



Review of Counties Solar Decommissioning Requirements in Virginia

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Version 3

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Summary

In this updated, third version of this report, SolUnesco has continued its review of county ordinances and solar generating facilities county permits. The goal of this ongoing effort is to provide a comprehensive review of the requirements imposed by counties in the Commonwealth of Virginia related to the decommissioning of solar generating facilities. At this point, SolUnesco has identified and reviewed zoning ordinances that include specific decommissioning requirements from 15 counties. Also, SolUnesco has also examined the decommissioning conditions that a county has required as part of an approved permit (26 permits) or proposed by the project in an ongoing permitting hearing (5 applications).

In this review, SolUnesco has found 31 instances where a county explicitly requires a decommissioning plan, which typically includes: (a) the anticipated life of the project; (b) the estimated decommissioning cost in current dollars; (c) how said estimate was determined; (d) the manner in which the project will be decommissioned; and (e) a surety, in a form acceptable to the County Attorney, sufficient to cover the cost of decommissioning the solar energy facility.

Financial Security

Most counties incorporate requirements that the decommissioning costs be secured by an adequate surety. In 35 instances counties require financial security while allowing for a letter of credit, cash, or a guarantee by an investment grade entity. This cost is usually posted within 30 days of the project receiving its occupancy permit. Only Mecklenburg County limits the financial security to cash escrow, and this requirement came after it approved three projects without the cash escrow requirement.

Decommissioning Cost Estimates

Many county ordinances and individual solar permits have addressed salvage value in the decommissioning cost estimates. The Code of Virginia recognizes salvage value and most Virginia counties either explicitly allow for salvage value, or the relevant ordinances or permits are silent. Counties that eliminate salvage value from the calculation create a financial barrier to projects in their county for little to arguably no benefit. We suggest that rather than disallowing 100% of the salvage value, there are multiple alternatives which address fluctuations in market prices and changes in technology which both will impact the final net decommissioning costs.

Virginia Code recognizes salvage value both in the removal of utility equipment and in commercial transactions. In § 33.2-308. *Additional provisions on relocation or removal of utility facilities within projects on Interstate System*, Virginia's Code states the following:

"Cost of relocation or removal" includes the entire amount paid by such utility properly attributable to such relocation or removal after deducting therefrom any increase in the value of the new facility and **any salvage value derived from the old facility**.

In § 8.2-604. *Buyer's options as to salvage of rightfully rejected goods*, Virginia's Uniform Commercial Code states the following:

Subject to the provisions of the immediately preceding section [§ 8.2-603] on perishables if the seller gives no instructions within a reasonable time after notification of rejection **the buyer may** store the rejected goods for the seller's account or reship them to him **or resell them for the seller's account** with reimbursement as provided in the preceding section. Such action is not acceptance or conversion.

In § 8.2-704. *Seller's right to identify goods to the contract notwithstanding breach or to salvage unfinished goods*, Virginia's Uniform Commercial Code states the following:

(2) Where the goods are unfinished an aggrieved seller may in the exercise of reasonable commercial judgment for the purposes of avoiding loss and of effective realization either complete the manufacture and wholly identify the goods to the contract or cease manufacture and **resell for scrap or salvage value** or proceed in any other reasonable manner.

Most of the counties that we have examined are silent on the inclusion of "salvage value," in the calculation of net decommissioning costs, in their zoning ordinances. There are several instances in our analysis where solar projects have requested salvage value credit in the application and the county has not weighed in. Seven counties have mentioned the requirement for inclusion of salvage value credit in the decommissioning cost estimate. In three instances the counties have adopted an approach that both recognizes salvage value and protects against fluctuations in salvage value using the following methodology: reducing salvage value by 20% while increasing the gross cost estimate by 20%. In one instance the county applied a 10% reduction in Salvage Value. Only two counties have explicitly disallowed for the inclusion of salvage value. Halifax has enforced this through conditions on several projects, Mecklenburg added a prohibition against netting out salvage value to their ordinance, but Mecklenburg has permitted three projects where the permits did not exclude the netting out of salvage value from the decommissioning cost estimate.

To address inflation and other changes to market conditions, most counties include a mechanism for calculating changes in the removal costs. In 21 instances counties require the decommissioning cost estimate to be updated every five years.

In 10 instances, the counties require that the project provide a decommissioning plan and associated cost estimates before the approval of a site plan or building permit, but after the issuance of the county zoning permit. One county did not address decommissioning requirements in their permit for a solar generating facility.

SolUnesco recognizes that counties should protect their citizens from a scenario whereby the solar generating facility owner for whatever reason fails to decommission the facility at the end of its useful life. We agree that adequate financial security needs to be available to ensure the county can take over the decommissioning process. However, eliminating salvage value is neither necessary nor beneficial to the county given the alternatives. We recommend using the combination of the following requirements

- financial security in the form of surety bond, letter of credit or cash escrow held by a federally insured financial institution.

- updated decommissioning costs and salvage value projections every five years and including a mechanism for truing up the security
- a reserve factor(s) to the projections to protect against changes in market values
- a detailed decommissioning plan with a documented decommissioning costs and salvage value projections that is either produced by a licensed engineer or reviewed by a licensed engineer
- a process to require decommissioning if the solar energy system is no longer operational

This analysis is an ongoing study and will continue to be updated as new information is made available.

Breakdown of County Policy and Precedents

Counties with zoning ordinances and/or approved permits that are silent on salvage value

Albemarle County	James City
Appomattox County	Louisa County
Buckingham County	Middlesex County
Charlotte County	New Kent County
Clarke County	Northampton County
Gloucester County	Powhatan County
Hanover County	Prince George County
Henrico County	Suffolk County
	Westmoreland County

Counties with zoning ordinances and/or approved permits that have factored salvage value

Accomack County	Southampton County
King William County	Surry County
Orange County	Sussex County

Counties with zoning ordinances and/or approved permits that do not factor salvage value

Halifax County	Mecklenburg County
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Counties with zoning ordinances and/or approved permits that allow non-cash financial assurances for decommissioning

Accomack County	Louisa County
Appomattox County	Middlesex County
Buckingham County	New Kent County
Campbell County	Northampton County
Caroline County	Orange County
Charlotte County	Pittsylvania County
Culpeper County	Powhatan County
Gloucester County	Prince George County
Halifax County	Spotsylvania County
Henrico County	Southampton County
James City	Suffolk County
King William County	Sussex County

Counties with zoning ordinances and/or approved permits that require cash assurance for decommissioning

Mecklenburg County [three projects were approved without the requirement for a cash escrow]

Zoning Ordinances

Campbell County, Zoning Ordinance

When the land involved qualifies as a solar energy project, a decommissioning plan, which may include the **anticipated life of the project**, the estimated **cost of decommissioning**, **how such an estimate was determined**, and the **manner in which the project will be decommissioned**. The applicant shall provide a **performance bond or other agreed-upon secured funding** sources payable to the Board of Supervisors in a form **approved by the County Attorney** to ensure that performance obligations are satisfied, up to and including the costs for decommissioning, **unless the Board of Supervisors specifically waives the requirement in an approval of the special use permit**. When a solar energy project is scheduled to be abandoned, the facility owner or operator shall notify the Zoning Administrator in writing prior to ceasing operations and shall provide a schedule for implementation of the decommissioning plan. If any solar energy project is **not operated for** a continuous period of one **(1) year**, or if the **work** called for in the **decommissioning plan fails to progress in a timely manner**, the Board of **Supervisors may take any necessary action to compel the physical removal** of the solar energy project in compliance with the decommissioning plan after written notice is provided to the project owner by certified mail. **The project owner shall have thirty (30) days from the date of the letter to provide a written explanation of the inactivity** and to request a delay in action by the Board of Supervisors.

Caroline County, Draft Ordinance

A **decommissioning bond in an amount to be determined by a registered design professional and approved by staff shall be required prior to final site plan approval**.

The decommissioning bond shall be re-**evaluated every 5 years** from start of operations and updated accordingly to reflect inflation. All reclamation/decommissioning efforts shall be **completed, no later than two (2) years from the date the facility ceases to generate electricity**, in accordance with the Applicant's reclamation plan and be returned to a pre-development state.

Charlotte County, Zoning Ordinance

1. At the expense of the permittee, a **cost estimate for the decommissioning of the facility shall be prepared by a professional engineer** or contractor who has expertise in the removal of the solar facilities. The **decommissioning cost estimate** shall explicitly detail the cost and shall include a mechanism for calculating increased removal costs due to inflation. The decommissioning cost shall be guaranteed by **escrow, surety bond or other means** before any construction commences. If the owner or operator of the solar facility **fails to remove the installation in accordance with the requirements** of this permit or within the proposed date of decommissioning, the County may collect the bond or other surety and the County or hired third party may enter the property to physically remove the installation.

2. Utility Scale Solar Energy Systems which have reached the end of their useful life or have not been in active service for a period of **one (1) year shall be removed at the owner or operator's expense**. This period may be extended by the Zoning Administrator if evidence is provided that the delay is due to circumstances beyond the owner or operator's reasonable control.

3. The owner or operator shall **notify the Zoning Administrator** by certified mail of the proposed date of discontinued operations and plans for removal.
4. The owner or operator shall have **twelve (12) months** to complete decommissioning of the solar facility.
5. Decommissioning shall include **removal of all solar electric systems, buildings, cabling, electrical components, security barriers, roads, foundations, pilings, and any other associated facilities**, so that any agricultural ground upon which the facility and/or system was located is again tillable and suitable for agricultural uses. Disturbed earth shall be graded and re-seeded unless the land owner requests in writing that the access roads or other land surface areas not be restored. Hazardous material from the property shall be disposed of in accordance with federal and state law.

Culpeper County, Draft Utility Scale Solar Development Policy

The applicant shall provide a decommissioning plan to ensure that property will be returned to its original condition upon closure of any facility, or at the end of its useful life. **Decommissioning shall be guaranteed by a surety, performance bond, etc. to be approved by the County Attorney and in accordance with any adopted County policy.**

Decommissioning of facility.

Either at the end of its **lifespan** or in the event of **inactivity for more than two consecutive years**. In **general, all panels and pilings not be anchored with concrete footings so as to aid in removal after the life of the facility.**

- a. Notice of inactivity- The **applicant or owner shall be responsible for notifying the Zoning Administrator within 30 days of the facility becoming inactive** or no longer producing electric power. Notification shall be provided in writing.
- b. **Failure to return the facility to an active status and producing electric power for two consecutive years shall constitute grounds for special use permit revocation.**
- c. Decommissioning process- upon completion of the facility's lifespan or following revocation of the special use permit, the facility shall be decommissioned, and **returned to the condition prior to construction of the facility; including removal of all equipment and debris.**
- d. **Trenches or other borings or excavations** made in association with the facility **shall be filled and compacted**
- e. **All wetland protections, natural vegetation, erosion control, and stormwater features shall remain in place.**
- f. The Applicant or owner shall **provide a decommissioning plan** to staff and obtain all required permits prior to conducting decommissioning activities.
- g. All **decommissioning activities shall be completed within six (6) months** of providing notice of inactivity.

h. If the facility is not removed within the specified time after the County Notice, the County may cause the removal of the facility with costs being borne by the project owner.

i. A surety agreement and surety in a form acceptable to the County Attorney shall be submitted at the time of construction permit. The surety amount shall be reviewed every 5 years and adjusted according to inflation.

Gloucester County, Zoning Ordinance

A **decommissioning plan**, which shall include the following: (1) the **anticipated life of the project**; (2) the **estimated decommissioning cost in current dollars**; (3) how said **estimate was determined**; (4) the **manner** in which the project **will be decommissioned**; and (5) a **surety**, in a form **acceptable** to the **County Attorney**, sufficient to cover the cost of decommissioning the solar energy facility. The complete decommissioning plan shall be submitted for review concurrent with the site plan.

i. The decommissioning **surety** shall be **posted prior to obtaining a land disturbance permit (LDP)** for the project; or ii. In the case of a multi-phase project, a separate decommissioning surety may be submitted prior to land disturbance permitting for each individual phase of the project.

Halifax County, Ordinance Amendment

(d) decommissioning plan; security

The applicant shall provide a **detailed decommissioning plan** that provide **procedures and requirements** for **removal of all parts** of the solar energy generation facility and its various structures at the end of the useful life of the facility or if it is deemed abandoned pursuant to section 53-160. The plan shall include the anticipated life of the facility, the **estimated overall cost of decommissioning** the facility in current dollars, the **methodology** for determining such estimate, and the **manner in which the project will be decommissioned**. The decommissioning plan and the estimated decommissioning cost will be **updated upon the request of the zoning administrator**, provided the update shall be **no more frequently** than once **every five years** and **no less frequently** than once **every ten years**.

