

Salient Technical Features

Introduction :

NSPCL Durgapur CPP-II(2X60 MW) of Burdwan District of West Bengal State.

Area of Work :

R&M for DCS of both units of NSPCL Durgapur CPP-II

Brief Scope of work :

The R&M scope of work for the equipment, material and system shall include design, engineering, re-engineering, manufacture / refurbishment / retrofitting, fabrication, assembly, pre-shipment testing at manufacturer's works, proper packing for transportation, delivery at plant site, unloading, storage, installation, interconnection with related plant and equipment, calibration, testing, commissioning and putting the Control and Instrumentation System together with all accessories, auxiliaries and associated equipment.

Replacement of existing control system with DCS package is intended to procurement of the equipment and systems for control, protection, operation and monitoring of the total plant, except a few areas along with other sub-systems for other functions.

The control system, called Distributed Control system (DCS) is envisaged to consist of the following sub-systems:-

1. Station C&I consisting of following as minimum

- a. Modulating control for Steam-Generator (SG)
- b. Modulating control for various Cycles
- c. Binary control of the auxiliaries for Steam-Generator (SG)
- d. Binary control of the auxiliaries for Turbine-Generator (TG)

2. SG C&I consisting of following as minimum

- a. Burner Management System (BMS)
- b. Boiler Protection

3. TG C&I consisting of following as minimum

- a. Interface with EHTC and TSI system.
- b. Turbine Protection

Its Human Machine Interface (HMI) is to be based on Large Video Screen (LVS) displays supported by TFT monitor based Operator Work Stations (OWS). These devices through customized user-friendly displays, soft alarm facia and pop-up displays are used for giving fast pin-pointed faults/ status to the operator. Local/Back-up operation of some equipments/drives is envisaged through Push Buttons in some application. The total system is to be networked through a Station-Wide LAN for use of real time data of various plant areas by other users like maintenance, planning, efficiency enhancement groups etc with adequate security policies.

The sequence of events recording & alarm annunciation are also implemented as a part of DCS system. -A GPS based master and slave clock system is envisaged for uniform and synchronized timing signals throughout the entire station.

The power supply for each of the above control systems is to be based on 24V DC provided through microprocessor based modular system and for the peripherals and other subsystem through 230V Single Phase UPS along with battery backup for Main plant.

Field instruments like temperature elements, Temperature Transmitter, Pressure Transmitters, DP transmitters, Level Transmitters along with their process connection & piping as well as measurement systems etc are also procured through this package.

Apart from above, Operator control desks, panels, shielded twisted pair instrumentation cables, control and power cables, optical fiber cables, field erection material viz. conduits, trays etc are also included in this package.

Connectivity with existing numerical relays installed at switchgear.

Dismantling existing DCDB and supply, installing of new DCDB (220VDC control supply)

In addition, dismantling of existing equipment and panels, as identified and as required, is also included in the package.