

1. DESCRIPTION

This report presents a draft Decommissioning Plan for the Front Range-Midway Solar Project (Project) located near Fountain, Colorado. This Plan was prepared for El Paso County by the Project applicant and owner and operator of the proposed solar facility, Front Range-Midway Solar Project, LLC. The purpose of this Plan is to detail the demolition, removal, and rehabilitation actions to be conducted during Project decommissioning. The Project is sited on property owned and leased by the Project owner; decommissioning activities would occur in coordination with all property owners. Some property owners may prefer that no decommissioning activities take place. The company will seek to comply with the property owners requests where leaving the site in that condition is in compliance with laws and regulations and coincides with the company's goals. The decommissioning and reclamation procedures and practices that would be employed by Front Range-Midway Solar Project, LLC will meet federal and state requirements for the reclamation phase following construction of the Project and for the rehabilitation of the Project site following decommissioning.

While this report is designed to address all aspects of decommissioning, it should be considered a draft document, as the Project has not yet been constructed.

The following components are included in this plan:

- Structure, Equipment, and Facility Removal: Solar photovoltaic (PV) modules and support systems, infrastructure, roads, substation equipment and structures, and miscellaneous equipment (i.e., fencing and gates).
- Removal of the perimeter security fencing, including all components, gates and hardware, if desired by the Landowner at time of Project decommissioning
- Deconstruction of the access and perimeter roads (if required)
- Grading and recontouring of the affected areas after demolition, deconstruction and materials removal
- Revegetation of the affected areas after grading and recontouring is completed (if required)

2. SOLAR FACILITIES DESCRIPTION

Access Roads – Access to the site will occur via Exit 119 from Interstate-25 (I-25). Vehicle traffic will travel west on Rancho Colorado Boulevard . Site access will occur along Rancho Colorado Boulevard at the southwestern portion of the project.

Security Fencing and Gates – Permanent perimeter site security fence will be installed and will consist of a six-foot fence with a two-foot three-strand barbed wire on top. The security fencing will be constructed within the project boundary to allow room for fence maintenance and to comply with property setback requirements. Fencing will be designed to resist wind and other weather or debris loads. Gates of similar design will be installed at the primary and emergency access points into each section of the solar field. The total linear footage of the security fencing and gates is approximately 28,000.

Solar Field - PV solar panels would be mounted on tracking systems that help minimize the angle between the solar panels and the sun. The electricity generated will be sent to inverters located at the perimeter of each array that will convert the electricity from direct current to alternating current. Underground electric collection lines will transfer the electricity from the inverters to the solar project substation where it will be stepped up to transmission voltage and an overhead electrical gen-tie line that will transfer the electricity to the Midway or PsCo substation. Inverter hardware will be located in a series of Power Conversion Units (PCU), which will convert the direct current (DC) electric input into grid-quality AC electric output. The PCU's consist of an inverter, transformer, and related hardware. The PCU inverter steps of the electrical voltage from about 550 Volts to 34.5 kV, allowing for efficient electrical collection from the site with marginal power losses.

Project Substation – The Project will include construction of a substation that collects the 34.5 kV power from the solar field and steps up the voltage to the interconnection level of 115 kV or 230 kV, depending on the executed interconnection agreement with the Public Service Company (PSCo) at 115 kV or Western Area Power Administration (WAPA) at 230 kV. The project substation will consist of a 34.5 / 115 kV main transformer, one 115 kV and multiple 34.5 kV breakers, motor-operated and manually operated switches, a control enclosure, instrument transformers for metering, and galvanized steel support structures within an eight-foot-tall fence enclosure.

3. METHODOLOGY

The objective of decommissioning and reclamation is to remove the installed materials and equipment and return the land to the condition that existed prior to condition. Some parcels will not require complete decommissioning and reclamation if the landowner plans to utilize the property for other land uses. The procedures described for decommissioning and reclamation will ensure public health and safety, environmental protection, and compliance with applicable regulations. Procedures include restoration of land contours and native revegetation, hydrology, visual resources, and wildlife habitats.

The procedures outlined for reclamation include a description of the proposed activities for reclamation to be undertaken during and after completion of Project operation and measures to be taken to prevent unnecessary or undue degradation.