(ii) Prior to operation, the **applicant must provide security in the amount of the estimated cost of the decommissioning**. **Options for security** include a **cash escrow**, a **performance surety bond**, a **certified check**, an **irrevocable letter of credit**, or **other security acceptable to the county** in an amount equal to the estimated decommissioning cost developed and updated in accordance with the decommissioning plan acceptable to the county. The security must remain valid until the decommissioning obligations have been met. The **security may be adjusted up or down by the county if the estimated cost of decommissioning the facility changes**. The security must be renewed or replaced if necessary to account for any changes in the total estimated overall decommissioning cost in accordance with the periodic updated estimates required by the decommissioning plan. Obtaining and maintaining the requisite security will be a mandatory condition of the conditional use permit. The **security shall be in favor of Halifax County and shall be obtained and delivered to the county before any construction commences**.

(iii) The **decommissioning plan, cost estimates, and all updates of those plans and estimates shall be sealed by a Professional Engineer**.

King William, Zoning Ordinance

Decommissioning. Any solar power station that is not in active use for a continuous period of **24 months** shall be considered abandoned, and the owner of any such facility, the land owner of the property on which a station is located upon or their successors or assigns shall **remove the facilities within six months of receipt of notice from the county**. Decommissioning includes the removal of the solar systems, buildings, cabling, electrical components, roads, foundations, pilings, and fencing to a depth of **36 inches**. Any agricultural land upon which the facility was located shall be restored to tillable soil suitable for agricultural use, forestry, ponds and/or wetlands. The **zoning administrator** may permit the fence, underground cables, roads and support buildings to remain with the property owner's approval so long as they continue to be screened as required. When a facility is deemed to be abandoned, an owner **wishing to extend the time for removal shall submit an application** stating the reason for such extension. The zoning administrator **may extend the time for removal** or reactivation up to an **additional six months** upon a showing of good cause. If the facility is not removed within the specified time, the county may contract for removal. Thereafter, the **county may cause removal of the facility** with costs being borne by the owner of the facilities and/or the land owner. All costs there of shall be **charged to the landowner** and become a lien on the property on which the facility was located. The owner of the facility shall secure the costs of decommissioning by providing and keeping in force a **decommissioning agreement and financial surety in a form agreed to by the county attorney**. The owner of the facilities shall every **five years submit updated cost estimates for decommissioning** the facilities and scrap value, adjusted for **changes in inflation, scrap value** and other factors. At its option, the county may require the **surety amount be increased based on the net cost of decommissioning**.

Mecklenburg County, Zoning Ordinance

(f) Decommissioning plan

A detailed decommissioning plan, **certified by an engineer**, which shall include the following: (1) The **anticipated life** of the project;

- (2) The **estimated decommissioning cost in current dollars**;
- (3) How **said estimate was determined**;
- (4) The **method of ensuring that funds will be available** for decommissioning and removal;
- (5) The **method that the estimated decommissioning cost will be kept current**; and
- (6) The manner in which the project will be decommissioned, and the site restored. The applicant shall provide a cost estimate for the decommissioning of the facility shall be **prepared by a professional engineer or contractor who has expertise in the removal of the solar farm**. The decommissioning cost estimate shall explicitly detail the cost and shall include a **mechanism for calculating increased removal costs due to inflation and without any reduction for salvage value**. This cost estimate shall be recalculated every five (5) years and the surety shall be updated in kind.

(g) A proposed method of providing **appropriate escrow, surety or security** for the cost of the decommissioning plan.

20.8 DECOMMISSIONING

The following requirements shall be met:

(a) Solar facilities which have **reached the end of their useful life** or have **not** been in **active and continuous service for a period of one (1) year** shall be removed at the owner's or operator's expense...

(d) The site shall be **re-graded and re-seeded to as natural condition as possible** within 12 months of removal of solar facilities. Re-grading and re-seeding shall be initiated within a six-month period of removal of equipment.

(e) Decommissioning shall be **performed in compliance** with the **approved decommissioning plan**...

(g) The estimated cost of decommissioning shall be guaranteed by the deposit of funds in an amount equal to the estimated cost in an escrow account at a federally insured financial institution approved by the County.

- i. The applicant shall deposit the required amount into the **approved escrow account** before any building permit is issued to allow construction of the solar facility.
- ii. The **escrow account agreement shall prohibit the release of the escrow funds without the written consent of the County**. The County shall consent to the release of the escrow funds upon on the owner's or occupant's compliance with the approved decommissioning plan. The County may approve the partial release of escrow funds as portions of the approved decommissioning plan are performed.
- iii. The **amount of funds required to be deposited in the escrow account shall be the full amount of the estimated decommissioning cost without regard to the possibility of salvage value**.
- iv. The owner or occupant shall **recalculate** the estimated cost of decommissioning **every five years**. If the recalculated estimated cost of decommissioning exceeds the original estimated cost of **decommissioning by ten percent (10%), then the owner or occupant shall deposit additional funds into the escrow account to meet the new cost estimate. If the recalculated estimated cost of decommissioning is less than ninety percent (90%) of the original estimated cost of decommissioning, then the County may approve reducing the amount of the escrow account to the recalculated estimate of decommissioning cost**.
- v. The **County may approve alternative methods** to secure the availability of funds to pay for the decommissioning of a utility-scale solar facility, **such as a performance bond, letter of credit, or other security approved by the County**.

(h) If the owner or operator of the solar facility **fails to remove the installation** in accordance with the requirements of this permit or within the proposed date of decommissioning, the **County may collect the surety and the County or hired third party may enter the property to physically remove the installation**.

Middlesex County, Zoning Ordinance

If the Solar Energy Facility is **inactive, completely or substantially discontinuing the delivery of electricity** to an electrical grid) for a **continuous twenty-four (24) month** period it shall be considered abandoned. The Applicant shall provide notice to County Staff immediately upon the site becoming inactive and/or shutting down operation. The current owner of the Project ("Project Owner") shall **remove** the facilities ("**decommissioning**") **within twelve (12) months of receipt of notice** from the County ("County Notice"). **If the facility is not removed** within the specified time after the County Notice, the **County may cause the removal** of the solar energy farm with **costs being borne by the Project Owner**.

Unless the solar energy farm is owned by a public service corporation in the Commonwealth of Virginia, the **costs of decommissioning shall be secured by an adequate surety in a form agreed to by the County Attorney, including but not limited to a letter of credit, cash, or a guarantee by an investment grade entity**. If the solar energy farm is sold to any entity that is not a public service corporation, the **Special Exception shall not transfer to the purchaser until such time as the adequate surety is provided**. If surety is required, the cost estimates of the decommissioning shall be **updated every five (5) years** and provided to the County. At its option, the **County may require the surety amount be increased based on the net cost of decommissioning**.

The **Solar Energy Facility shall be deconstructed and removed within twelve (12) months** of the time the Solar Site is permanently decommissioned. As used herein "deconstructed and removed" shall mean

- i. the **removal from the surface of the Property, any Project facilities installed or constructed thereupon, including permanent foundations up to 3 feet below ground surface,**
- ii. the filling in and compacting of all trenches or other borings or excavations made in association with the Solar Facility, and (iii) the removal of all debris caused by the solar facility from the surface of the property. All decommissioning shall be subject to all applicable permits and authorizations as they may relate at the time of decommissioning.

Northampton County, Zoning Ordinance

All broken or waste solar modules shall be removed from the site within 60 days of being taken out of service.

Removal of abandoned solar generating equipment:

(1) **A bond, whose amount shall be determined by the Director of Planning,** shall be required to assure removal of an unused solar energy power generating system.

(2) Any solar energy power generating system that has **not operated for a continuous period of 12 months shall be considered unused and abandoned**. The **owner** of an unused system **shall remove** the entire system **within six months** of receipt of notice from Northampton County notifying the owner of the equipment removal requirement. Removal includes removing **any underground structures or supports and electrical transmission wire**. All materials must be legally removed from the site. The site shall be **restored to its original condition after removal is complete**.

Pittsylvania County, Zoning Ordinance

Sec. 35-141(E) Decommissioning Requirements for Large and Utility Scale Solar Energy Facilities

The owner or operator of a large or utility scale solar energy facility shall completely **decommission a facility within 12 months if the facility ceases to generate electricity for a continuous period of 12 months**. This period may be extended by the Board of Zoning Appeals if the owner or operator provides evidence that the failure to generate electricity is due to circumstances beyond their control and the facility has not been abandoned.

Decommissioning shall include the **removal of all solar collectors, cabling, electrical components, fencing and any other associated equipment, facilities and structures to a depth of at least 36 inches and stabilization of the site**.

A **decommissioning plan** shall be submitted, which shall include the following:

- (1) the **anticipated life** of the project;
- (2) the **estimated decommissioning cost in current dollars**;
- (3) how said **estimate was determined**; and
- (4) the **manner in which the project will be decommissioned**. As allowed by Section 35-714 of the Pittsylvania County Zoning Ordinance, the Board of Zoning Appeals shall require a **bond with surety or other approved security to ensure compliance with conditions imposed in a Special Use Permit**. The plan shall acknowledge that if at any time the project is declared to be an unsafe structure by the Pittsylvania County Building Code Official, the terms of the “unsafe structure” code shall apply.

Prince George, Zoning Ordinance Amendment

A **decommissioning plan**, which shall include the following: (1) the **anticipated life of the project**; (2) the **estimated cost of decommissioning** in the future as expressed in current dollars; (3) **how said estimate was determined**; and (4) the **manner in which the project will be decommissioned**; (5) the **name and physical address of the person or entity responsible** for decommissioning.

Spotsylvania County, Zoning Ordinance

(10) Site(s) identified for SEF (Solar Energy Facility) use within the construction phasing plan shall be **remediated, whether revegetated, resoiled, or regraded, or any combination thereof as described within the decommissioning plan**.

(11) As part of the SEF application, the applicant shall **submit a decommissioning plan** executed and notarized by the landowner(s), applicant, and any other responsible party, and such plan shall include the following:

- a. Identification of and full contact information for the party or parties, if any, other than the landowner(s) and the applicant responsible for decommissioning the site;

- b. The **timeline and manner in which** the SEF will be decommissioned, and the site(s) restored to a **condition reasonably similar to the condition prior to development**;
- c. The **estimated decommissioning cost in current dollars of each phase described in the construction phasing plan**;
- d. The **estimated cost of post-decommissioning site restoration**. The estimations of the decommissioning costs shall be **calculated by a licensed engineer** and shall include all phases of decommissioning, **including land restoration**.

(12) The landowner(s) or applicant shall provide the county with a **surety equivalent to the cost of removal of the SEF prior to issuance of a site plan permit**. The surety may be in the form of a **bond, cash account, or cash escrow**. For phased projects, individual sureties may be provided coincident with each phase of the SEF's construction and the site restoration costs may be included incrementally with each phase. The sureties must include an **adjustment for inflation** over the anticipated life of the project as identified in the construction phasing plan.

(13) Commencing **two (2) years after the date of approval** of the SUP for a SEF, and after every **subsequent two (2) year period**, on the anniversary of the date of approval of the SUP, the **construction plan and decommissioning plan shall be updated and resubmitted to the County** and the decommissioning **surety shall be adjusted**, if necessary, to reflect the then **current decommissioning cost**.

(14) At such time that any component of the SEF exceeds **one (1) continuous year of inoperable status** it shall be considered **abandoned** and the applicant and landowner shall be notified by the zoning administrator of the date of the component's abandonment ("date of abandonment").

(15) Within **one (1) year of the date of abandonment**, the applicant or landowner shall **repair or replace the component or complete the physical removal of the abandoned component(s)**. This period may be **extended at the request of the applicant** or landowner upon **approval of the zoning administrator** based on the **scope, nature, and location** of the abandoned component(s) and their effect on the health, safety, and welfare of the county residents.

(16) If removal to the satisfaction of the county does not occur within **one (1) year from the date of abandonment** then the **county may remove and salvage the component(s) and all supporting equipment using the decommissioning surety**. Should the **surety fail to adequately fund the decommissioning** of the site(s) the **county will recover any difference**, including **attorney fees and any zoning violation fines**, if applicable, through **legal action** against the designated responsible party or parties identified in the decommissioning plan, applicant, and/or landowner(s) party to the SUP, and their respective successors and assigns.

(17) Should the county be **forced to use any of a decommissioning surety** to remove an abandoned component **no additional building permits or site plan permits shall be issued** pursuant to the operation of the SEF until a **new construction plan, decommissioning plan, and decommissioning surety have been submitted and approved by the county**.

(18) Any **change of ownership, lessee, or party** responsible for decommissioning of the SEF, or change in any part of the contact information shall be **reported to the zoning administrator within sixty (60) days** of the change(s).

Suffolk County, Zoning Ordinance

(c) DECOMMISSIONING OR ABANDONMENT

- (1) A **decommissioning plan** shall be provided **describing the removal** of the solar energy facility and **final land reclamation plan** to be followed after the anticipated useful life, or abandonment, or termination of the project, including **evidence of proposed commitments with affected parties (city, any lessor or property owner, etc.) that ensure proper final reclamation of the property**. Among other things, revegetation and road repair activities should be addressed in the plan.
- (2) In the event that **no electricity is generated** for a continuous period of **twenty-four (24) months**, the solar energy facility owner and/or operator and/or property owner shall have **three (3) months to complete decommissioning** of the facility.
- (3) **Decommissioning shall include removal of all solar panels and support structures, buildings, cabling, electrical components, roads, and any other associated facilities.**
- (4) **Disturbed earth shall be graded and re-seeded, unless the landowner requests in writing that the access roads or other land surface areas not be restored.**
- (5) A **performance surety**, in a form **approved by the city attorney** and in an **amount approved by the director**, shall be **submitted** by the applicant **prior to the issuance of a building permit** in order to insure removal of the solar energy facility when it is no longer to be used for solar generation.

