

Case Study

BRG Iron & Steel Experiences Reliability and Productivity Enhancement with Honeywell HC900 Control System



“We are delighted with the new Honeywell HC900 control system. The plant now runs reliably and constantly, with maximum uptime and productivity, and minimum maintenance time and costs.”

- P. Mohapatra, Deputy General Manager, Steel Melting Shop (Gas Plant), BRG Iron and Steel

Benefits

When the existing control system for the 38 TPD Oxygen Plant at the BRG Iron & Steel plant in Angul, India continued to suffer intolerable breakdowns resulting in lost productivity, management turned to the Honeywell HC900 control system.

Thanks to its ultra-high reliability, the new system has revolutionized productivity at the steel melting shop, significantly increased uptime, and reduced maintenance time and costs.

In addition, the Honeywell solution has changed how work is conducted at the Angul plant. The HC900's engineering logic programming is extremely simple and easy to learn, because logics are based on a Block structure. This means that highly skilled engineering resources are not needed, which reduces costs. Furthermore, the system is so user-friendly that any problems can be quickly resolved by the company's own operators and engineers.

Finally, maintenance costs have been slashed and the spares inventory is virtually non-existent, again leading to considerable cost savings.

Background

BRG Iron & Steel Co. Pvt. Ltd. is one of five integrated group companies within the BRG Group, which has grown since its establishment in 1994 to emerge as an integrated steel manufacturer spanning the complete value chain and exporting to 22 countries.

BRG Iron & Steel has multiple integrated units in Dhenkanal, Orissa, India. The company specializes in alloy steel, carbon steel, stainless steel billets and slabs. Its modern steel melting shop in Angul produces 8 million tonnes of stainless steel billets and slabs per year, of grades 200, 300 and 400.

Challenge

To fulfill increasing market demands for BRG Iron & Steel's products, it was necessary to increase the productivity of the steel melting shop in Angul.

The focus for improvement was the 38 TBP Oxygen Plant, which produces the oxygen that is continuously required for the steel-making process.



The 38 TBP Oxygen Plant was previously controlled by individual pneumatic controllers, transmitters, and interlocks based on electrical contactors. Unfortunately this system had frequent breakdowns leading to significant downtime and loss of production.

BRG Iron & Steel therefore went in search of a control solution for the 38 TPD Oxygen Plant that could guarantee reliability. They decided to implement a solution based on the Honeywell HC900 control system.

Reasons for making this choice included the excellent track record of the Honeywell HC900 system, and the outstanding service support offered by BML Controls, Honeywell's local system integrator.

Solution

The HC900 is an advanced process and logic controller offering a modular, scalable design that is sized to meet the automation needs of a wide range of process equipment. It is therefore ideal for BRG Iron & Steel's 38 TPD Oxygen Plant.

A touch screen operator interface provides user-friendly pre-built or custom displays, along with trending, data archiving and a host of other capabilities. A selection of controller CPU modules, multiple I/O rack sizes and multiple local or remote I/O process racks per system provides a flexible architecture that can accommodate the most demanding application.

Modularity, built-in redundancy, versatile I/O configuration and connectivity, plus the ability to configure complete process solutions and archive their program parameters for easy retrieval and implementation, permits customized pinpoint control.

The HC900 Designer software used for controller configuration is a Windows-based application that uses graphic objects to represent function blocks, greatly simplifying control strategy development and improving configuration recordkeeping.

The Station Designer software used for configuration of the operator interface is conjoined with HC900 Designer software through database import functions that greatly simplify user interface display development.

The HC900 control system installed in the 38 TPD Oxygen Plant in Angul consists of redundant C50 CPU, PSU and I/O modules, as well as Experion HS SCADA software with two workstations.

One is an engineering/operating station and the other an operating-only station. Both are in server client concept.

Also integrated into the solution are Honeywell HART Transmitters for pressure, differential pressure, level and flow, and a HART Calibrator.



For More Information

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