

SUCCESS STORY

# Load-shedding solution to Glencane Bioenergia

## Junqueiropolis, Sao Paulo, Brazil



Independent and cost-efficient solution for reliable and secure power supply and minimized production downtime.

### Project at a glance

**Customer:** Glencane Bioenergia S/A  
**Segment:** Food and beverage industry; production of ethanol, sugar and electricity cogeneration  
**ABB products:** Load-shedding controller PML630, Substation Management Unit COM600S, Relion® protection and control relays from the 615 and 670 series

### Customer challenge

Glencane Bioenergia was looking for a solution to ensure continuous uptime of the plant's main process and avoid costly production downtime. The customer also sought to optimize the use of electricity in the plant and improve the control of the contracted power demand to avoid penalties from the utility.

Further, the customer needed to monitor energy costs at different areas of the plant to improve cost management.

### ABB solution

To ensure continued power supply to the most important loads in the plant, ABB proposed an authentic IEC 61850 load-shedding solution, by integrating Relion protection relays, the load-shedding controller PML630 and the Substation Management Unit COM600S. This is a cost-effective solution, as it is practically free of wiring costs,

with all the information needed available in the IEC 61850 network.

The seamless integration of these devices ensures a high performance load-shedding solution. The load-shedding function helps to avoid excess power consumption and keeping the power supply to the main loads. In case of a disturbance, for example, loss of power source, such as grid connection, the load-shedding function prevents a total shutdown in plant power distribution. This is done via switching off non-critical loads and securing power to critical loads accurately and quickly, ensuring a total response time within a few tens of milliseconds.

To ensure power system reliability and performance, the compact solution utilizes the benefits of horizontal GOOSE-based communication technology between the protection and control devices. GOOSE (Generic Object Oriented Substation Events) is part of the IEC 61850 standard for power system automation.

The Data Historian in the COM600S unit allows to determine the load profile of the feeders, which makes energy cost management easier. ABB also provided tailor-made engineering services based on customer requirements, which in this case included configuration and setting of the PML630 and COM600S units, GOOSE engineering, and field acceptance tests.

### Customer benefits

- Fast return on investment in ~7 months. Through leveling of the power consumption, the plant no longer exceeds the contracted amount, thus avoiding penalties from the utility.
- Secured continued power supply to the most important loads.
- Improved internal energy cost management with the forecasting possibilities provided by the Data Historian in the COM600S unit.
- Remote and easy access to the disturbance recordings and editing parameters of the PML630 – communicated via the COM600S gateway.



### About the project

Glencore Bioenergia is part of Glencore Group. The Usina Rio Vermelho is the first sugar and ethanol plant owned and run by this group in Brazil. The plant is located in Junqueiropolis, in the northwestern part of the state of Sao Paulo.

ABB's solution was delivered in 2015.

For more information, please contact

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