Monterey Regional Airport

"With this comprehensive solar installation, Monterey Regional Airport is paving the way for other mid-size airports looking to upgrade their operations and establish on-site energy generation. Our partnership with ENGIE Services U.S. will help us realize our future sustainability and energy efficiency goals without compromising our vision for upholding high standards of safety and customer service at all times."

Michael La Pier, Airport Executive Director

THE OPPORTUNITY

Monterey Regional Airport (MRY) is a 498-acre airport operating since 1936 in Monterey County, California, and is owned by the municipalities that make up the Monterey Peninsula Airport District. With 30 daily regular flights to San Francisco, San Diego, Los Angeles, Phoenix, and Las Vegas, and connecting flights that can take travelers to destinations across the globe, MRY offers a convenient and hassle-free experience for nearly 400,000 travelers every year.

In 2016, the airport's Board of Directors was exploring ways to keep energy costs down so the MRY could ensure smooth operations and a better flying experience for its many passengers. The MRY chose local partner, ENGIE Services U.S. (ENGIE), for its first far-reaching solar program. ENGIE's previous energy partnerships with other regional airports, including Salinas Municipal Airport and Yuba County Airport, underline the company's expertise in complying with Federal Aviation Administration (FAA) regulations and navigating other industry nuances during the solar installation process.

THE PARTNERSHIP

ENGIE implemented a turnkey PV ground mount solar array project that minimizes impact to MRY's operations while maximizing energy and financial savings on a rapid

Program Highlights

- $5.5MM in expected net savings over the 25-year program life
- Estimated 42 local jobs created by the total economic impact of the project
- Projected production of 1,501,000 kWh of clean energy annually, the equivalent to providing enough electricity to power 111 homes a year

Technical Scope

- 862 kW solar photovoltaic (PV) single-axis tracking ground mount array
- New transformer and meter installed in coordination with local utility, Pacific Gas & Electric (PG&E)
- Revenue-grade billing, data acquisition system (DAS) installed for monitoring

PROGRAM TIMELINE

SUMMER 2016
MRY Board and ENGIE begin program development

FEBRUARY 2017
ENGIE begins the engineering phase

MARCH 2017
MRY Board approves the contract and program financing is approved

MAY 2017
ENGIE begins construction phase; system installation begins

SEPTEMBER 2017
Program completion

timeline. As part of the installation, ENGIE coordinated the implementation of Net Energy Metering (NEM) and Net Generation Output Meter (NGOM) technology. The project team coordinated with regional utility Pacific Gas & Electric (PG&E) to install a new transformer and meter. The solar system tracks the movement of the sun throughout the day, ensuring maximum renewable energy production and streamlined costs using the proven tracking technology. By installing the system under Net Energy Metering (NEM), the District receives full compensation from PG&E for all the electricity generated by the solar projects at any time.

While installing the solar arrays, the ENGIE team designed around the issue of reflectivity, or glare, which is a serious consideration in any airport-proximate installation. Glare occurrences are dependent on altitude, relationship to the project area and panel position. Because aircrafts may cross the project area and potentially experience glint and glare from solar operations, ENGIE conducted and submitted three FAA-approved glare studies that show the compatibility of similar PV electricity generation arrays with airport functions. The installation is not only sensitive to not interfering with flights, but is also California Environmental Quality Act (CEQA)-compliant, ensuring the organic regeneration of the federally protected endemic vegetation. The iterative and collaborative design-build process of the project installation will integrate technical requirements with the unique plant communities on site.

These technologies allow ENGIE to pair monitoring with operations and maintenances services so that the team can react faster to low production problems. After system startup, automated performance evaluations will run every 15 minutes on the PV systems in order to catch any potential problems that are causing deficiencies in generation, for as long as ENGIE monitors the installation. Successful project execution and site-specific troubleshooting requires a collaborative approach that includes key Airport staff, in addition to ENGIE's experienced team members. In order to ensure the smooth functioning of the PV system, ENGIE conducted an in-depth training program for Airport operational and maintenance personnel so that they thoroughly understand this new equipment and how to operate it safely.

3 DIMENSIONS OF IMPACT

ENGIE is committed to building three dimensions of impact in every customer's future. The FAA-, CEQA- and NEPA-compliant solar PV project will yield positive financial, environmental, and community benefits for the local workforce and hundreds of thousands of yearly travelers. Annual savings of over $218,000 dollars are guaranteed for the first five years, with $5.5 million dollars in total savings over the 25 year life of the installation. Additionally, the single axis tracking panels are set to produce 1,501,000 kilowatt-hours in the first year of solar production. The project will help offset rising utility costs, which are projected to increase from 4.4 to 6.0% annually through 2020. Additional benefits include:

- **Supporting People** – The project boosted the local economy with an influx of over 42 construction jobs. Additionally, MRY staff received comprehensive training on the operation of the PV array, increasing their knowledge base.
- **Saving Money** – The project reduces taxpayer burden and frees up funds for other important IT infrastructure and safety initiatives at MRY.
- **Protecting the Environment** – The project reduces the District's carbon footprint while integrating protection of local Monterey pine and Monterey spineflower species from day one of engineering and construction.

Pre-construction vegetation and local Monterey Spineflower species.

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For more information, visit **www.engieservices.us**