Sussex County – BOS Minutes

The following is a draft of the Ordinance. SolUnesco has not been able to obtain the approved ordinance.

The **cost estimates of the decommissioning shall be updated every five (5) years** by an **independent consultant retained by the Project Owner and provided to the County**. The consultant shall be a **professional engineer** licensed in Virginia with expertise in the subject of decommissioning solar projects and shall be subject to the County's approval prior to being engaged by the Project Owner, which such approval shall not be unreasonably withheld. The consultant's reports will identify the **cost of decommissioning, taking into account any salvage value** of the installed equipment. The **surety amount will be increased or decreased based on such updated cost of decommissioning**, but the **surety shall not be below the minimum amount required by this condition**. The Project Owner shall be liable to the County for any deficiency if the bond amount does not fully fund the costs of decommissioning.

If the Project Owner intends to cease operations, or to shut down the project, it shall send the County Attorney written notice at least 90 days prior to such action and will provide, with such notice, a revised consultant's report. The then-**current owner** of the Project ("Project Owner") **shall remove the facilities** ("decommissioning") **within six (6) months** of receipt of notice from the County ("County Notice"). If the facility is not removed within the specified time after the County Notice, the **County may cause the removal of the solar energy facility with costs being borne by the Project Owner.**

Permits and Applications with Decommissioning Requirements

Accomack County – CUP Approval (Permit), Eastern Shore Solar

3. That a **decommissioning plan** (removal of equipment/improvements and restoration of lands) be submitted within **three (3) months of conditional use permit approval and is reviewed and approved by appropriate County staff including the County Attorney within six (6) months of Conditional Use Permit approval**. The decommissioning plan shall be executed by both parties prior to the issuance of any land disturbance permit by the County. In the event that staff and the applicant cannot agree to the terms of a decommissioning plan the matter will be forwarded to the Board of Supervisors for review and decision prior to the issuance of any land disturbance permit,

4. The decommissioning plan must contain the following elements in addition to those listed in both the proposed conditions (dated January 7, 2015) and exhibit '8' (dated November 3, 2014):

A. A **financial security** in a form approved by the County Attorney and in an amount determined by a **Virginia-licensed engineer**, established and maintained and updated **every five (5) years** to cover the cost of meeting this obligation.

B. Following establishment of full commercial operation, if commercial generation of power from this facility is discontinued for **longer than one year** (or otherwise upon the abandonment of this enterprise), **the owner and operator shall be jointly and severally liable for the removal** of all project equipment and full restoration of the property for agricultural use.

Eastern Shore Solar Approved Decommissioning Plan - October 6, 2015

I. Introduction

This Decommissioning Plan is for the Eastern Shore Solar Project (the “Project”) and shall be binding on each successor and assignee of Eastern Shore Solar LLC (“ESS”), the Project owner.

The purpose of this Decommissioning Plan is to **ensure the Project is properly removed at the end of the Project’s useful life**, or earlier if abandoned in whole or in part, and that the site is restored to pre-existing conditions, which is generally agricultural. Approval of this plan by the County is a requirement of the Conditional Use Permit.

A **Decommissioning Cost Estimate** will be provided for County review prior to the issuance of building permits and **updated every five years**.

This Plan also outlines the **posting of Decommissioning Security**, in a form reasonably acceptable to the County, to be established prior to the Project entering commercial operation.

II. Decommissioning Process

The expected life of the Project is thirty (30) years with extension possible upon mutual agreement with the landowners (“Project Life”). At the end of the Project Life or earlier in the event of Abandonment of all or a portion of the Project, ESS will decommission the Project or a portion thereof, as set forth below.

The decommissioning process for the project is generally expected to occur as follows (“Decommissioning”):

Please Note: It is expected, but not required, that most components of the Project will be salvageable/recyclable, re-usable or re-salable.

1. The **following items shall be removed**, disassembled (if applicable), packaged and shipped for re-sale or to a salvage/recycling facility or other processing facility where possible, or to a landfill for disposal.

- a. **PV Modules**
- b. **Racking System**
- c. **Foundations**
- d. **Electrical wiring/cabling**
- e. **Inverters/transformers/connector station**
- f. **Fencing**
- g. **Concrete Foundations**
- h. **Gravel from Gravel Access Drive**

2. **Dispose of any components in a landfill** that cannot be salvaged/recycled, re-sold or re-used.

3. **Stabilize any exposed soil where equipment was removed**, consistent with County and other applicable erosion and sediment control standards.

4. **Access drive paved aprons from public roads shall remain** for future use.

5. **Turf-grass shall be tilled into the soil**, unless written approval is provided by the landowner allowing ESS to leave the turf-grass in place.

6. **Landscaping shall be removed**, unless written approval is provided by the landowner allowing ESS to leave the landscaping in place.

7. The Project area or portion thereof shall be restored to its **pre-existing condition** and such that it is suitable for its prior use.

8. In the **unlikely event**, and to the extent that, the Project contains any **hazardous materials** as defined by federal, state and/or local laws at the time of Decommissioning, ESS shall **dispose of all such materials** in accordance with federal, state and local laws and regulations governing such materials and the disposal of the same.

III. Decommissioning Cost Estimates

ESS shall provide a **Decommissioning Cost Estimate prepared by a Virginia Licensed Engineer prior to the issuance of building permits**, which shall include the following:

- (a) the **gross estimated cost** to perform Decommissioning as set forth in Section II above (**“Gross Cost”**);

- (b) an administrative and **inflation factor of 20% of the Gross Cost** (“Admin Factor”);
- (c) the **estimated resale and salvage values** associated with the Project equipment (“**Salvage Value**”)
- (d) a **reduction from the Salvage Value by 20% such that only 80% of the Salvage Value can be used as a credit** against the Gross Cost and Admin Factor. The Salvage Value multiplied by 80% is the “**Salvage Credit**”.

Thus the Decommissioning Cost Estimate formula is: **Gross Cost + Admin Factor – Salvage Credit = the "Decommissioning Cost Estimate"**.

ESS shall provide a **revised and Updated Decommissioning Cost Estimate on every 5th anniversary** of the date when the Project first began to continuously deliver electric energy to the electric grid for commercial sales (“Commercial Operation Date”) for the Project Life, which shall account for inflation, cost and value changes, and advances in decommissioning technologies and approaches.

The Decommissioning Cost Estimate shall include a **table allocating the net cost estimate** across the Project area, based on the percentage of generating capacity in megawatts (MW) on each property (“Allocation Areas”). The Allocation Areas will be divided based upon the lease areas, however Allocation Areas will reference the underlying land, in case ownership of the underlying land changes control during the life of the Project.

The County may elect to have the Decommissioning Cost Estimates reviewed by a Virginia Licensed Engineer on behalf of the County, in which case reasonable engineering review fees shall be reimbursed by ESS.

IV. Financial Security

ESS will **provide an amount equal to the Decommissioning Cost Estimate** (as determined by a Virginia Licensed Engineer, per section III), provided, however, that the amount of security shall never be less than Two Hundred and Fifty Thousand Dollars (\$250,000), (“Decommissioning Security”).

Decommissioning Security shall be provided by ESS prior to the Commercial Operation Date.

A Virginia licensed engineer shall provide an Updated Decommissioning Cost Estimate on or before the fifth anniversary of the Commercial Operation Date and **every five years thereafter** during the Project Life. ESS shall **replenish and fully fund the Decommissioning Security** based on each Updated Decommissioning Cost Estimate, if applicable.

The Decommissioning Security may be in one of the following forms: **(i) cash to be held in escrow** by the County Treasurer at a Bank, or **(ii) a letter of credit from a financial institution** reasonably acceptable to the County which shall be irrevocable unless replaced with cash or other form of security reasonably acceptable to County (each a form of “Acceptable Credit Support”).

ESS shall post Acceptable Credit Support in the amount of the Decommissioning Security prior to the Commercial Operation Date.

Upon the receipt of the first Updated Decommissioning Cost Estimate (following the 5th anniversary of the Commercial Operation), **any increase or decrease in the Decommissioning Security shall be funded**

by ESS or refunded to ESS (if permissible by the form of Credit Support and such that Decommissioning Security is not less than \$250,000), **within ninety (90) days** and will be similarly trued up for every **subsequent five year updated Decommissioning Cost Estimate**.

V. Timing for Decommissioning

Upon the earlier of: **(i) completion of the Project Life; or (ii) Abandonment of the Project** or any portion thereof, **ESS will arrange for and be responsible for the full Decommissioning of the Project**, such that Decommissioning will be completed within **six (6) months of the end of the Project Life** or Abandonment of the Project or any portion thereof, whichever first occurs.

If a leaseholder or Accomack County believes that the Project or a portion thereof has been **discontinued for longer than one (1) year** (i.e. if the Project or any portion thereof has ceased operations for a continuous period of longer than one year) (“Abandoned”), and should be decommissioned earlier, consistent with the terms of the underlying lease or this Decommissioning Plan, then such landowner or Accomack **County shall provide written notice of such Abandoned claim to ESS**. Upon receipt, ESS shall have a **sixty (60) day period** in which to refute the claim, remedy any problem, commence Decommissioning under the lease agreement, or show why more than sixty (60) days is reasonably necessary to remedy the problem. If at the end of the sixty-day period the parties are unable to resolve amicably any dispute arising out of or in connection with this Decommissioning Plan, then such dispute shall **be resolved by an action filed in the Circuit Court of Accomack County, Virginia**.

VI. Partial Decommissioning

If Decommissioning is triggered for a portion, but not the entire Project, then ESS will commence and complete Decommissioning, in accordance with this Decommissioning Plan, for the applicable portion of the Project; the remaining portion of the Project would continue to be subject to this Decommissioning Plan. Any reference to Decommissioning the Project shall include the obligation to decommission all or a portion of the Project whichever is applicable with respect to a particular situation.

VII. Completion of Decommissioning & Return of Financial Security

Decommissioning will be complete when the County Construction Official or County Engineer, or another party appointed by the County, determines that Decommissioning has been completed in accordance with this Decommissioning Plan. **Within forty-five (45) days of such determination of completion of Decommissioning, the County shall send a letter, with a copy to ESS, approving the release to ESS of the Decommissioning Security.**

VIII. Default by ESS of Decommissioning Responsibility

If ESS is in default of its obligation to commence or complete Decommissioning, and such default remains uncured for more than 60 days (as explained in section V), each landowner shall have the right to commence Decommissioning activities and shall have access to each respective landowner’s prorated percentage allocation of the Decommissioning Security plus the salvage value of the equipment and materials on their lands. Excess funds shall be returned to the Decommissioning Security fund for use in Decommissioning other ESS property. Following the completion of Decommissioning of the entire Project arising out of a default by ESS, any remaining funds shall be distributed to landowners in a proportion consistent with the Allocation Areas as referenced in Section III. Nothing herein shall limit

other rights or remedies that may be available to the County to enforce the obligations of ESS, including under the County's zoning powers.

Accomack County – CUP Approval (Decommissioning Plan), SunTec Solar

Decommissioning Plan for SunTec Solar Farm - ESVA One LLC (the 'Solar Farm Project')

November 11, 2016

I. Introduction

This plan (the "Decommissioning Plan") is applicable to the solar power project in Accomack County proposed by SunTec Solar ESV A One LLC ("SunTec") to be located on the subject property, i.e., Tax Map parcels 85-A-61, 85-A-63, 86-A-131 and 86-A-132 (the "Solar Farm Project") and shall be binding on each successor and assignee of SunTec as the Solar Project owner.

The purpose of this Decommissioning Plan is to ensure that the Solar Farm Project is **properly removed at the end of the Solar Farm Project's useful life**, or earlier if it is Abandoned, and that the site is restored to its pre-existing condition, which is agricultural land. **Approval of this Decommissioning Plan by the County is a requirement of the Conditional Use Permit for the Solar Farm Project.** Nothing herein shall require that any equipment or property owned by Old Dominion Electric Cooperative or its successors or other utilities or third parties be decommissioned or removed.

As provided below, a Decommissioning Cost Estimate will **be provided for County review prior to the issuance of building permits** and **updated every five (5) years** after the Commercial Operation Date.

This Decommissioning Plan also outlines the **posting of Decommissioning Security**, in a form reasonably acceptable to the County as provided below, to be established prior to the Commercial Operation Date.

II. Decommissioning Process

The expected useful life of the Solar Farm Project is twenty-five (25) to thirty (30) years with an extension possible upon mutual agreement with the landowners (the "Project Life"). At the end of the Project Life or earlier in the event of Abandonment of the Solar Farm Project or a portion thereof, the applicant will decommission the Solar Farm Project or the relevant portion thereof, in each case as set forth below.

