

**COMMONWEALTH OF KENTUCKY
BEFORE THE KENTUCKY STATE BOARD
ON ELECTRIC GENERATION AND TRANSMISSION SITING**

In the Matter of:)
)
APPLICATION OF RUSSELLVILLE SOLAR LLC)
FOR CERTIFICATE OF CONSTRUCTION FOR: AN) **Case No. 2021-00235**
APPROXIMATELY 173-MEGAWATT MERCHANT)
ELECTRIC SOLAR GENERATING FACILITY IN)
LOGAN COUNTY, KENTUCKY PURSUANT TO)
KRS 278.700, ET SEQ., AND 807 KAR 5:110)

NOTICE OF FILING

Russellville Solar LLC (“Russellville Solar”), by counsel, and pursuant to Mitigation Measure 29 in the Siting Board’s Order dated August 23, 2022, hereby provide notice that it is filing its Decommissioning Plan.

Respectfully submitted,



STURGILL, TURNER, BARKER & MOLONEY, PLLC
JAMES W. GARDNER
M. TODD OSTERLOH
333 W. Vine Street, Suite 1500
Lexington, Kentucky 40507
Telephone No.: (859) 255-8581
Fax No. (859) 231-0851
tosterloh@sturgillturner.com
jgardner@sturgillturner.com

ATTORNEYS FOR RUSSELLVILLE SOLAR LLC

**Decommissioning Plan –
Logan County Solar Project
Logan County, Kentucky**



Prepared for:
Russellville Solar LLC
222 Second Avenue S
Nashville, TN 37201

Prepared by:
Stantec Consulting Services Inc.
1165 Scheuring Road
De Pere, Wisconsin 54115

Project No: 193709293

February 8, 2023

**DECOMMISSIONING PLAN
LOGAN COUNTY SOLAR PROJECT, LOGAN COUNTY, KENTUCKY**

This document entitled Decommissioning Plan – Logan County Solar Farm, Logan County, Kentucky, was prepared by Stantec Consulting Services Inc. (“Stantec”) for the use of SR Russellville Solar, LLC and Silicon Ranch Corporation (the “Client”). The material in this document reflects Stantec’s professional judgment in light of the scope, schedule and other limitations stated in the document and in the contract between Stantec and the Client. The opinions in this document are based on conditions and information existing at the time this document was published and do not take into account any subsequent changes. In preparing the document, Stantec did not verify information supplied to it by others.



**Michael Brice
Environmental Scientist**



**JoAnne J Blank, MS
Senior Associate, Senior Scientist**



**Matthew A Clementi, PE
Senior Project Engineer**

Table of Contents

1.0	INTRODUCTION.....	1
1.1	SOLAR FARM COMPONENTS.....	1
1.2	TRIGGERING EVENTS AND EXPECTED LIFETIME OF PROJECT	1
1.3	DECOMMISSIONING SEQUENCE	2
2.0	PROJECT COMPONENTS AND DECOMMISSIONING ACTIVITIES.....	3
2.1	OVERVIEW OF SOLAR FACILITY SYSTEM.....	3
2.2	SOLAR MODULES	4
2.3	TRACKING SYSTEM AND SUPPORT	4
2.4	POWER CONVERSION SYSTEMS.....	5
2.5	ELECTRICAL CABLING AND CONDUITS.....	5
2.6	PROJECT SUBSTATION.....	5
2.7	OPERATIONS AND MAINTENANCE BUILDING	5
2.8	PERIMETER FENCING AND ACCESS ROADS	5
3.0	LAND USE AND ENVIRONMENT	7
3.1	SOILS AND AGRICULTURAL LAND.....	7
3.2	RESTORATION AND REVEGETATION	7
3.3	SURFACE WATER DRAINAGE AND CONTROL	7
3.4	MAJOR EQUIPMENT REQUIRED FOR DECOMMISSIONING	7
4.0	DECOMMISSIONING COST ESTIMATE SUMMARY	9
4.1	DECOMMISSIONING RISK OVER THE LIFECYCLE OF A PROJECT.....	9
4.2	DECOMMISSIONING EXPENSES	9
4.3	DECOMMISSIONING REVENUES.....	10
4.4	DECOMMISSIONING COST SUMMARY.....	13
4.5	FINANCIAL ASSURANCE	14

