



County of Fairfax, Virginia

MEMORANDUM

DATE: October 20, 2020

TO: Board of Supervisors

FROM: Bryan J. Hill
County Executive *J Hill*

SUBJECT: Update on Solar Power Purchase Agreement Initiative

On December 6, 2019, Fairfax County awarded contracts to multiple vendors to install solar photovoltaic (PV) panels on county government, school, park and housing authority facilities and to sell the electrical output of these solar PV panels to the facilities pursuant to solar power purchase agreements (PPAs). These awards were the subject of a December 6, 2019 memorandum to the Board entitled *Solar Power Purchase Agreement Contract Awards*. This memorandum describes activities since then in furtherance of the county's solar PPA initiative.

Background

As explained in the December 6, 2019 memorandum, solar PPAs are a very effective financing mechanism for the purchase of renewable energy because they place both the up-front and operational cost burdens on a third-party provider of solar technology. The vendor is responsible for product selection, installation, connection to the grid, maintenance and ongoing operation.

In June 2019, Fairfax County issued a request for proposals (RFP) for solar PPA services at facilities owned and operated by Fairfax County Government, Fairfax County Public Schools, the Fairfax County Park Authority and the Fairfax County Redevelopment and Housing Authority (the "Fairfax Entities"). The RFP proposed a phased approach, with 113 possible projects listed in Phase 1 and 134 possible projects listed in Phase 2, as shown in Table 1, below. Fairfax County Government accounted for 24 of the listed Phase 1 projects and 48 of the Phase 2 projects.

Table 1: List of Possible Projects – Phases 1 and 2

<i>Fairfax Entity</i>	<i>Possible Phase 1</i>	<i>Possible Phase 2</i>	<i>Total</i>
County Government (including 28 new facilities in Phase 2)	24	48	72
Public Schools	86	74	160
Park Authority	2	1	3
Redevelopment and Housing Authority	1	11	12
Total	113	134	247

After a competitive procurement process, contract awards were issued in December 2019 to primary, secondary and tertiary awardees for both roof-mounted solar systems and parking-lot and carport solar canopies. These awardees may also be asked to provide ground-mount installations.

Preliminary Hurdles

Both legal and contract hurdles needed to be cleared before sites operated by the Fairfax Entities could begin to move forward on installing solar facilities.

The legal hurdle involved a cap under state law on the amount of customer generation permitted in the service area of Dominion Energy Virginia (Dominion). At the time of the contract awards, this cap was set at 50 megawatts (MW). Legislative action in the 2020 General Assembly session, which Fairfax County supported, increased the pilot program cap to 500 MWs for non-jurisdictional customers like the Fairfax Entities, thereby removing this issue, at least for the next several years.

The contract hurdle involved the negotiation of template, or form, PPAs with the primary rooftop vendor, Sigora Solar, and primary canopy vendor, Sun Tribe Solar. Form PPAs are a response to a state requirement that each site must have its own PPA. Under this approach, general terms and conditions applicable to all Fairfax Entities are set forth in the form PPA while site-specific matters, such as the type and size of installation and contract term, are addressed in the site-specific PPA between the participating agency and vendor. Following the form PPA as closely as possible serves important policy and business interests because it helps avoid multiple PPAs with disparate terms across vendors and projects.

After months of negotiations, agreement on form PPAs was reached with both vendors. The form PPAs were incorporated into the vendors' respective contracts as amendments to their contracts. These amendments were executed by primary roof top provider Sigora Solar on August 18, 2020 and by primary canopy provider Sun Tribe Solar on October 2, 2020.

Current Activity: Leasing

The Board is currently scheduled to convene a public hearing on the leasing of eight county government properties to Sigora Solar for the installation of roof-mounted solar generation facilities. This public hearing is scheduled for October 20, 2020. This hearing is required pursuant to Va. Code Ann 15.2-1800, which provides that a locality such as Fairfax County may not sell, lease or otherwise dispose of real property without first holding a public hearing concerning such disposal. This statutory requirement applies only to a "locality" and so does not apply to the other Fairfax Entities.

