

## Woodward Integrated Load Management System For VPPL

### CASE STUDY

#### Customer Profile

Venkateshwara Power Project Ltd. (VPPL) is a sugar and co-generation plant in Karnataka. The factory has been operational since 2001, and its co-generation unit has been in operation since 2004. To improve power generation reliability and distribution control, VPPL required an advanced load management solution for its multi-turbine, multi-grid power system.



#### Existing System

Venkateshwara Power Project Ltd. (VPPL) operates a power plant with two existing steam turbine generators rated **8 MW** and **15 MW**, synchronized with **Grid-1** for power export. The plant was later upgraded with an additional **25 MW STG** and **Grid-2 incomer**, along with bus-coupler synchronization and power export capability through both grids. The overall plant arrangement therefore involved **3 steam turbines, 2 grid incomers, and 2 bus couplers**, making the system more complex and requiring integrated load management and synchronization control.



## **Problem**

Before implementation of the new system, VPPL was facing several operational problems:

- High synchronization time
- Improper load sharing after grid failure
- Frequent turbine tripping after grid failure or voltage fluctuation
- Low sensitivity of grid protection
- Export power variation

These issues indicated that the existing arrangement was not sufficient for stable operation in a multi-turbine, multi-grid configuration...

## **Customer Impact**

The above problems were directly affecting plant operation and process continuity. As stated in the project data, turbine trips after grid failure were hampering the complete crushing cycle and causing:

- Sugar production loss
- Power generation loss
- Risk of equipment failure
- Reduced operational reliability of the plant

This made the requirement for a stable synchronization and load management system critical for the customer

## **Benefit**

After successful commissioning of the Woodward ILMS, the plant achieved the following benefits:

- Improved plant reliability
- Prevention of nuisance turbine tripping after grid failure
- Efficient load management across the three STGs and two grids
- Improved synchronization performance
- Improved import / export control
- Improved plant power factor
- Increased power generation
- Increased power export
- Stable operation of the co-generation power system

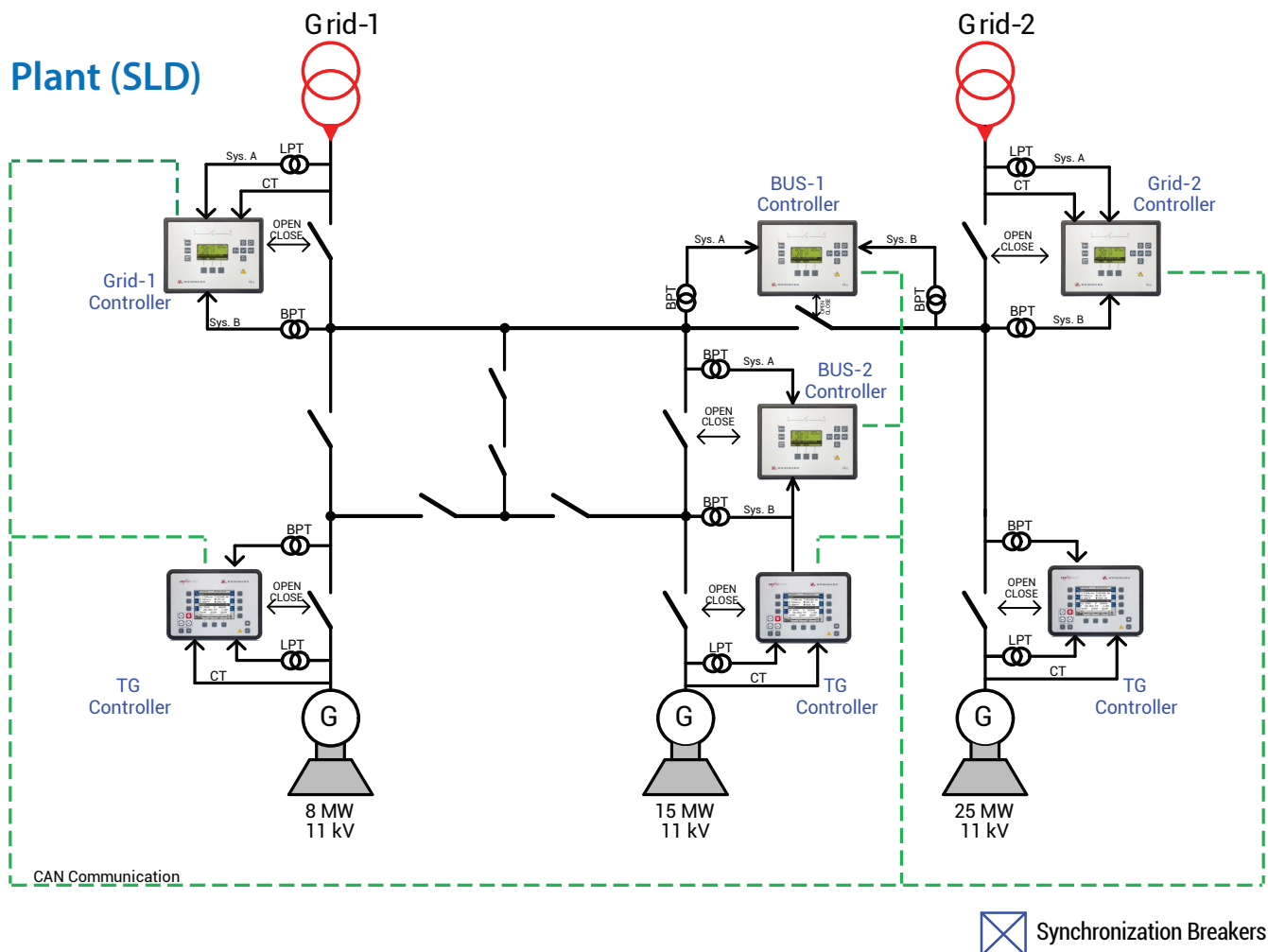
These results show that the ILMS solution improved both operational stability and overall power management performance at VPPL.



### Solution Provided by Asian Power Controls Pvt. Ltd

To address these challenges, Asian Power Controls Pvt. Ltd. supplied and commissioned the Woodward Integrated Load Management System (ILMS) in 2024. The solution was designed to manage:

- Synchronization of all 3 STGs
- Coordination of 2 grid incomers
- Control of 2 bus couplers
- Load management as per the plant SLD





## System Supplied by Asian Power Controls Pvt Ltd

The project used the following major equipment and controllers:

- Woodward Integrated Load Management System (ILMS) Panel
- Turbine Load Controller
- Grid Breaker Controller
- Bus-Coupler Controller
- Woodward easYgen Series for turbine breaker monitoring, proportional load sharing, load control, import / export control, and VAR control
- Woodward LS Series mains controller for grid breaker control, bus-coupler control and monitoring, breaker loading/unloading functions, and CAN communication with easYgen controllers
- Synchronization breakers and SLD-based integrated control architecture

The SLD provided in the case material shows the complete arrangement of the 8 MW, 15 MW, and 25 MW turbines, both grid incomers, BUS-1 and BUS-2 controllers, and the controller communication network.



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## Asian Power Controls Pvt. Ltd.

Asian Power Controls Pvt. Ltd. is a Pune-based company engaged in power generation, distribution, automation, and power management solutions.

The company delivers customized industrial solutions in:

- Load Management Systems
- Load Shedding for critical applications
- Power Import / Export Controls for power plants
- Retrofit of electronic governors on STGs and large DG sets
- Power Quality Solutions, Energy Audit, and Facility Management