LIST OF TABLES

Table 1	Primary Components of Solar Farm to be Decommissioned.....	4
Table 2	Typical Access Road Construction Materials	6
Table 3	Estimated Decommissioning Expenses.....	10
Table 4	Estimated Decommissioning Revenues	12
Table 5	Net Decommissioning Cost Summary	13

LIST OF FIGURES

Figure 1	Proposed Project Layout
----------	-------------------------

1.0 INTRODUCTION

SR Russellville, LLC (Russellville) is proposing to construct and operate the Logan County Solar Project (Project) southwest of the City of Russellville, Logan County, Kentucky. The Project footprint encompasses approximately 1,000 acres within perimeter fencing, out of an approximately 1,556-acre Project area. The maximum generating capacity of the Project will be up to 198.65 megawatts, alternating current (MW)_[AC]; however, the maximum power at the point-of-interconnect (POI) will be 173 MW_[AC].

This Decommissioning Plan (Plan) provides a description of the decommissioning and restoration phase of the Project. Start-of-construction is planned for early-2023, with a projected Commercial Operation Date in December of 2024. The main Project components consist of perimeter fencing; solar modules and associated trackers; inverter stations; access and internal roads; electrical collection system; and a substation (Figure 1).

This Plan is applicable to the decommissioning/deconstruction and restoration phases of the Project. A summary of the components to be removed is provided in Section 1.1. Summaries of the estimated costs and potential salvage value associated with decommissioning the Project are provided in Section 4.

1.1 SOLAR FARM COMPONENTS

The main components of the Project include:

- Solar modules
- Tracking system and steel piles
- Inverter and transformer stations
- Electrical cabling and conduits
- Site access roads
- Perimeter fencing
- Project substation
- Operations and Maintenance (O&M) structure

1.2 TRIGGERING EVENTS AND EXPECTED LIFETIME OF PROJECT

Project decommissioning may be triggered by events such as the end of a power purchase agreement (PPA), expiration of lease agreement(s), or when the Project reaches the end of its operational life. It is anticipated that decommissioning will begin within six (6) months of the facility ceasing to produce electricity. The facilities will be removed at the owner's or operator's expense within twelve (12) months of the date it begins decommissioning activities.

If properly maintained, the expected lifetime of the Project is approximately 40 years. At the end of the Project's useful life, the modules and associated components will be decommissioned and removed from the Project site.

DECOMMISSIONING PLAN
LOGAN COUNTY SOLAR PROJECT, LOGAN COUNTY, KENTUCKY

Components of the solar facility that have resale value may be sold in the wholesale market. Components with no wholesale value will be salvaged and sold as scrap for recycling or disposed of at an approved offsite licensed solid waste disposal facility (landfill). Decommissioning activities will include removal of the arrays and associated components, above-ground and below-ground, regardless of depth, as listed in Section 1.1 and described in Section 2. Russellville is committed, where possible, to recycling all solar panels at the end of Project life/ decommissioning.

1.3 DECOMMISSIONING SEQUENCE

Decommissioning activities are anticipated to begin within six (6) months of the Project ceasing operation and be completed within twelve (12) months from the date decommissioning begins. Russellville will be the responsible party. Monitoring and site restoration may extend beyond this period to ensure successful revegetation and rehabilitation. The anticipated sequence of decommissioning and removal is described below; however, overlap of activities is expected.

- Reinforce access roads, if needed, and prepare site for component removal
- Install erosion control materials and other best management practices (BMPs) to protect sensitive resources and control erosion during decommissioning activities
- De-energize solar arrays
- Dismantle and remove panels and above-ground wiring
- Remove tracking equipment and piles
- Remove inverter/transformer stations along with support system and foundation pads
- Remove underground electrical cables and conduits
- Remove array fence
- Remove access and internal roads and grade site (if required)
- Remove substation
- De-compact subsoils as needed, restore, and revegetate disturbed land to pre-construction conditions to the extent practicable

2.0 PROJECT COMPONENTS AND DECOMMISSIONING ACTIVITIES

The solar facility components and decommissioning activities necessary to restore the Project area, as near as practicable, to pre-construction conditions are described within this section.

2.1 OVERVIEW OF SOLAR FACILITY SYSTEM

Russellville anticipates utilizing approximately 513,342 solar modules, with a total generating capacity of approximately 240.01 MW direct current [DC]. The Project footprint encompasses approximately 1,000 acres of the larger 1,556-acre Project area and will be surrounded by perimeter fencing as shown on Figure 1. The land within the perimeter fencing is predominantly agricultural land.