The eight locations that will be considered at the October 20 public hearing consist of six of the 24 possible Phase 1 county government projects, plus an additional two locations – one at the West Ox I-66 Transfer Station and another at the Noman M. Cole Pollution Control Plant – that were not included in either Phase 1 or 2. These eight locations represent county government sites at which the staff and the vendor are ready to begin moving forward on the installation of an on-

site rooftop solar system, including the multi-month process of vetting, designing and permitting the system.

In early 2021, staff anticipates submitting a second tranche of requests regarding authority to lease property to Sigora. This second tranche should include the remaining 18 possible Phase 1 sites listed in the RFP and is likely to include several additional sites, as well. A third tranche of requests involving Sigora may be submitted in mid-2021 to address facilities under construction. This phased approach accommodates capacity issues on the parts of both the vendor and staff and should ensure the installation of rooftop solar on the 24 County Government Phase 1 locations listed in the RFP as well as numerous additional sites.

At this time, County Government departments are focused on roof-mounted solar installations, though there also may be some interest in piloting solar canopies at certain locations. Canopies are under consideration by the Fairfax County Public Schools and the Park Authority.

Next Steps: Implementation Processes

Once a site-specific PPA is executed, the vendor will be responsible for preparing and submitting the PPA notification to the State Corporation Commission (SCC), thereby ensuring the site's place in the PPA pilot program. Sigora Solar has prepared a number of SCC notifications, which it will begin submitting upon receipt of staff approvals.

Execution of the PPA begins a multi-month process that culminates in system activation and the facility's purchase of on-site renewable energy. Attachments A and B provide an overview of this process. Attachment A describes at a very high level the solar facility installation process beginning with design and ending with activation. Attachment B details the steps required to construct and install both roof-mounted and canopy systems following zoning and permit approvals.

If you have questions, please contact Kambiz Agazi at 703-324-1788 or via email at Kambiz.Agazi@fairfaxcounty.gov.

cc: Joseph M. Mondoro, Chief Financial Officer
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Attachment A: Overview of Solar Facility Installation Process from Design to Activation
Attachment B: System Installation Following Zoning and Permit Approvals

Attachment A

Overview of Solar Facility Installation Process from Design to Activation

Design Process

Once the site-specific PPA is executed, the solar provider will create the detailed electrical, structural, and site plan needed to apply for permitting. Plans are expected to take one to two months to complete, depending on the entity, availability and accuracy of existing drawings, as well as the complexity of the design. The Fairfax Entity has up to 30 days to approve each plan, with opportunities for revision. Once approved, the PPA provider will apply for zoning and plan review to receive approval for construction permitting.

Zoning and Permit Process

In most cases the review process will take three to five months assuming a limited number of revisions are required. If there are no revisions and resubmissions, the total building review and permit process could take as little as seven to ten weeks overall to complete.

During the permit and review process, the PPA provider will coordinate with Land Development Services (LDS), Department of Planning and Development (DPD), the Urban Forest Management Division of the Department of Public Works and Environmental Services (UFMD/DPWES), the Fairfax County Fire and Rescue Department (FCFRD), and other county departments and agencies as needed. While this process is underway, the PPA provider will order materials, conduct site meetings with facility operators, and engage and schedule sub-contractors.

For roof-mounted systems, information to be provided at the time of zoning review of the building permit includes the total roof area and area covered by the solar panels, as well as the maximum building height permitted and the resultant height with the panels. If the coverage of the roof-mounted panels exceeds 25 percent of the total roof area, the facility must meet any approved maximum building height or request an interpretation that any change is a minor modification. Information to be provided for solar canopies includes scaled plans showing the location of the canopies, setbacks, heights, and any zoning case information.

