

Sonrisa Solar Park CUP Application
EDPR CA Solar Park VI LLC

SECTION 6. PROJECT DESCRIPTION

2.1 PROJECT TITLE

Sonrisa Solar Park

2.2 LEAD AGENCY NAME AND ADDRESS

Fresno County
Department of Public Works and Planning
2220 Tulare St. 6th Floor
Fresno, CA 93721

2.3 CONTACT PERSON AND PHONE NUMBER

AGENCY

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2.4 DESCRIPTION OF PROJECT

EDPR CA Solar Park VI LLC is proposing the siting, construction and long-term operation of the Sonrisa Solar Park (the Project). The proposed Project is a solar photovoltaic (PV) facility that plans to generate electricity from ground mounted single axis tracking arrays and intermittently store electricity by charging and discharging lithium-ion batteries. The Project will have a generating capacity of approximately 200 megawatts (MWs) alternating current (AC) with a battery storage capacity up to 100 MWac, and a battery storage duration of 4 hours.

The anticipated Commercial Operation Date for this Project is December 31st, 2022 and the Project is

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expected to operate for 35 years, though the ability may exist to extend the Project's life by replacing and repowering certain components. Construction for the Project is anticipated to commence after September 1st, 2021. In addition to the solar generation and battery storage components, the Project will also include a 230 kV transmission line running from the Project to Pacific Gas and Electric's (PG&E's) Tranquility Substation. This line will be roughly 3.5 miles long and will convey electricity back and forth between the Sonrisa Solar Park and the larger electrical grid.

2.5 PROJECT OWNERSHIP

EDPR CA Solar Park VI LLC is a wholly-owned subsidiary of EDP Renewables North America LLC ("EDPR NA"). EDPR NA develops, constructs, owns, and operates wind and solar renewable energy projects throughout the United States. EDPR NA is based in Houston, Texas, with approximately 700 employees and regional offices in Oregon, Indiana, Massachusetts and Illinois.

EDPR NA's rigorous approach has led to the successful development of more than 6,900 MW of renewable energy facilities, and the company has demonstrated a proven ability to successfully navigate complicated land, interconnection and permitting environments to achieve commercial operations for its projects. EDPR NA's operational assets are spread across 13 U.S. states, one Mexican state and one Canadian province at 49 wind farms and 5 solar parks. Globally EDP Renewables has over 11,700 MWs of installed capacity making EDPR the 4th largest owner/operator of renewable energy worldwide.

2.6 PROJECT LOCATION

The Project will be located on roughly 1,700 acres of agricultural land that has been either fallow or cultivated with dry-farmed grains for the past 10 years near Tranquility, CA in Fresno County. This land is located in an unincorporated portion of Fresno County, and is currently zoned AE for "exclusive agriculture" per the Fresno County General Plan. More specifically, the Project will be sited on the following parcels:

APN: 028-071-15ST, 028-071-36ST, 028-071-02ST, 028-071-33ST, 028-071-35ST, 028-071-55ST, 028-071-20ST, 028-071-07ST, 028-071-17ST, 028-071-16ST, 028-071-21ST, 028-071-06ST, 028-071-01ST, 028-071-04ST, 028-071-13ST

2.7 LAND USE DESIGNATIONS

2.7.1 GENERAL PLAN DESIGNATIONS

The full Project footprint is designated as "8.1 – Intensive Agriculture" under Fresno County's current General Plan. Because solar is designated a conditional use on this land designation, the Project does not contemplate requesting an amendment to the Fresno County General Plan. See Section 7: "Operational Statement."

2.7.2 WILLIAMSON ACT STATUS

None of the parcels in this footprint are currently under Williamson Act contract.

2.7.3 FARMLAND MAPPING AND MONITORING PROGRAM

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The Project footprint is classified as Farmland of Local Importance as designated by the State Department of Conservation's (DOC) Farmland Mapping and Monitoring Program (FMMP).

Table 1: "Sonrisa Soil Conditions" below additionally captures the percent of the Project footprint that falls under the different FMMP designations. The percent of the Project footprint that falls under each of the Prime, Statewide Importance and Unique Farmland designations is as follows:

Prime Farmland – 0.0%

Farmland of Statewide Importance - 100.0%

Unique Farmland – 0.0%

2.7.4 SOIL CONDITIONS

Please see Table 1: "Sonrisa Soil Conditions" for a detailed overview of soil conditions at the Project. The Land Capability Class (LCC) demonstrates the suitability of soils for growing field crops. Based on this metric, the site's LCC non-irrigated soil rating is Class 7.

Class 7 soils have severe limitations that make them unsuitable for cultivation and that restrict their use mainly to grazing, forestland, or wildlife habitat.

