Appendix D
Decommissioning Plan

Regal Solar, LLC
Docket No. IP7003 / GS-19-395
Site Permit Addendum
August 2020

DECOMMISSIONING REPORT For

Regal Solar Project

Benton County, Minnesota

July 30, 2020

Prepared For:

Regal Solar, LLC

Prepared By:

Westwood

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Executive Summary

At the request of Regal Solar, LLC ("Owner"), Westwood Professional Services ("Westwood") has prepared this Decommissioning Plan for the proposed Regal Solar, LLC project ("Project") located in Benton County, Minnesota. The Decommissioning Plan describes the procedures for and estimated costs associated with decommissioning the Project and restoring the Project site in accordance with applicable professional engineering and industry standards. The goals for the Decommissioning Plan are to provide the plan and process for restoring the site so that it can be utilized for agricultural uses, or other economical land uses, after the project ceases to operate. The Decommissioning Plan describes procedures and estimated costs for three electrical collection system options: above-ground, below-ground, or a hybrid system with AC collection located below-ground and DC collection located above-ground. The anticipated decommissioning costs for the below-ground and hybrid system are similar and therefore described conjunctively.

Decommissioning and restoration activities will adhere to the requirements of appropriate governing authorities, and will be in accordance with applicable federal, state, and local permits, including the Site Permit issued by the Minnesota Public Utilities Commission. The decommissioning and restoration process comprises removal of above-ground structures; grading, to the extent necessary; restoration of topsoil (if needed); and seeding. The process of removing structures involves evaluating and categorizing all components and materials into categories of recondition and reuse, salvage, recycling, and/or disposal. The Project consists of numerous materials that can be recycled, including steel, aluminum, glass, copper, and plastics. In the interest of increased efficiency and minimal transportation impacts, components and material may be stored on site until the bulk of similar components or materials are ready for transport. The components and material will be transported to the appropriate facilities for reconditioning, salvage, recycling, or disposal. Above-ground structures include the an approximately 3.3 mile above-ground collection line from the array to the point of interconnect, panels, racks, inverters, pads, fences, any interconnection facilities located on the property, and electrical collection system if the above-ground or hybrid option is utilized. Below-ground structures include the foundations and electrical collection system if the below-ground or hybrid option is utilized. The above-ground and below-ground structures are collectively referred to herein as the "Project Components."

The panels used in the Project will contain silicon, glass, and aluminum, which have recycling value. Modules will be dismantled and packaged per manufacturer or approved recycler's specifications and shipped to an off-site approved recycler. To estimate the Project's decommissioning costs and salvage

revenues, input was utilized from contractors, landfills, salvage yards, and recycling facilities located in proximity of the Project area and RS Means cost data.

All racking and fencing material will be broken down into manageable units, removed from the facility, and sent to an approved recycler. All racking posts driven into the ground will be pulled and removed. Following decommissioning activities, the sub-grade material and topsoil from affected areas will be de-compacted and restored to a density and depth consistent with the surrounding areas if the areas exhibit densities indicative of significant compaction. If the subsequent use for the Project site will involve agriculture, a deep till of the project site will be undertaken, at least 12 inches in all areas. The affected areas will be inspected and thoroughly cleaned, and all construction-related debris will be removed. Disturbed areas will be reseeded to promote re-vegetation of the area, unless the area is to be immediately redeveloped. In all areas restoration shall include, as reasonably required, leveling, terracing, mulching, and other necessary steps to prevent soil erosion, ensure establishment of suitable grasses and forbs if the area will not be converted back to row crop agriculture, and control noxious weeds and pests.

The decommissioning costs also include an estimate of transportation and restoration costs. The estimated decommissioning costs and salvage revenues are expressed in present-day dollars and do not account for inflation or other future changes in costs or salvage values.

Beginning in year fifteen of the Project's operational life, Regal will either create a reserve fund, enter into a surety bond agreement, create an escrow account, or provide another form of security that will ultimately fund decommissioning and site restoration costs after the project operations cease, to the extent that the salvage value does not cover decommissioning costs. The exact amount to be allocated for decommissioning will be determined by a third-party study in year fourteen that will assess the difference between estimated decommissioning costs and the salvage value.

Above-ground Electrical Collection System

The estimated cost to decommission the Project and restore the Project site was determined by

subtracting the estimated salvage revenue of $8,750,894 from the estimated decommissioning and site restoration costs of $13,095,989 which results in a net total cost of $ 4,345,095to decommission the Project and restore the Project site (approximately $ 43,451 per megawatt). The salvage revenue is based upon the scrap value of salvaged materials including material salvaged from the solar panels, racking systems, and other equipment rather than the sale and reuse of the equipment in other solar farm projects or other installations.

The tabulated summary is below

Decommissioning Activities	Decommissioning Costs	Salvage Value	Net Cost	Net Cost/MW
Mobilization/ Demobilization/ Permitting	$735,000	$0	$735,000	$7,350
PV Site - Civil Infrastructure	$1,158,464	$32,447	$1,126,018	$11,260
PV Site - Structural Infrastructure	$1,247,327	$1,765,904	-$518,577	-$5,186
PV Site - Electrical Collection System	$4,177,010	$6,907,314	-$2,730,304	-$27,303
Above-Ground Collection Line	$139,222	$0	$139,222	$1,392
PV Site - Restoration	$2,944,744	$0	$2,944,744	$29,447
Substation - Transformer Removal	$120,480	$37,280	$83,200	$832
Substation - Demolition/Disposal of Substation Site Improvement Materials	$23,750	$1,750	$22,000	$220
Substation - Site Gravel Removal and Site Restoration	$139,800	$6,200	$133,600	$1,336
Project Management	$541,250	$0	$541,250	$5,413
Construction Totals	$11,227,047	$8,750,894	$2,476,153	$24,762
Contingency	$1,552,924	$0	$1,552,924	$15,529
County Administration Costs	$316,019	$0	$316,019	$3,160
Totals	$13,095,989	$8,750,894	$4,345,095	$43,451

*Based upon a preliminary project design of 40 power blocks.

Below-ground or Hybrid Electrical Collection System

The estimated cost to decommission the Project and restore the Project site was determined by subtracting the estimated salvage revenue of $9,626,420 from the estimated decommissioning and site restoration costs of $13,706,556 which results in a net total cost of $4,080,136 to decommission the Project and restore the Project site (approximately $ 40,801 per megawatt). The salvage revenue is based upon the scrap value of salvaged materials including material salvaged from the solar panels, racking systems, and other equipment rather than the sale and reuse of the equipment in other solar farm projects or other installations.

The tabulated summary is below.