Foundations, steel piles, and electric cabling and conduit installed below the soil surface will be removed. Access roads and fence may be left in place if requested and/or agreed to by the landowner; however, for purposes of this assessment, all access roads and fence are assumed to be removed. Russellville will communicate with the appropriate local agency to coordinate the repair of damaged or modified public roads during the decommissioning and reclamation process.

Estimated quantities of materials to be removed and sold, salvaged, or disposed of are included in this section. Many of the materials described have salvage value; although, there are some components that will likely have none at the time of decommissioning. Removed materials that cannot be sold on the resale market will be salvaged or recycled to the extent possible. Other waste materials will be disposed of in accordance with state and federal law in an approved licensed solid waste facility.

Solar panels may have value in a resale market, depending on their condition at the end of the Project life. If the Project is decommissioned prior to the anticipated 40-year timeframe, the components resale value will be substantially higher than at the end of the projected Project. Table 1 presents a summary of the primary components of the Project included in this decommissioning plan.

Table 1 Primary Components of Solar Farm to be Decommissioned

Component	Quantity	Unit of Measure
Solar Modules (approximate)	513,342	Each
Tracking System (equivalent full trackers)	5,704	Tracker
Steel Piles	80,552	Each
Inverter Stations with Piers or Foundations	58	Each
Subsurface Electrical Cables and Conduits	414,150	Linear Foot (estimated)
Perimeter Fencing	91,622	Linear Foot
Access Roads (approximate)	60,854	Linear Foot
O&M Building (Trailer)	1	Each
Project Substation	1	Each

2.2 SOLAR MODULES

Russellville is considering a module from First Solar for the Project. Statistics and estimates provided in this Plan are based on the Series 6 Plus (465 and 470-watt) Thin Film module. Each module assembly (with frame) will have a total weight of approximately 75 pounds. The modules will be approximately 79.7 inches by 49.0 inches in size and are mainly comprised of non-metallic materials such as silicon, glass, composite film, plastic, and epoxies, with an anodized aluminum frame.

At the time of decommissioning, module components in working condition may be refurbished and sold in a secondary market yielding greater revenue than selling as salvage material. The estimates in this report have been calculated using a conservative approach, considering revenue from salvage only, rather than resale of Project components.

2.3 TRACKING SYSTEM AND SUPPORT

The solar modules will be mounted on a single-axis, one-in-portrait tracking system, such as the Horizon tracker by Nextracker or similar system. Each full equivalent tracker will be approximately 375 feet in length and will support 90 solar modules. Smaller trackers will be employed at the edges of the layout to efficiently utilize available space. The tracking system is mainly comprised of high-strength galvanized steel and anodized aluminum; steel piles that support the system are assumed to be comprised of galvanized steel.

The solar arrays will be deactivated from the surrounding electrical system and made safe for disassembly. Liquid wastes, including oils and hydraulic fluids will be removed and properly disposed of or recycled according to regulations current at the time of decommissioning. Electronic components, and internal electrical wiring will be removed and salvaged. The steel piles will be completely removed from the ground.

The supports, tracking system, and posts contain salvageable materials which can be sold to provide revenue to offset the decommissioning costs.

2.4 POWER CONVERSION SYSTEMS

The power conversion systems (PCS) are combined inverter/transformer systems that are located within the arrays. The PCS sit on platforms supported by steel piles. The PCS will be deactivated, disassembled, and removed. Depending on the condition of the unit at decommissioning, the equipment may be sold for refurbishment and re-use. If not re-used, they will be salvaged or disposed of at an approved solid waste management facility.

2.5 ELECTRICAL CABLING AND CONDUITS

The Project's underground electrical collection system will be placed at a depth of approximately 36 inches below the ground surface. For purposes of this report, it is assumed that all subsurface cabling will be removed and salvaged. Recovery cost has been conservatively based on aluminum wiring; however, the salvage value of copper, if used, would be far greater.

2.6 PROJECT SUBSTATION

The Project will include a substation as shown on the attached figure. The substation footprint will be approximately 175 feet by 200 feet will contain within its perimeter, a gravel pad, power transformers and footings, an electrical control house, and concrete pads, as needed. The substation transformers may be sold for re-use or salvage. Components of the substation that cannot be salvaged will be transported off-site for disposal at an approved waste management facility. Although potentially the Project substation may remain at the end of the Project life, an estimated decommissioning cost has been included in this Plan.