In preparation for zoning review of roof-mounted or solar canopy installations, the PPA provider will investigate if there are any zoning approvals on the site and, where necessary, request and receive formal determination of substantial conformance with any approvals prior to building permit application submission. The Zoning Ordinance does provide flexibility for installation of such innovative technologies through a determination of substantial conformance, which may take approximately 30 days. If the solar project is not found to be in substantial conformance, an approved amendment will be required. Processing an amendment would require the request to be heard at a public hearing, as appropriate, before the Board of Supervisors or Board of Zoning Appeals and public outreach. If approved, an amendment generally adds six months or more to the project timeline.

Canopy systems are considered accessory structures and must comply with setback requirements. PPA providers will address any impact on trees and coordinate with UFMD/DPWES if trees are being relocated. PPA providers will coordinate with FCFRD to ensure canopies do not negatively impact emergency vehicle or ladder access to the facility.

Considerations for Roof-Mounted Systems

For roof-mounted installations, the PPA provider will need to communicate with the roof manufacturer and the roof warranty holder to determine the existing condition of the roof prior to the start of work and agree on methods to maintain the roof warranty during the installation process. Most manufacturers have become familiar with solar installations and have developed standard procedures for protecting the roof during the process of installing solar photovoltaic (PV) systems.

Once the installation is completed, the roof manufacturer and/or warranty holder will review the installation to confirm the roof warranty is maintained or require the PPA provider to make specific repairs and modifications to continue the warranty coverage. Following confirmation, the roof should be as reliable and have the same useful life as it had before the system was installed.

System Installation

Construction of a roof-mounted system is expected to take about two months per installation, depending on the size of the system. Parking lot and canopy systems may take two to four months to complete, given the need to accommodate construction of both the foundation and the canopy structure and the trenching of power conduits. Sun Tribe Solar is receptive to installing conduits for future electric vehicle (EV) charging systems when installing conduits for canopy installations. The specific duration of an installation will vary based on system size, type, and specific site requirements.

Multiple projects are expected to be in progress simultaneously, as both PPA providers can use multiple work crews and different trades will be involved at locations at different times.

System Connection

The PPA provider will coordinate with the electric utility on behalf of the county to establish both the utility interconnection agreement and the physical interconnection between the solar PV system and the utility power provider. The interconnection likely will require a shut-down of the building's electric service. Shutdowns can be scheduled when it is least disruptive to the facility operations.

System Activation

Once the PV system has been fully installed, inspected, and tested, the system will be activated and connected to the utility power connection. The facility operator will have the opportunity to complete a system punch list to ensure the installation meets requirements. Each Fairfax Entity will be required to compensate the PPA provider for power generated starting as of official system activation but will not be required to make the first payment until after punch list items have been satisfied.

Attachment B
System Installation Following Zoning and Permit Approvals

System Installations	
<i>Roof-mounted installations</i>	<i>Canopy installations</i>
Establishing staging areas	Establishing staging areas
Installing safety barriers and related safety equipment for roof work	Installing safety barriers and related safety equipment
Protecting roof and preparing roof to receive solar racking systems	Relocating trees if necessary
Using a crane to lift materials to roof	Trenching and installing conduits for solar power and possibly for EV chargers
Assembling solar PV racking systems	Preparing and installing foundation piers for canopies
Inspections	Inspections
Installing electrical conduits, power cables, and control wiring	Assembling canopies
Installing and connecting solar panels, circuit protection and inverters	Installing power and control wiring
Installing PV system service disconnect switch and connecting to building power feeds	Installing and connecting solar panels, circuit protection, and inverters
Updating facility utility electric meter if necessary	Installing PV system service disconnect switch and connecting to building power feeds
Installing control, metering, and monitoring equipment	Updating facility utility electric meter if necessary
Activating utility power interconnection	Installing control, metering, and monitoring equipment
Verifying roof warranty is maintained and valid	Activating utility power interconnection
Creating and completing punch lists	Creating and completing punch lists
Removing temporary safety equipment and restoring staging area	Removing temporary safety equipment and restoring staging area