TABLE 1: SONRISA SOIL CONDITIONS

Approximate Acres	Soil Type	NRCS Prime Farmland Classification	DOC FMMP Classification	California Revised Storie Index	Land Capability Class
					Non-Irrigated
822.31 (49.8%)	Tranquility clay, saline-sodic, wet, 0 to 1 percent slopes	Farmland of Statewide Importance	Farmland of Local Importance	Grade 4 - Poor	7
297.84 (18.0%)	Ciervo clay, saline-sodic, wet, 0 to 1 percent slopes	Farmland of Statewide Importance	Farmland of Local Importance	Grade 4 - Poor	7
531.89 (32.2%)	Calflax clay loam, saline-sodic, wet, 0 to 1 percent slopes, MLRA 17	Farmland of Statewide Importance	Farmland of Local Importance	Grade 2 - Good	7

Source: Web Soil Survey, 2019.

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2.8 ZONING

2.8.1 PROJECT SITE ZONING CLASSIFICATIONS

The full Project footprint is currently designated as “AE20 – Exclusive Agriculture” under Fresno County’s Zoning Classification. Because solar is designated a conditional use on this zoning designation, the Project does not contemplate requesting a zone change.

2.8.2 SURROUNDING ZONING CLASSIFICATIONS

The primary zoning classification in the surrounding 5 mile area around the Project footprint is currently “AE20 – Exclusive Agriculture.”

2.9 PROJECT OBJECTIVES

The Project’s primary objective is to support the generation of renewable energy in the State of California per the recent objectives outlined in SB 100. This legislation increased California’s Renewable Portfolio Standard and established the State’s intention to have zero-carbon and eligible renewable energy resources supply 100% of the State’s retail electricity sales by the year 2045. This Project will supply solar photovoltaic energy that will help the State meet those ambitious goals.

By establishing a large-scale solar photovoltaic and energy storage facility in a manner that maximizes the production of reliable electricity in an economically feasible manner this Project will also provide California Community Choice Aggregators (CCA’s) with zero-emissions renewable energy to support their goals of providing that same clean energy to their customers. The Project will use proven and established solar and energy storage technology to support this goal.

The Project will also be developed on a site that is not suitable for irrigated agriculture and is not under any current Williamson Act contracts thereby supporting California and Fresno County’s agricultural goals. By siting the Project on land that is under a **non-irrigation covenant** and has been largely fallow for many years this Project will additionally support California and Fresno County’s goals of protecting farmland and maximizing the amount of groundwater available for agricultural activities.

In addition to generating clean reliable electricity, the Project also looks forward to providing long-term property tax revenues that help support public services within Fresno County, creating jobs within both the County and the broader State of California, and providing land payments to private landowners in Fresno County. The Project intends to meet all of these objectives while designing, constructing and operating these facilities in an environmentally responsible manner consistent with all County, State and Federal requirements.

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2.10 PROJECT COMPONENTS

2.10.1 SOLAR GENERATOR

The Project will generate direct-current (DC) electricity through a series of solar photovoltaic modules connected to one another on ground-mounted single axis tracking structures. Electricity will flow from the panels to solar inverters via DC collection wires. Once this DC electricity has been converted to AC electricity, the output from the solar inverters will be aggregated at two project substations where it will be stepped up to a higher voltage and then moved along generator tie (gen-tie) lines to the Project's point of interconnection at Pacific Gas & Electric's (PG&E's) Tranquility Substation.

2.10.2 BATTERY ENERGY STORAGE

The Project will include a lithium ion battery energy storage system that will consist of a number of batteries that store direct-current (DC) electricity. The batteries are physically arranged in racks that are housed in temperature-controlled facilities referred to as the battery enclosures. These enclosures are equipped with all the necessary ancillary equipment including appropriate fire suppression systems and other electrical control units.

The batteries can either be AC coupled or DC coupled with the solar project. When the battery storage is AC coupled, the storage facility is centralized at a project substation and the solar and storage systems have independent inverters, medium voltage (MV) transformers, and MV collection circuits. When the battery storage is DC coupled to the solar project, the batteries are distributed throughout the solar arrays and they share the solar inverter, MV transformers, and MV collection circuits. Past a project substation, downstream use of the gen-tie and POI facilities is shared by both the solar and battery storage systems.

2.10.3 SECURITY/FENCING

The facility will be secured with a 6 to 10 foot high chain link fence along the perimeter. Vegetation will be cleared from the area underneath the arrays as necessary, and the site will be graded per the grading and drainage plan that will be submitted for County review. Access roads running around and between the arrays may include crushed aggregate, if necessary, to prevent damage to existing soils and the arrays will sit on piles that raise them well above the surface and avoid the need for additional landscaping work.

2.10.4 INTERCONNECTION

The Project's Point of Interconnection (POI) is the point at which the Project's power will be delivered to the electrical grid. The Project will interconnect at Pacific Gas & Electric's (PG&E's) Tranquility Substation with 200 MWs interconnecting at 230 kV. This Project is in the California Independent System Operator (CAISO) interconnection queue and has been studied for delivery of the full 200 MWs of solar generation proposed in this Conditional Use Permit application.

