Case Study: Mohave Electric Cooperative

EDPR NA Distributed Generation Launches 23 MW Solar + 60 MWh Solar + Storage

EDPR NA Distributed Generation (EDPR NA DG), a U.S. leader in the distributed generation sector and the distributed business unit of EDP Renewables North America, announced a 23.27 MWdc ground-mount solar system coupled with a 15 MW / 60 MWh energy storage system for Mohave Electric Cooperative (MEC), a not-for-profit distribution cooperative in Arizona. This solar + storage system is a game-changer for the region as it will help MEC provide renewable power, mitigate peak period energy use, and ultimately, stabilize energy costs for its 36,700 members.

EDPR NA DG chose Stem to partner on MEC's first solar + storage project to ensure not only the successful implementation of renewables and batteries but also its ongoing optimization and performance enhancement. Strategically integrated with the renewable energy resource and MEC's grid control systems, Stem's Athena® will help the co-op deliver reliable, clean electricity to its members. MEC will use Athena to operate and monitor the storage system 24/7, schedule dispatches, and dispatch on command into high-demand time periods. In addition, MEC will use Athena's PowerTrack solar management application for AI-driven solar forecasting, and advanced modeling to help streamline solar optimization for added value for MEC and its members.

MOHAVE electric cooperative
A Touchstone Energy® Cooperative

Location
Arizona

Market Segment
Electric Cooperative

Energy Storage System Size
15 MW / 60 MWh plus
23.27 MW solar PV

Solutions
Solar Plus Storage, Renewable Energy Integration, 24/7 Monitoring, Solar Forecasting, and Advanced Modeling via Athena®

Commercial Operation Date
2023

Challenge

MEC sought to increase its share of renewable energy resources and enhance energy demand balancing, especially during peak summer months. The cooperative aimed to create an adaptive energy infrastructure, reduce operational energy expenses, enhance system resilience, and contribute to sustainability and environmental goals.

Solution

EDPR NA DG, Stem, and others collaborated to customize a cutting-edge ground-mount solar + storage system with a four-hour battery to mitigate peak energy usage and reduce energy costs. Stem will help ensure:

- 24/7 Operation and Monitoring: Athena provides continuous oversight to ensure optimal capacity
- Dispatch and On-Command Scheduling: Through Athena, the utility can effectively schedule the energy storage system for dispatches. This enables precise management of energy flow, ensuring that stored energy is deployed when needed most.
- Solar Forecasting and Optimization: Athena's PowerTrack application provides advanced solar forecasting capabilities to predict solar energy production accurately, enhancing overall energy system efficiency.

Results

The solar + storage system will help MEC provide renewable power, mitigate peak period energy use, and ultimately, stabilize energy costs for its members. Expected offsets include 36,247 metric tons of carbon dioxide, which is the equivalent of carbon emissions from 7,053 homes' electricity use in one year or the carbon sequestered by 43,225 acres of U.S. forests in one year.

The project is also expected to provide surrounding residents and local governments in Arizona with new potential sources of revenue from the economic growth, job creation, and workforce development opportunities that come with increased reliability for the area.

To learn more about Stem's solutions, contact stem.com/contact-us.