

**To:** Office of Planning and Research  
 PO Box 3044  
 1400 Tenth Street, Room 113  
 Sacramento, CA 95812-3044

**From:** California Energy Commission  
 1516 Ninth Street, MS-48  
 Sacramento, CA 95814

**Project Applicant:** The Regents of the University of California, Riverside

**Project Title:** Residential Solar+Storage Control Unit for Providing Grid Services and Demand Side Management

**Project Location:**

| <u>Address</u>         | <u>City</u>             | <u>County</u>  |
|------------------------|-------------------------|----------------|
| Mitomka Way            | Willits 95490           | Mendocino      |
| Mitomka Way            | Willits 95490           | Mendocino      |
| Mitomka Way            | Willits 95490           | Mendocino      |
| Maynard Dr             | Moreno Valley 92553     | Riverside      |
| Maynard Dr             | Moreno Valley 92553     | Riverside      |
| Mulberry Ave           | Porterville 93257       | Tulare         |
| Union Ave              | Porterville 93257       | Tulare         |
| Redwood Dr             | Redwood Valley 95470    | Mendocino      |
| Redwood Dr             | Redwood Valley 95470    | Mendocino      |
| Redwood Dr             | Redwood Valley 95470    | Mendocino      |
| Redwood Dr             | Redwood Valley 95470    | Mendocino      |
| Redwood Dr             | Redwood Valley 95470    | Mendocino      |
| Church Rd              | Campo 91906             | San Diego      |
| Kumeyaay Rd            | Campo 91906             | San Diego      |
| S Dallas Ave           | San Bernardino 92410    | San Bernardino |
| Cemetery Ln            | Sonora CA 95370         | Tuolumne       |
| Trace Rd               | Sonora CA 95370         | Tuolumne       |
| Sonora Ave             | San Bernardino CA,92404 | San Bernardino |
| Hwy 94                 | Campo CA 91906          | San Diego      |
| Campo Truck Trails     | Campo CA 91906          | San Diego      |
| 446 Winston Chung Hall | Riverside 92521         | Riverside      |

**Description of Nature, Purpose and Beneficiaries of Project:**

This project will develop and demonstrate a network of autonomous, plug and play, behind-the-meter solar-battery units, called 4-Quadrant Plug and Play Cooperative Units (PQ-CU) that will be installed in each residential solar plus storage system deployment. The PQ-CUs will be controlled by a new platform developed by the recipient with optimization logic that will enable control of multiple systems to achieve benefits for the resident and the grid.

**Name of Public Agency Approving Project:** California Energy Commission

**Name of Person or Agency Carrying Out Project:** The Regents of the University of California, Riverside

**Exempt Status:** (check one)

- Ministerial Exemption (Pub. Resources Code § 21080(b)(1); Cal. Code Regs., tit 14, § 15268);
- Declared Emergency (Pub. Resources Code § 21080(b)(3); Cal. Code Regs., tit 14, § 15269(a));
- Emergency Project (Pub. Resources Code § 21080(b)(4); Cal. Code Regs., tit 14, § 15269(b)(c));
- Categorical Exemption. State type and section number

Authority cited: Sections 21083 and 21110, Public Resources Code. Reference: Sections 21108, 21152, and 21152.1, Public Resources Code.

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Statutory Exemptions. State code number.

Common Sense Exemption. (Cal. Code Regs., tit 14, §15061(b)(3))

**Reasons why project is exempt:**

California Code of Regulations, title 14, section 15301 ("Existing Facilities") provides that projects which consist of the operation, repair, maintenance, permitting, leasing, licensing, or minor alteration of existing public or private structures, facilities, mechanical equipment, or topographical features, involving negligible or no expansion of existing or former use, are categorically exempt from the provisions of the California Environmental Quality Act. The project will install the following components in each of 15 existing single family homes: solar photovoltaic (PV) panels to absorb the solar energy and convert it to electricity, commercially available residential lithium-ion battery energy storage to store the electrical energy, power electronic converter to convert DC electricity to AC electricity, electrical panel to provide protection circuit and measurements, and a PQ-CU control box to control the PQ-CU (solar + battery) technology. Installation of solar PV panels will be on the rooftops of existing homes; no ground mounts or otherwise will be used. Installation of the battery storage will require minor alterations to the interior or the exterior of the single-family homes or adjacent garages with no expansion of footprint. Specifically, containerized energy storage units will be installed near the electrical panel in or near the existing garage of each home and connected to the home's rooftop solar. The project will not: 1) result in a significant cumulative impact, 2) have a significant effect on the environment due to unusual circumstances, 3) damage resources within a designated state scenic highway, 4) cause substantial adverse change to the significance of a historical resource, or 5) be located on a listed hazardous waste site. For these reasons, the project will have no significant environmental impact and falls under section 15301.

