



**SCADA<sup>®</sup>**  
FOR REFINERIES

**CASE STUDY**

Advanced Power Management  
Control, Protection & Monitoring  
**SOLUTIONS**



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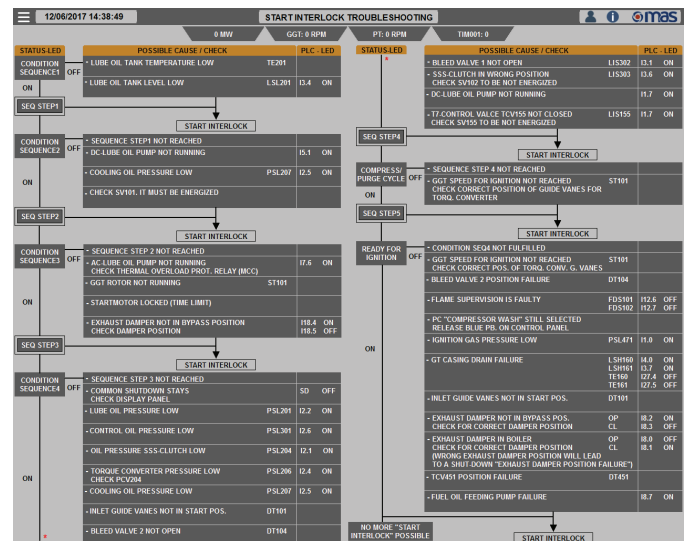
# SCADA<sup>®</sup> FOR REFINERIES

Existing Gas Turbine Generator Sets located at the Refinery serve the purpose of producing electricity and steam for the refiner's needs. The unit is in operation since over 15 years.

One of the Generators reached end-of-life according to the Original Equipment Manufacturer (OEM) and after two years, the second also exceeded its end-of-life during scheduled maintenance works.

MAS SA inspected the infrastructure and identified that the Control Systems of the Gas Turbines and the Automatic Voltage Regulators of the Generators, were old mixed digital / analogue systems no longer serving technical requirements and standards for cost-effective operation.

A report was produced highlighting the operational shortcomings of the existing infrastructure and the necessity of an upgrade solution, which would ensure the availability and reliability of the underlying processes related to the machines. The report identified that options such as overhauling or replacing existing units with new machines would not be economically viable as they are inconsistent with the overall power plant life expectancy.



To accommodate operation of the existing power plant, MAS SA proposed the replacement of existing Gas Turbines with machines of Equivalent Operation Hours (EOH), which will serve the plant until its decommissioning. The volume and complexity of the information displayed in numerous page-screens of standard HMI panels highlighted the necessity of MAS SA SCADA, allowing convoluted operational data to be grouped and displayed in an orderly manner.

The customer recognised in this proposal a significant operational and cost advantage and the project started with the following agreed work and supply scope:



## Scope of works defined to include:

- Procurement, overhaul services, installation & commissioning for the new units.
- Engineering, procurement and installation & commissioning services for the new control and protection systems.
- Technical training.
- After sales support.

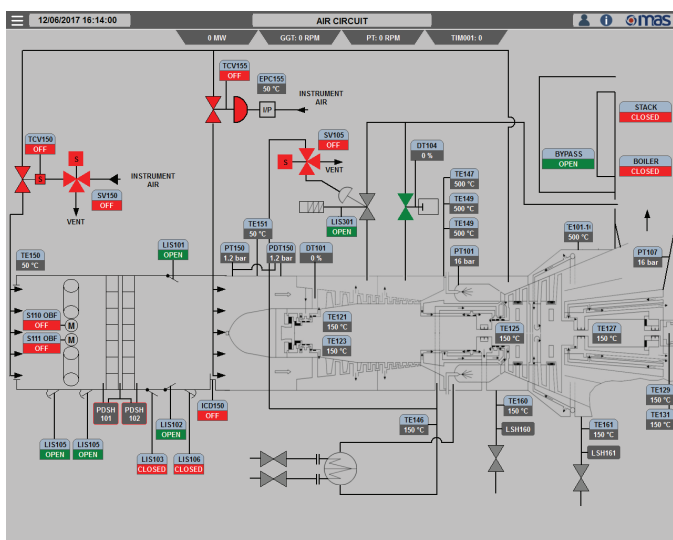
## Scope of supply defined to include:

- Two Generator units
- New unit control, protection and monitoring systems for the gas turbines
- Two new Automatic Voltage Regulator Systems, each comprising of two fully redundant Automatic Voltage Regulators.

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MAS SA Supervisory Control & Data Acquisition software solution for Refineries was selected to monitor Generator performance locally anywhere within the Refinery.

The solutions intelligent alerting interface, provides designated staff with the appropriate level of authority to act upon events, applying preventive and corrective actions in a secure and auditable environment.



All operational aspects of the Generators are illustrated with precision and clarity in an intuitive front-end, fully complying with applicable safety regulations.

Resources now focus on critical information in an automated environment they fully control!



MAS SA is one of the few engineering companies in Europe specializing in the **upgrade, design, development and installation of advanced power management control, protection and monitoring systems.**

Covering a wide area of expertise for over **50 years**, we **provide solutions for complex problems** both in the Industry of **Maritime**, as well as in the Industry on **Land** (Power, Oil & Gas and Heavy industry).

For any further information please contact us via email at [info@maseurope.com](mailto:info@maseurope.com)