acres for placement of system components

### **c. Project Location and Segments Supported**

#### **Project Location:**

Los Angeles County Sheriff's Department – Pitchess Detention Center  
29320 The Old Rd, Castaic, CA 91384

PDC is a 2,600-acre campus located at 29320 The Old Road in the unincorporated community of Castaic.

#### **Segments Supported:**

PDC is considered an essential complex and is operated by the Los Angeles County Sheriff's Department.

The County of Los Angeles Sheriff's facilities can contain up to 8,500 inmates on day-to-day operations.

**D. Technical Measures and Applications**

We calculated a solar and battery storage solution using the National Renewable Energy Laboratory's (NREL) REopt modeling tool.

The following parameters are in the model:

- Average yearly consumption of 52,560 MWh
- 20MW maximum PV size
- 20MWh battery capacity
- 50% complex-wide energy capacity maintained during peak times
- The battery is assumed to discharge to a minimum of 20% capacity

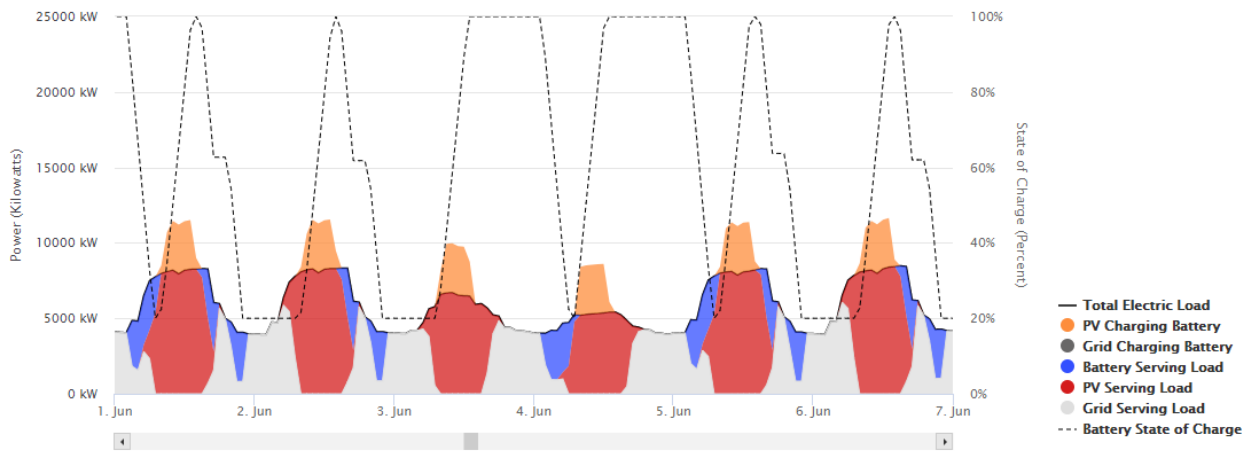


Figure 2. Simulated Load Profile with Combined BESS and Solar Carports

**Solution:**

After running the model, the following is the optimal solution:

- Battery Energy Storage System (BESS) power: 3,250 kW
- Battery Energy Storage System (BESS) capacity: 20,000 kWh
- Solar power (PV): 20,000 kW (33,523,603 kWh per year)
- GHG reduction of 15,584 tons per year

**Footprint:**

Table 1. Equipment Space Requirements

Measure Description	Nominal System Size	Volume Size	Footprint Size
BESS	20,000 kWh	8000 (ft <sup>3</sup> )	4000 (ft <sup>2</sup> )
PV	20,000 kW	-	1,400,000 (ft <sup>2</sup> )

**E. Project Timeline**

Table 2. Project Timeline

Activity	Duration
Contract Bid	10/30/2021 - 01/30/2021
Design-Build	02/30/2022 - 02/30/24
Owner Occupancy	3/15/2024

**F. Fiscal Impact Potential**

Our cost estimate assumes \$1,000 per kWh for the battery system at this scale, \$2,500 per kW for ground mounted solar, and inverter as well as installation in a microgrid configuration. This slightly higher than average cost estimate per kWh assumes a complex installation and microgrid configuration on a critical government facility. The County would utilize existing incentives such as the Statewide Self Generation Incentive Program (SGIP) where possible to lower the cost of the battery system and finance most of the solar through a Power Purchase Agreement (PPA).

Table 3. Project Cost and Potential Equity Incentive

Measure Description	Nominal System Size	Estimated Installed Cost (USD)	Potential SGIP Incentive (USD)	Financed through PPA	Net Measure Cost (USD)
BESS	20 MWh	\$20,000,000	\$5,000,000	-	\$15,000,000
PV	20 MW	\$50,000,000	-	\$50,000,000	\$0
Total					\$15,000,000

**G. Funding Requested**

To execute this project, the requested funding amount of \$15M will cover the Net

Measure Cost (see Table 3).

Table 4. Upfront Capital Cost Sharing Breakdown

<b>Financing Breakdown</b>	<b>Upfront Capital Cost Sharing</b>	
PPA Financing	71%	\$50,000,000
Potential SGIP Incentives	7%	\$5,000,000
CPUC funds requested	21%	\$15,000,000
	<b>Total</b>	<b>\$70,000,000</b>

**H. Project overarching Theory and Value Proposition**

Establishing a microgrid at this complex will increase the operations' reliability and reduce energy demand during peak hours. This benefits not just nearby residents and businesses, but also regional grid reliability.

**G. Conclusion**

Establishing a behind-the-meter microgrid at this facility will increase the operations' reliability and reduce energy demand during peak hours. The site serves as the largest prison complex for the County and is in a CPUC Tier 3 Extreme High Fire Risk Area. This project will benefit Los Angeles County residents and other utility customers in that utility district. With \$15M in funding to support this project, 20 MW of solar and 20 MWh of energy storage can be connected to the local grid with available capacity on the substation to provide support services and help meet statewide energy storage needs.