The Project will connect directly to the adjacent Springfield-Logan 161-kV transmission line. Therefore, no Project specific overhead generation tie-in transmission line is included in this Plan.

2.7 OPERATIONS AND MAINTENANCE BUILDING

One structure will be utilized for the operations and maintenance Project activities. The O&M structure will be a self-contained trailer type construction. It will be installed on a gravel pad with connections to electrical and other necessary services. The structure will be completely removed from site during the decommissioning process.

2.8 PERIMETER FENCING AND ACCESS ROADS

The Project will include a security fence around the perimeter of the site and exclusionary area. The fence will total approximately 91,622 feet in length.

Access drives from local roads and along the inner perimeter of the arrays will provide direct access to the solar facility and substation equipment. The site access drives will be approximately 16 feet in width and total approximately 60,854 feet (11.5 miles) in length. The access road lengths may change with final Project design. Landowners may choose to retain the access roads at

DECOMMISSIONING PLAN
LOGAN COUNTY SOLAR PROJECT, LOGAN COUNTY, KENTUCKY

completion of the Project; however, to be conservative, the decommissioning estimate assumes that all inner site access roads will be removed.

During installation of the Project, site access drives will be excavated to remove topsoil, the subgrade will be compacted, and eight inches of aggregate fill will be placed. Geotextile fabric will be placed beneath the gravel for the length of each access road. The estimated quantity of these materials is provided in Table 2.

Table 2 Typical Access Road Construction Materials

Item	Quantity	Unit
Aggregate fill, 8-inch thick – to be removed	24,040	Cubic Yards
Geotextile	108,185	Square Yards

Decommissioning activities include the removal and stockpiling of aggregate materials onsite for salvage preparation. It is conservatively assumed that all aggregate materials will be removed from the Project site and hauled up to five miles from the Project area. Underlying geotextile fabric will also be removed during the decommissioning process. Fabric that is easily separated from the aggregate during excavation will be disposed of in an approved solid waste disposal facility. Fabric that remains with the aggregate will be sorted out at the processing site and properly disposed. Following removal of aggregate and geotextile fabric, the access road areas will be de-compacted with deep ripper or chisel plow (ripped to 18 inches), backfilled with native subsoil and topsoil, as needed, and graded as necessary.

3.0 LAND USE AND ENVIRONMENT

3.1 SOILS AND AGRICULTURAL LAND

Areas of the Project that were previously utilized for agricultural purposes will be restored to allow their pre-construction land use as dictated by landowner lease agreements. Soils compacted during de-construction activities will be de-compacted, as necessary. Land disturbed by Project facilities will be restored so it can be used in a reasonably similar manner to its original use prior to Project construction.

3.2 RESTORATION AND REVEGETATION

Areas of the Project that have been excavated and backfilled will be graded as previously described. If present, drain tiles that have been damaged will be restored to pre-construction condition. Restored areas will be revegetated in consultation with the current landowner and in compliance with regulations in place at the time of decommissioning. Work will be completed to comply with the conditions agreed upon by Russellville and the County or as directed by Kentucky Public Service Commission regulations in affect at the time of decommissioning.

If permitted by the landowner who retains control of the land following decommissioning of the Project, Russellville will monitor the site and ensure revegetation has been completed.

3.3 SURFACE WATER DRAINAGE AND CONTROL

The proposed Project is predominantly located on agricultural land. The Project facilities are being sited to avoid impacts to wetlands and waterways. Surface water conditions at the Project site will be reassessed prior to the decommissioning phase.

Russellville will obtain the required water quality permits from the Kentucky Energy and Environmental Cabinet (KEEC) and the U.S. Army Corps of Engineers (USACE), if needed, before decommissioning of the Project. Decommissioning construction stormwater permits will also be obtained, and a Project Stormwater Pollution Prevention Plan (SWPPP) will be completed prior to the commencement of decommissioning construction activities. The SWPPP will describe protections needed to reflect conditions present at the time of decommissioning. BMPs may include enhancement of construction entrances, temporary seeding, permanent seeding, mulching (in non-agricultural areas), erosion control matting, silt fence, filter berms, and filter socks.

