Turbine Controls Limited
52 Kenilworth Drive, Oadby, Leicester LE2 5LG, England
+44 (0)116 271 7248 +44 (0)116 271 7250
sales@tcluk.net www.tcluk.net

PROJECT SUMMARY

DATE	16 September 2003	**LOCATION**	**Hatton Compressor Station, Lincolnshire, England**
SUBJECT	**RB211 DRIVEN GAS COMPRESSOR GOVERNOR CONTROL SYSTEM RETROFIT**		

The Problem

The original governor control system supplied in 1989 had become obsolete. There was no vendor support, and spares were no longer manufactured. The reliability of the compressor trains had become a problem. **Reliability** is absolutely essential for Transco to maintain gas supplies during peak demand periods.

The control system had become unreliable and parts were obsolete. Skills required to maintain the governor fuel control system were both expensive and not readily accessible. Turbine Controls Ltd was consulted for its experience in the field of the retrofit of control systems to gas and steam turbines.

The project required a reliable system that would enable the start up and transmission of gas to the national grid.

The Solution

Turbine Controls Ltd standard governor control and gas fuel system consisting of:

- Replacement of the existing Woodward 3103 gas valve and hydraulic actuator with a T.C.L. electrically actuated gas valve.

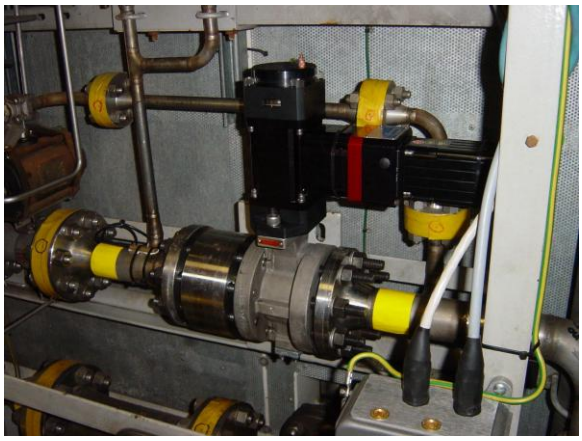
- Replacement of the Digigov governor with a single PLC based system using the latest Allen Bradley ControlLogix 5000 PLC to interface with existing plant signals.

The governor functions included:

Schedule fuel flow to the RB211 in a safe and controlled way.
Modulate fuel valve based on fuel demand, fuel gas pressure & fuel gas wobbe index.
Impose RB211 Operating limits as required by Rolls Royce.
Impose Turbine limits as required by G.E.C.
Exhaust gas temperature spread monitoring and supervision.
Gas compressor Anti Surge Control.
RB211 Crash start Protection.

Rigorous tests were performed to prove the functionality of the replacement governor. Parallel running starts were demonstrated under worst grid conditions, the units came on line every time.

OUTCOME The project aim of reliability has been fully achieved with the added benefit of enhanced operational performance.



Registered Office 52 Kenilworth Drive, Oadby Industrial Estate, Leicester LE2 5LG, United Kingdom
Registered Company No: 1947922 VAT No: GB 424 3986 37
FILE REF. PROJECT SUMMARY HATTON NEW HEADER