

Case Study: Blast Furnace Engineering and Commissioning

Provider Name : KALKI Communication Technologies (P) Ltd.

Client Name : GE Fanuc India

Project Title : Blast Furnace Automation System

The Requirement

The client, required for their end customer project, Blast Furnace automation system. The project involved implementing a HMI and PLC's for upgrading the existing system to a PLC based system. The automation was carried out using CIMPLICITY 5.0 and GE 90-30 PLC. Kalki engineering and field services team, sat with the client team to understand the specifications and carried out the design, development, PLC field drawings, SLD creation and tag database creation, and commissioning and hand-over at site.

The Solution

The following Resources were utilized to carry out the Engineering and Design tasks:

1. GE Fanuc CIMPLICITY 5.0
2. GE 90-30 PLC
3. End-Customer specifications
4. Communication Topology and Interconnect details

The Blast Furnace automation system at the end-customer site is 10 years old and the end-customer wanted to upgrade the system. GE Fanuc PLC and HMI were decided as the most suited solution for this requirement. The project involved replacing old control logic with new PLC based ladder logic and implementing HMI's using CIMPLICITY and replacing the old TV terminals for HMI.

The entire drawings, Engineering and Single Line Diagrams (SLD) and system configuration were carried out in the development center. The Ladder programming of the 90-30 PLC's also were carried out at our development center. The PLC's were tested with the stated DI/AI/AO points and communication issues checked.

The fully configured system was made available for Factory Acceptance Test (FAT) by the end-customer. After approval the system was shipped to site. At site, based on the detailed startup and commissioning plan, made an action plan to complete the CIMPLICITY implementation, field-wiring and loop checking as well as communication establishment and data integrity checking. These steps were carried site in the order of readiness of the different sites. Once these were completed, the system was ready for Site Acceptance Testing (SAT) and hand-over.

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Tools Used:

- GE Fanuc CIMPLICITY 6.0
- GE 90-30 LM 90 tool
- NT Operating System Utilities for service management