3.4 MAJOR EQUIPMENT REQUIRED FOR DECOMMISSIONING

The activities involved in decommissioning the Project include removal of the above and below-ground components of the Project, and restoration as described in Sections 2, 3.1 and 3.2.

DECOMMISSIONING PLAN
LOGAN COUNTY SOLAR PROJECT, LOGAN COUNTY, KENTUCKY

Equipment required for the decommissioning activities is similar to what is needed to construct the solar facility and may include, but is not limited to: small cranes, low ground pressure (LGP) tracked excavators, backhoes, LGP tracked bulldozers, LGP off-road end-dump trucks, front-end loaders, deep rippers, water trucks, disc plows and tractors to restore subgrade conditions, and ancillary equipment. Standard dump trucks may be used to transport material removed from the site to disposal facilities.

4.0 DECOMMISSIONING NET COST ESTIMATE SUMMARY

Expenses associated with decommissioning the Project will be dependent on labor costs at the time of decommissioning. For the purposes of this report, 2022 average market values were used to estimate labor expenses. Fluctuation and inflation of the labor costs were not factored into the estimates.

The value of the individual components of the solar facility will vary with time. In general, the highest component value would be expected at the time of construction with declining value over the life of the Project. Over most of the life of the Project, components such as the solar panels could be sold in the wholesale market for reuse or refurbishment. As efficiency and power production of the panels decrease due to aging and/or weathering, the resale value will decline accordingly. Secondary markets for used solar components include other utility scale solar facilities with similar designs that may require replacement equipment due to damage or normal wear over time; or other buyers (e.g., developers, consumers) that are willing to accept a slightly lower power output in return for a significantly lower price point when compared to new equipment.

4.1 DECOMMISSIONING RISK OVER THE LIFECYCLE OF A PROJECT

The probability of an event that would lead to abandonment or long-term interruption is extremely low during the first 15 to 20 years of the Project life. Accordingly, the risk of decommissioning the Project is extremely low during this time frame. The reasons why the risk to decommission the Project is extremely low in the early phases of the Project include, but are not limited to, the resale value of the facilities; power purchase agreements in place; manufacturer warranties on components; property damage and business interruption insurance coverage; and the value of renewable energy in general in the current market.

4.2 DECOMMISSIONING EXPENSES

Project decommissioning will incur costs associated with disposal of components not sold for salvage, including materials which will be disposed of at a licensed facility, as required. Decommissioning costs also include backfilling, grading and restoration of the Project site as described in Sections 2 and 3. Table 3 summarizes the estimates for activities associated with the major components of the Project.

Table 3 Estimated Decommissioning Expenses

Activity	Unit	Quantity	Cost per Unit	Total
Overhead and management (Years 1 – 10; includes estimated permitting required and public road repairs) ¹	Lump Sum	1	10%	\$1,176,000
Overhead and management (Years 11 through end of life; includes estimated permitting required)	Lump Sum	1	10%	\$940,000
Solar modules; disassembly and removal (Years 1 – 10; includes additional handling time for module resale) ¹		513,342	\$9.20	\$4,722,746
Solar modules; disassembly and removal (Years 11 through end of life)	Each	513,342	\$4.60	\$2,361,373
Tracking System disassembly and removal (equivalent full trackers)	Each	5,704	\$710.00	\$4,049,840
Steel pile/post removal	Each	80,552	\$9.70	\$781,354
Remove buried AC cable	Linear Feet	414,150	\$0.83	\$343,745
Inverter removal with foundation	Each	58	\$1,820	\$105,560
Access road excavation and removal	Lump Sum	1	\$323,250	\$323,250
Perimeter fence removal	Linear Feet	91,622	\$2.80	\$256,542
Topsoil replacement for roads and rehabilitation of site	Lump Sum	1	\$873,000	\$873,000
O&M Trailer	Each	1	\$5,000	\$5,000
Project substation	Each	1	\$300,000	\$300,000
Total Estimated Decommissioning Cost (Years 1 through 10)				\$12,937,037
Total Estimated Decommissioning Cost (Years 11 through end of Project life)				\$10,339,664

¹ Removal cost for solar modules destined for resale includes premium for careful handling.