All facility components will be recycled to the greatest extent possible during decommissioning. Specific opportunities for recycling (i.e., PV solar panels) are discussed below in the context of various site components.

Overall

- Conducting pre-closure activities, such as final closure and restoration planning, that addresses the “as-found” site conditions at the start of the Project;
- Establishing and documenting health and safety procedures;
- Using industry standard demolition methods will allow personnel to efficiently undertake demolition activities, thereby minimizing the environmental safety exposures;
- Demolishing the aboveground structures in a phased approach so that some project structures can be used until the final demolition
- Demolishing and removing underground collection facilities as needed to meet the closure goals;
- Remediating soils, if needed, to ensure that clean closure is achieved;
- Disposing of materials in appropriate facilities for treatment/disposal or recycling; and
- Re-contouring lines and grades to match the original grade and ecological function.
- Evaluate the execution of the decommissioning and restoration plan through appropriate oversight and quality assurance; and
- Document implementation of the plan and compliance with environmental requirements

Decommissioning activities are discussed in detail below Technologies and construction techniques are expected to change prior to decommissioning of the project and may impact the details of each activity described.

4. DECOMMISSIONING ACTIVITIES

The anticipated project life is 30-35 years. Decommissioning may occur sooner or later depending on unforeseen circumstances. If the Project remains economically viable, it could operate for more than 35 years. However, if the facility were to become economically non-viable before 30 years of operation, permanent closure could occur sooner. Nonetheless, a Final Decommissioning Plan would be prepared and put into effect when permanent closure occurs.

An updated Decommissioning Plan will be submitted to the County for approval at the commencement of decommissioning. The plan will describe the proposed equipment to be removed and equipment that will remain for future use, based on expected future use of the site. Decommissioning activities will not commence until the Final Plan is approved.

In general, decommissioning will attempt to maximize the recycling of all facility components. Specific opportunities for recycling (i.e., PV solar panels) are discussed below in the context of various site components. The individual Project components to be decommissioned will be recycled to the maximum extent possible.

The key Project components to be affected by decommissioning activities are discussed below. The general decommissioning approach will be the same whether a portion of the Project or the entire Project would be decommissioned.

Implementation Strategy

In general, decommissioning will include the removal of all improvements less than 3 feet below final grade to prepare for restoration of disturbed areas.

Front Range-Midway Solar Project proposes the following strategies to achieve the goals of implementation:

- Use industry standard demolition means and methods to decrease personnel and environmental safety exposures by minimizing time and keeping personnel from close proximity to actual demolition activities to the extent practical
- Plan each component of the decommissioning such that personnel and environmental safety are maintained while efficiently executing the work
- Evaluate the execution of the Decommissioning and Reclamation Plan through Project oversight and quality assurance
- Document implementation of the Plan and compliance with environmental requirements.

The Decommissioning Plan for the Project consists of the following major elements:

- Establishment and documentation of health and safety requirements and procedures
- Completion of pre-decommissioning planning activities such as preparing the final decommissioning and restoration plans and schedules based on the “as-found” site conditions documented prior to construction
- Dismantling and removal of Project materials and improvements

- Soils cleanup procedures and disposal requirements are detailed in the Project's Soil Restoration Plan (see Section 5)
- Disposal of materials in appropriate facilities for treatment, disposal, or recycling

Dismantling of Project components will proceed according to the following general staging process. The first stage will consist of dismantling/demolition and removal of the PV panels and underground and above ground electrical components, parking areas, and other installed facilities. The second stage will consist of removing the installed fencing and site contouring to return disturbed areas to original conditions to the greatest extent possible. The second stage is covered in the Reclamation Plan (Section 5).

Health and Safety Procedures (HASP)

The following health and safety procedures will be established prior to decommissioning:

- General safety and hazard responsibilities
- Establishment of an effective hazard communications program
- Task hazard analysis and control
- Personal protection equipment (PPE) requirements
- Occupational and environmental monitoring requirements
- Medical and other emergency procedures
- Personnel training
- Incident reporting
- Self-audit and compliance procedures

A site-specific HASP or equivalent will document health and safety requirements for establishing and maintaining a safe working environment during the implementation of the planned site decommissioning activities.

