



DG Synchronization Load Sharing & Import Export With Grid System Upgradation

UTCL Rawan Cement Works

CASE STUDY

Customer Profile

UltraTech Cement Limited, commonly known as UTCL, is one of India's leading cement companies and the cement flagship company of the Aditya Birla Group. The company is engaged in the production of grey cement, ready-mix concrete, and white cement, serving infrastructure, industrial, commercial, and residential construction sectors. UltraTech is recognized as one of India's largest manufacturers of ready-mix concrete and white cement, with business operations across India and international markets including the UAE, Bahrain, and Sri Lanka. This case study refers to UTCL Rawan Cement Works, an integrated cement manufacturing unit located at Balodabazar, Chhattisgarh. The plant operates in a highly power-intensive environment where uninterrupted electrical supply, stable turbine operation, reliable synchronization, and efficient load management are essential for continuous cement manufacturing. Hence, the plant required a reliable and efficient power management system to improve operational stability, reduce tripping risk, and support uninterrupted production.



Existing System

The existing power management system at UTCL Rawan Cement Works was based on relay logic and outdated control panels. The system also used old speed sensing electronic cards and separate devices for control, protection, logic, and metering. Due to this old arrangement, the system had limited control capability and depended on aging components.

Problem

The plant was facing problems due to obsolete spare parts and the non-availability of replacement speed sensing cards. The existing system was difficult to maintain and had limited functionality for synchronization and load sharing. The dependency on outdated components increased the risk of unreliable operation and affected the performance of the power management system.

Customer Impact

Because of the outdated system, the customer faced higher maintenance concerns and dependency on old spare parts. The limited control capability created difficulty in achieving smooth DG synchronization with grid and proper load sharing. This affected system reliability, operational efficiency, and ease of operation. Any failure in the old control system could have resulted in process disturbance and downtime risk for the plant.

Solution Provided by Asian Power Controls Pvt. Ltd

A complete power management system upgrade was supplied using advanced Woodward controllers. The old relay logic, outdated control panels, protection systems, logic controllers, and analog meters were replaced with an integrated smart control solution. The upgraded system provided automatic synchronization, improved generator control, grid load sharing, islanded operation during blackout conditions, and efficient power distribution.

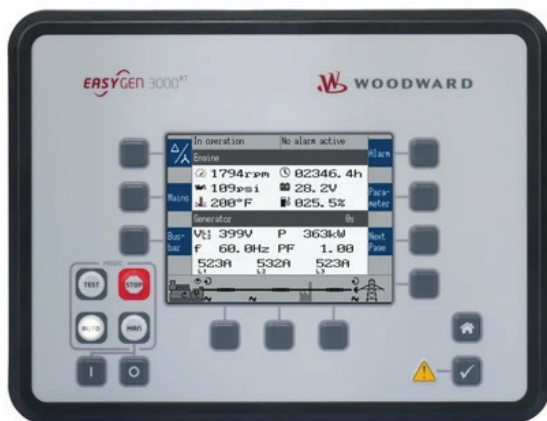
Benefit

The upgraded system improved the reliability and efficiency of the power management system. It provided automatic synchronization, simplified generator control, improved load sharing, and better operational availability. By consolidating multiple control functions into smart Woodward controllers, the dependency on obsolete spare parts was reduced. The system also improved ease of operation, reduced maintenance concerns, and supported long-term cost savings for the customer.

System Supplied by Asian Power Controls Pvt Ltd

- Woodward easYgen-3500XT-P1 Controller
- Woodward LS-521 Controller
- ILMS panel

The easYgen-3500XT-P1 controller was used for engine control, automatic synchronization, and islanded operation during blackout conditions. The LS-521 controller was used for grid load sharing and efficient power distribution



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

