DECOMMISSIONING PLAN

OF

HCE REAMS SOLAR I

CONDITIONAL USE PERMIT

PREPARED FOR:

DINWIDDIE COUNTY, VA

Prepared by:

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Table of Contents

Project Introduction

Reams Solar I is a proposed 5MWac, 7.5MWdc photovoltaic solar facility located near the intersection of Old Vaughan Road and Old Stage Road in Dinwiddie County Virginia. The project will be built on land owned by Rose Smith, Parcel ID 47-74. The property is zoned A1 (agriculture)l and is currently used for cattle and agriculture. The project will be interconnected to Southside Electric Cooperative's distribution grid and will delivery renewable energy to the neighboring community.

As requested by the Dinwiddie County Planning Commission, Holocene Clean Energy is submitting this Decommissioning Plan in conjunction with a request for a Conditional Use Permit.

Decommissioning Plan

Anticipated Life

The primary component of a solar generating facility is the photovoltaic modules, and thus the operational life of a solar farm is typically associated with the operating life of the modules. The project is planned with Tier 1 crystalline solar modules, as defined by Bloomberg New Energy Finance, which have an operational life of 25 years or more. Most module manufacturers advertise even longer operational lives for their products and financing parties have been willing to accept 35 or 40-year project lifetimes. Research from the North Carolina Clean Energy Center and numerous other sources support 30-35 year operational lifetimes. In this plan, we estimate this project's operational life at 30 years, which has been corroborated with Ballentine Associates, PLLC, an independent engineering firm engaged for the decommissioning estimate. If the operational life is judged to be greater than 30 years, this decommissioning plan will be updated with additional cost information.

The long-term lease agreement is in effect for 20 years with two, 10-year extension options for a total of 40 years.

Decommissioning Process

The decommissioning requirements set forth in the lease agreement dictate that the solar facility and all associated equipment must be removed from the site within six months of the end of the lease period.

Decommissioning this site will involve the removal of all solar and ancillary equipment. Solar modules, racking, posts, concrete pads, inverters, transformers, the battery, wiring and fencing make up most of that equipment. In keeping with industry best practices, the applicant plans to recycle or salvage these materials wherever possible. The Decommissioning Cost Estimate provides additional details from the professional engineer on the removal methodology for each piece of equipment.

One possible exception to removal is subsurface improvements, including roads, which may remain if requested by the landowner. Once the equipment is removed, the land will be reseeded, stabilized and returned to it its pre-development state. All materials will be removed from site and recycled where possible.

Explanation of Decommissioning Cost Methodology

Ballentine Associates is a civil engineering firm based in Chapel Hill, NC with several years of experience designing and estimating costs for solar facilities. Holocene Clean Energy engaged Ballentine to perform

a cost estimate for the decommissioning of this facility. This cost estimate represents the total cost to remove and restore the site and should be used as the basis for the county's financial assurance. The estimate was performing using Holocene's Concept Site Plan and unit costs for the removal of each item.

The full detail of their cost estimate is attached below as Appendix A.

Estimated Decommissioning Cost

The total cost to decommission the site is estimated at $211,135.74. This cost assumes no materials are disassembled for salvage and is thus the least cost option for decommissioning. This cost estimate includes the major equipment listed below. Additional details and assumptions can be found in the full report at Appendix A.

ITEM	QUANTITY	UNIT	COST TO REMOVE/ RESTORE
Wire {Copper)	39,668	LB	$7,933.65
Wire {Aluminum}	1,088	LB	$217.59
Racking System	814,600	LB	$32,584.00
Solar Modules {Crystalline)	16,692	EA	$25,038.00
Inverters	2	EA	$4,500.00
Transformers	2	EA	$10,000.00
Concrete Pad	4 EA		$6,000.00
6' Chain Link Fencing	5,675	LF	$19,862.50
Battery Storage System	2	EA	$30,000.00
Land Restoration	30	AC	$15,000.00
Erosion Control	30	AC	$60,000.00
TOTAL			**$211,135.74**

Salvage Value Considerations

The analysis performed by Ballentine also included a separate methodology, where parts were disassembled and credit from salvage was included in the estimate. The salvage value was estimated for cooper, aluminum and steel using current trading prices for scrap metal. The total cost to decommission the site including the cost to preserve salvage materials and the value of the salvage materials is shown on the cost estimate table below.

ITEM	COST TO REMOVE/ RESTORE	TOTAL SALVAGE VALUE	NET GAIN/ LOSS
Wire {Copper)	$7,933.65	$102,993.32	$95,059.66
Wire {Aluminum}	$217.59	$913.87	$ 643.54
Racking System	$65,168.00	$107,154.07	$ 41,986.07
Solar Modules {Crystalline)	$33,384.00	$65,098.80	$31,714.80
Inverters	$4,500.00	$3,663.28	$ (836.72)
Transformers	$10,000.00	$25,000.00	$15,000.00
Concrete Pad	$6,000.00	$0.00	$(6,000.00)
6' Chain Link Fencing	$19,862.50	$976.10	$(18,886.40)
Battery Storage System	$30,000.00	$4,000.00	$(26,000.00)
Land Restoration	$15,000.00	$0.00	$(15,000.00)

Erosion Control	$60,000.00	$0.00	$(60,000.00)
TOTAL	$252,065.74	$309,746.68	$58,180.94

Using these values, the solar facility's salvage value is predicted at $58,180 in excess of the decommissioning cost. The applicant believes acknowledging the salvage value of these commodities is prudent and provides security to the county and landowner that the site will not be abandoned.

Remediation Funds

To secure the availability of funds to decommission the facility in accordance with Virginia Code § 15.2-2241.2, Holocene Clean Energy has proffered either a) provide a parent guarantee satisfactory to the County or b) making annual deposits to a reserve fund to be held by Dinwiddie County or it's designee. Holocene has sized of the fund to exceed the decommissioning cost estimate excluding salvage value. If the applicant fails to uphold its decommissioning obligation, the County shall have the authority to use these funds to decommission the facility. If the funds are not called upon by Dinwiddie County for decommissioning, the county may keep the funds. Deposits shall be made in accordance with the following schedule upon commissioning of the project:

Year	Reams Solar I Payment
1	$ 13,402
2	$ 12,974
3	$ 12,261
4	$ 11,976
5	$ 12,261
6	$ 11,834
7	$ 11,548
8	$ 10,693
9	$ 9,838
10	$ 8,840
11	$ 7,699
12	$ 6,701
13	$ 5,560
14	$ 4,562
15	$ 3,564
16	$ 3,564

17	$ 3,564
18	$ 3,564
19	$ 3,564
20	$ 3,564
21	$ 3,564
22	$ 3,564
23	$ 3,564
24	$ 3,564
25	$ 3,564
26	$ 3,564
27	$ 3,564
28	$ 3,564
29	$ 3,564
30	$ 3,564
31	$ 3,564
32	$ 3,564
33	$ 3,564
34	$ 3,564
35	$ 3,564
Total	**$ 215,000**

Appendix A