The decommissioning process for the Solar Farm Project is generally expected to occur as follows ("**Decommissioning**"):

Please note: It is expected, but not required, that most components of the Solar Farm Project will be salvageable/recyclable, re-useable or re-saleable.

A. **The following items shall be removed**, disassembled, if applicable, packaged and shipped for re-sale to a salvage/recycling facility or other processing facility where possible, or to a landfill for disposal:

- a. **PV modules;**
- b. **Racking system;**
- c. **Foundations, including any concrete foundations;**

- d. Electrical wiring/cabling;
- e. Inverters and any transformers or connector station;
- f. Fencing; and
- g. Gravel from any gravel access drive;

B. Dispose of any components in a landfill that cannot be salvaged/recycled, re-sold or re-used;

C. Stabilize any exposed soil where equipment was removed, consistent with County and other applicable erosion and sediment control standards;

D. Access drive paved aprons from public roads shall **remain for future use**;

E. Turf-grass shall be tilled into the soil, unless written approval is provided by the landowner allowing SunTec to leave the turf-grass in place;

F. The Solar Farm Project area or portion thereof shall be restored to its pre-existing condition (which is agriculture) and such that it is suitable for its prior use; and

G. In the unlikely event, and to the extent that, the Solar Farm Project contains **any hazardous materials** as defined by applicable federal, state and/or local laws at the time of Decommissioning, SunTec shall **dispose of all such materials in accordance with applicable laws** governing such materials and dispose of the same.

III. Decommissioning Cost Estimates

SunTec shall provide a **Decommissioning Cost Estimate prepared by a Virginia Licensed Engineer prior to the issuance of building permits**, which shall include the following:

1. The **gross estimated cost** to perform the Decommissioning as set forth in Section II above (**the "Gross Cost"**);
2. An **administrative and inflation factor of 20% of Gross Costs** (the "**Admin Factor**");
3. The **estimated resale and salvage values** associated with the Solar Farm Project equipment (the "**Salvage Value**");
4. A **reduction from the Salvage Value by 20%** such that only **80% of the Salvage Value can be used as a credit** against the Gross Cost and the Admin Factor. The **Salvage Value multiplied by 80% is the "Salvage Credit"**.

Therefore, the **Decommissioning Cost Estimate** formula is: **Gross Cost+ Admin Factor- Salvage Credit = the "Decommissioning Cost Estimate"**.

SunTec shall provide a **revised and updated Decommissioning Cost Estimate on every 5th anniversary** of the date when the Solar Farm Project first began to continuously deliver electric energy to the electric grid for commercial sales (the "Commercial Operation Date") for the Solar Farm Project life, which shall account for inflation, cost and value changes, and advances in decommissioning technologies and approaches.

The Decommissioning Cost Estimate shall **include a table allocating the net cost estimate** across the Solar Farm Project area, based on the percentage of generating capacity in megawatts (MW) on each property (the "Allocation Areas"). The Allocation Areas will be divided based upon the lease areas, however the Allocation Areas will reference the underlying land, in case ownership of the underlying land changes during the life of the Solar Farm Project.

After SunTec prepares each Decommissioning Cost Estimate, the **County may elect to have such Decommissioning Cost Estimate reviewed by a Virginia Licensed Engineer** on behalf of the County, in which case reasonable engineering review fees shall be reimbursed by SunTec. Only one review shall be permitted in respect of each Decommissioning Cost Estimate.

IV. Financial Security

SunTec shall provide **an amount equal to the Decommissioning Cost Estimate** (as determined pursuant to Section III above); provided, however, that the amount of such security shall never **be less than Five Thousand Dollars (\$5,000) per MW (AC)** of installed solar capacity (**the "Decommissioning Security"**). Decommissioning Security shall be provided by SunTec prior to the Commercial Operation Date.

A Virginia Licensed Engineer shall provide an updated Decommissioning Cost Estimate on or before the **fifth anniversary date** of the Commercial Operation Date and **every five (5) years thereafter** during the Project Life. SunTec shall replenish and fully fund the Decommissioning Security based on each updated Decommissioning Cost Estimate, if applicable.

The Decommissioning Security may be in one of the following forms, as elected by SunTec: **(i) cash to be held in escrow** by the County Treasurer at a bank, or **(ii) a letter of credit from a financial institution** reasonably acceptable to the County which shall be irrevocable during the term thereof unless replaced with cash or another form of security reasonably acceptable to the County (each, a form of "Acceptable Credit Support").

SunTec shall **post Acceptable Credit Support in the amount of the Decommissioning Security prior to the Commercial Operation Date.**

Upon the receipt of the first updated Decommissioning Cost Estimate (following the 5th anniversary of the Commercial Operation Date), any **increase or decrease in the Decommissioning Security shall be funded by SunTec, or refunded to SunTec** (if permissible by the form of Credit Support and such that the Decommissioning Security is **not less than Five Thousand Dollars (\$5,000) per MW (AC)** of installed solar capacity), within ninety (90) days and will be similarly trued up for every subsequent five year updated Decommissioning Cost Estimate.

V. Timing for Decommissioning

Upon the earlier of (i) completion of the Project Life, or (ii) Abandonment of the Solar Farm, SunTec will arrange for and be responsible for the **full Decommissioning of the Solar Farm, such that Decommissioning will be completed within six (6) months** after the end of the Project Life or Abandonment of the Solar Farm Project, whichever occurs first. In the event of an Abandonment of a portion of the Solar Farm Project, SunTec will arrange for the Decommissioning of such portion within six (6) months of such Abandonment.

If a landowner of the Solar Farm property or Accomack County believes that the Solar Farm has been discontinued for longer than a continuous period of one (1) year (i.e., if the Solar Farm has ceased operations for a continuous period of longer than one year) ("Abandoned" or "Abandonment"), and should therefore be decommissioned earlier, consistent with the terms of the underlying lease or this Decommissioning Plan, then such landowner or Accomack County shall provide written notice of such claim to SunTec.

Upon receipt, SunTec shall have a **period of sixty (60) days in which to refute the claim**, remedy any problem, commence Decommissioning under the lease agreement, or show why more than sixty (60) days is reasonably necessary to remedy the problem. If at the end of such sixty (60) day period the parties are unable to resolve amicably any dispute arising out of or in connection with this Decommissioning Plan, then such dispute shall be resolved by an action filed in the Circuit Court of Accomack County, Virginia.

VI. Partial Decommissioning

If Decommissioning is triggered for a portion, but not the entire Solar Farm, then SunTec will commence and complete Decommissioning, in accordance with this Decommissioning Plan for the applicable portion of the Solar Farm; the remaining portion of the Solar Farm would continue to be subject to this Decommissioning Plan. Any reference to Decommissioning of the Solar Farm shall include the obligation to decommission all or the relevant portion of the Solar Farm whichever is applicable with respect to a particular situation.

VII. Completion of Decommissioning and Return of Financial Security

Decommissioning will be complete when the County Construction Official or County Engineer, or another party appointed by the County, determines that Decommissioning has been completed in accordance with this Decommissioning Plan, such determination not to be unreasonably withheld or delayed. Within forty-five (45) days after such determination of completion of Decommissioning, the County shall send a letter to the bank or to the issuer of the letter of credit, as the case may be, with a copy to SunTec, approving the release to SunTec of the Decommissioning Security.

VIII. Default by SunTec of Decommissioning Responsibility

If SunTec defaults in its obligation to commence and complete Decommissioning as required under this Decommissioning Plan, and such default remains uncured for more than sixty (60) days (as explained in Section V), each landowner of Solar Farm Project property shall have the right to commence Decommissioning activities and shall have access to each respective landowner's prorated percentage allocation of the Decommissioning Security plus the salvage value of the equipment and materials on their lands. Excess funds shall be returned to the Decommissioning Security fund for use in Decommissioning other Solar Farm property. However, only the County shall be permitted to call on any Decommissioning Security. Following the completion of the Decommissioning of the entire Solar Farm equipment arising out of a default by SunTec, any remaining funds shall be distributed to the landowners in a proportion consistent with the Allocation Areas as referenced in Section III. Nothing herein shall limit other rights or remedies that may be available to the County to enforce the obligations of SunTec, including the County's zoning powers.

Albemarle County – SUP Approval (Permit), Rivanna

The applicant shall submit a **decommissioning and site rehabilitation plan** (hereinafter "Decommissioning Plan") **with the building permit application** that shall include the following items:

- a. A **description of any agreement** (e.g. lease) with all landowners regarding decommissioning;
- b. The **identification of the party currently responsible** for decommissioning;
- c. The **types of panels and material specifications** being utilized at the site;
- d. **Standard procedures for removal of facilities and site rehabilitation**, including recompacting and reseeding;
- e. An **estimate of all costs for the removal and disposal of solar panels, structures, cabling, electrical components, roads, fencing**, and any other associated facilities above ground or up to **thirty-six (36) inches below grade or down to bedrock**, whichever is less; and
- f. An **estimate of all costs associated with rehabilitation of the site**. The Decommissioning Plan shall **be prepared by a third-party engineer** and must be signed off by the party responsible for decommissioning, and all landowners of the property included in the project. The Decommissioning Plan shall be **subject to review and approval by the County Attorney and County Engineer** and shall be in a form and style so that it may be **recorded in the office of the Circuit Court of the County of Albemarle**.

Prior to issuance of a building permit, **the Decommissioning Plan shall be recorded by the applicant in the office of the Circuit Court of the County of Albemarle.**

The **Decommissioning Plan and estimated costs shall be updated every five years**, upon change of ownership of either the property or the project's owner, or upon written request from the Zoning Administrator. Any changes or updates to the Decommissioning Plan shall be recorded in the office of the Circuit Court of the County of Albemarle.

The Zoning Administrator shall be notified in writing within **30 days of the abandonment or discontinuance of the use.**

All physical improvements, materials, and equipment (including fencing) related to solar energy generation, both above ground and underground, shall be **removed entirely, and the site shall be rehabilitated as described in the Decommissioning Plan, within 180 days of the abandonment or discontinuance of the use.** In the event that a piece of an underground component breaks off or is otherwise unrecoverable from the surface, that piece shall be excavated to a depth of at least **36 inches below the ground surface.**

Appomattox County – CUP Approval (BOS Resolution), Pamplin Solar

WHEREAS, condition number 6 states "If the solar energy farm is **inactive**, completely or substantially discontinuing the delivery of electricity to an electrical grid for a **continuous twenty-four (24) month period**, it shall be considered abandoned. The petitioner shall provide written notice to County staff immediately upon the site becoming inactive and/or shutting down operation.

The current owner of the project ("Project Owner") **shall remove the facilities** ("decommissioning") **within six (6) months** of receipt of notice from the County ("County Notice"). If the facility is not removed within the specified time after the County Notice, the **County may cause the removal of the solar energy farm with costs being borne by the Project Owner.**

Unless the solar energy farm is owned by a public utility in the Commonwealth of Virginia, the costs of decommissioning shall be secured by an adequate surety in a form agreed to by the County Attorney. If the solar energy farm is sold to any entity that is not a public utility, then the **Conditional Use Permit shall not transfer to the purchaser until such time as the adequate surety is provided.** If a surety is required, the cost estimates of the **decommissioning shall be updated every five (5) years** and provided to the Zoning Administrator. At its option, the County may require the **surety amount be increased** based on the **net cost of decommissioning.**

Buckingham County – SUP Approval (BOS Minutes), Buckingham II Solar

16. If the solar energy farm is **inactive, completely or substantially discontinuing the delivery of** electricity to an electrical grid) for a **continuous twenty-four (24) month** period it shall be considered abandoned. The Applicant shall provide notice to Zoning Administrator immediately upon the site becoming inactive and/or shutting down operation. The current owner of the Project ("Project Owner") shall **remove the facilities** ("decommissioning") **within six (6) months of receipt of notice** from the Buckingham County ("County Notice"). If the facility is not removed within the specified time after the County Notice, the **County may cause the removal of the solar energy farm with costs being borne by the Project Owner.**

Unless the solar energy farm is owned by a public service corporation in the Commonwealth of Virginia, the costs of decommissioning shall be secured by an adequate surety in a form agreed to by the County Attorney, including but not limited to a letter of credit, cash, or a guarantee by an investment grade entity. If the solar energy farm is sold to any entity that is not a public service corporation, the SUP shall not transfer to the purchaser until such time as the adequate surety is provided.

If a surety is required, the cost estimates of the decommissioning shall be updated every five (5) years and provided to the County. At its option, the **County may require the surety amount be increased** based on the net cost of decommissioning. The surety, to the extent required, shall be initially provided before the issuance of the building permit.

17. The Project shall be **deconstructed and removed within six (6) months** of the time the Project Site is permanently decommissioned. As used herein "deconstructed and removed" shall mean (i) the **removal from the surface of the Property, any Project facilities installed or constructed thereupon, including permanent foundations, (ii) the filling in and compacting of all trenches or other borings or excavations made in association with the Project, and (iii) the removal of all debris caused by the Project from the surface of the Property.**

Clarke County – SUP Approval (Permit), Clarke Solar Farm

The following condition shall set forth required provisions for decommissioning the facility either at the end of its lifespan or in the event of inactivity for more than two consecutive years.