4.3 POTENTIAL DECOMMISSIONING REVENUES

A summary of potential revenue to be realized from resale or salvage of facility components and materials is included in this report. Modules and other solar plant equipment can be sold within a secondary market for re-use. As described previously and below, the value of the decommissioned components will be higher in the early stages of the Project and decline over time. Resale of components such as solar panels is expected to be greater than salvage (i.e., scrap) value for most of the life of the Project. As a conservative valuation in this report, the revenue of modules through resale is only considered during the first 10 years of Project life,

DECOMMISSIONING PLAN
LOGAN COUNTY SOLAR PROJECT, LOGAN COUNTY, KENTUCKY

although they would likely have resale value beyond the tenth anniversary of Project commissioning.

A current sampling of reused solar modules indicates a wide range of pricing depending on age and condition (\$0.10 to \$0.30 per watt). Future pricing of solar panels is difficult to predict at this time, due to the relatively young age of the market, changes to solar panel technology, and the ever-increasing product demand. A conservative estimation of the value of installed solar panels at \$0.10 per watt would yield approximately \$24,000,000.

The summary provided in **Table 4** includes the estimated module resale value, incorporating conservative considerations, such as:

- A starting resale price of \$0.10 per watt;
- An estimated 5% per year straight-line depreciation rate;
- Additional cost of careful handling of modules for resale;
- A module quantity reduction of 7% for assumed damage during removal or shipping; and
- An additional 15% decrease in total value to account for unforeseen factors.

The resale value of components such as trackers, may decline more quickly; however, the salvage value of the steel that makes up a large portion of the tracker is expected to stay at or above the value used in this report. Therefore, trackers are only considered for salvage value and not for the possible additional income associated with resale.

The market value of steel and other materials fluctuates daily and has varied widely over the past five (5) years. Salvage value estimates were based on an approximate five-year-average price of steel and copper derived from sources including on-line recycling companies and United States Geological Survey (USGS) commodity summaries. The price used to value the steel used in this report is \$241 per metric ton; aluminum at \$0.40 per pound; silicon at \$0.40 per pound and glass at \$0.05 per pound.

The main material of the tracking system and piles is assumed to be salvageable steel. The main components of the solar modules are glass and silicon with aluminum framing. After the tenth anniversary of Project commissioning, it is conservatively assumed that facility components would no longer be sold in the resale market, rather they would be sold for their salvage (material recycling) value only. A 50 percent recovery rate was assumed for all panel components, due to the processing required to separate the panel components. Alternative and more efficient methods of recycling solar panels are anticipated before this Project is decommissioned, given the large number of solar facilities that are currently being developed.

Table 4 summarizes the potential resale value for the solar modules and estimated salvage value of trackers and piles during the first 10 years of the Project.

DECOMMISSIONING PLAN
 LOGAN COUNTY SOLAR PROJECT, LOGAN COUNTY, KENTUCKY

Table 4 Estimated Decommissioning Revenues – with Resale of Solar Modules

Item (Module Resale Revenue)	Units	Watts per Module	Accumulated Depreciation	Value per Unit ¹	Total Value per Item ²	Number of Items ³	Total (Value at 85%) ⁴
Year One	Watts	465	2.50%	\$0.0975	\$39.34	477,408	\$15,964,046
Year Two			7.50%	\$0.0925	\$37.01	477,408	\$15,018,540
Year Three			12.50%	\$0.0875	\$34.69	477,408	\$14,077,091
Year Four			17.50%	\$0.0825	\$32.36	477,408	\$13,131,584
Year Five			22.50%	\$0.0775	\$30.04	477,408	\$12,190,136
Year Six			27.50%	\$0.0725	\$27.71	477,408	\$11,244,629
Year Seven			32.50%	\$0.0675	\$25.39	477,408	\$10,303,181
Year Eight			37.50%	\$0.0625	\$23.06	477,408	\$9,357,674
Year Nine			42.50%	\$0.0575	\$20.74	477,408	\$8,416,226
Year Ten			47.50%	\$0.0525	\$18.41	477,408	\$7,470,719
Salvage Value Only of Steel and Main Power Transformer							
Item	Units	Quantity per Unit	Value per Unit	Total Value per Item	Number of Items	Total Value	
Tracking System and Piles	Metric tons per MW _[DC]	32.0	\$241	\$7,712	203.47	\$1,850,957	
Substation Components						\$50,000	
Total Potential Revenue – Year Five Estimate						\$14,091,093	
Total Potential Revenue –Year Ten Estimate						\$9,371,676	

¹ 5.0% annual straight-line depreciation rate over 10 years (2.5% first year)

² Net of packaging and shipping charges

³ Approximate 7% damage rate at time of removal

⁴ Eighty-five percent of total estimated value for solar module resale

Table 5 summarizes the estimated potential salvage value for the solar array components and construction materials beyond Year 10 with no resale.

