



Case Study: La Zebra Resort

OutBack Grid/Hybrid Power System Installation



Overview

The Colibri Hotel Collection in Tulum, Mexico, includes Mezzanine, El Pez and La Zebra, the company's largest hotel property. Among the dozens of hotels in the area, the Colibri properties are among the highest rated on tourist websites. **La Zebra, like Colibri's other hotels and most of the tourist and residential buildings in the area, is 55 kilometers away from any public utilities.** Each property is solely responsible for its power system's implementation, configuration and management. The company's goal is to surround its guests with the natural beauty of the Mayan Riviera – from the sparkling blue Caribbean water to the dazzling white sand beach – in a setting that is both luxurious and environmentally sustainable.

While La Zebra previously had an off-grid solar energy solution in place, the system's inverters, which are central to the energy system, were unsatisfactory for the power output needed for the property. La Zebra required a high performance, highly reliable inverter that could be easily serviced and maintained. And most importantly, an inverter that could be depended upon to stay operational, since delivery of replacement parts to the resort would be tedious and time-consuming.



Maintaining power off the grid is beyond a full-time job; so much so that there are many hotels on the beach that still can't offer 24-hour power. OutBack Power's inverters are incredible units that set us apart from the competition, cut our costs and contribute to a luxurious guest experience."

Greg Brown

Head Engineer, Colibri Hotel Collection

System Specifications

Location: Tulum, Mexico

System Power: 18kW System

Components: 6 GTFX Inverter/Chargers and MATE 3 System Display and Controllers





Objectives

- Increase the fuel efficiencies of power generators, which currently run 10 to 14 hours per day, and lengthen generator lifespans by reducing their runtimes.
- Decrease fuel costs by relying more on battery-stored renewable power.
- Deploy an easy-to-maintain system that will not require the frequent transport of spare parts and equipment.

Solution

The three Tulum hotels replaced their existing power inverters with OutBack Power **GTFX 3048 inverter/chargers** to power the properties when their diesel generators are not running. The generators vary in size and range between 20 and 40kW. La Zebra now has six OutBack inverters running with a three-phase generator in conjunction with the **MATE 3**, a control display for the inverter and battery system. Instead of buying bigger generators, the company is able to incorporate a three-phase power configuration, reducing the need for capital expenditures.

The generators at the Colibri hotels run for approximately four-hour periods. When the batteries are fully charged, the OutBack master inverter/charger shuts off the generators and switches the properties to battery power for the next four hours. Then, when battery levels fall beneath a pre-set level, the OutBack inverters switch the systems back over to the generators for continuous electricity.

Benefits

- Cuts potential fuel use in half, saving approximately \$26,000 per year at the La Zebra hotel alone.
- More efficient use of generators prolongs equipment life and reduces maintenance needs.
- Provides power redundancy and guarantees 24-hour lighting and electricity, which is a competitive differentiator among the hotels in the area.
- The OutBack Power system's functions and settings are fully accessible through a user-friendly control display, the OutBack MATE 3 controller/programmer.