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2.10.5 PROJECT SUBSTATION

The project substation is the point at which all of the power generated from the Project will be aggregated. The main purpose of the substation is to step up the voltage of the generated power to match the interconnection voltage through the use of a step-up transformer. In addition, the project substation includes protective relays and circuit breakers that protect the grid from any disturbances, either external or internal to the Project. Common substation equipment includes a control building, transformers, circuit breakers, meters, and overhead switches. The project substation will likely be secured with the use of a 6 or 10 foot tall chain linked fence with triple strand barbed-wire. The internal grounds of the project substation will be covered in crushed aggregate.

2.10.6 GEN-TIE LINE

The Project will have one gen-tie line that will connect the Project's substation to the Project's POI. The gen-tie will be a 230 kV line approximately 3.5 miles long running from the project substation to the Tranquility Substation. The Project intends to construct the gen-tie line using private easements per the design shown in Section 6: "Conceptual Site Layout."

2.11 CONSTRUCTION

Construction of the Project may take place in multiple phases and the exact sequencing of phases will depend on a number of variables, but generally the construction process involves the following activities:

Once construction is set to commence, the Project site will typically be graded to provide a level foundation for roads, project components and the operations and maintenance (O&M) building. During construction, water will be used as conditions require its application for dust suppression on and along the Project roads. The amount of water used will vary based on site conditions and local rainfall amounts, but in general will be less than a gallon per linear foot of project roadway per day. This project is estimating that the total water required for construction will be roughly 1 acre/foot per every 50 acres of the project site.

Following site grading and preparation, steel piles will be driven into the ground and the solar PV tables, trackers and panels will be installed on top of them. Trenches will be dug on site to bury the underground collection cables that will conduct the energy output from the panels to the solar inverters, storage inverters or converters, the battery storage system and ultimately the Project substation.

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Remaining construction activities include installing the solar inverters and storage inverters or converters on site, installing the battery racks within the battery enclosures, constructing the Project substations and then constructing the **two high voltage generator tie lines between the Project's substation and the Project's point of interconnection.**

2.12 OPERATION AND MAINTENANCE

The Project will be privately owned and operated throughout its life and will not be open to the public. This facility is expected to have up to 7 full time employees responsible for maintenance and other activities related to ongoing operations. These employees will generally be on site during normal business hours, unless otherwise required. Only authorized personnel will be permitted on site, and these will generally be the employees operating and maintaining the facility with the exception of other contractors, company personnel or visitors who have been briefed on the relevant safety procedures for being on site.

Employees of the Project will work out of an Operations and Maintenance (O&M) building on site. A typical O&M building has up to 20 parking spaces and includes ADA access, parking for employees and meets any additional parking requirements for local or state regulations. The Project plans to arrange for the O&M building to receive water service either through private landowners, the local water district, or a municipality. If possible the O&M building will seek to connect to local water lines in the vicinity.

Sewage from the building will most likely be pumped into a buried septic tank on the Project site, unless the building can connect to local sewage pipes nearby.

Compared to many other forms of energy generation, solar photovoltaic projects have relatively low operational requirements. Normal operations and maintenance activities include panel washings with **de-iodized** water brought in from off-site, replacing broken or malfunctioning PV panels and batteries, maintaining manageable vegetation levels around the site, and monitoring energy production across the Project. Typical operations materials include grease, spare PV panels, and miscellaneous hardware and tools used to support any maintenance activities. These materials would be stored in the O&M building and transported around the site as needed.

2.13 DECOMMISSIONING

The reclamation process will commence following the Project being taken offline and permanently out of service. All decommissioning, reclamation, and restoration activities

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for the Project will adhere to the requirements of the appropriate governing authorities, and will be consistent with all applicable federal, provincial, and local permits and law.

The Project's reclamation and restoration process consists of the removal of above ground structures, majority removal of below ground foundations and infrastructure, and restoration of the site to its condition prior to construction. The entire process is anticipated to be complete roughly 12 months after the project has been out of service. Given the large footprint of the Project, the reclamation process may be completed in multiple phases to ensure the entire site is returned to its prior condition.

Please see Section 9: "Reclamation Plan" for more details.

2.14 STATE OR LOCAL DISCRETIONARY ENTITLEMENTS THAT MAY BE REQUIRED

The full list of State, Local, and Federal discretionary entitlements and approvals that may be required by the Project include:

- Conditional Use Permit (CUP)
- Street/Easement Vacations
- National Pollutant Discharge Elimination System Construction General Permit (Notice of Intent)
- California Department of Transportation Right-of-Way Encroachment Permit, and Permit for Transportation of Oversized Loads
- Section 851 Permit or Notice of Construction from the California Public Utilities Commission
- San Joaquin Air Pollution Control District Authority to Construct/Permit to operate
- Fresno County construction, grading, and building permits
- Rights-of-way crossing consent forms from Fresno County, PG&E, and private easement holders