Decommissioning Activities	Decommissioning Costs	Salvage Value	Net Cost	Net Cost/MW
Mobilization/ Demobilization/ Permitting	$767,000	$0	$767,000	$7,670
PV Site - Civil Infrastructure	$1,158,464	$32,447	$1,126,018	$11,260
PV Site - Structural Infrastructure	$1,312,722	$1,825,054	-$512,332	-$5,123
PV Site - Electrical Collection System	$4,571,958	$7,723,689	-$3,151,730	-$31,517
Above-Ground Collection Line	$139,222	$0	$139,222	$1,392
PV Site - Restoration	$2,944,744	$0	$2,944,744	$29,447
Substation - Transformer Removal	$120,480	$37,280	$83,200	$832
Substation - Demolition/Disposal of Substation Site Improvement Materials	$23,750	$1,750	$22,000	$220
Substation - Site Gravel Removal and Site Restoration	$139,800	$6,200	$133,600	$1,336
Project Management	$541,250	$0	$541,250	$5,413
Construction Totals	$11,719,391	$9,626,420	$2,092,971	$20,930
Contingency	$1,621,975	$0	$1,621,975	$16,220
County Administration Costs	$330,054	$0	$330,054	$3,301
Totals	$13,671,420	$9,626,420	$4,045,000	$40,450

*Based upon a preliminary project design of 40 power blocks.

1.0 System Description

Above-ground Electrical Collection System

For the purposes of this decommissioning plan and estimate, the project is assumed to consist of the following components:

- 40 inverters
- NEXTracker™ racking system
- (2,743) 84-module rows (NEXTracker™ Single Axis Tracker – SPT)
- (1,210) 56-module rows (NEXTracker™ Single Axis Tracker – SPT)
- (76) 28-module rows (NEXTracker™ Single Axis Tracker – SPT)
- Approximately 52,000 Foundation Posts (Array Bearing, Motor, Inverter Skid)
- Access roads to the arrays – 16' wide of gravel base, with curved sections being up to 45' wide
- 42,207 linear feet – 6'-high array security fence
- 129,679 linear feet – Medium voltage overhead electrical collection cables
    - 112,056 linear feet of above-ground electrical cables within PV array
    - 17,623 linear feet for above-ground collection line electrical cables
- 247 - utility poles (198 in PV array and 49 for above-ground collection line)
- 220,000 linear feet – DC electrical collection cables
- 1 electrical substation
- 1 operations and maintenance ("O&M") building

Below-ground or Hybrid Electrical Collection System

For the purposes of this decommissioning plan and estimate, the project is assumed to consist of the following components:

- 40 inverters
- NEXTracker™ racking system
- (3,903) 84-module rows (NEXTracker™ Single Axis Tracker – SPT)
- (96) 56-module rows (NEXTracker™ Single Axis Tracker – SPT)
- (27) 28-module rows (NEXTracker™ Single Axis Tracker – SPT)
- 52,698 Foundation Posts (Array Bearing, Motor, Inverter Skid)
- Access roads to the arrays – 16' wide of gravel base, with curved sections being up to 45' wide
- 42,207 linear feet – 6'-high array security fence
- 107,667 linear feet – Medium voltage below-ground electrical collection cables

- 49 – utility poles for above-ground collection line
- 220,000 linear feet – DC electrical collection cables
    - 202,377 linear feet of above-ground or below-ground electrical cables within PV array
    - 17,623 linear feet for above-ground AC collection line electrical cables
- 1 electrical substation
- 1 operations and maintenance ("O&M") building

Note that the above lists of components and estimated quantity of each component is based upon the Project's preliminary design to date. Final design and construction of the Project may result in quantities that vary from the figures given above.

2.0 Decommissioning

Upon the end of the Project's life or "abandonment," the decommissioning and site-restoration process detailed in this plan would begin and be completed within approximately 13 months; see section 3.3 below for schedule information. The following general decommissioning and site restoration process would occur:

- Remove modules, electrical equipment, racking, and scrap
- Complete removal of pile foundations
- Remove access roads (unless landowner requests they remain)
- Remove collector system electrical cable
- Remove site security fencing
- Remove project substation
- Complete earthwork and site restoration

2.1 Trigger Resulting in Decommissioning

Decommissioning of solar panels must occur upon the expiration of the Site Permit or at the end of operations of the facility.

2.2 Decommissioning Requirements

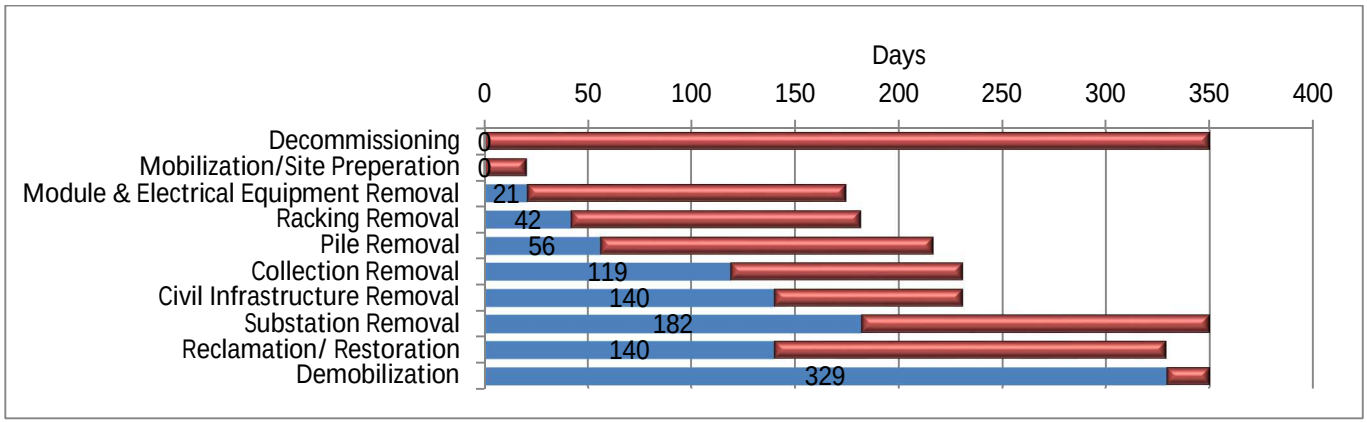
As part of decommissioning, the Project will utilize best practices to restore drainage in the area to the condition it was in before the commencement of decommissioning. Disposal of structures and/or foundations shall meet all applicable rules and regulations to proper disposal.

2.3 Schedule

The decommissioning process will likely take place over a 13-month period. This timeline is based on the assumption that the removal of the modules, racking system, and pile foundations will take approximately the same duration to remove them as it did to install them. Approximately three (3) weeks are needed for site mobilization and demobilization for decommissioning. It is also assumed that no decommissioning work will be performed during the winter months or during times of inclement weather (high winds, heavy rains).

The estimated Project schedule, shown below, is an estimated timeline of the decommissioning activities. This schedule is subject to change based on actual field conditions, weather conditions, and any unforeseen conditions.

Estimated Project Schedule



**Some tasks may be completed concurrently depending upon scheduling and methods of the contractor.*

***Schedule shows duration total in calendar days and is subject to delays/changes based on weather conditions, winter and unforeseen conditions.*

2.4 Project Facilities Removal and Site Restoration

Prior to decommissioning, landowners will be consulted to identify the extent and type of work to be completed. Some Project infrastructure such as access roads and collection lines may be left in place upon request of the landowner. The removal and disposal details of the Project components are found below.