Table 5 Estimated Decommissioning Revenues – Salvage Value Only

Item	Unit of Measurement	Quantity per Unit	Salvage Price per Unit	Total Salvage Price per Item	Number of Items	Total
Panels - Silicon	Pounds per Panel	1.9	\$0.40	\$0.760	513,342	\$390,140
Panels - Aluminum	Pounds per Panel	3.0	\$0.40	\$1.200	513,342	\$616,010
Panels - Glass	Pounds per Panel	28.1	\$0.05	\$1.405	513,342	\$721,246
Collection Cabling - Aluminum	Pounds per foot		\$0.19	\$0.190	414,150	\$78,689
Tracking System and Posts	Metric tons per MW _[DC]	32.0	\$241	\$7,712	240.01	\$1,850,957
Substation	Each	1	\$50,000	\$50,000	1	\$50,000
Total Potential Salvage Revenue						\$3,707,042

* Revenue based on salvage value only. Revenue from used panels at \$0.10 per watt could raise \$24,001,000 as resale versus the estimated salvage revenue.

4.4 DECOMMISSIONING COST SUMMARY

Table 6 provides a summary of the estimated cost to decommission the Project, using the information detailed in Sections 4.2. Estimates are based on 2022 prices, with no market fluctuations or inflation considered.

Table 6 Net Decommissioning Cost Summary Estimate

Item	Net (Cost) or Revenue – Year 5	Net (Cost) or Revenue – Year 10	Net (Cost) or Revenue – End of Life
Decommissioning Expenses	(\$12,937,037)	(\$12,937,037)	(\$10,339,664)
Potential Panel Revenue (resale value of modules through year 10)	\$12,190,136	\$7,470,719	
Potential Panel Revenue (salvage of modules at end of life)			\$1,727,396
Salvage Value of Steel and Project Substation Transformer	\$1,900,957	\$1,900,957	\$1,900,957
Salvage Value of Aluminum Cable	\$78,689	\$78,689	\$78,689
Estimated Net Decommissioning (Cost) or Revenue	\$1,232,745	(\$3,486,672)	(\$6,632,622)

4.5 FINANCIAL ASSURANCE

Russellville shall be required to file a bond, equal to the amount necessary to effectuate the explicit decommissioning plan naming Logan County as a third-party (or secondary, in addition to individual landowners) beneficiary, in addition to the owners of the subject property insofar as the landowner agreements contain a decommissioning bonding requirement, so that Logan County will have the authority to draw upon the bond to effectuate the decommissioning plan. For land in which there is no bonding requirement otherwise, Logan County shall be the primary beneficiary of the decommissioning bond for that portion of the Project.

The bond(s) shall be filed with the Logan County Treasurer or with a bank, title company, or financial institution reasonably acceptable to the County. That acceptance can be evidenced by a letter from the Judge Executive, the fiscal court, or the County Attorney. The bond shall be in place at the time of the Project's commencement of operations.

The bond amount shall be reviewed every five years at Russellville's expense to determine and update the removal cost. This review shall be conducted by an individual or firm with experience or expertise in similar types of facility removal or decommissioning costs. Certification of this review shall be provided to the County and the Logan County Fiscal Court. Such certification shall be by letter and shall include the current amount of the anticipated bond and any change in the costs of removal or decommissioning, as well as any changes in revenue calculation.

As described in Section 4.0, decommissioned component values will be higher in the Project's early stages and decline over time. Accounting for resale values in Year 5 (the next date the bond amount will be reviewed), the total cost to decommission the Project is estimated to be approximately \$12.9 million, the estimated resale value is estimated to be \$14.1 million, and the net decommissioning revenue is estimated to be \$1.23 million.

Silicon Ranch proposes to file a bond in the amount equivalent to the midpoint between the Year 5 value (revenue of \$1,232,745) and the Year 10 value (cost of \$3,486,672), equaling \$1,126,964. The estimate will be reviewed and updated at Year 5.

DECOMMISSIONING PLAN
LOGAN COUNTY SOLAR PROJECT, LOGAN COUNTY, KENTUCKY

Figure 1 Proposed Project Layout

