



# Hydroelectric Power Plant Commissioning

PB\_0010

## APPLICATION

### Hydroelectric Power Plant

- ▶ Generating facilities consists of 6 hydroelectric power plants upgraded to redundant Woodward AtlasSC controls.

## TURBINES

- ▶ 6 x Francis Vertical Hydro Turbines
- Rated Power: 245,000 HP
- Rotation speed: 120 rpm
- Rated flow: 286 m3/s
- Manufacturer: Mitsubishi / Hitachi

## GENERATORS

- ▶ 6 x 175 MW, 13.8 kV, p.f 0.9
- Manufacturer: Mistubishi

## SERVOMOTORS

- ▶ Double action horizontal cylinder
- Internal diameter: 615 mm
- Stroke: 718 mm
- Capacity: 74,650 kgm.m

## GOVERNING SYSTEM

- ▶ Redundant Woodward AtlasSC
- VersaMax PLC
- FC5000 Actuator
- HMI Simplicity

## PROJECT OVERVIEW

The Salto Osório Hydroelectric Power Plant is a dam and hydroelectric power plant on the Iguazu River near Osório in Paraná, Brazil. It is the second dam upstream of the Iguazu Falls. The plant was completed in 1979. The power station has a 1,078 MW capacity and is supplied with water by a rock-fill embankment dam. The generating facilities consists of six hydroelectric power plants.

The Salto Osório Hydroelectric Power Plant is a major source of power for the petrochemical complex in nearby Porto Alegre.



FIGURE 1.0



Figure 1.1



### AtlasSC™ Engine and Turbine Control Platform

- ▶ The AtlasSC control is a powerful and rugged industrial control with embedded microprocessor technology and dedicated I/O for real time control of prime movers. At the heart of the powerful AtlasSC platform is an industrial processor with Real Time Operating System (RTOS). The AtlasSC platform utilizes PC/104 bus structure to leverage "PC Economics," resulting in lower costs and greater feature flexibility.

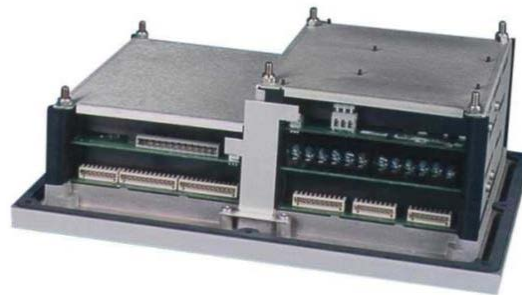


Figure 1.2

GCS offers comprehensive control system support, from engine and turbine systems integration to turnkey project management for a broad range of marine, power generation and industrial projects. GCS is a member of the MSHS Group. Learn more at [www.govconsys.com](http://www.govconsys.com) or email us at [sales@govconsys.com](mailto:sales@govconsys.com)

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