Notice of inactivity

The Applicant or Owner shall be responsible for notifying the Zoning Administrator within 30 days of the facility becoming inactive and no longer producing electric power. Notification shall be provided in writing and shall include the date that the facility ceased producing power. **Failure to return the facility to an active status and producing electric power for two consecutive years shall constitute grounds for special use permit revocation.**

Decommissioning process

Upon **completion of the facility’s lifespan or following revocation of the special use permit**, the facility shall be decommissioned including **removal of all equipment, panels, racking systems, wiring (including underground wiring), fencing, steel skids, concrete pads, and other above-ground features**. All wetland protections, natural vegetation, erosion control, and stormwater features shall remain in place. The Applicant or Owner shall provide a decommissioning plan to Staff and applicable State agencies and obtain all required permits prior to conducting decommissioning activities. All **decommissioning activities shall be completed within six months of providing notice of inactivity unless a longer time period is approved by the Zoning Administrator.**

Charlotte County – CUP Approval (BOS Resolution), Twitty’s Creek Solar

To **secure the financial ability of the owner or operator to decommission the facility in accordance with the Charlotte County Zoning Ordinance**, Holocene Clean Energy shall make **annual deposits to a reserve fund** to be held by Charlotte County or its designee. Deposits shall be made in accordance with the following schedule:

Year	Amount	Year	Amount	Year	Amount
1	\$40,900	11	\$23,500	21	\$10,900
2	\$39,600	12	\$20,500	22	\$10,900
3	\$37,400	13	\$17,000	23	\$10,900
4	\$36,600	14	\$13,900	24	\$10,900
5	\$37,400	15	\$10,900	25	\$10,900
6	\$36,100	16	\$10,900	26	\$10,900
7	\$35,300	17	\$10,900	27	\$10,900
8	\$32,700	18	\$10,900	28	\$10,900
9	\$30,000	19	\$10,900	29	\$10,900
10	\$27,000	20	\$10,900	30	\$10,900

If the owner or operator of the solar facility fails to remove the installation in accordance with the requirements of the Charlotte County Zoning Ordinance or within the proposed date of decommissioning, Charlotte County or a hired third party may enter the property to physically remove the installation. **Funds to cover the cost of removal initiated by Charlotte county will come from the reserve fund** established by Holocene Clean Energy.

Any **remaining decommissioning costs** will be covered through the **sale of removed equipment and materials**. Any reserve funds not needed for decommissioning the site will be retained by Charlotte County.

Gloucester County – CUP Approval (BOS Resolution), Route 14 Solar

Prior to the issuance of a zoning permit, a plan for decommissioning shall be provided to the Department of Planning and Zoning. The solar energy system owner shall have **12 months to complete decommissioning of the facility if no electricity is generated for a continuous 12-month period**. Decommissioning shall include **removal of solar collectors, cabling, electrical components**, and any other associated items. **A surety, as specified in the Decommissioning Plan, shall be in place to assure decommissioning.**

Anne Ducey-Ortiz, Gloucester County Director of Planning and Zoning/Zoning Administrator has informed SolUnesco that the Route 14 project did submit a decommissioning plan with a cost estimate that included salvage value and therefore did not offer a surety and that this plan has been approved by Gloucester County. After this, the Zoning Ordinance was updated, and the Zoning Ordinance now explicitly calls for a surety. As it has not been tested, it is unclear how this will be interpreted by the Board if a project uses salvage value to demonstrate that the cost of this surety should be zero.

Halifax County – CUP Approval (BOS Minutes), Crystal Hill

SolUnesco is aware of at least 5 projects that have been approved in Halifax, but only Crystal Hill's information is available at this time. Zoning Administrator Detrick Easley has implied that all of the permits issued in Halifax had similar if not identical conditions to the Crystal Hill Project.

PRIOR TO OBTAINING A BUILDING PERMIT AND ENGAGING IN ANY LAND DISTURBANCE ACTIVITY THE OWNER AND/OR OPERATOR SHALL PROVIDE THE INFORMATION, REPORTS, AND SECURITY REQUIRED IN CONDITIONS 15 THROUGH 24 IN FORM AND SUBSTANCE ACCEPTABLE TO THE ZONING ADMINISTRATOR:

The applicant has submitted a decommissioning plan procedure and decommissioning cost estimate, which is incorporated into these Conditions. The facility owner and operator shall disassemble and dispose of the solar facility and restore the site in **accordance with the decommissioning plan procedure, unless the Ordinance contains stricter requirements**, in which case the stricter requirements of the Ordinance shall control. The **facility owner and operator shall be jointly and severally responsible** for decommissioning the facility in accordance with the decommissioning plan procedure and Sections 53-157(d) and 53-160 of the Ordinance. The initial decommissioning security required pursuant to Section 53-157(d) of the Ordinance shall equal not less than \$1,870,314.74, which is **100% of the estimated total cost to disassemble and dispose of the solar energy facility** and restore

the site. **No reduction in the amount of the security will be made on account of the claimed salvage value of the solar facility or the materials used in the solar facility.** This security shall be in place **prior to obtaining building permits** or engaging in any land disturbance activity and shall remain in effect until decommissioning has been completed. The failure by the facility owner and/or operator to decommission the facility in accordance with this condition, the decommissioning plan procedure, and the Ordinance shall constitute a zoning violation and may be enforced as such. **The security may be called on by the county to remedy the zoning violation and to pay any and all costs** related to decommissioning the facility, including administrative and enforcement costs. The decommissioning plan and decommissioning cost estimate shall be updated upon the request of the Zoning Administrator, which shall be **no less frequently than once every ten years and no more frequently than once every five years.** Each decommissioning plan and cost estimate shall: (i) be **sealed by a Professional Engineer;** (ii) **meet the requirements of Sections 53-157(d) and 53-160 of the Ordinance;** (iii) be in **form and substance acceptable to the Zoning Administrator;** and (iv) require, among other things, that **all salvageable materials be removed and sold or disposed of in accordance with all applicable federal, state, and local regulations.** The amount of the required **security may be adjusted** based on the updated decommissioning cost estimate, but it **shall not be less than 100% of the total estimated decommissioning cost.**

Mr. Detrick Easley reported that following the public hearing at the December meeting the Board requested an **estimate from a certified engineer** on the estimated cost to decommission the Crystal Hill Solar site. A certified estimate has been received estimating \$1,870,314.74. At issue was how much of a surety bond would be required. The considerations ranged from 10% to 100%. After further research **county staff is recommending a 100% surety** the same as Mecklenburg County is requiring...The bond amount at this point does **not provide any allowance for salvage value as the future value of metals cannot be determined.** In reply to a question Mr. Easley noted that the annual cost of a bond would likely be about 3% or \$55,300.96 annually based on a surety of \$1.8 million for 30 years. The **surety bond can be reviewed no less than five years and no more than ten years which may lower the cost** once more is known about solar energy.

Hanover County – CUP Approval (BOS Action Letter), Mechanicsville Solar

If the solar energy farm is inactive, completely or substantially discontinuing the delivery of electricity to an electrical grid for a continuous **twenty-four (24) month period, it shall be considered abandoned.** The **applicant shall provide notice to the Planning Department immediately** upon the site becoming inactive and/or shutting down operation. The **current owner** of the Project (“Project Owner”) shall **remove the facilities** (“decommissioning”) within **six (6) months** of receipt of notice from the County (“County Notice”). **A decommissioning plan shall be provided to the Planning Department prior to site plan approval.**

Henrico County – CUP Approval (BOS Action Letter), Briel Solar Farm

8. Prior to the issuance of permits for installation of equipment, the applicant shall obtain approval of a plan for decommissioning the facility. The solar energy system shall be decommissioned and removed within **12 months** after the facility ceases electricity generation for a continuous 12-month period. Decommissioning shall include **removal of solar collectors, cabling, electrical components, any bases or**

footers, and all other associated items. The plan shall include a **financial guaranty to insure the decommissioning will be completed at the applicant's cost. (Approval Letter)**

James City – SUP Approval (BOS Action Letter), Norge Farm

Decommissioning and Restoration Plan. **Prior to final approval of any site plan**, the Director of Planning, or his designee, shall approve a Decommissioning and Restoration Plan (DRP). The DRP shall **outline the required steps for removal of above- and below-ground Facility components, disposal of and/or recycling of wastes and materials and the restoration of the Properties to pre-construction conditions.** The DRP shall address **abandonment of operations** and the possible failure of the Facility operator to comply with the decommissioning process and provide an **estimated cost associated with the decommissioning and restoration activities.** To ensure sufficient funds are available to the County to conduct the DRP should the owner fail to perform its obligation under this condition, a **surety shall be posted with James City County in a form acceptable to the County Attorney, in an amount sufficient for the removal and disposal of all the power generating equipment, inverters, fencing, wiring and any other ancillary materials and equipment associated with the Facility.**

King William County – CUP Approval (Application Language as approved by BOS), Hollyfield Solar

Decommissioning of the site to remove the Project components and return the land to tilled farmland or another authorized land use would be done by the Applicant at the end of the project life (which is anticipated to be at least 35 years), or if the project was abandoned, such as if it was not utilized for power production for a period of more than **two consecutive years**, excluding events of force majeure and periods of maintenance, repair, replacement, renovation, or planned non-operations (with appropriate security, physical care and semiannual status update reporting to the County demonstrating a planned return to operations). Furthermore, any components that would be abandoned or unused for more than two years shall constitute a public nuisance, subject to abatement at the expense of the Applicant. Any buried items not utilized in the future authorized land use would be removed to a **depth of at least three feet below finished grade.** No burial of equipment or materials would be permitted other than that which was in the ground prior to decommissioning when the power plant was operational.

The Applicant would submit a decommissioning plan prior to submitting its building permits. The plan would be accompanied by a **separate estimate for decommissioning prepared by a Licensed Engineer.** Decommissioning shall mean removal of all panels, electrical equipment, racks and framing, fences, any concrete pads and other equipment to depth of **36 inches**, and restoration of the land to its condition before the project and suitable for its prior use, agricultural in almost all cases. The estimate would include the cost for removal, recycling/repurposing, disposal as necessary, and restoration of land. **It shall include a salvage value credit due to the extensive copper, steel, aluminum and other materials in the project.** This decommissioning plan would be **updated every five years** with additional **surety being posted as needed.** An agreed to financial surety would be established and funded prior to commercial operation. Each of the land leases has a decommission provision with the responsibility on the Applicant. In the event that the Applicant does not complete decommissioning in a reasonable time and cure period, as identified in the Plan, the **respective landowners shall have access to the financial**

surety to perform decommissioning. The financial security would be in a form approved by the County Attorney, which would include **surety bonds, guarantee from an investment grade entity, certified check, cash, or a letter of credit at minimum.** An example of the decommissioning plan and cost estimate for this project is attached in the Appendix D. The decommissioning plan would be executed by both parties prior to the issuance of any land disturbance permit by the County. In the event that staff and the applicant could not agree to the terms of a decommissioning plan the matter would be **forwarded to the Board of Supervisors for review and decision prior to the issuance of any land disturbance permit.**

This application language explicitly states that it will include salvage value in its decommissioning cost equation. This application was approved, and the resulting Conditional Use Permit did not impose any additional conditions to decommissioning.

Louisa County – CUP Approval (BOS Action Letter), Belcher Solar

If the **solar energy farm is inactive**, completely or substantially **discontinuing the delivery of electricity to an electrical grid for a continuous 30-day period**, excepting for items outside of control of the Project, or longer as approved by the Zoning Administrator in consultation with other agencies with submittal of requested documentation from the applicant or project owner, as needed; it **shall be considered abandoned.** The **applicant or project owner shall provide notice to County Staff immediately** upon the site becoming inactive and/or shutting down operation. The applicant or current project owner shall **remove the facilities ("decommissioning") within six (6) months of receipt of notice from the County ("County Notice").** If the facility is **not removed within the specified time** after the County Notice, the **County may cause the removal of the solar energy farm with costs being borne by the Project Owner.** Unless otherwise not allowed by local, state, or federal law, the net costs of decommissioning shall be secured by an **adequate surety in a form agreed to by the County Attorney, including but not limited to a letter of credit, cash, or a guarantee by an investment grade entity,** posted within **30 days of the project** receiving its occupancy permit or equivalent from the County. The **initial surety amount will be determined by a third-party engineer and approved by the county prior to site plan approval.** If surety is required, the cost estimates of the decommissioning shall be updated **every five (5) years** and provided to the County. At its option, the County may require the surety amount be increased based on the net cost of decommissioning.