- Modules: Modules inspected for physical damage, tested for functionality, and removed from racking. Functioning modules packed and stored for reuse (functioning modules may produce

power for another 25 years or more). Non-functioning modules packaged and sent to the manufacturer or a third party for recycling or another appropriate disposal method;

- Racking: Racking uninstalled, sorted, and sent to metal recycling facility;
- Steel Pier Foundations: Steel piles removed and sent to a recycling facility; Wire: Underground wire abandoned in place at depths greater than four feet.
- Wire above four feet removed and packaged for recycling or disposal; overhead wire will be removed from the poles and packages for recycling or disposal
- Conduit: Above-ground conduit disassembled onsite and sent to recycling facility;
- Junction boxes, combiner boxes, external disconnect boxes, etc.: Sent to electronics recycler;
- Inverter/Transformer: Evaluate remaining operation life and resell or send to manufacturer and/or electronics recycler;
- Concrete pad(s): Sent to concrete recycler;
- Fence: Fence will be sent to metal recycling facility and wooden posts for the agricultural fence will be properly disposed; and
- Computers, monitors, hard drives, and other components: Sent to electronics recycler. Functioning parts can be reused.

2.4.2 Solar Array

Decommissioning consists of dismantling, processing, and transporting solar components off the Project site. The dismantling will entail disassembly of the array into the component parts: modules, racking components, and foundation pile. Cutting and sorting of scrap material from the array components will proceed in parallel. This processing includes draining fluid, cutting, disconnecting, and dismantling the equipment.

It is assumed that the materials will be sold as scrap, recycled, or disposed of rather than be sold for re-use in another location. It has also been assumed that the scrap materials will be transported off site to recycling facility, salvage yard, or a landfill. The following landfills and salvaged material yards have been identified near the Project.

Landfills

- Rapid Container service & Henkemeyer Demolition landfill - 6029 Lark Rd NW, Sauk Rapids, MN 56379, approximately 12 miles from the Project site

Salvage Yards (metals)

- EMR Northern Metal Recycling- 119 6th Ave NE, St. Cloud, MN 56304, approximately 18 miles from the Project site

Considering the lifespan of landfills, it is possible that one or more of the facilities identified above may be

closed in the future when the Project is decommissioned. Disposal facilities will continue to be needed in the future to serve the requirements of the general population and business activities in the Project area, and local government or other agencies will develop these future landfills as time passes and needs arise. The present and/or future facilities will serve the needs of the Project.

Considering the abundance of raw materials that are built into the entire array, it is assumed that most of the components can be salvaged through resale of reclaimed scrap metal. The racking components, foundation pile, cables, and other electrical equipment are considered scrap metals, and will be sorted by material type (e.g., steel, copper, and aluminum). The modules are also able to be recycled and sold as salvageable items. The remaining unsalvageable materials will be processed and transported to local landfills. All modules will be removed from the site via semi-trucks.

2.4.3 Electrical Collection System

The collector system is installed using AC and DC collection system cables. The AC collection cables will consist of medium voltage cable consisting of three cables per overhead line for the above-ground collection system, or three cables buried per below-ground line for the below-ground and hybrid collection system with a copper-clad steel conductor. The DC system cables will consist of a positive and negative phase in each cable tray (CAB). These cable configurations are identified as a circuit, and are used to identify the circuit cable length. The cables consist of an aluminum conductor, polyethylene insulation, a copper metallic shield, and an outer polymer jacket.

As part of decommissioning, AC cables will be removed from the utility poles and the poles will be removed. The void left by the removed foundation will be backfilled with on-site earthen materials. DC cables will be removed from the CAB system, unburied at the combiner and inverter locations and either re-spooled or cut into recyclable sections.

The area will then be restored by application of topsoil to match the surrounding grade and maintain existing drainage patterns. The topsoil will be de-compacted to a minimum depth of 12 inches and tilled to a farmable condition or re-vegetated depending upon the location and land use at the time of decommissioning.

The estimated total circuit cable length is 349,679 linear feet for the above-ground collection system, and 327,667 linear feet for the below-ground and hybrid collection system. The cost estimate herein assumes that all cable will be removed. The removal includes reeling cable, backfilling, compacting, and reseeding. Collection/substation components (cable, steel foundations, etc.) will be removed/disposed of via semi-trucks.

2.4.4 Roads

The Project estimates that the total length of Project roads will be about 66,311 linear feet. They will approximately be 16 feet wide. The access road width flares at intersections with connecting public roads and internal intersections.

The construction of the access roads will include the surfacing of an aggregate base. Some roads may consist of a cement stabilized subgrade, which will be comprised of native soil mixed with cement. On this subgrade, aggregate surfacing is applied. It is possible that in some locations geotextile fabric may be placed on the subgrade before the aggregate surfacing is applied to the road.

Following decommissioning of the portions of the Project served by each access road (power block), access road decommissioning will start with the removal and transportation of the aggregate materials to a nearby site where the aggregate can be processed for salvage. The local townships may accept this material without processing to use on their local roads. The access road removal will proceed from the onsite area to township/county roads to limit tracking and provide consistent access during removal activities.

Any cement-stabilized subgrade material will be processed in place by adding topsoil, fertilizer, and other required additives determined and dictated by the soil sample test results. The subgrade cement-stabilized layer will be returned to a mix of native soils.

Following removal of the road aggregate and processing of any cement-stabilized subgrade, the road area will be decompacted and graded and topsoil will be reapplied to the disturbed area. The elevations of the finished area will match the surrounding grade to maintain existing drainage patterns. The topsoil will be de-compacted to a minimum depth of 12 inches and tilled to a farmable condition or re-

vegetated depending upon the location and land use at the time of decommissioning.

2.4.5 Substation

To disconnect the Project from the grid, the switchyard will isolate the substation from the grid before dismantling the system. During this period, customers will experience short outages. The timing and duration of any service interruptions would be determined and communicated by the interconnecting utility (Minnesota Power).

The final disposition of the substation is unknown and will occur at the utility's discretion. Minnesota Power may decide to the leave the substation for future use. If the utility decides to not keep the substation, the system will be decommissioned. Electrical collection substation decommissioning requires deconstruction of the control house/switchgear, main power transformers, breakers, bus work, ground grid, steel supports, foundations, and yard rock base, as well as reclamation of the substation site.

Additionally, any permanent stormwater treatment facilities will be removed. Topsoil will be reapplied to match surrounding grade and maintain existing drainage patterns. The topsoil will be de-compacted to a minimum depth of 12 inches and tilled to a farmable condition or re-vegetated depending upon the location and land use at the time of decommissioning.

Much of the equipment is recycled, the main power transformers sold for refurbishing and re-use, and the remaining materials disposed of in a landfill. The substation's steel, copper ground grid, aluminum bus, and copper wire can be salvaged for scrap metal recycling. The typical transformer of this magnitude has a 40-year lifespan. All substation materials will be removed from the site via semi-trucks.

