General Description

In the first half of 2016, Rolls Royce awarded a contract to Ingeteam, to undertake a project concerning to six gas gensets for IMG Midstream (U.S).

The new project consists of six B35:40 gas generating sets (medium speed) designed for two new gas-fired power plants in Pennsylvania (US), that will be operated by IMG Midstream. The new energy power plants will feed up to 40 MW of electric power into the local grid.

IMG develops, owns and operates small-scale energy generation projects, which will use natural gas produced in the region to generate and distribute electricity for local homes and businesses. in the northeastern U.S.

Scope of Supply

Ingeteam´s scope of supply consisted of: definition of engineering, design, manufacturing, documentation and commissioning works of the following electrical and automation equipment:

- 6x GCC Generator Control Cabinets, including all elements required for the control, protection and monitoring of the gensets.
- 2x Common Remote I/O signals Cabinets for control MCC auxiliaries (one for each 3 gensets).
- 2x Common Battery Cabinet 120 A/H (one for each 3 gensets).
- 2x SCADA System (one for each power plant)
- Application Sofware development for PLC´s and HMI´s
- Basic and Conceptual Engineering
- Detail Engineering
- Integral testing at our facilities (FAT), prior to shipment
- Installation Supervision
- Commissioning and Operational Tests
- Training

Six Gensets control systems for Gas Engines

General Diagram
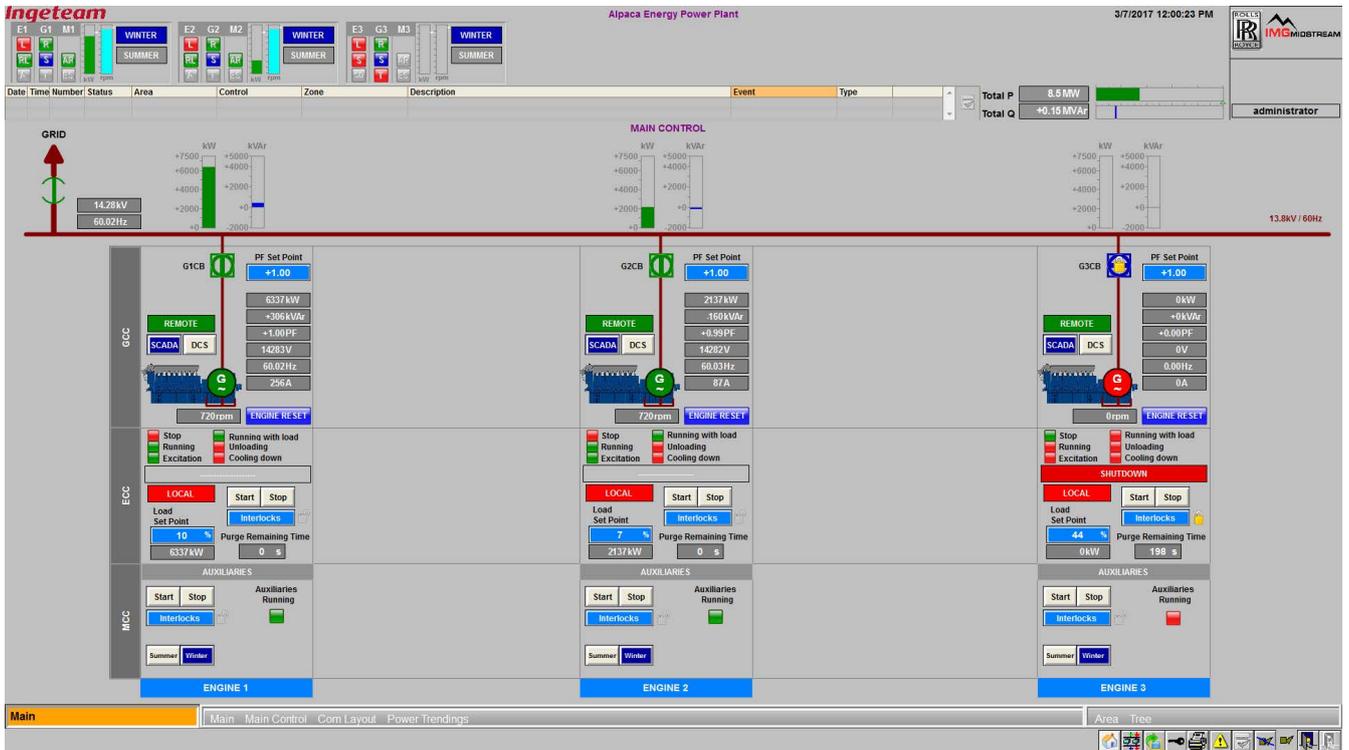
Control System Functionality

Integrated control for each electric generator:

- Control Sequences (start or stop, manual or automatic mode,...)
- Communication with the engine control system (ECC)
- Voltage regulation and power factor control
- Synchronization

Control of auxiliary systems:

- Engine low and high temperature water system control
- Combustion air regulation

SCADA system for control and supervision:

- Electrical variables monitoring
- Reports and trends
- Alarms and events filing
- Integration with other control equipment

Communication Diagram

Ingeteam