Mecklenburg County – SEP Approval (Permit), Otter Creek Solar

Decommissioning and Security - The applicant will decommission the project in accordance with the Decommission Plan submitted with the application. The **applicant will provide an updated decommissioning cost estimate acceptable to the Zoning Administrator as a basis for establishing the amount of security required and the estimate will not be based on salvage value.** The decommissioning cost estimate will include a reasonable explanation of how the elements of the estimate were developed and will also include unit price details where appropriate. The **applicant will provide a form of security acceptable to the Zoning Administrator to secure the availability of adequate funds to pay the cost of decommissioning the project, the applicant will provide the approved security prior to the beginning of construction.**

Mecklenburg County – SEP Approval (Action Letter), Grasshopper Solar

Decommissioning and Security- The Applicant shall decommission the project in accordance with the **decommissioning plan submitted with the application**. The Applicant shall provide an **updated decommissioning cost estimate acceptable to the Zoning Administrator as a basis for establishing the amount of security required**. The decommissioning cost estimate shall include a reasonable explanation of how the elements of the estimate were developed and shall also include unit price details where appropriate. The Applicant shall provide a **form of security acceptable to the Zoning Administrator** to secure the availability of adequate funds to pay the cost of decommissioning the project. The Applicant shall **provide the approved security prior to the beginning of construction**.

New Kent County – CUP Approval (Permit), Correctional Solar

If the solar energy farm is **inactive, completely or substantially discontinuing the delivery of electricity to an electrical grid) for a continuous twenty-four (24) month period it shall be considered abandoned**. The Applicant shall provide notice to County Staff immediately upon the site becoming inactive and/or shutting down operation. The current owner of the Project ("Project Owner") shall **remove the facilities ("decommissioning") within six (6) months of receipt of notice from the County ("County Notice")**. If the facility is not removed within the specified time after the County Notice, the **County may cause the removal of the solar energy farm with costs being borne by the Project Owner**.

Unless the solar energy farm is owned by a public utility in the Commonwealth of Virginia, the net costs of decommissioning shall be secured by an **adequate surety in a form agreed to by the County Attorney, including but not limited to a letter of credit, cash, or a guarantee by an investment grade entity, posted within 30 days of the project receiving its occupancy permit or equivalent from the County**. If the solar energy farm is sold to any entity that is not a public utility, the CUP shall not transfer to the purchaser until such time as the adequate surety is provided.

If a surety is required; the cost estimates of the decommissioning shall be: **updated every five (5) years** and provided to the County. At its option, the county may require the surety amount be increased based on the net cost of decommissioning.

Northampton County – SUP Approval (Permit), Cherrydale

(h) Grantee Hecate will, **within twelve months** of the Project ceasing to produce power for sale for a continuous period of six months or more, **decommission the Project and restore the site in accordance with Schedule A**, attached hereto, at its sole expense and will provide, no later than the date of issuance of the first building permit for the Project, a **performance guarantee** in accordance with Schedule A in the amount of \$50,000 listing the Grantor as the beneficiary or payee. **Said performance guarantee will be exercised by The Grantor in the event that the decommissioning and restoration is not completed within six months after the same is required**. The **full amount of the bond, certified check, or letter of credit must remain in full force and effect until the Project is decommissioned** and any necessary site restoration is completed.

Orange County – SUP Approval (Permit), Madison Solar

Before the final inspection for the facility may be passed by the Building Official, the applicant shall supply the County with a **performance bond to cover costs associated with decommissioning** the facility and restoring the site to its predevelopment condition. The **applicant shall engage a third party to produce a cost estimate** to complete this work, **minus anticipated revenue from salvaging materials, plus a 10% contingency**. This bond shall be maintained for as long as the facility is in existence. The **owner shall supply bond riders or replacement bonds**, upon request by the County, to account for **inflation and changes in anticipated costs**. The County shall request these adjustments at **5-year intervals**.

Powhatan County – CUP Approval (Permit), Scott II Solar

If the solar energy farm is **inactive**, completely or substantially discontinuing the delivery of electricity to an electrical grid **for a continuous twenty-four (24) month period it shall be considered abandoned**. The Applicant shall provide **notice to County Staff immediately** upon the site becoming inactive and/or shutting down operation. The **current owner of the Project ("Project Owner") shall remove the facilities ("decommissioning") within six (6) months** of receipt of notice from the County ("County Notice"). If the facility is not removed within the specified time after the County Notice, the **County may cause the removal of the solar energy farm with costs being borne by the Project Owner. Unless the solar energy farm is owned by a public utility in the Commonwealth of Virginia, the costs of decommissioning shall be secured by an adequate surety** in a form agreed to by the County Attorney. If the solar energy farm is **sold to any entity that is not a public utility, the CUP shall not transfer to the purchaser until such time as the adequate surety is provided**. If a surety is required, the cost estimates of the decommissioning shall be **updated every five (5) years** and provided to the County. At its option, the County may require the surety amount be increased based on the net cost of decommissioning.

Prince George County – SEP Approval (BOS Resolution), Fort Powhatan Solar

10. A **decommissioning plan** shall be developed by the applicant, owner or operator prior to the **approval of a site plan or any building permits being issued** for a solar energy facility. If the solar energy facility is inactive completely or substantially discontinuing the delivery of electricity to an electrical grid for a continuous **twenty-four (24) month period it shall be considered abandoned**. The applicant, owner or operator shall provide notice to Prince George County in writing once the property becomes inactive as a solar energy facility use. The **decommissioning of the site shall commence within six (6) months** of receipt of such notice from the applicant, owner or operator by Prince George County. This shall be known as the **"Decommissioning Plan"** under Zoning Ordinance Section 90-16 (ii) (e) which shall include the following:

- (1) **anticipated life** of the solar energy facility project;
- (2) the **estimated cost** of the decommissioning in the future as expressed in current dollars;
- (3) **how said estimate was determined**;
- (4) the **manner in which the project will be decommissioned** and
- (5) the **name and physical address** of the person or entity responsible for the decommissioning plan and a **performance bond for the life of the use**.

11. Unless the large-scale solar energy facility project is **owned by a public utility within the Commonwealth of Virginia, the net costs of decommissioning shall be secured by an adequate surety** in a form agreed to by the County Attorney, including but not limited to a **letter of credit, cash or a guarantee by an investment grade entity, posted within thirty (30) days** of the project receiving its **occupancy permit** or equivalent from Prince George County to operate the use. If an adequate surety is required, the **cost estimates** of the decommissioning shall be **updated at least every five (5) years** by the applicant, owner or operator and provided to the County. If the solar energy facility is sold to an entity that is **not a public utility**, the Special Exception shall **not transfer to the purchaser until such time as adequate surety** is provided for the solar energy facility. At its option, the County may require that a **surety amount be increased** based upon the net cost of decommissioning the use as approved by the County Attorney.

Prince George County – SEP Approval (BOS Resolution), Rives Road Solar

A **decommissioning plan shall be approved** by the County prior to the approval of a site plan or any building permits being issued for a solar energy facility. If the solar energy facility is **inactive completely or substantially discontinuing the delivery of electricity to an electrical grid for a continuous twenty-four (24) month period it shall be considered abandoned**. The **applicant, owner or operator shall provide notice** to the Planning Division in writing once the property becomes inactive as a solar energy facility use. The **decommissioning** of the site shall **commence within six (6) months of receipt** of such notice from the applicant, owner or operator by Prince George County.

This shall be known as the “**Decommissioning Plan**” under Zoning Ordinance Section 90-16 (ii) (e) which **shall include** the following: (1) **anticipated life of the solar energy facility project**; (2) the **estimated cost of the decommissioning** in the future as **expressed in current dollars**; (3) **how said estimate was determined**; (4) the **manner in which the project will be decommissioned** and (5) the **name and physical address of the person or entity responsible for the decommissioning plan and a surety acceptable to the County** by guaranteeing completion of the decommissioning plan.

Unless the **large-scale solar energy facility project is owned by a public utility** within the Commonwealth of Virginia, the **net costs of decommissioning shall be secured by an adequate surety in a form agreed to by the County Attorney, including but not limited to a letter of credit, cash or a guarantee by an investment grade entity, provided to the County within thirty (30) days of the project receiving its occupancy permit** or equivalent from Prince George County to operate the use. If an adequate surety is required, the **cost estimates of the decommissioning shall be updated at least every five (5) years by the applicant, owner or operator and provided to the County**. If the solar energy facility is sold to an entity that is **not a public utility**, the Special Exception shall **not transfer to the purchaser until such time as adequate surety is provided for the solar energy facility**. At its option, the **County may require that a surety amount be increased based upon the net cost** of decommissioning the use as approved by the County Attorney.

Southampton County – CUP Approval (Action Letter and Decommissioning Plan from Application), Southampton Solar

A Decommissioning Plan, which will cover removal of solar facility equipment including foundations, site restoration, and financial surety shall be provided to the County Community Development Department prior to final site plan approval. The Decommissioning Plan **shall be substantially equivalent to the Southampton Solar Decommissioning Plan provided on August 9, 2016 (Action Letter)**.

Southampton Solar Approved Decommissioning Plan - January 17, 2017

I. Introduction

This Decommissioning Plan is for the Southampton Solar Project (the "Project") and shall be binding on each successor and assignee of Southampton Solar LLC ("SHS"), the Project owner.

The **purpose of this Decommissioning Plan is to ensure the Project is properly removed at the end of the Project's useful life**, or earlier if abandoned in whole or in part, and that the site is restored to pre-existing conditions, which is generally agricultural. **Approval of this plan by the County is a requirement of the Conditional Use Permit.**

A Decommissioning Cost Estimate will be provided for County review prior to the issuance of building permits and **updated every five years.**

This Plan also outlines the posting of **Decommissioning Security, in a form reasonably acceptable to the County, to be established prior to the Project entering commercial operation.**

II. Decommissioning Process

The expected life of the Project is thirty (30) years with possible extension ("Project Life"). At the end of the Project Life or earlier in the event of Abandonment of all or a portion of the Project, SHS will decommission the Project or a portion thereof, as set forth below.

The decommissioning process for the project is generally expected to occur as follows ("**Decommissioning**"):

Please Note: It is expected, but not required, that most components of the Project will be salvageable/recyclable, re-usable or re-salable.

1. The **following items shall be removed**, disassembled (if applicable), packaged and shipped for re-sale or to a salvage/recycling facility or other processing facility where possible, or to a landfill for disposal.

- a. **PV Modules**
- b. **Racking System**
- c. **Foundations/Posts (including the underground portion of the posts)**
- d. **Electrical wiring/cabling**
- e. **Inverters/transformers/connector station**
- f. **Fencing**

2. **Dispose of any components in a landfill** that cannot be salvaged/recycled, re-sold or re-used.

3. **Stabilize any exposed soil where equipment was removed**, consistent with County and other applicable erosion and sediment control standards.
4. **Access drive paved aprons** from public roads shall **remain for future use**.
5. **Turf-grass shall be tilled into the soil**, unless written approval is provided by the landowner allowing SHS to leave the turf-grass in place.
6. **Landscaping shall be removed**, unless written approval is provided by the landowner allowing SHS to leave the landscaping in place.
7. The **Project area or portion thereof shall be restored to its pre-existing condition** such that it is suitable for its prior use.
8. In the **unlikely event**, and to the extent that, the Project contains **any hazardous materials** as defined by federal, state and/or local laws at the time of Decommissioning, SHS shall **dispose of all such materials in accordance with federal, state and local laws** and regulations governing such materials and the disposal of the same.
9. **Gravel access drives shall be removed**, unless written approval is provided by the landowner allowing SHS to leave the gravel access drive in place.
10. **Utility-owned interconnection facilities and all ancillary facilities**, including but not limited to associated gravel access road, **shall remain in place**.

III. Decommissioning Cost Estimates

SHS shall provide a **Decommissioning Cost Estimate prepared by a Virginia Licensed Engineer prior to the issuance of building permits**, which shall include the following:

- (a) the **gross estimated cost to perform Decommissioning** as set forth in Section II above ("**Gross Cost**");
- (b) an **administrative and inflation factor of 20% of the Gross Cost** ("**Admin Factor**");
- (c) the **estimated resale and salvage values** associated with the Project equipment ("**Salvage Value**")
- (d) a **reduction from the Salvage Value by 20%** such that only 80% of the Salvage Value can be used as a credit against the Gross Cost and Admin Factor. **The Salvage Value multiplied by 80% is the "Salvage Credit"**.

Thus the Decommissioning Cost Estimate formula is: **Gross Cost+ Admin Factor - Salvage Credit= the "Decommissioning Cost Estimate"**.

SHS shall provide a **revised and Updated Decommissioning Cost Estimate on every 5th anniversary of the date** when the Project first began to continuously deliver electric energy to the electric grid for commercial sales ("Commercial Operation Date") for the Project Life, which shall account for inflation, cost and value changes, and advances in decommissioning technologies and approaches.

The Decommissioning Cost Estimate shall include a **table allocating the net cost estimate across the Project area** that shall be allocated per Southampton County parcel number. The portion of the

Decommissioning Cost Estimate with respect to the project parcels that include underground wires, or other equipment, but not solar panels, (collectively, the "No Panel Allocation Areas") shall contain net estimates for the decommissioning of the equipment located on each of those parcels. The remainder of the Decommissioning Cost Estimate with respect to the remaining Project area shall share the total remaining net cost estimate across the parcels that do contain solar panels, based on the percentage of generating capacity in megawatts (MW) on each parcel ("MW Allocation Areas" together with the No Panel Allocation Area shall be the "Allocation Areas"). The Decommissioning Cost shall be allocated per Allocation Areas and apportioned per landowner and per parcel, in case ownership of the underlying land changes control during the life of the Project.

