

Shell Gabon, Gamba Site

LOCATION:

Gamba, Gabon (onshore)

APPLICATION:

Gaslift Compressors

ENGINE/COMPRESSOR:

Cooper Bessemer GMVH-10

DISTRIBUTOR/REP:

Quimex S.A.

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ALTRONIC PRODUCTS:

Exacta 11, CPU-2000,
GOV-10, EPC-200, ETM,
DSM, 45PHL

**OVERVIEW:**

Shell wanted to improve the overall reliability of the controls systems for five GMVH-10 engines by using current best practice technology including end devices, electronic and pneumatic inputs to the controls system, and performance and outputs from the control system.

Additionally, they wished to provide automation for the complete compressor operation process including pre-start-up procedures, safety warnings/shutdowns, stop procedures, post-stop procedures.

To meet these requirements, Quimex installed the complete set of above-listed products packaged in a stainless steel control panel built

at Altronic Controls. The installation presented Shell with a turn-key solution. Quimex S.A. provided the control panels and complete set of end devices, installation materials and installation tooling for the project. All the materials and tools were kept in a Quimex-supplied 40' air-conditioned storage and office container positioned 50m from the compressor sets.

Shell opted to combine the turn-key installation of the controls system with the complete mechanical overhaul of the unit. The controls installation team consisted of the following roles:

- A process tubing specialist
- A wiring specialist

- An I&E/mechanical technician
- An installation supervisor (I&E and Mechanical)
- A Quimex project manager
- Altronic representatives at various stages
- A commissioning engineer

The installation efforts and logistics were coordinated in conjunction with Shell's mechanical overhaul team. The focus was to minimize downtime for this asset, which is critical to Shell's operation.

The commissioning process consisted of the following:

- Visual review of the completed installation work
- Visual review of the control panel wiring – including continuity checks
- Power-up of the panel
- Configuration of the various Altronic modules
- Review of the Exacta program
- Loop checks against every end device
- Various test activities to ensure panel
- Upon readiness of mechanical team, start-up attempts and troubleshooting of various standard commissioning issues.

Obstacles were related to the controls upgrade being combined with a mechanical overhaul of the unit.

Standard mechanical troubleshooting activities translated to delays on commissioning the controls system, which relies on a mechanically sound asset to properly test the various commissioning conditions needed. Any controls system commissioning issues would, in turn, slow the mechanical commissioning procedure.

The controls upgrades, when combined with the initiatives taken by Shell Gamba to significantly improve the mechanical condition of the GMVH-10s, resulted in dramatically increased asset availability. While daily/weekly shutdowns were previously observed, shortly after

our combined efforts, Shell recorded an unprecedented 60 days without unplanned shutdowns, and continues to observe drastically increased availability.”

Shell is continuing to standardize to Altronic products for all reasonable applications. Additional DSMs are being added to the control panels for safety monitoring of fuel valve leaks. CPU-ignition is being added to three Waukesha-driven oil export pumps. DSM's monitoring the exhaust temps, DET modules and power supplies—all accommodated with a CPU-95 in a stainless steel enclosure—are planned for the export pumps. Save-Air is being considered for the GMVH-10s. MIDAS will be ordered for data capture on the compressor station.