Decommissioning Planning and Preparation

The first phase in the decommissioning process will consist of a site assessment of existing conditions and preparation for demolition. The removal of solar facility components will follow. However, access roads, fencing, and electrical power facilities will remain in place for use by the decommissioning and restoration workers until the solar panel components and associated facilities are removed. Demolition debris will be placed in temporary on-site storage area(s) pending final transportation and disposal/recycling according to the procedures listed below.

Decommissioning of Project Components

During decommissioning, Project components that are no longer needed will be dismantled (including breaking concrete into gravel), removed from the site and recycled or disposed of, or abandoned in place where allowable and as outlined in this DRP. Decommissioning procedures associated with each Project component are discussed below.

PV Equipment Removal and Recycling

The PV solar panels, supports, and buried underground conductors will be removed. The demolition debris and removed components will be dismantled into pieces that can be safely lifted or carried with the on-site equipment being used. The majority of glass and steel will be processed for transportation and delivery to an off-site recycling center. All steel, aluminum, and copper will be recycled to the greatest extent that is economically viable. PV panels will be recycled or disposed of in accordance with the manufacturer's recycling program.

Site Access, Parking Area and Maintenance Roads

On-site roads will remain in place to accomplish decommissioning at the end of the facility's life. Project access roads will remain if the landowner determines that some of these roads will be beneficial for future use of the site. Roads that will not remain will be restored to preconstruction conditions. The road surface will be restored and revegetated as described in Section 5.

Project Substation

At decommissioning the prefabricated control enclosure and electronic components of the substation equipment will be electrically disconnected and made safe for removal. The control enclosure will then be disassembled and removed from the site. The transformers, breakers, bus work, and metal dead-end structures will also be disassembled and removed. Concrete foundations and containment berms/curbs for the transformers up to a minimum of 3 feet below grade will be broken into pieces, and all debris and aggregate rock will either be removed from the site or crushed into gravel and used on-site in coordination with the Property owners' desires. The area will be revegetated as described in Section 5.

The main power transformer's insulating oil will be drained, and transferred to a licensed disposal facility for recycling or disposal. Site personnel involved in handling these materials will be trained appropriately.

As part of the preparation for closure, the stormwater management for the site will be updated to cover spill prevention and countermeasures for handling specific materials during decommissioning. Procedures to decrease the potential for release of contaminants to the environment will be specified in the Final Plan.

Dismantling and Demolition of Fencing

Demolition of security fencing will entail breakdown and removal of gates and fencing materials at the completion of demolition of other Project components. Residual materials from fencing will be transported via heavy haul dump truck to a central recycling/staging area where the materials will be processed for transport to an off-site recycler. A Project recycle center may be established to reduce staging of materials for transport to an off-site recycling location. The materials could include barbed wire, steel fence bracing and stretcher bars, galvanized steel hardware fabric, chain link fabric, posts, and concrete post supports.

The use of mechanized equipment and trained personnel will ensure the safe dismantling and removal of the perimeter security gates and fence.

The permanent security fence below-ground materials consist of concrete backfill for the posts. Fence post supports will be unearthed and removed. The concrete attached to the posts will be physically removed and transported to the recycling area for recycling off-site or crushed into gravel to remain on-site.

Demolition Debris Management, Disposal and Recycling

All demolition procedures will maximize the recycling of materials to the greatest extent possible. Non-hazardous wastes will be collected and disposed of in specific and appropriate waste areas. Hazardous wastes will be disposed of according to applicable laws, ordinances, regulations, and standards (LORS). Demolition debris will be placed in temporary on-site storage area(s), prior to transport to an off-site recycling center, in accordance with the procedures listed below.

For the purpose of this Plan, it is assumed that the removal of all equipment and appurtenant facilities from all site areas will be required. Removal activities will be achieved in conformance with all applicable LORS. Aboveground structures will be removed through mechanical or other approved methods, and transported off-site. Below ground materials will be removed as described in the sections above. Once all structural elements are removed, the ground surface will be re-contoured to return the site topography to the pre-construction conditions.