The County may elect to have the Decommissioning Cost Estimates reviewed by a Virginia Licensed Engineer on behalf of the County, in which case reasonable engineering review fees shall be reimbursed by SHS.

IV. Financial Security

SHS will provide an amount equal to the Decommissioning Cost Estimate (as determined by a Virginia Licensed Engineer, per section III), provided, however, that the amount of security shall **never be less than Two Hundred and Fifty Thousand Dollars (\$250,000)**, ("Decommissioning Security"). Decommissioning Security shall be provided by SHS **prior to the Commercial Operation Date**.

A Virginia licensed engineer shall provide an Updated Decommissioning Cost Estimate **on or before the fifth anniversary of the Commercial Operation Date and every five years thereafter** during the Project Life. SHS shall replenish and fully fund the Decommissioning Security based on each Updated Decommissioning Cost Estimate, if applicable.

The Decommissioning Security may be in one of the following forms: **(i) cash to be held in escrow** by the County Treasurer at a Bank, or **(ii) a letter of credit from a financial institution reasonably acceptable** to the County which shall be irrevocable unless replaced with cash or other form of security reasonably acceptable to County (each a form of "Acceptable Credit Support").

SHS shall post **Acceptable Credit Support** in the amount of the Decommissioning Security prior to the Commercial Operation Date.

Upon the receipt of the first Updated Decommissioning Cost Estimate (following the 5th anniversary of the Commercial Operation}, **any increase or decrease in the Decommissioning Security shall be funded by SHS, or refunded to SHS** (if permissible by the form of Credit Support and such that Decommissioning Security is not less than \$250,000), within ninety (90) days and will be similarly trued up for every subsequent five year updated Decommissioning Cost Estimate.

V. Timing for Decommissioning

Upon the earlier of: (i) completion of the Project Life; or (ii) Abandonment of the Project or any portion thereof, SHS will arrange for and be responsible for the full Decommissioning of the Project, such that **Decommissioning will be completed within six (6) months** of the end of the Project Life or Abandonment of the Project or any portion thereof, whichever first occurs.

If a leaseholder or Southampton County believes that the Project or a portion thereof has been **discontinued for longer than one (1) year** (i.e. if the Project or any portion thereof has ceased operations for a continuous period of longer than one year) ("Abandonment"), and should be Decommissioned earlier, consistent with the terms of the underlying lease or this Decommissioning Plan, then such landowner or Southampton County shall provide written notice of such Abandonment claim to SHS. Upon receipt, **SHS shall have a sixty (60) day period in which to refute the claim**, remedy any problem, commence Decommissioning under the lease agreement, or show why more than sixty (60) days is reasonably necessary to remedy the problem. If at the end of the sixty-day period the parties are unable to resolve amicably any dispute arising out of or in connection with this Decommissioning Plan, then such dispute shall **be resolved by an action filed in the Circuit Court of Southampton County, Virginia.**

VI. Partial Decommissioning

If Decommissioning is triggered for a portion, but not the entire Project, then SHS will commence and complete Decommissioning, in accordance with this Decommissioning Plan, for the applicable portion of the Project; the remaining portion of the Project would continue to be subject to this Decommissioning Plan. Any reference to Decommissioning the Project shall include the obligation to decommission all or a portion of the Project whichever is applicable with respect to a particular situation.

VII. Completion of Decommissioning & Return of Financial Security

Decommissioning will be complete when the **County Construction Official or County Engineer**, or another party appointed by the County, **determines that Decommissioning has been completed in accordance with this Decommissioning Plan.** Within forty-five (45) days of such determination of completion of Decommissioning, the **County shall send a letter, with a copy to SHS, approving the release to SHS of the Decommissioning Security.**

VIII. Default by SHS of Decommissioning Responsibility

If SHS is in default of its obligation to commence or complete Decommissioning, and such default remains uncured for more than 60 days (as explained in section V) ("SHS Decommissioning Deadline"), each landowner shall have the right to commence Decommissioning activities and shall have access to each respective landowner's prorated percentage allocation of the Decommissioning Security plus the salvage value of the equipment and materials on their lands. Excess funds shall be returned to the Decommissioning Security fund for use in Decommissioning other SHS property. Following the completion of Decommissioning of the entire Project arising out of a default by SHS, any remaining funds shall be distributed to landowners in a proportion consistent with the Allocation Areas as referenced in Section III.

If Southampton County believes that a landowner has not commenced Decommissioning activities under this section VIII for longer than ninety (90) days after the SHS Decommissioning Deadline ("Failure to Act"), then Southampton County may provide written notice ("Notice to Landowner") of this Failure to Act to the landowner and to SHS. Upon receipt, landowner shall have a sixty (60) day period in which to refute the claim, remedy any problem, commence Decommissioning, or show why more than sixty (60) days is reasonably necessary to remedy the problem.

If landowner does not commence Decommissioning, and such Failure to Act remains uncured for more than 60 days after receipt of the Notice to Landowner, then Southampton County shall have the right to commence Decommissioning activities and shall have access to each respective non-performing landowner's prorated percentage allocation of the Decommissioning Security plus the salvage value of the equipment and materials on their lands. Excess funds shall be returned to the Decommissioning Security fund for use in Decommissioning other SHS property. Following the completion of Decommissioning of the entire Project arising out of a default by SHS, any remaining funds shall be distributed to landowners in a proportion consistent with the Allocation Areas as referenced in Section III. Nothing herein shall limit other rights or remedies that may be available to the County to enforce the obligations of SHS, including under the County's zoning powers.

Suffolk City – CUP approval (Decommissioning Plan), Myrtle Solar

THE MYRTLE SOLAR PROJECT DECOMMISSIONING PLAN - March 16, 2017

As required by the City of Suffolk Article 7, Section 31-724(c), the following Decommissioning Plan is submitted in **support of the conditional use permit application**.

- Per the lease agreement between the landowner and the TWE Myrtle Solar Project. LLC, **decommissioning shall be the full responsibility of the lessee.**
- Per Article 7, Section 31-724(c), the solar energy facility owner shall have **three (3) months to complete decommissioning of the facility** in the event that **no electricity is generated for a continuous period of twenty-four (24) months.**
- Decommissioning/Restoration activities will include the following:
 - **Removal of all solar panels and support structures**, buildings, cabling, electrical components, roads, and any other associated facilities.
 - **Restore such portions of the Property** to a condition reasonably **similar to its condition as of the Effective Date**
 - **Disturbed earth shall be graded and re-seeded**, unless the landowner requests in writing that the access roads or other land surfaces not be restored
- Per the lease agreement with the landowner, the **land shall be restored to its pre-solar farm condition**
 - **All above ground non-utility owned equipment**, conduit, structures, fencing, roads and foundations **shall be removed.**
- Decommissioning of the solar farm will be **completed within six months** of a decommissioning initiating event.
- The anticipated lifespan of the solar project is 30-35 years.

- **Beginning in year 10**, the solar energy facility owner will **obtain a letter of credit, bond, or such other security** in an **amount equal to the cost of performing the restoration obligations minus the salvage value** of the Solar Energy Facilities on the property.
- The **Property Restoration amount will be determined by an independent engineer** licensed in the state of Virginia and shall be **adjusted every five (5) years thereafter**.

Suffolk City – CUP Approval (Decommissioning Plan), Pleasant Hill Solar

1.0 Introduction

Pleasant Hill Solar LLC is developing the Pleasant Hill Solar project ("Project"), a solar photovoltaic ("PV") power generating facility on approximately 209 acres of land in the Cypress Borough of the City of Suffolk, Virginia. The project is permitted under a **Conditional Use Permit (C09-17)**, and hereby **submits its facility Decommissioning Plan for the Project in compliance with the requirements of Unified Development Ordinance** -article 7, Section 31-724 - Solar Energy Facilities, Item C Decommissioning or - abandonment. This plan will outline the **responsible party, timeframes, and estimated costs for decommissioning, dismantling, and proper removal** of all Project facilities at the end of the useful life of the Project, or when the Project is otherwise abandoned. This plan will also identify **the performance and financial assurance guarantee** to cover the cost of implementing the Decommissioning Plan.

2.0 Project Components

Photovoltaic power generating systems are **arrays of solar panels** containing a material that converts solar radiation into direct current ("DC") electricity. The Project uses **inverters** to convert the direct current to alternating current, which is required for connecting to the electrical grid.

The Pleasant Hill Solar project will consist of **photovoltaic modules affixed to a low-profile, single-axis, tracking system**. The racking system uses a "rammed post" technique for installing the steel posts directly into the soil, eliminating the need for concrete footings. In different sections of the facility the cabling will be **(1)** affixed to the underside of the photovoltaic panels, **(2)** run in cable tray or another above-ground cable management system and **(3)** directly buried to conduct electricity generated by the solar panels to the grid.

The system is designed to operate efficiently without interruption during a lifespan of more than twenty-five years.

The photovoltaic modules will be mounted on racking along a north/south axis, which will be connected to a drive system to rotate the modules. Electrical equipment, including inverters and transformers are grouped throughout the site. **Inverters** convert the low voltage DC electricity generated by the modules to alternating current ("AC") electricity. The **transformers** then step up the voltage of the AC electricity to match the grid voltage. **A medium voltage, underground AC circuit connects the Project transformers to the electrical grid.**

2.1 Access

Existing site access off Hosier Road will be improved with a formal driveway design per the City's requirements. Internal to the site, an improved gravel maintenance road will be located through the

Project to provide maintenance access to the solar equipment. The perimeter of the Property will be secured and controlled **access gates will be located at the Project entrance.**

The Pleasant Hill Solar Project will be an unmanned facility. All internal access roads will be designed to accommodate a vehicular load of 75,000 lbs. and will be finished with an all-weather gravel surface (aggregate base course).

2.2 Fencing and Racking Posts

As described above, the solar array construction consists primarily of ramming galvanized steel piles into the ground. Typically, the piles are embedded approximately 7 feet into the ground. The proposed **fence will be six (6) feet tall and topped with three (3) strands of barbed wire (12")** to ensure public safety and security. As noted above, two access gates will be positioned to provide access to the Project.

3.0 Decommissioning Plan

At the time the Project **permanently ceases to operate**, Pleasant Hill Solar LLC ("the Owner") will perform decommissioning activities to **remove all equipment and materials related to the operation** of a solar PV project and **restore the property to its condition** prior to the Project's construction.

3.1 Planning and Permitting

Governmental regulations at the time of decommissioning may require **specific plans and permits to be in place prior to site decommissioning activities.** The Owner will develop a comprehensive plan based on this Decommissioning Plan to follow during the deconstruction process. The Owner will identify and acquire all local, state, and federal permits required for this work. The Owner will identify subcontractor(s) and waste/recycling companies during the planning phase.

3.2 Removal of All PV Equipment

3.2.1 All PV modules will be removed and disposed of at a licensed disposal facility that recycles or safely deconstructs PV modules, if such a facility is available at the time or will be returned to the PV module supplier via any available take-back or manufacturer recycling program. If such recycling facility or take-back program is not available, PV modules will be disposed of in accordance with applicable law and then-current environmental standards.

3.2.2 Above ground racking support structures will be removed. Below ground piles will be removed entirely where practical. Any such structures that cannot practically be pulled out (for example, posts embedded in bedrock) will be cut three feet below grade and the remainder will be left in place and covered. This will allow agricultural activities to resume over top of the material.

3.2.3 All power collection equipment including cabling, combiner boxes, inverters, transformers, control cabinets, inverters, and switchgear **will be removed from the site** and disposed of at a licensed disposal facility or recycling center.

3.2.4 Underground cables buried at least 30" will remain in place. All above ground cable will be removed from the site. This will allow agricultural activities to resume over top of the material.

3.2.5 All concrete foundations will be broken up and debris will be removed from the site.

3.3 Site Restoration

3.3.1 The **site fence will be pulled out** and removed from the site.

3.3.2 Gravel access roads and staging areas will remain until all other materials have been removed from the site to facilitate decommissioning activities. **Once equipment removal is concluded, the road material will be removed from the site and replaced with fill.** The fill will be graded to follow the contours of the site.

3.3.3 Any disturbed areas will be covered with a minimum of 2" of topsoil, which is consistent with the composition of the soil prior to construction of the Project. Topsoil will be treated with fertilizers needed for establishment of vegetation and will be covered with grass seed and straw mulch.