2.4.6 O&M Building

The O&M building will not be removed as part of the decommissioning of the Project as it can be repurposed for farm operations or other rural agri-business/light industrial/logistical uses. The Project will likely sell the O&M building and facility to a landowner or independent third party so that it can be utilized for another purpose.

2.4.7 Other

In addition to the decommissioning activities described above, all unexcavated areas compacted by equipment and activity during the decommissioning work will be de-compacted to a depth of 12 inches or to a depth as needed to ensure proper density of topsoil consistent and compatible with the surrounding area and land use. All materials and debris associated with Project decommissioning will be removed and properly recycled or disposed of at off-site facilities.

All areas that were traversed by vehicles or decommissioning equipment will be ripped at least 12 inches deep to the extent practicable. The existence of tile lines or underground utilities may necessitate less depth. The disturbed area will then be disked. Two passes will be made across any agricultural land that is ripped. To the extent practicable, all ripping and disking will be done at a time when the soil is dry enough for normal tillage operations to occur. All rutted land will be restored to a condition as close as possible to its original condition.

The following rock removal procedures only pertain to rocks found in the uppermost 12 inches of soil which were exposed or brought to the site as a result of decommissioning:

A. Before replacing any topsoil, every effort will be taken to remove all rocks greater than 5 inches in any dimension.

B. As topsoil is replaced, all rocks greater than 5 inches in any dimension will be removed from the topsoil.

C. If trenching, blasting, or boring operations are required through rocky terrain, precautions will be taken to minimize the potential for oversized rocks to become interspersed with adjacent soil material.

2.5 Erosion and Sediment Control

During decommissioning of the Project, erosion and sediment control Best Management Practices (BMPs) will be implemented, if necessary, to minimize potential for sedimentation of surface waters and waters of the state. BMPs will meet the current Minnesota EPA requirements for stormwater permitting. Given that the construction and operation of the project includes detailed erosion and sediment control measures, it is not expected that additional measures will be necessary during decommissioning, unless new ground disturbance is undertaken. Potential BMPs are described below.

Disturbed Area Stabilization: All disturbed areas without permanent impermeable or gravel surfaces will be vegetated for final stabilization. All slopes steeper than 3H:1V will be stabilized by seeding and mulching during the growing season, or if not within the growing season, by mulching with tack or netting and pinning on slopes, as practical. All slopes 3H:1V or flatter will be restored by seeding and mulching.

Project Phasing/Design BMP: Project phasing will minimize exposure of soils at any given time and allow for concurrent stabilization of soils following decommissioning activities.

Silt Fence BMP or Fiber Logs: Silt fences or fiber logs will be used as needed for perimeter controls down gradient from exposed soils during decommissioning to capture suspended sediment particles on site to the extent possible. The standard silt fence or fiber logs will also be used in smaller watershed areas where the contributing flow areas are typically less than ¼ acre of drainage per 100 feet of standard silt fence or fiber logs. The standard silt fence or fiber logs will also be used for stockpiles which are at least 8 feet high and have 3:1 or steeper side slopes, if the stockpiles are not already contained within perimeter controls. The silt fence or fiber logs should provide adequate protection if placed 3 – 5 feet from the toe of the stockpile. The standard silt fence or fiber logs will not be used in areas of highly erodible soils.

Rock Entrance/Exit Tracking Control BMP: Rock construction entrances will be installed where access to a decommissioning area is needed to minimize sediment tracking and may be used at the access roads, substation, and elsewhere.

Slope Protection: Erosion-control blankets (North American Green SC150BN or equivalent) may be used as temporary stabilization for areas of steep slopes (steeper than 3H:1V), where needed or practical. Seed will be applied in these areas with the blanket for temporary and/or permanent vegetative growth as necessary. Placed stone may be installed in cleared areas where slopes are a maximum 1H:1V. Slopes less than 3H:1V will be stabilized by seeding and mulching the exposed soils.

Surface Roughening: Surface roughening or track walking is the act of running a dozer or other heavy tracked equipment perpendicular to the grade of disturbed slopes with a grade of 3:1 and steeper with a continuous length of 75 feet or greater. The tracks will provide a rough surface to decrease erosion

potential during an interim period until a smooth grade, seed, and erosion-control blanket can be applied.

Temporary Mulch Cover and Seed BMP: Temporary mulch cover (hay mulch or equivalent) will be applied to provide temporary erosion protection of exposed soil areas with slopes flatter than or equal to 3:1. Seed will be applied with the mulch for temporary and/or permanent vegetative growth as necessary. Temporary mulch is used for all soil types where slopes are flatter than 3:1 and no significant concentrated flows are present. The mulch is disc-anchored to the soil to keep it from blowing away. The mulch inhibits the ability of rain drops to dislodge soil and subsequently carry soil away during sheet drainage. In sandy soils, the use of tackifier may be used to assist the disc anchoring if the mulch cannot be secured.

Soil Stockpiles: Topsoil and base materials that are stripped from the site will be stockpiled on site. Stockpiles will be located in areas that will not interfere with decommissioning, and will be located away from roads, site drainage routes, or other areas of concentrated flow. Stockpiles will also be located away from wetlands and surface waters. Perimeter controls such as silt fence will be installed around all stockpiles if not placed within existing silt fences or other sediment control where the potential exists for material to be eroded and transported to sensitive nature resources. Soils that are stockpiled for longer durations will be temporarily seeded and mulched, or stabilized with bonded fiber polymer emulsion (DirtGlue™ or equal).

Permanent Seed and Temporary Mulch and/or Erosion Control Blanket BMP: In non-agricultural areas of final grade, permanent seed will be applied to promote vegetative cover for permanent erosion control.

Removal of Ditch Crossing BMP: Ditch crossing locations may be removed. Perimeter controls (such as silt fence) will be used at crossing locations to minimize runoff from exposed soils and removal activities. Crossing removal will be done during dry conditions, or if the streams are wet/flowing, alternative BMPs such as a temporary dam and bypass pump to remove the crossing in dry conditions will be implemented.

Dewatering: If dewatering is needed, a temporary pump and rock base may be used to dewater an area of accumulated water. If a rock base cannot be used, pump intake will be elevated to draw water from the top of the water column to limit sedimentation. Energy dissipation (riprap) will be applied to the

discharge area of the pump hose. Water will be discharged to a large flat vegetated area for filtration/infiltration prior to flowing into receiving waters of conveyances/ditches. If discharge water is turbid, dewatering bags, temporary traps, and rock weepers or other adequate BMPs will be used to control sediment discharge.

Diversion Berms/Swales/Ditches: It may be necessary to direct diverted flow toward temporary settling basins via berms, swales, or ditches. If these are deemed necessary for decommissioning activities, they must be stabilized by installing temporary mulch and seeding, erosion control blankets, or riprap to protect the channel from erosive forces.