California Code of Regulations, title 14, section 15303 ("New Construction or Conversion of Small Structures") provides that projects which consist of construction and location of limited numbers of new, small facilities or structures; installation of small new equipment and facilities in small structures; and the conversion of existing small structures from one use to another where only minor modifications are made in the exterior of the structure, are categorically exempt from the provisions of the California Environmental Quality Act. The enclosed battery energy storage units to be installed are commercially available, residentially sized lithium-ion batteries with a power rating of approximately 5kW and an energy rating of approximately 13.5kWh. The commercially available battery unit likely to be used for this project is the Tesla Powerwall 2. The dimensions (L x W x D) of the components described above will be approximately as follows: rooftop solar PV panels - approximately 15 panels per home, each panel with the dimensions of approximately 1650 mm x 991 mm x 40 mm (64.96 in x 39.02 in x 1.57 in); enclosed battery energy storage - approximately 1150 mm x 755 mm x 147 mm (45.3 in x 29.6 in x 5.75 in); power electronic converter with safety switch - either SolarEdge converter with the dimensions of approximately 940 mm x 315 mm x 184 mm (37 in x 12.5 in x 7.2 in) or SMA converter with the dimensions of approximately 467 mm x 612 mm x 242 mm (18.4 in x 21.1 in x 9.5 inch); electrical panel - approximately 678 mm x 420 mm x 152 mm (26.7 in x 16.5 in x 6 inch); PQ-CU control box - approximately 356 mm x 305 mm x 204 mm (14 in x 12 in x 8 inch). The small new solar equipment will be installed on the roof of the residence, and the small energy storage equipment will be installed inside the garage, inside another structure associated with the residence, or adjacent to the residence. Installation will only require minor modifications to the exterior of the existing structures. The project will not: 1) impact an environmental resource of hazardous or critical concern, 2) result in a significant cumulative impact, 3) have a significant effect on the environment due to unusual circumstances, 4) damage resources within a designated state scenic highway, 5) cause substantial adverse change to the significance of a historical resource, or 6) be located on a listed hazardous waste site. For these reasons, the project will have no significant environmental impact and falls under section 15303.

The project consists of the installation of electrical components and infrastructure to accommodate a solar energy system and energy storage system at approximately 15 residential sites. The installation of these technologies will not result in the expansion of the existing use of these homes. Vehicle trips associated with the construction of the project will be temporary and the operation of the energy systems will result in a negligible number of regular operational trips for maintenance of the systems. The only sound that might be produced from these systems would be related to the cooling fans for the inverter and battery energy storage, which is not considerable (less than 50 dBA). These technologies are considered to be green technologies and do not produce any known emissions. No

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adverse effects to water or air quality would occur as a result of the proposed project. As there is no possibility project activity may have a significant effect on the environment, the project falls under the common sense exemption listed in California Code of Regulations, title 14, section 15061(b)(3).

This project will involve the installation of solar energy systems on the roofs of existing buildings and pursuant to Public Resources Code section 21080.35 is exempt from CEQA. The associated equipment will not occupy more than 500 square feet of ground surface and will be located on the same parcel as the solar panels. The project does not involve a federal Clean Water Act permit; streambed alteration permit; or a site that contains plants protected by the Native Plant Protection Act. For the reasons, this project is statutorily exempt from CEQA under Public Resources Code section 21080.35.


The sections 15301, 15303, 15061(b)(3), and 21080.35 exemptions each serve as an independent basis for finding the project exempt.

**Lead Agency**

**Contact Person:**     Quenby Lum     **Area code/Telephone/Ext:**     916-327-1492    

**If filed by applicant:**

- 1. Attach certified document of exemption finding.
- 2. Has a Notice of Exemption been filed by the public agency approving the project?  Yes  No

**Signature:**     ,     **Date:**     9/11/2020     **Title:**     Associate Energy Specialist    

**Signed by Responsible Agency**

**Signed by Lead Agency**

**Signed by Applicant**

**Date received for filing at OPR:** \_\_\_\_\_