

CASE STUDY

DATE	1995	LOCATION	Whetstone
SUBJECT	CCPGT TEST RIG CONTROL PANEL FOR EGT (GEC ALSTHOM)		

EGT, a division of GEC Alstom required a bespoke control system for their Combustion Test Rig. The rig was located at their Whetstone facility and was for use in a programme to develop efficient and environmentally friendly coal burning combustion systems for gas turbines.

In 1995 TCL were commissioned to design, construct and install a Control Panel for the Combustion Test Rig. TCL were chosen to undertake this work because of their extensive process knowledge, and considerable skills in the design and production of bespoke control systems.

Project Justification

Concerns regarding the environmental impact of using solid fuel for power generation led to research into clean coal burning technologies. EGT installed a Combustion Test Rig to evaluate coal burning combustion systems for gas turbines. As part of the system EGT required a bespoke control system.

Scope Requirement

The system was to be networked to other control panels within the test facility and a centralised control desk.

The network was implemented using TCP-IP protocol on a wired 100baseT Ethernet system and connected with a high speed multi-port Ethernet Switch.

To maintain commonality throughout the test facility, the major items of Hardware and Software used in the implementation of this project were specified by the customer. Computational functions were performed using an IBM-PC running Microsoft Windows operating system and National Instruments 'Labview' SCADA package. National Instruments Input/Output sub-systems were used to interface with plant transducers and drives.

Due to the likely-hood of the presence of explosive atmospheres in the vicinity, the test rig was designated as a Hazardous Area. The TCL Control Panel was located in a 'safe' area and connections to the test rig were made via Galvanic Isolators, Zenner Barriers and Explosion Proof circuits as appropriate.

The control panel was designed and constructed in the TCL. To support the customer wiring diagrams, installation instructions and manuals were produced.

Labview software configuration was undertaken by TCL in order to provide the Supervision, Control and Data Acquisition functions.

The customer was invited to witness the Factory Acceptance Test prior to the panel being shipped, installed and commissioned on site.

Customer Assessment

The project was completed on time and to budget. EGT were impressed with the system, its functionality and its integration with other system components