5. SITE RECLAMATION

Decommissioning procedures will remove Project components and related structures as described above. Site reclamation activities will occur following the completion of decommissioning. Reclamation will restore natural topography, vegetative cover, and hydrologic function after closure of the facility. Restoring ecological features to a condition compatible with the adjacent land form will inherently restore the visual elements of the site to pre-disturbance conditions in accordance with Project approvals and restoration requirements.

If soils are determined to be compacted at levels that will affect successful revegetation, decompaction will occur. The method of decompaction will depend on the level of compaction. Regrading and contouring the site will follow and necessary decompaction of soils. Regrading and contouring will occur as necessary, where Project construction resulted in changes to the natural topography of the site. It is unlikely that a significant amount of earthwork will be required as the construction plan calls for limited disturbance of the Project site. Reclamation grading activities will be limited to disturbed areas that require re-contouring.

As the preconstruction use for the Project site is primarily rural-residential and relatively undisturbed, it is anticipated that reseedling will be the primary method of revegetation within the proposed disturbance areas. The primary goal of revegetation will be to establish a barrier to erosion of soils. The site will be revegetated with a native seed mix compatible with the surrounding vegetative cover. The method by which seeds will be placed will be determined at the time of decommissioning, since revegetation technology may change over the next 30 years.

Closure and Restoration Strategy

The overall closure and restoration strategy includes the following major elements:

- Conducting restoration planning that addresses the “as-found” site conditions at the start of the Project
- Documenting and establishing health and safety procedures
- Re-contouring topography and grades to match the natural grades and ecological function of the site
- Restoration of soils, if needed, to ensure that clean closure is achieved
- Evaluate the execution of the Decommissioning and Reclamation Plan through Project oversight and quality assurance
- Document implementation of the Plan and compliance with environmental requirements

It is the responsibility of the Project owner to ensure the Project is constructed, commissioned, operated and decommissioned according to Federal, State and Local requirements.

Site Recontouring

Re-contouring of the site will be conducted using standard grading equipment to return the land to the previously existing surface. Grading activities will be limited to disturbed areas that require re-contouring. Fills will be compacted to approximately 85 percent relative compaction by wheel or track rolling to avoid over-compaction of the soils.

Best management practices will be implemented to provide erosion and sediment control until revegetation efforts have sufficiently stabilized the soil.

Restoration of Drainage

This section presents an initial drainage restoration plan for the Project that focuses on permanent closure and subsequent decommissioning activities to restore the site drainage to conditions that will complement present off-site drainage conditions. This plan is a draft and will be reviewed and revised as necessary for the final plan when decommissioning activities are imminent.

As used here, "closure" is synonymous with decommissioning and includes removal of the Project fencing and materials that were used to support the pre-construction activities of the Project. Drainage restoration will be one of the final decommissioning activities. Storm water detention ponds are planned for construction of the Project; detention ponds will maintain the historic drainage patterns and release rates for the site. Since the Project components, roads, fences, and all other appurtenant facilities will be decommissioned (unless otherwise indicated by landowners), storm water detention ponds will be decommissioned as part of the restoration effort. Removal of the detention ponds along with regrading and recontouring will ensure that pre-construction drainage patterns and release rates can be maintained. It is assumed that the removal of all equipment will be required and will be achieved in conformance with all applicable LORS and local/regional plans.

Soil Restoration

As part of the decommissioning planning, determination of the depth and lateral extent of contaminated soil (if present) will be conducted as needed. Any required soil cleanup will be based on visual observations, a review of spill records and daily operating practices, and results of any chemical analyses performed on soil samples collected during site closure.

At this time and for the purposes of this preliminary Plan, it is not anticipated that soil cleanup will be required due to the limited amount of contaminants present at the Project. If required, appropriate soil cleanup and rehabilitation methods will be selected to meet Project objectives and regulatory requirements based on criteria contained in applicable Federal, State, and County guidance. If contaminated soil removal is required, the resulting excavations will be backfilled with native soil of similar permeability and consistency as the surrounding soils and compacted to 85 percent relative compaction.

If required, soil restoration will be one of the final decommissioning activities implemented (following removal of site equipment, in accordance with all applicable LORS and local/regional plans).