TURN ENERGY DATA INTO ACTION

$700k
identified backcast net savings

110%
increase in energy savings potential

30%
reduction in runtime

> "We believe that using innovative methods to leverage data is a key to better serving our customers and meeting our sustainability goals," said Mayor Rod Koch of South Sioux City. "With NextEra 360, we will have a detailed view of our emissions data, allowing for the efficient dispatch of energy resources, and, as a result, the city's energy costs will decrease."

Optimizing Industrial Generators: Lowering Municipal Utility Spend and Reducing Market Risk

South Sioux City, a municipal utility with approximately 5,800 customers, sought to reduce the city's energy costs by reducing energy purchases on the wholesale market during periods of high demand. The municipality identified two gas-fired gensets owned by one of its industrial customers as a prime opportunity for these reductions. Optimizing the dispatch of the gensets would reduce SSC's real-time market exposure and yield savings beyond existing baseline.

Challenge

NextEra 360™ worked with the customer to address multiple project constraints and align on project objectives, including:

- Shifting the genset dispatch hours from an established schedule to hours with greater financial value
- Operating the gensets at no more than 5,000 hours per year
- Not increasing the customer's utility bill established dispatch scenarios, NextEra 360 also simulated the municipality's load, incorporated demand forecasts, and adjusted the genset setpoints and run times to reduce the requirement for wholesale electric purchases.

Solution

The team utilized NextEra 360 to optimize the genset run times in the Southwest Power Pool (SPP) market. The project kicked off with resource planning, which utilized NextEra 360 algorithms to simulate power system constraints and prior year load and pricing data. To assess potential cost savings versus established dispatch scenarios, NextEra

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360 also simulated the municipality's load, incorporated demand forecasts, and adjusted the genset setpoints and run times to reduce the requirement for wholesale electric purchases.

Result

- $700k of identified backcast net savings to the utility, an increase of $11 per kW-month
- 110% increase in energy savings potential from the gensets, using the optimized dispatch schedule
- 30% reduction in runtime, extending the time between system overhauls by 6 years

Implementation Timeline

2-months

About Us

Built on 15+ years of experience in energy optimization, data science, forecasting and analytics, NextEra 360 is comprehensive energy management and optimization software solution, designed to increases operational efficiency, reduces cost, and accelerates decarbonization no matter where you are in your clean energy journey. Swift and agile, NextEra 360 can be tailored to your site specific operations and business objectives.

NextEra Energy Resources, together with its affiliated entities, is a clean energy leader, with approximately 27,400 MW of total net generating capacity in the U.S. and Canada, as of year end 2022, and a world leader in battery storage and is driving the development of the green hydrogen economy.

NextEra Energy Resources is a subsidiary of NextEra Energy,Inc. (NYSE: NEE).

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