Stone Check Dams: It may be necessary to install temporary check dams within swales or ditches that may convey stormwater from areas disturbed by decommissioning activities. Stone check dams are effective for velocity control, sediment control, and to augment temporary stabilization of channels. In these situations, filter fabric can be utilized to help filter the flow, minimize the scour of the soil under the rock, and facilitate removal of the check dams once permanent stabilization is achieved. Dam height will be at least 2 feet and spacing depends upon slope; the placement of the subsequent rock check dams will have the top elevation at the same elevation as the bottom of the previous (up-slope) rock check.

Hay Bale Check Dams: Hay bale check dams may be used for velocity control within swales of the project to slow the water runoff within the drainage channels/swales. The bales will be 3 feet in length and anchored into the soil. The midpoint elevation of the top of the bale (i.e. ponding height) must be lower than the terminal end points of the bale where the bale meets the ground elevation to prohibit water from flowing around the bales, causing erosion and scour. If the bales cannot be applied properly in the field, the use of rock checks as a replacement is recommended.

Temporary Sedimentation Basins: Sedimentation basins serve to remove sediment from runoff from disturbed areas of the site. The basins allow runoff to be detained long enough to allow the majority of the sediment to settle out prior to discharge. The location and size of temporary sedimentation basins, if any are necessary, will be verified in accordance with NPDES permit requirements at the time of decommissioning.

2.6 Permitting

All decommissioning and restoration activities will comply with federal and state permit requirements. Decommissioning activity that will disturb more than one acre of soil may trigger the NPDES Construction General Permit process. A Storm Water Pollution Prevention Plan ("SWPPP") will be developed prior to filing a Notice of Intent. Permit(s), if required, shall be applied for and received prior to commencing with decommissioning activity.

If permanent crossings are not removed and no discharge of dredged or fill material takes place, a Section 404 permit from the U.S. Army Corps of Engineers (ACoE) will not be necessary for decommissioning. The Army Corps of Engineers will be notified in advance of the decommissioning work to verify the need for 404 permitting. If 404 permitting is required, a state Water Quality Certification permit will be required as well.

State of Minnesota air quality rules will also be reviewed at the time the work is scheduled to determine if an air quality permit will be required. Should any interim permits become needed, they will be closed out with documentation of compliance after decommissioning.

2.7 Estimated Decommissioning Costs

To estimate the Project's decommissioning costs and salvage revenues, Westwood utilized cost data from RS Means to obtain an industry-standard, November 2019 Midwest Costs Price for scrap metals, landfills, salvage yards, and recycling facilities in 563 Benton County, MN, a proxy for the Project area. The salvage revenue in the decommissioning cost estimate is based upon the scrap value of salvaged materials including material salvaged from the solar array, inverter, transformers, and other equipment rather than the sale and reuse of the equipment. Future salvage revenue from resale or reuse of all array equipment is an unknown. The estimated decommissioning costs and salvage revenues are expressed in present-day dollars and do not account for inflation or other future changes in costs or salvage values.

For the purposes of the estimate, $205.00 per metric ton was used as the value of scrap steel, $0.76 per pound was used for the value of aluminum wire, $0.98 per pound was used for the value of copper wire, and $0.37 per pound was used for the value of copper transformer scrap; these values were obtained from www.scrapmonster.com in November 2019.

3.0 Conclusion and Summary of Decommissioning Costs

For an above-ground electrical collection system, the estimated cost to decommission the Project and restore the Project site is $4,320,265 in present-day dollars. This total was determined by subtracting the estimated salvage revenue of $8,750,894 from the estimated decommissioning and site restoration cost of $13,071,159 . Division of this estimated cost by the anticipated 100 megawatts ("MW") in the project results in a decommissioning cost of approximately $43,203 per MW.

For a below-ground or hybrid electrical collection system, the estimated cost to decommission the Project and restore the Project site is $4,057,080 in present-day dollars. This total was determined by subtracting the estimated salvage revenue of $9,626,420 from the estimated decommissioning and site restoration cost of $13,683,500. Division of this estimated cost by the anticipated 100 megawatts ("MW") in the project results in a decommissioning cost of approximately $40,570 per MW.

The salvage revenue in the decommissioning cost estimate is based upon the scrap value of salvaged materials, including material salvaged from the inverters, transformers, and other equipment, rather than the sale and reuse of the equipment in other solar farm projects or other installations. The estimated decommissioning costs and salvage revenues are expressed in present day dollars and do not account for inflation or other, future changes in costs or salvage values.

Beginning in year fifteen of the project's operational life, Regal will either create a reserve fund, enter into a surety bond agreement, create an escrow account, or provide another form of security that will ultimately fund decommissioning and site restoration costs after project operations cease, to the extent that the salvage value does not cover decommissioning costs. The exact amount to be allocated for decommissioning will be determined by a third-party study in year fourteen that will assess the difference between estimated decommissioning costs and the salvage value.

Project Name: Regal Solar Project
WPS Project Number: 0015991.00
Date: 07/29/2020 Project Size 100 MW-AC Net Cost Per MW $42,058.74
Decommission Report Cost Summary Spreadsheet
By: BWV Checked: ADC

Westwood

	Dismantling/Removal Costs					Salvage Value					Estimated Decommission Cost
Mobilization/Demobilization/Permitting	Quantity	Unit	Unit Cost	Total Cost	Cost Per MW	Quantity	Unit	Unit Price	Total Value	Value Per MW	Cost
Mobilization/Demobilization	1	LS	$725,000.00	$725,000.00	$7,250.00	N/A					
State & County Permits	1	LS	$10,000.00	$10,000.00	$100.00	N/A					
						N/A					
subtotal - mobilization/demobilization/permitting				$735,000.00							$735,000.00

Mobilization was estimated to be approximately 7% of total cost of other items. This number was developed from communications with contractors and reviewing various agency guidelines.

Civil Infrastructure	Quantity	Unit	Unit Cost	Total Cost	Cost Per MW	Quantity	Unit	Unit Price	Total Value	Value Per MW	Cost
Removal Gravel Surfacing from Road	26,197	CY (BV)	$4.77	$125,070.12	$1,250.70						
Haul Gravel Removed from Road	32,746	CY (LV)	$9.26	$303,199.88	$3,032.00						
Disposal of Gravel Removal from Road	42,439	Tons	$0.00	$0.00	$0.00						
Grade Road Corridor (Re-spread Topsoil)	66,311	LF	$2.47	$163,908.00	$1,639.08						
Erosion and Sediment Control for Road Restoration	49,733	LF	$1.88	$93,498.54	$934.99						
Revegetation on Removed Road Area	36.53	AC	$4,750.00	$173,541.24	$1,735.41						
Removal of Security Fence	42,207	LF	$7.09	$299,246.57	$2,992.47	211	Tons	$153.75	$32,446.52	$324.47	
subtotal -Civil Infrastructure				$1,158,464.34	$11,584.64				$32,446.52	$324.47	$1,126,017.82

Civil removal costs are a combination of MNDOT unit costs where applicable, RS Means cost for project zip area 563 and industry standards provided to Westwood

