Milagro Solar Project - Project Description

PROJECT OVERVIEW

This Project Description is for the approximately,1100-acres Milagro Solar Project (Project) proposed by the applicant, Milagro Solar I, LLC, a wholly-owned subsidiary of EDFR Renewables, Inc. ("EDFR"). The proposed Project would involve the development of a solar photovoltaic facility combined with battery energy storage system to generate up to 150 megawatts (MW) of renewable electrical energy.

Project Goals

The applicant has identified the following objectives that are important to achieving the Project goal :

- Utilize property totaling approximately 1,100 acres within Doña Ana County, for the placement of up to 150 MW of solar photovoltaic panels and a 75 MW battery energy system
- Provide tax revenues for public services to Doña Ana County.
- Assist Doña Ana County in promoting its role as the state's leading producer of renewable energy in the State of New Mexico
- Provide green jobs to Doña Ana County and the State of New Mexico.
- Site and design the Project in an environmentally responsible manner consistent with current Doña Ana County guidelines.

EXISTING LAND USE, PROJECT SITE CONTROL & ACCESS

The Project property is located in the Santa Teresa area of Doña Ana County, New Mexico. The project would encompass largely grazing land located roughly 1 mile west of Sunland Park, New Mexico and approximately 36 miles south of Las Cruces, New Mexico. Historic land uses in the Project area vicinity included livestock grazing, mining, and open space activities such as hunting and off-road vehicle use. The nearby City of Sunland Park is approximately one mile to the east. Recent development includes existing renewable energy facilities, industrial uses and supporting infrastructure. The Project area is located on the Santa Teresa mesa.

The Project property encompasses approximately 1,100 acres of undeveloped range land consisting of multiple privately owned parcels. Site control in the form of a long-term lease has been obtained for 100 percent of the Project site. Land control efforts for the Project transmission lines are also underway.

The Project would utilize Highway 136 and Binational Way to obtain access to the Project lease area which is located within portions of Section(s) 8, 9, 10, 11, 14, 15, 16 & 17, Township 29 South, Range 3 East, New Mexico Meridian.

PROJECT DESCRIPTION

As proposed, the Milagro Solar Project would entail the development of solar combined with battery energy storage facilities and associated infrastructure to generate up to 150 MW of capacity derived from tracker mount technology. The Project includes solar development with associated PV panels, mounting

brackets, underground electrical and communication, transformers, a preferred and an alternative transmission route to the Diablo Substation, a substation and laydown yards for the staging of construction materials.

The Project is located on approximately 1,100 acres of generally undeveloped range land with no residences. The Project would be developed solely on private land. The applicant is committed to creating a state-of-the-art solar energy project that would be constructed in harmony with the natural landscape. Lands surrounding the site have either been approved for or are in the planning stages for development for various industrial uses or solar energy.

1. Solar Photovoltaic Arrays

The Project would utilize tracker mounted photovoltaic (PV) system blocks to convert solar energy directly to electrical power for export to the electrical grid. The PV modules convert sunlight striking the modules directly to low-voltage direct-current (DC) power, which is subsequently transformed to alternating-current (AC) power via inverters that are placed on site within blocks that a typically between 2-4 MW. The mathematical conversion factor from MWac to MWdc varies from system to system. The PV modules are made of semiconductor material encapsulated in glass in which the photovoltaic effect converts light (photons) into electrical current. Photovoltaics are best known as a method for generating electric power by using solar cells to convert energy from the sun into electricity. Energy from the sun is transmitted to the Earth as photons, which contain different levels of energy corresponding to different frequencies of the solar spectrum. When a photon is absorbed by a PV cell, the energy of the photon is transferred to an electron in an atom within the PV cell. This added energy allows the electron to escape from the atom to become part of the current in an electrical circuit. The tracker modules are typically placed on an aluminum rail, such that with a maximum tilt of 60 degrees, the top of the module is a maximum of approximately 15 feet above grade at the tallest point, and one (1) to two (2) feet above the grade at the lowest point.

2. Battery Energy Storage System

The Project includes installation of energy storage facilities and associated infrastructure to temporarily store excess energy output from the PV arrays when supply exceeds demand (i.e., during daytime) and later release that energy to the electrical grid when demand exceeds supply (i.e., at night). BESS container will house batteries connected in strings and housed on racks. A container will contain a transformer, monitoring equipment, lighting, and cooling equipment. Each container will be approximately 40 to 70 feet long, 8 to 12 feet wide, and 8 to 13 feet tall. The Project will utilize either a DC coupled, or an AC coupled Lithium-Ion batteries system. In a DC coupled system, BESS equipment will be distributed throughout the project's solar arrays by co-locating each BESS container with a block inverter; the BESS and the inverter will be housed on the same pad but in separate housings. With an AC coupled system, the BESS containers and inverter will be housed directly adjacent to the on-site substation in a single area and would occupy approximately 12 to 15 acres. The energy storage system would be unmanned, with remote operational control and periodic inspections and maintenance performed as necessary.

3. Access and Maintenance Roads

The Project would utilize Highway 136 and Binational Way to obtain access to the leased area. While existing roads and road routes will be used to access the leased area, new unpaved roads would be

constructed to serve as access roads from the existing road network to the PV panel sites within the project area. Access roads would be 16 feet wide with 10-foot-wide shoulders on both sides of the road and would be cleared and compacted for construction equipment travel and access to the PV panel installation sites. These local proposed project access roads would remain in place for ongoing operations and maintenance activities after construction of the project is completed.

Final service road alignments would depend on the final placement of the solar panels and on the results of the results of field investigations, including topography and any other site-specific details to be incorporated into the final design.

