



**Salient Technical Features for Supply and Installation of Continuous Emission Monitoring System (CEMS) at NSPCL Power Stations**

Salient Technical Features of the works covered in IFB no. CC/C&M/C-359 dated 20/10/2014 are mentioned below. These Salient Technical Features are mentioned only to facilitate prospective bidders to prime-facie understand the requirements under the tender and shall not in any way limit or alter the Scope of Work and Technical Features / Specification of Works covered in the Bidding Documents. Detailed provisions in regard of Scope of Work and Technical Features / Specification of Works, contained in the bidding document shall be final and binding.

**Introduction**

Supply and Installation of Continuous emission monitoring system (CEMS) at NSPCL Power stations (Bhilai, Roukela & Durgapur).

**Location and Approach**

|   |                        |                             |                          |
|---|------------------------|-----------------------------|--------------------------|
| Country   | INDIA                  |                             |                          |
| State   | Chhattisgarh           | Orissa                      | West Bengal              |
| District  | Durg                   | Sundargarh                  | Burdwan                  |
| Project Location                                      | NSPCL Bhilai           | NSPCL Rourkela              | NSPCL Durgapur           |
| Nearest Railway Station                               | Power House - Bhilai   | Rourkela                    | Durgapur                 |
| Distance of project location from the Railway station | 6 KM                   | 20 KM                       | 10 KM                    |
| Distance of Nearest Airport from the Project Site     | Raipur 40 KM (Approx.) | Jamshedpur 120 KM (Approx.) | Kolkata 190 KM (Approx.) |
| Distance from Nearest Highway Point to the site       | 7 KM (Approx.)         | 8 KM (Approx)               | 5 KM (Approx.)           |

**Area of Work :**

| SL. No. | Location       | Site                            | Unit Capacity    |
|---------|----------------|---------------------------------|------------------|
| 1       | NSPCL Bhilai   | Captive Power Plant II (CPP II) | 2x30 + 1 X 14 MW |
| 2       | NSPCL Bhilai   | Power Plant III (PP III)        | 2x250 MW         |
| 3       | NSPCL Durgapur | Captive Power Plant II (CPP II) | 2X 60 MW         |
| 4       | NSPCL Rourkela | Captive Power Plant II (CPP II) | 2X 60 MW         |

**Brief Scope of work:**

1. The scope of work shall include supply, Installation, calibration, testing, commissioning of CEMS along with all accessories, auxiliaries and associated equipment including making of holes/ sampling ports in the chimney, ID fan outlet duct, mandatory spares, in the existing four (4) Stations of NSPCL.
2. Comprehensive Annual Maintenance Contract (CMC) of 4 years (for each station i.e. total 4 stations) after expiry of warranty period of 2 years.
3. The Scope of Supply of CEMS to be procured for each of the above stations shall generally consist of:
  - a) Flue gas analysers of:
    - i) SO<sub>2</sub>/NO<sub>x</sub> of either hot extractive type or Dilution extractive type or In-situ (cross-duct) type.
    - ii) Insitu (cross-duct) type for CO analyser. In case of insitu (cross-duct) SO<sub>2</sub>/NO<sub>x</sub> analyser, CO analyser can be combined with the same or with Hot-extractive type or Dilution-extractive type SO<sub>2</sub>/NO<sub>x</sub>/CO<sub>2</sub> analysers.
    - iii) CO<sub>2</sub> analyser combined with either SO<sub>2</sub>/NO<sub>x</sub> or CO analyser.



All above analysers shall be complete along with sample handling system (SHS), calibration equipment with sampling probes. Location shall be decided in consultation with site.

- b) For hot - extractive sampling type and Dilution extractive type systems, the entire system including analysers, sample handling / conditioning system etc. offered shall be sourced from or assembled at Original Analyser manufacturer (OAM) works.
- c) Supply of Flue gas Flow meter of Ultrasonic Time of transit type (FT) and Flue gas temperature (FGT) element along with temperature transmitter.
- d) Supply of all necessary tools, tackles, test instruments and deputation of experienced personnel for completion of the above installation, testing and commissioning work.
- e) Obtaining clearances if any as required for procurement, commissioning, operation & maintenance of CEMS.
- f) RS485/ Ethernet communication link with MODBUS/OPC protocol from above analyzer/instruments shall also be provided for connecting to CEMS PC of each station.
- g) The communication between CEMS and CPCB/SPCB/PCC server.
- h) Connectivity of existing SPM parameters (4-20ma output) of all four stations to CPCB/SPCB/PCC.
- i) Training of personnel to operate the supplied system.

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