Structural Infrastructure	Quantity	Unit	Unit Cost	Total Cost	Cost Per MW	Quantity	Unit	Unit Price	Total Value	Value Per MW	Cost
Removal Foundation Posts (Array, Motor, Inverter, CAB)	47,889	EA	$13.18	$631,222.91	$6,312.23						
Haul Steel Post	3,831	Tons	$5.22	$19,998.45	$199.98	3,831	Tons	$153.75	$589,034.70	$5,890.35	
Removal of Tracker Row Racking	4,026	EA	$136.19	$548,300.94	$5,483.01						
Haul Tracker Row Racking	7,654	Tons	$5.22	$39,956.14	$399.56	7,654	Tons	$153.75	$1,176,869.00	$11,768.69	
Remove and Load Metstation Foundation	5	EA	$779.90	$3,899.50	$39.00						
Haul Concrete	73	Tons	$14.22	$1,030.90	$10.31						
Disposal of Concrete from Foundation	73	Tons	$40.25	$2,918.13	$29.18						
subtotal - Structural Infrastructure				$1,247,326.96	$12,473.27				$1,765,903.70	$17,659.04	-$518,576.73

Steel removal costs were calculated by using information from array manufacturers for installation rates and using the same rates to calculate total days to remove equipment. Hauling calculations are based on the locations of metals recyclers.

Electrical Collection System	Quantity	Unit	Unit Cost	Total Cost	Cost Per MW	Quantity	Unit	Unit Price	Total Value	Value Per MW	Cost
Removal of PV Panels	301,140	EA	$12.07	$3,635,324.44	$36,353.24	286,083	EA (5% loss)	$23.87	$6,830,059.98	$68,300.60	
Removal of Combiner Boxes	503	EA	$60.00	$30,195.00	$301.95						
Remove and Load PCU Station (Inverters/Panelboard/Transformer)	40	EA	$2,029.56	$81,182.40	$811.82						
Haul Inverters and Transformers to Recycler	40	EA	$104.40	$4,176.00	$41.76	120	Tons	$0.37	$44.40	$0.44	
Removal and Disposal of Scada Equipment	1	System	$5,000.00	$5,000.00	$50.00	1	System	$1,000.00	$1,000.00	$10.00	
Removal of DC Collector System Cables in CAB	5,500	LF	$1.00	$5,500.55	$55.01	11,000	LBS	$0.49	$5,390.00	$53.90	
Removal of Above-Ground (AC) Collection Cables within PV Array	112,056	LF	$1.05	$117,670.01	$1,176.70	280,140	LBS	$0.19	$53,226.60	$532.27	
Removal of AC System 30' Utility Poles and Above-Ground Collection Poles	247	EA	$937.90	$231,661.30	$2,316.61						
Removal of Above-Ground Collection Line between PV Array and Project Substation	17,623	LF	$7.90	$139,221.70	$1,392.22						
Remove and Load Timber Transmission Poles	30	EA	$937.90	$28,137.00	$281.37						
Haul Timber Poles	315	Ton	$3.24	$1,022.15	$10.22						
Disposal of Timber Poles	315	Ton	$30.00	$9,464.33	$94.64						
Load and Haul Cables for Recycling	150	Ton	$5.22	$785.60	$7.86						
Removal of Fiber Optic Cable	37,352	LF	$0.31	$11,396.10	$113.96						
Removal of Grounding Wire	42,852	LF	$0.36	$15,495.28	$154.95	9,856	LBS	$1.79	$17,592.89	$175.93	
subtotal - electrical collection system removal				$4,177,010.14	$41,770.10				$6,907,313.86	$69,073.14	-$2,730,303.72

Electrical removal costs of PV Panels and Combiner Boxes were based industry standards on installation rates of a three man work crew. PCU Station, MV Equipment and Scada Equipment removal cost are based on removal of equipment, concrete pads, and conduits using a truck mounted crane and contractor provided information on installation rates. AV Cable to be removed from trench and DC Cable to be removed from CAB system using standard industry production rates from RS Means.

Site Restoration	Quantity	Unit	Unit Cost	Total Cost	Cost Per MW	Quantity	Unit	Unit Price	Total Value	Value Per MW	Cost
Stabilized Construction Entrance	4	EA	$2,000.00	$8,000.00	$80.00						
Restore Existing Landscaping Conditions	667	AC	$4,404.40	$2,936,743.82	$29,367.44						
subtotal - Site Restoration				$2,944,743.82	$29,447.44				$0.00	$0.00	$2,944,743.82

Site restoration costs are based on past solar project experience. Perimeter controls accounted for above in Erosion and Sediment Control for Road Restoration

Substation	Quantity	Unit	Unit Cost	Total Cost	Cost Per MW	Quantity	Unit	Unit Price	Total Value	Value Per MW	Cost
Drain and Dispose of Transformer Oil	1	LS	$11,000.00	$11,000.00	$110.00	1	LS	$3,500.00	$3,500.00	$35.00	
Disassembly and Removal of Transformer(s)	1	LS	$4,500.00	$4,500.00	$45.00						
Freight Transformer(s) Offsite	1	LS	$2,500.00	$2,500.00	$25.00						
Disposal of Transformer(s)	1	LS	$0.00			1	LS	$33,300.00	$33,300.00	$333.00	
Excavate Around Transformer Foundation(s)	1	LS	$40,000.00	$40,000.00	$400.00						
Remove Complete Transformer Foundation(s)	1	LS	$4,900.00	$4,900.00	$49.00						
Backfill Excavation Area from Transformer Foundation Removal	1	LS	$55,000.00	$55,000.00	$550.00						
Haul scrap reinforcing steel (Transformer Foundation)	6	Tons	$10.00	$60.00	$0.60						
Disposal of scrap reinforcing steel from Transformer Foundation	6	Tons	$0.00			6	Tons	$80.00	$480.00	$4.80	
Haul Concrete (Transformer Foundation)	140	CY	$18.00	$2,520.00	$25.20						
Crush Concrete (Transformer Foundation)	140	CY	$0.00	$0.00	$0.00						
Disposal of Crushed Concrete from Transformer Foundation	140	CY	$0.00	$0.00	$0.00						
subtotal - substation transformer removal				$120,480.00	$1,204.80				$37,280.00	$372.80	$83,200.00
Demolish Substation Site Improvements (fences, etc)	1	LS	$3,500.00	$3,500.00	$35.00						