4. Temporary Staging Areas

The Project has identified up to two (2) temporary construction laydown yards. These yards would vary in size from a minimum of approximately 0.5 acre to a maximum of approximately 10 acres.

5. Power Collection and Telecommunication

The Project entails installation of small step-up transformers, which are typically located with each inverter, to increase the output voltage of the power generated by the panel from DC voltage to AC voltage to a level suitable for local power collection within the proposed project property. For the proposed project, the power collection system voltage is 34.5 kilovolts (kV). Underground cables would be installed throughout the majority of the proposed project and would connect to and between PV panel block transformer stations, connecting each transformer to a feeder circuit; each feeder circuit would in turn be connected to the proposed project substation. Overhead circuits could be used to avoid environmentally sensitive areas or other constraints. The different feeder circuits would gather at the proposed project substation (or switchyard) and would then be sent to the overhead electricity lines leading to a grid interconnection point.

Fiber-optic communication wires would also be laid down using the same underground trenching channels, and overhead, in conjunction with the feeder circuits that would connect each of the proposed PV panels with the operations, maintenance, and control building to the proposed substation.

6. Project Substations

The Project would include construction of up to two (2) new site-specific substation facilities that would collect the power generated by the proposed PV panels, would transport the power via the underground/overhead power collection system, and would then convert the 34.5 kV of power for transmission in an overhead 115-kV line to the El Paso Electric (EPE) transmission system and interconnection location.

Equipment at the proposed project substation would include transformers, breakers, and associated equipment. The substation facility would house the power-generation control and relaying equipment, station batteries, and Supervisory Control and Data Acquisition (SCADA) system. The substation would be remotely operated and periodically maintained but would not be permanently manned. The substation would be cleared, graded, and graveled, and an 8-foot-tall chain-link security fence which may include barbed wire installed around its perimeter for safety and security purposes. Construction and operation of the proposed substations would affect approximately up to 10 acres each.

7. Generation Transmission Tie-Line

The Project's generation tie-line would start on the eastern side of the Site and connect to existing El Paso Electric's Diablo 115kV substation. Overhead electrical lines would facilitate the transportation of the electricity from the proposed Project property at the 34.5-kV voltage of the power collection system, and up to two (2) proposed project substation collection areas to the grid interconnection point at 115 kV. These lines would consist of a three-phase electrical line design and would be carried on electric poles up to 150 feet in height. The electrical power poles would support three insulators, cross arms, and conductors (wires) per circuit and could support 2 circuits.

8. Security

The Project has the option to fence either the exterior boundary of the entire proposed project property or each solar cluster/ row independently. At this time, it has not been determined which of these options would be used. All proposed project fence installation requirements would be evaluated, and the best-fit scenario would be incorporated into the proposed project.

Security services would be provided during construction and any additional security would be provided on an as-needed basis. The security personnel would be responsible for controlling egress and ingress, enforcing safety requirements, and ensuring compliance with all other policies for control of the Project property during the construction phase. After construction, these duties would become the responsibility of the operation and maintenance provider.

9. CONSTRUCTION SCENARIO

Construction of the Project would be comparable to other solar energy projects and can be divided into the following sequence: (1) roads, (2) foundations, (3) electrical infrastructure, (4) PV assembly and installation, (5) substation interconnection, (6) electrical system upgrades, (7) PV commissioning, and (8) project finalization. The various elements of the project would be constructed concurrently on the property.

The timeframe to construct the 150 MW of solar modules is estimated to require approximately 8 to 12 months. Construction employees would be expected to carpool from respective population centers such as Las Cruces and Sunland Park, NM and greater El Paso, TX, and report to the designated construction staging yards prior to the beginning of each workday.

Construction activities would be expected to include excavation and grading. Site preparation and construction of the proposed project would be in accordance with all federal, state, and Doña Ana County zoning codes and requirements. All stationary equipment and machines with the potential to generate a significant increase in noise or vibration levels would be located away from noise receptors to the extent practicable. Site grading would be kept to the minimum required to place the pilings and foundations and minimize changes to the naturally occurring runoff on the site. This technique has proven to be advantageous in the long term to minimize maintenance issues.

10. OPERATION AND MAINTENANCE

Upon completion of all construction activities, the applicant would ensure that the facility would be properly operated and maintained. An operation and maintenance protocol would be developed and

implemented throughout the life of the Project. The Project site will be fenced to help prevent access by the public. Gates will be installed at the roads entering the project. Limiting access to the project will be necessary both to ensure the safety of the public and to protect the equipment from potential theft and vandalism.

The proposed PV arrays produce electricity passively with minimal maintenance requirements. Any required planned maintenance would be scheduled to avoid peak load periods. Operation and maintenance activities may include washing the solar modules biannually and general repairs. The use of tracker technology would also require periodic maintenance of tracker motors. Vegetation is sparse with little potential for vegetative fuel buildup.

The Project would produce a small amount of waste associated with maintenance activities. PV solar farm wastes typically include broken and rusted metal, defective or malfunctioning modules, electrical materials, empty containers, and other miscellaneous solid materials including typical household type refuse generated by workers. The applicant would employ best management practices (BMPs) to keep the site clean and avoid stockpiling of all debris. Most of these materials would be collected and delivered back to the manufacturer for recycling.

11. DECOMMISSIONING

At the end of the Project's operational term, it may be determined that the facility will be be decommissioned and deconstructed, or the project owner may seek an extension of its CUP. Because the PV arrays supporting equipment sits on the surface of the land, when they are removed after the proposed Project's lifetime, the land will be largely unaltered from its natural state. The Project would utilize BMPs to ensure the collection and recycling of modules and to minimize the potential for modules to be disposed of as municipal waste.