3/27/2019

Decommissioning Fact Sheet

sPower believes that the decommissioning bond should be reduced from $36 Million for the following reasons:

- risk for solar facility failure is extremely low
- Salvage value is explicitly allowed in state law and in almost all other counties requiring solar decommissioning bonds in Virginia.
  - Solar Panels have significant value, even decades after purchase

Additionally, sPower believes that Surety Bonds and Parental Guarantees should be allowed to reduce the high cost burden for an event that will likely not take place for at least 35 years.

I. <u>Solar Facility Failure or Abandonment Rates</u>

- Solar facility failure is so rare that sPower is not aware of any studies or statistics on utility scale PV solar facility failure or abandonment rates.
- After investigating the issue, sPower is not aware of any solar facilities failing or being prematurely decommissioned in at least the last 20 years.
- Dr. Sinah and Dr. Fthenakis both testified neither of them are aware of any solar facilities having to be abandoned or decommissioned prematurely
- The risk of the Spotsylvania Solar Energy Center failing or being abandon in the first 35 years of project life are extremely low based on historical information and due to the contracted PPAs with large multinational corporations, stable fixed cost to operate solar facilities and stable, competitive price of solar energy versus fossil fuel energy sources.

II. <u>Salvage Value:</u>

A. *Virginia Senate Bill 1901*

- This bill allows localities to consider using surety bonds as well as allowing the net salvage value of all equipment.
- Passed House 94-3, including a yes vote from Mark Cole. Passed Senate 35-4, including a yes vote from Senator Reeves.

B. *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

C. Summary of Virginia County Decommissioning Requirements (Solunesco PDF)

- 16 counties are silent on the inclusion of "salvage value,"
- Seven counties have mentioned the requirement for inclusion of salvage value credit in the decommissioning cost estimate.
- **Only two counties have explicitly disallowed for the inclusion of salvage value.**
- **24 Counties in Virginia allow for non-cash financial assurances (Surety Bonds).**
- 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.

D. Solar Panel Value

Due to a variety of factors, solar panels retain value throughout the life of the project and due to this value, it is extremely unlikely that the panels would be recycled or sent to a landfill prior to 35 years of usage. The panels, which cost approximately $200 million would be redeployed or resold just as any other good which retains value (such as a car) past it's initial purchase.

Efficiency over time

- CdTe panels degrade at about 0.3% production output each year. In 30 years, these panels will still be producing about 91% of the energy they did on the day they were installed. (https://www.nrel.gov/docs/fy12osti/51664.pdf)
- Polycrystalline Silicon panels degrade at about 0.59% production output each year. That means in 30 years, these panels will still be producing about 82% of the energy they did on the day they were installed. (https://www.nrel.gov/docs/fy12osti/51664.pdf)

Warranty

- Jinko - 10-year warranty that covers any product defects (connectors, cables, and modules). Panel power production shall not decrease below 90% of original production for up to 12 years after the project is built, and shall not decrease below 80% production up to 25 years after the project is built. (https://www.jinkosolar.com/ftp/FINAL-Jinko%20Solar%20-%20Global%20Limited%20Warranty%20NON%20LINEAR%20(20140501).pdf)

- First Solar - Product Warranty: 10-year warranty that covers any panel defects (connectors, cables, and modules) Panels are replaced or refunded by First Solar if they are found not to be in accordance with their warranty. The panels shall, during the first ten (10) years of use, produce no less than 90% of the nominal power output rating. Additionally, the panels shall, during the first twenty-five (25) years of use, produce at least 80% of the nominal power output rating (http://www.firstsolar.com/-/media/First-Solar/Technical-Documents/Series-6-Datasheets/Series-6-Datasheet.ashx)

III. Types of Financial Assurances

A. *Cash Bond* - A cash bond involves the payment of cash from one party to another to provide assurance that an obligation will be met.

If a cash bond is required for decommissioning, sPower will be required to set aside approximately $36 million dollars for over 30 years for a decommissioning event that based on the history of solar facilities is extremely unlikely to happen for at least 30 years.

B. *Letter of Credit* - A letter of credit is a letter from a bank guaranteeing that a buyer's payment to a seller will be received on time and for the correct amount. In the event that the buyer is unable to make payment on the purchase, the bank will be required to cover the full or remaining amount of the purchase.

If a letter of credit is required for decommissioning, sPower will be required to set aside $36 million dollars for 30+ years for a decommissioning event that based on history of solar facilities is extremely unlikely to happen for at least 30 years.

C. *Parental Guarantee* - Is a guarantee by a parent company of a contractor's performance under its contract with its client, where the contractor is a subsidiary of the parent company. It is mandatory for all the companies to mention about the guarantees granted as a note in their accounts because it is a risk for the company.

sPower believe a Parental Guarantee is a reasonable method to secure financial obligations for near and far term potential decommissioning obligations.

D. *Surety Bond* - A surety bond or surety is a promise by a surety or guarantor to pay one party (Obligee - Spotsylvania County) a certain amount if a second party (Principal - sPower) fails to meet some obligation, such as fulfilling the terms of a contract (Decommissioning). The surety bond protects the obligee against losses resulting from the principal's failure to meet the obligation. If sPower were to declare bankruptcy, the surety guarantor is still required to pay the full bond amount to Spotsylvania County.

sPower believes a Surety Bond is a reasonable method to secure financial obligations for near and far term potential decommissioning obligations.