	Dismantling/Removal Costs					Salvage Value					Estimated Decommission Cost
Demolish Control Building and Foundation	1	LS	$12,000.00	$12,000.00	$120.00						
Remove Medium/High Voltage Equipment	1	LS	$3,500.00	$3,500.00	$35.00						
Remove Structural Steel Substation Frame	1	LS	$3,500.00	$3,500.00	$35.00						
Freight - Demolition Materials, Removed Equipment & Structural Steel Offsite	1	LS	$1,250.00	$1,250.00	$12.50						
Disposal of Demolition Materials, Removed Equipment and Structural Steel	1	LS	$0.00		$0.00	1	LS	$1,750.00	$1,750.00	$17.50	
subtotal - demolition/disposal of imp materials				$23,750.00	$237.50				$1,750.00	$17.50	$22,000.00
Remove Gravel Surfacing from Substation Site	6,200	CY	$8.00	$49,600.00	$496.00						
Disposal of Gravel from Substation Site	6,200	CY	$6.00	$37,200.00	$372.00	6,200	CY	$1.00	$6,200.00	$62.00	
Grade Substation Site	1	LS	$25,000.00	$25,000.00	$250.00						
Erosion and Sediment Control at Substation Site	1	LS	$12,000.00	$12,000.00	$120.00						
Topsoil and Revegetation at Substation Site	1	LS	$16,000.00	$16,000.00	$160.00						
subtotal - substation site gravel removal & restoration				$139,800.00	$1,398.00				$6,200.00	$62.00	$133,600.00

Project Management	Quantity	Unit	Unit Cost	Total Cost	Cost Per MW	Quantity	Unit	Unit Price	Total Value	Value Per MW	Cost
Project Manager	25	weeks	$3,800.00	$95,000.00	$950.00						
Superintendent	50	weeks	$3,525.00	$176,250.00	$1,762.50						
Field Engineer	100	weeks	$2,325.00	$232,500.00	$2,325.00						
Clerk	50	weeks	$750.00	$37,500.00	$375.00						
subtotal -Project Management				$541,250.00	$5,412.50				$0.00	$0.00	$541,250.00

Project Management costs are based on past solar project experience. Half-time Project Manager, one superintendent and two field engineer. Standard industry weekly rates from RS Means.

Removal Subtotal	$11,087,825.27

Contingency $1,552,923.79

15% of construction subtotal (minus Mobilization/Demobilization/Permitting) based on previous project estimations

County Administration Costs (2.5% of Contingency + Subtotal) $316,018.73

Removal Total	$12,956,767.79	Salvage Total	$8,750,894.08	$4,205,873.71

Salvage

Salvage values are a combination of the following factors; current market metal salvage prices, current secondary market for solar panelmodule recycling, discussions with national companies that specialize in recycling and reselling electrical transformers and inverters, and the assumption that care is taken to prevent any damage or breakage of equipment.

Notes:

1. Prices used in analysis are estimated based on research of current average costs and salvage values.
2. Prices provided are estimates and may fluctuate over the life of the project.
3. Contractor means and methods may vary and price will be affected by these.

Project Name: Regal Solar Project
WPS Project Number: 0015991.00
Date: 07/29/2020 Project Size 100 MW-AC Net Cost Per MW $40,801.36
Decommission Report Cost Summary Spreadsheet
By: BWV Checked: ADC

Westwood

	Dismantling/Removal Costs					Salvage Value					Estimated Decommission Cost
Mobilization/Demobilization/Permitting	Quantity	Unit	Unit Cost	Total Cost	Cost Per MW	Quantity	Unit	Unit Price	Total Value	Value Per MW	Cost
Mobilization/Demobilization	1	LS	$767,000.00	$767,000.00	$7,670.00	N/A					
State & County Permits	1	LS	$10,000.00	$10,000.00	$100.00	N/A					
						N/A					
subtotal - mobilization/demobilization/permitting				$777,000.00							$777,000.00

Mobilization was estimated to be approximately 7% of total cost of other items. This number was developed from communications with contractors and reviewing various agency guidelines.

Civil Infrastructure	Quantity	Unit	Unit Cost	Total Cost	Cost Per MW	Quantity	Unit	Unit Price	Total Value	Value Per MW	Cost
Removal Gravel Surfacing from Road	26,197	CY (BV)	$4.77	$125,070.12	$1,250.70						
Haul Gravel Removed from Road	32,746	CY (LV)	$9.26	$303,199.88	$3,032.00						
Disposal of Gravel Removal from Road	42,439	Tons	$0.00	$0.00	$0.00						
Grade Road Corridor (Re-spread Topsoil)	66,311	LF	$2.47	$163,908.00	$1,639.08						
Erosion and Sediment Control for Road Restoration	49,733	LF	$1.88	$93,498.54	$934.99						
Revegetation on Removed Road Area	36.53	AC	$4,750.00	$173,541.24	$1,735.41						
Removal of Security Fence	42,207	LF	$7.09	$299,246.57	$2,992.47	211	Tons	$153.75	$32,446.52	$324.47	
subtotal -Civil Infrastructure				$1,158,464.34	$11,584.64				$32,446.52	$324.47	$1,126,017.82

Civil removal costs are a combination of MNDOT unit costs where applicable, RS Means cost for project zip area 563 and industry standards provided to Westwood

Structural Infrastructure	Quantity	Unit	Unit Cost	Total Cost	Cost Per MW	Quantity	Unit	Unit Price	Total Value	Value Per MW	Cost
Removal Foundation Posts (Array, Motor, Inverter, CAB)	52,698	EA	$13.18	$694,610.14	$6,946.10						
Haul Steel Post	4,216	Tons	$5.22	$22,006.68	$220.07	4,216	Tons	$153.75	$648,185.40	$6,481.85	
Removal of Tracker Row Racking	4,026	EA	$136.19	$548,300.94	$5,483.01						
Haul Tracker Row Racking	7,654	Tons	$5.22	$39,956.14	$399.56	7,654	Tons	$153.75	$1,176,869.00	$11,768.69	
Remove and Load Metstation Foundation	5	EA	$779.90	$3,899.50	$39.00						
Haul Concrete	73	Tons	$14.22	$1,030.90	$10.31						
Disposal of Concrete from Foundation	73	Tons	$40.25	$2,918.13	$29.18						
subtotal - Structural Infrastructure				$1,312,722.43	$13,127.22				$1,825,054.40	$18,250.54	-$512,331.97

Steel removal costs were calculated by using information from array manufacturers for installation rates and using the same rates to calculate total days to remove equipment. Hauling calculations are based on the locations of metals recyclers.

