

Project Start Date: 06/1/2018

Project End Date: 12/31/2020

Budget: \$800,000

Current Quarter Spend: \$6,123

Cumulative Spend: \$419,653



**Project Summary:** The Project proposes to use advanced control and inverter functionality, along with supporting technologies, to optimize the export of Photovoltaic (“PV”) generation to the Company’s distribution system. The Project is divided into two classes: (1) Large-Size Projects, which are 0.75 MW to 5 MW in size; and (2) Mid-Size Projects, which are 0.050 MW up to 0.75 MW in size. The Company is working with Smarter Grid Solutions (“SGS”) for Large-Size Projects and has worked with a PV developer for Mid-Size Projects.

**Lessons learned:** As the Company integrates these new technologies with its existing utility system, the Company has learned the following lessons.

- **Participant identification:** The Company conferred with SGS to develop metrics that could be used to identify participants that would benefit from the Project. These metrics include voltage flicker, overvoltage and thermal violation. The Company worked internally with its Distributed Energy Resource (“DER”) interconnection team and SGS to analyze various projects from the Company’s DER interconnection queue that had failed the coordinated electric system interconnection review (“CESIR”) process due to the criteria/metrics above. However, a change in the New York Standard Interconnection Review procedure resulted in an updated methodology to calculate voltage flicker during the screening process. Due to changes in the flicker calculations, the Company re-defined its screening process for Project participants. This resulted in some potential projects no longer requiring flexible interconnection because they pass the updated screens.
- **Pool of potential projects:** The Company provided access to Power Clerk to allow SGS to review all interconnection studies in O&R’s service territory in order to determine if there were any potential candidates that might have been missed previously. The project pool was not as large as expected with recent subsidies aimed more toward energy storage.
- **Project constraints:** The Company continued discussion with three developers on four potential projects that were identified last year. Several of the projects had size limitations due to area restrictions (e.g., wetlands). Due to constraints, projects cannot always be increased in size. The Company will need to continue to be flexible as projects may have other limiting factors. The Company is now reviewing cancelled and withdrawn projects as they may have been cancelled due to CESIR results applicable to the ANM Element. The Company also plans to address non-unity PF requirements, which requires information regarding the project’s planned DC to AC ratio.
- **Evolution of alternative technologies:** Smart inverter technology has progressed significantly since Project inception, resulting in a risk that technology used in the Project may become obsolete.

**Explanation for budget:**

The Company spent \$6,123 on the Project during Q1-2020. To date, the Company has spent a total of \$419,653 on the Project. The Project's costs are associated with contractor labor, consulting fees, vendor contract milestone payments, and project management. The charges include Large and Mid-Size Project costs, internal design and management, and contingency.

The original total project cost was estimated at \$1.3 million. The Company has decided not to pursue the Mid-Size portion of the Project, which was budgeted for \$500,000 due to advancements in smart inverter and no customer interest. With the elimination of Mid-sized project, the Company now has \$800,000 budget left for the Large-Size portion of the Project.

#### **Issues Identified:**

- **Candidate selection:** The Company identified no new projects in Q1-2020. For the Large-Size Project category, in order to identify additional eligible candidates the Company provided SGS with access to Power Clerk which allows SGS access to all interconnection studies.
- **Integration of new technologies with the Company's distribution system:** Due to the specifics of the system configuration, the Company cannot integrate all third-party equipment with its distribution system. As mentioned above, due to the system requirements of new technologies, the Company will need to work with vendors to understand technological requirements in order to integrate third-party equipment successfully and safely with its distribution system.
- **Evolution of Smart Inverters:** The fast evolution of smart inverter functionality has proven to the Company that monitoring and control functionality of a smart inverter is a far better option for developers in the Mid-Size Project category than third-party owned equipment.

#### **Solutions Identified:**

- For the Large-Size Project category, the Company has given SGS access to Power Clerk in order to identify additional customers. If no new candidates are identified and agree to move into Phase 2 by the end of Q2, the Company will document the lessons learned and will close out the Project.
- For the Mid-Size Project category, as detailed in the Q4-2019 Report, the Company was unable to recruit any customers for this segment and is not continuing forward with this category.

#### **Recent Milestones/Targets Met:**

- **Market engagement and initial interconnection assessment:** The Company anticipated to have at least 3-5 developers participate in this demonstration project (for the Large-Size Project category). Due to the longer than anticipated duration in identifying qualified candidates, the Company is trying to identify customers that will be able to complete the construction by the end of 2020. The Company has provided SGS with access to Power Clerk. The Project team reached out to three developers to discuss four projects in order to introduce them to the proposed ANM solution. Several developers expressed interest in the ANM solution and the Project, but did not have sufficient land due to real estate issues such as wetlands that limited the size of the PV site and did not allow for expansion.
- **Technical assessment of interconnection applications:** The Company completed evaluation of the existing interconnection queue and continued reviewing newly completed CESIR studies on a monthly

basis and as they become available. The Company has given SGS access to Power Clerk to allow SGS to look for additional candidates for the Project.

**Upcoming Milestones/Targets:**

For the Large-Size Project category:

- O&R plans to continue outreach efforts once SGS identifies additional candidates based on their search of the interconnection studies in Power Clerk.
- Once identified, the Company and SGS will begin discussions with prospective developers. Through the use of Power Clerk, the Company is attempting to identify additional potential candidates that will be able to complete construction by the end of 2020.
- If no new candidates are identified and agree to move into Phase 2 by the end of Q2-2020, the Company will document the lessons learned and will close out the Project.

For the Mid-Size Project category, as detailed in the Q4-2019 Report, the Company is not continuing forward with this category of projects.