4.0 Decommissioning Schedule

The Project is intended to operate for a term of 30-40 years. The Project will sublease the property for a term of up to 40 years. At the end of the sublease term, the Owner will cease operation of the Project and execute this Decommissioning Plan. **The duration of decommissioning activities will be approximately 6 months.**

Surry County – CUP Approval (Action Letter and Application Language), Spring Grove Solar

On May 3, 2018, the Surry County BOS voted to approve a request to combine two previously approved projects (Spring Grove Solar, originally approved on August 3, 2017, and Colonial Trail Solar, originally approved on April 6, 2017). The conditions originally imposed on each of these projects was identical, and the May 3, 2018 conditions imposed on the newly-defined Spring Grove Solar largely mirrored the original conditions. On decommissioning, the May 3rd conditions read as follows:

4. Prior to the issuance of permits for installation of equipment, a plan for decommissioning the facility in substantial compliance with the **Decommissioning Plan submitted to the County on July 28, 2017,** shall be provided. Each solar energy system shall be decommissioned and removed within **18 months after that facility ceases electricity generation for a continuous 12-month period.** Decommissioning shall include **removal of solar collectors, cabling, electrical components, and any other associated items.**

This May 3, 2018 condition #4, is identical to condition #4 found in both the April 6, 2017 and August 3, 2017 agendas, with the exception of the line “in substantial compliance with the Decommissioning Plan submitted to the County on July 28th, 2017. It is not immediately obvious what “submitted to the county on July 28th, 2017” means and SolUnesco has an outstanding request with the county to better clarify. However, the August 3rd, 2017 BOS meeting agenda shows that there was a Decommissioning Plan attached to the CUP application for the original Spring Grove project, which was approved on that date. The wording of this decommissioning Plan is identical to a Decommissioning Plan submitted with the approved CUP application for Colonial Trail project, as shown in the April 6, 2017 meeting minutes. This Decommissioning Plan includes:

The Facility Owner shall provide an estimate of the cost to decommission the Project (the "Decommissioning Cost Estimate") prepared by a **Virginia Licensed Engineer** prior to the issuance of permits for installation of the Project, which shall include the following:

- (a) The **gross estimated cost to perform Decommissioning** as set forth in Section II above ("Gross Cost");
- (b) An **administrative and inflation factor of 10%** of the Gross Cost (the "Admin Factor");
- (c) The estimated **resale and salvage values** associated with the Project equipment ("Salvage Value")
- (d) **A reduction from the Salvage Value by 10%** such that only 90% of the Salvage Value can be used as a credit against the Gross Cost and Admin Factor. The Salvage Value multiplied by 90% is the "Salvage Credit".

Thus the **Decommissioning Cost Estimate** formula is:

Gross Cost + Admin Factor - Salvage Credit = the Decommissioning Cost Estimate.

The Facility Owner shall provide an updated **Decommissioning Cost Estimate on every 10th year** anniversary of the date when the Project first began to continuously deliver electric energy to the electric grid for commercial sales (the "Commercial Operation Date") during the Project Life, which shall account for **inflation, cost and value changes, and advances in decommissioning technologies** and approaches.

If the Project lies on property owned by more than one person, entity or group (multiple owners), the Decommissioning Cost Estimate shall include **a table allocating the net cost estimate** across the Project area, based on the percentage of generating capacity in megawatts (MW) attributable to each separately owned property (the "Cost Allocation").

This Decommissioning Plan from the August 3rd agenda, while providing a methodology for calculating a cost estimate, does not offer any bond or other financial surety for decommissioning. The conditions imposed in the county do not explicitly require any bond or financial surety.

SolUnesco does not believe that a final Decommissioning Plan has been offered to the county by the developer of Spring Grove, but we have an outstanding request with the county for further information.

Westmoreland County – SEP Approval (Action Letter and Approved Decommissioning Plan), Montross Solar

Prior to the issuance of permits for installation of equipment, a plan for decommissioning the facility shall be provided. The solar energy system shall be **decommissioned and removed within twelve (12) months** after the facility ceases electricity generation for a continuous twelve-month period. Decommissioning shall include removal of (a) **all above-ground improvements** (including solar collectors, cabling, electrical components, any bases or footers, and all other associated items, and (b) **all below-ground improvements** (including cabling, any bases or footers, and all other associated items) to a minimum depth of **thirty-six (36) inches below grade**. A **plan for decommissioning** shall include

recycling to the extent practical of all above-ground improvements, including solar collectors, cabling, all electrical components, metal posts, and racking.

Approved Decommissioning Plan – May 29th, 2018

1. Introduction

Dominion Energy will construct, own and operate the approximately 20-megawatt (MW) capacity photovoltaic (“PV”) Montross Solar Project (“Project”). The Project is on a portion of Tax Parcel ID 44-7 consisting of approximately 180 acres of the total 342-acre parcel. The Project provides this **Decommissioning Plan** to comply with Case #1801-SE-01 as approved by the Westmoreland County Board of Supervisors on February 12, 2018. Approval letter dated February 13, 2018 is attached as Attachment 1.

2. Project Background

The Project is located at a physical address of 110 Nelson Street, Montross, VA. The solar farm will consist of approximately 87,000 solar modules, associated solar module racking system and foundations, 7 solar inverters, 7 medium voltage step-up transformers, and associated electrical equipment and materials necessary to connect to the local power distribution system.

3. Existing Site Conditions

The Project lease will encompass approximately 180 acres of the 342-acre parent parcel. Land use prior to development was primarily row crop agriculture and timberland. The solar array will be located on the current agriculture field which is approximately 120 acres. The topography of the array area is generally flat with moderate slopes falling away to stream valleys to the north and south. The site has frontage along Kings Highway (State Route 3) and Nelson Street.

4. Description of Work to Construct Utility Scale Solar Facility

4.1. Major Activities

Cable Trenching: Trenching requirements for the electrical cables and telecommunication lines would consist of a trench up to approximately three feet deep and one to four feet wide. The trenches would be filled with base material above and below the conductors and communications lines to ensure adequate thermal conductivity and electrical insulating characteristics. The topsoil from trench excavation would be set aside before the trench is backfilled and would ultimately comprise the uppermost layer of the trench. Any excess material from the foundation and trench excavations is incorporated onsite and will not be exported.

Foundations: The solar modules will be installed on steel racking structures. The posts for the racking structures will be driven approximately 5-6 feet into the ground using a post-driving machine. The solar inverters and medium voltage step-up transformers will be set on concrete pads which are typically 12-18 inches deep.

Modules Racking System: Galvanized beams and other structural members will be bolted to the foundation posts of the racking system. The solar modules are then mounted on these structural members using different pieces of hardware.

Solar Inverters and Medium Voltage Step-Up Transformers: The solar inverters and medium voltage step-up transformers will be offloaded from delivery trucks and placed on concrete foundations. These pieces of equipment will be bolted to the concrete foundations. The underground electrical and communication cables will be routed and connected to these pieces of equipment.

4.2. System Overview and Components

Photovoltaic (PV) is a solar energy technology. Solar energy technology refers to the generation of electrical current from sun light. PV solar modules absorb sunlight and use silicone cells to generate electrical current. The PV Modules are mounted on a single axis tracking racking system which allows the modules to track the sun throughout the day. Components of the system include the following:

4.2.1. Combiner Boxes: Combiner boxes allow for the paralleling of multiple conductors/feeder inputs and allow for fewer outputs.

4.2.2. Inverters: Inverters are high speed switching and power conversion devices which transform direct current (DC) to alternating current (AC). In the case of the Project, there are 7 solar inverters.

4.2.3. Transformers, Recloser, Disconnect Switch: Transformers are an apparatus for reducing or increasing the voltage of an alternating current. There are 7 medium voltage step-up transformers on this project for distribution to the electrical grid. The Recloser and Disconnect Switch are protection devices that allow the Project or Dominion Energy to isolate the solar farm from the wider distribution system.

4.2.4. Underground Cables and Conduits: Underground power (AC and DC) cables, communication and grounding cables on the Project will be either direct buried or placed in conduit. The cables will be rated in accordance with their application. The cables will be located in a conduit as per code when transitioning from below grade to above grade.

4.2.5. Access and Internal Roads: The Project will have internal roads to provide access to facility equipment. Internal access roads will be constructed using an aggregate base over compacted native soils.

4.2.6. Buildings and Enclosures: The Project will not contain any permanent occupied building structures after construction is complete and the plant is operating. The site may have storage containers used for storing spare parts and materials, but these will not be affixed to a foundation. Except for periodic maintenance, the site is unmanned.

4.2.7. Security Fencing: To ensure security of the facility, the property will be fenced with seven-foot-high chain link fencing topped by one foot of three strands of barbed wire. Access to the site will be controlled via locked access gates.

4.2.8. Project Life: The facility has an estimated useful life of at least 35 years with an opportunity for extension depending on equipment replacements or refurbishments.

4.2.9. SCADA and Communications Equipment Enclosure: Supervisory Control and Data Acquisition (SCADA) refers to the entire communication and control components. The SCADA equipment for the solar farm will be mounted inside of an enclosure which measures approximately 24-feet long by 10.5-

feet wide. The enclosure is affixed to a foundation or mounted on piles, depending on soil conditions. The SCADA system includes an internet router, server(s), a firewall, battery backup, and other hardware to monitor the solar farm.

5. Decommissioning Process

Decommissioning consists of the **removal of above- and belowground facility components, management of excess wastes and materials, and the restoration of ground surface irregularities and herbaceous vegetation.** As per the lease agreement with the landowner, the project area is to be restored in a manner consistent with its condition **prior to facility construction.** Decommissioning activities are expected to take between 6 to 8 months. Removal of all equipment will be done in accordance with applicable regulations of the time.

5.1 Equipment Removal

After the facility has been disconnected and isolated from the utility power grid and all electrical components have been disconnected within the facility, equipment will be dismantled and removed. Decommissioning will be undertaken by licensed subcontractors using similar techniques and equipment to those used in the construction of the Project.

The following describes the **methods for dismantling and removal of various Project Components:**

PV arrays and associated equipment

- Disconnect all wiring, cables and electrical interconnections.
- Remove PV arrays from racks.
- Dismantle and remove all racks and extract all pile-drive support structures (see Equipment foundations).

Inverter units

- Remove inverter units from bases.
- Remove concrete foundations (see Equipment foundation).

Generation Tie-Line cables

- All above ground cables will be removed and transported offsite to an approved recycling facility or landfill.
- Underground cable runs will be removed, recycled or taken to a landfill as appropriate. Any underground cable left in place will be cut off at a minimum depth of 36-inches below the ground surface.

Equipment foundations

The inverter units and pile-drive support structures for the solar arrays will have foundations that require removal. Other underground infrastructure requiring removal may include concrete protective electrical structures. Any foundation structures and below ground concrete will be fully removed from the ground and the affected area will be backfilled as necessary with native soil.

Access roads

- Landowners shall be consulted to determine if any access roads are desired to remain in place for future use.
- Should roads be removed, all aggregate and other underlying materials will be excavated.
- As necessary, all compacted areas will be disc-ed or tilled to restore soil densities consistent with the surrounding area.

Other components

- Fences, gates, and guards will be removed.

5.2 Site Restoration

The current Project area is primarily used for row crop agriculture. The area will be restored to a similar state, as per the lease agreement.

5.3 Managing Excess Materials and Waste

A variety of excess materials and wastes will be generated during decommissioning. To the extent practicable, Owner will coordinate with manufacturers, contractors, waste firms, and other entities to maximize the reuse and/or recycling of materials. Those materials deemed reusable/recyclable will be transported offsite and managed at approved receiving facilities following all applicable federal, state, and county waste management regulations of the time. All residual waste will be removed by a licensed contractor and transported to an approved landfill. No waste materials will remain on the Project site.

Decommissioned materials will include:

5.3.1 PV Panels

The Project will coordinate the collection and recycling of the PV modules and for minimizing the potential for modules to be discarded. If there is no possibility for reuse, PV panels will either be returned to the manufacturer for appropriate recycling/disposal or will be transported to a recycling facility where the glass, metal and semiconductor will be recycled. Best management practices at the time of decommissioning shall be utilized.

5.3.2 Racking and Supports

All steel racks and pile-driven supports will be transported offsite and recycled at an approved recycling facility.

5.3.3 Inverters

All metal components of the inverters will be recycled at an approved recycling facility to the extent practical. Transformers will be transported off-site for reuse. If no reuse option is available, transformers will be recycled or disposed at an approved facility.

5.3.4 Gravel and Aggregates

Should access roads be removed, any used gravel or aggregates will be tested for contamination prior to removal. All uncontaminated materials will be transported offsite for salvage processing and then

reused for construction fill. In the unlikely event that the used gravel or aggregates are found to be contaminated, these will be disposed at an approved facility.

5.3.5 Concrete

All concrete, including all foundations, will be broken down and transported to an approved landfill or recycling facility.

5.3.6 Cables and Wiring

All copper and/or aluminum wiring and associated electronic equipment (e.g., isolation switches, fuses, metering) will be recycled to the extent practical. Any materials not deemed recyclable will be disposed of at an approved landfill.

5.3.7 Fencing

All fencing materials will be recycled at a metal recycling facility to the extent practical.

5.3.8 Debris and Residual Waste

Any remaining debris or residual waste will be collected, and all recyclable materials will be sorted. All sorted materials will be removed and sent to either an approved recycling or disposal facility.

Westmoreland County – SEP Approval (Action Letter), Gardy’s Mill Solar

9. Prior to the issuance of permits for installation of equipment, a plan for decommissioning the facility shall be provided. The solar energy system shall be decommissioned and removed **within twelve (12) months after the facility ceases electricity generation for a continuous twelve-month period.** Decommissioning shall include **removal of solar collectors, cabling, electrical components, any bases or footers, and all other associated items.**