Electrical Collection System	Quantity	Unit	Unit Cost	Total Cost	Cost Per MW	Quantity	Unit	Unit Price	Total Value	Value Per MW	Cost
Removal of PV Panels	337,680	EA	$12.07	$4,076,430.75	$40,764.31	320,796	EA (5% loss)	$23.87	$7,658,812.02	$76,588.12	
Removal of Combiner Boxes	503	EA	$60.00	$30,195.00	$301.95						
Remove and Load PCU Station (Inverters/Panelboard/Transformer)	40	EA	$2,029.56	$81,182.40	$811.82						
Haul Inverters and Transformers to Recycler	40	EA	$104.40	$4,176.00	$41.76	120	Tons	$0.37	$44.40	$0.44	
Removal and Disposal of Scada Equipment	1	System	$5,000.00	$5,000.00	$50.00	1	System	$1,000.00	$1,000.00	$10.00	
Removal of DC Collector System Cables in CAB	5,500	LF	$1.00	$5,500.55	$55.01	11,000	LBS	$0.49	$5,390.00	$53.90	
Removal of Underground (AC) Medium Voltage System Cables	91,827	LF	$3.17	$291,422.17	$2,914.22	229,568	LBS	$0.19	$43,617.83	$436.18	
Removal of Overhead Transmission Line Cables including Above-Ground Collection Line	17,623	LF	$7.90	$139,221.70	$1,392.22						
Removal of Above-Ground Collection Poles	49	EA	$937.90	$45,957.10	$459.57						
Haul Timber Poles	272	Ton	$3.24	$882.04	$8.82						
Disposal of Timber Poles	272	Ton	$30.00	$8,167.05	$81.67						
Load and Haul Cables for Recycling	124	Ton	$5.22	$649.56	$6.50						
Removal of Fiber Optic Cable	30,609	LF	$0.31	$9,338.81	$93.39						
Removal of Grounding Wire	36,109	LF	$0.36	$13,057.01	$130.57	8,305	LBS	$1.79	$14,824.55	$148.25	
subtotal - electrical collection system removal				$4,711,180.14	$47,111.80				$7,723,688.80	$77,236.89	-$3,012,508.66

Electrical removal costs of PV Panels and Combiner Boxes were based industry standards on installation rates of a three man work crew. PCU Station, MV Equipment and Scada Equipment removal cost are based on removal of equipment, concrete pads, and conduits using a truck mounted crane and contractor provided information on installation rates. AV Cable to be removed from trench and DC Cable to be removed from CAB system using standard industry production rates from RS Means.

Site Restoration	Quantity	Unit	Unit Cost	Total Cost	Cost Per MW	Quantity	Unit	Unit Price	Total Value	Value Per MW	Cost
Stabilized Construction Entrance	4	EA	$2,000.00	$8,000.00	$80.00						
Restore Existing Landscaping Conditions	667	AC	$4,404.40	$2,936,743.82	$29,367.44						
subtotal - Site Restoration				$2,944,743.82	$29,447.44				$0.00	$0.00	$2,944,743.82

Site restoration costs are based on past solar project experience. Perimeter controls accounted for above in Erosion and Sediment Control for Road Restoration

Substation	Quantity	Unit	Unit Cost	Total Cost	Cost Per MW	Quantity	Unit	Unit Price	Total Value	Value Per MW	Cost
Drain and Dispose of Transformer Oil	1	LS	$11,000.00	$11,000.00	$110.00	1	LS	$3,500.00	$3,500.00	$35.00	
Disassembly and Removal of Transformer(s)	1	LS	$4,500.00	$4,500.00	$45.00						
Freight Transformer(s) Offsite	1	LS	$2,500.00	$2,500.00	$25.00						
Disposal of Transformer(s)	1	LS	$0.00			1	LS	$33,300.00	$33,300.00	$333.00	
Excavate Around Transformer Foundation(s)	1	LS	$40,000.00	$40,000.00	$400.00						
Remove Complete Transformer Foundation(s)	1	LS	$4,900.00	$4,900.00	$49.00						
Backfill Excavation Area from Transformer Foundation Removal	1	LS	$55,000.00	$55,000.00	$550.00						
Haul scrap reinforcing steel (Transformer Foundation)	6	Tons	$10.00	$60.00	$0.60						
Disposal of scrap reinforcing steel from Transformer Foundation	6	Tons	$0.00			6	Tons	$80.00	$480.00	$4.80	
Haul Concrete (Transformer Foundation)	140	CY	$18.00	$2,520.00	$25.20						
Crush Concrete (Transformer Foundation)	140	CY	$0.00	$0.00	$0.00						
Disposal of Crushed Concrete from Transformer Foundation	140	CY	$0.00	$0.00	$0.00						
subtotal - substation transformer removal				$120,480.00	$1,204.80				$37,280.00	$372.80	$83,200.00
Demolish Substation Site Improvements (fences, etc)	1	LS	$3,500.00	$3,500.00	$35.00						
Demolish Control Building and Foundation	1	LS	$12,000.00	$12,000.00	$120.00						
Remove Medium/High Voltage Equipment	1	LS	$3,500.00	$3,500.00	$35.00						
Remove Structural Steel Substation Frame	1	LS	$3,500.00	$3,500.00	$35.00						
Freight - Demolition Materials, Removed Equipment & Structural Steel Offsite	1	LS	$1,250.00	$1,250.00	$12.50						
Disposal of Demolition Materials, Removed Equipment and Structural Steel	1	LS	$0.00		$0.00	1	LS	$1,750.00	$1,750.00	$17.50	
subtotal - demolition/disposal of imp materials				$23,750.00	$237.50				$1,750.00	$17.50	$22,000.00

	Dismantling/Removal Costs					Salvage Value					Estimated Decommission Cost
Remove Gravel Surfacing from Substation Site	6,200	CY	$8.00	$49,600.00	$496.00						
Disposal of Gravel from Substation Site	6,200	CY	$6.00	$37,200.00	$372.00	6,200	CY	$1.00	$6,200.00	$62.00	
Grade Substation Site	1	LS	$25,000.00	$25,000.00	$250.00						
Erosion and Sediment Control at Substation Site	1	LS	$12,000.00	$12,000.00	$120.00						
Topsoil and Revegetation at Substation Site	1	LS	$16,000.00	$16,000.00	$160.00						
subtotal - substation site gravel removal & restoration				$139,800.00	$1,398.00				$6,200.00	$62.00	$133,600.00

Project Management	Quantity	Unit	Unit Cost	Total Cost	Cost Per MW	Quantity	Unit	Unit Price	Total Value	Value Per MW	Cost
Project Manager	25	weeks	$3,800.00	$95,000.00	$950.00						
Superintendent	50	weeks	$3,525.00	$176,250.00	$1,762.50						
Field Engineer	100	weeks	$2,325.00	$232,500.00	$2,325.00						
Clerk	50	weeks	$750.00	$37,500.00	$375.00						
subtotal -Project Management				$541,250.00	$5,412.50				$0.00	$0.00	$541,250.00

Project Management costs are based on past solar project experience. Half-time Project Manager, one superintendent and two field engineer. Standard industry weekly rates from RS Means.

Removal Subtotal	$11,729,390.73

Contingency $1,642,858.61

15% of construction subtotal (minus Mobilization/Demobilization/Permitting) based on previous project estimations

County Administration Costs (2.5% of Contingency + Subtotal) $334,306.23

Removal Total	$13,706,555.57

Salvage Total	$9,626,419.71

$4,080,135.86

Salvage

Salvage values are a combination of the following factors; current market metal salvage prices, current secondary market for solar panelmodule recycling, discussions with national companies that specialize in recycling and reselling electrical transformers and inverters, and the assumption that care is taken to prevent any damage or breakage of equipment.

Notes:

1. Prices used in analysis are estimated based on research of current average costs and salvage values.
2. Prices provided are estimates and may fluctuate over the life of the project.
3. Contractor means and methods may vary and price will be affected by these.