



MODULAR POWER PLANT UTILITY POWER CITY AND BOROUGH OF SITKA

OWNER:
City and Borough of Sitka, Alaska

PRODUCT:
Titan™ 130 Modular Power Plant

APPLICATION:
Standby and Peaking Power

CUSTOMER VALUE:
**Stability in Island Mode Operation, Efficiency,
Environmentally Friendly Power**

The City and Borough of Sitka is located in the center of the Tongass National Forest, the largest temperate rain forest in the world. Partly because of this environment, Sitka is rated as one of the best places to live in the United States. Sitka's municipal utility, which derives its power principally from a hydroelectric plant, serves 9,000 residents in a 4,000 square mile territory. All was fine until ballooning fuel oil prices led many of Sitka's residents to switch from heating with oil to electric heat, and the hydroelectric plant proved incapable of meeting the increased demand for electricity. It was clear the facility had to be upgraded, but in the meantime, additional power was needed. The utility planners turned to Solar Turbines and the Titan 130 Modular Power Plant (MPP) to solve their challenge. Additional power was not the utility's only concern. In this pristine area, exhaust emissions were also a critical concern. The Titan 130 utilizes Solar's advanced SoLoNOx™ low emissions combustion technology and easily met the utility's stringent specifications.

Solar® Turbines

A Caterpillar Company

Modular Power Plant – Utility Power



PLANT DATA

Modular, Pre-Packaged Power Plant

Fuel: Natural Gas and Diesel Fuel

Small Footprint in Utility Substation

15 MWe Titan 130 Gas Turbine Generator Set with SoLoNOx Dry Low NOx Emissions Technology



OUR PRODUCTS AND SERVICES

Gas Turbine Packaged in Modular Design

Startup and Commissioning

Operations and Maintenance Training

Extended Service Agreement

SIGNIFICANT EMISSIONS REDUCTION OVER RECIPROCATING ENGINES

STABLE FREQUENCY CONTROL IN ISLAND MODE APPLICATIONS

RAPID DEPLOYMENT

COMPLETE POWER PLANT IN A SINGLE ORDER

FUEL FLEXIBILITY

An additional benefit is that the Titan's emissions were far lower than the utility's existing diesel reciprocating generator sets. Another critical requirement in an island mode application like Sitka's is the ability to handle rapid power demand fluctuations. Due to its high inertia, a gas turbine is inherently capable of adapting to large on-loads and off-loads. These features fit Sitka's needs well, and the Titan 130 MPP generated 15 MW (ISO rating) of reliable, stable and continuous power while the hydroelectric plant was upgraded.

Upon completion of the modifications to the hydroelectric facility, the Titan 130 MPP shifted into a backup power mode, providing electricity during power plant outages and emergency situations. Solar also provided operations and maintenance training and a comprehensive service agreement, which leverages Solar's diagnostic technology, InSight Platform™, to determine required maintenance activities based on equipment condition. The agreement also provides all package replacement parts, emergency support, generator services and gas turbine overhauls.

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