

Co-generation plant : Gas turbine is running over 60,000 hours in a wood manufacturing plant

Project was made attractive by a 35% tax deductions and end in over 50% operating cost saving and a great reliability.

CHALLENGE

Provide 24 hours a day, 6 days a week electrical power and steam to a fiber board plant in California without downtime and in a cost efficient way.

SOLUTION

Provide heat and power with a Vericor VPS™3 Genset power system in co-generation mode with a heat recovery system duct burner.

RESULTS

3 MW cogen plant with Vericor gas turbine runs for over 60,000 hrs (and it is still running) with an equivalent energy cost that is half compared to grid.

OVERVIEW

Timber Products Company, Ampine Division, is a fiber board manufacturer in Sutter Creek, California. Reliability and efficient operation are critical to their operation.

Facing an unresolved energy situation, the company (previously called Sierra Pine and located in Oregon) understood the need to decrease its dependence on utility-generated power. Prior to installing the gas turbine-based cogeneration project, the company dried fiberboard with several dryers having a 40-mmBtu natural gas burner. Electricity was purchased from the local utility.

Various energy alternatives were considered, and finally the company made the decision to proceed with the cogeneration facility and finalized the contract with Vericor Power Systems for the VPS3 gas turbine-generator sets in May 2001. The plant was engineered and constructed in a record time and August 2001 marked commercial operation of the new power plant. To date, the gas turbine has accumulated over 60,000 hours in operation.

Sutter Creek, California, USA



Rather than buying expensive grid power, Vericor's VPSTM3 Genset supports the plant's electrical demand and heat requirements.

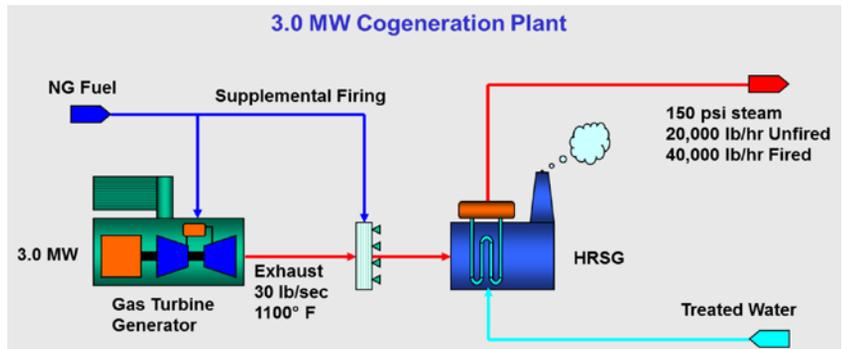


Case Study details and the benefit of an aero-derivative gas turbine

Originally installed in Medford, Oregon in a wood-chip drying application in 2001, the VPSTTM3 Genset power system was relocated to its new home in California where economics were significantly better. The gas is cheaper and the power prices are higher in California as compared to Oregon, creating a significant economical spark spread.

The Ampine plant operates 24 hours a day, 6 days a week, with one day off to perform fiberboard plant maintenance.

Heat recovered from the engine exhaust is used to produce 150 psig steam to compress sawdust into fiberboard product. When necessary, supplemental steam is produced with a duct-burner to fire the HRSG to double the steam production.



SierraPine selected Vericor Power Systems VPS3 gas turbine-generator set powered by Vericor's ASE40TM 3-megawatt gas turbine.

The ASE gas turbines are adapted from Honeywell's proven aero-engine designs and specifically configured for power generation use.

Advantages of using these gas turbine systems for cogeneration and power generation applications are great:

- Compact size allows for easy on site installation and change out
- High operational readiness
- Fast cold start characteristics
- Low emissions and vibration
- Flexibility to efficiently burn a variety of fuels
- High reliability and low maintenance requirements

The modular nature of these engines allows for easy inspections on site. This ease of care approach simplifies stocking of spares and lowers downtime and maintenance periods. Recommended maintenance cycles for each ASE gas turbine are 30,000 hours for a hot section overhaul and 60,000 hours for a major overhaul.

