

# CENTRAL POLLUTION CONTROL BOARD

## DELHI

### NOTICE INVITING EXPRESSION OF INTEREST (EOI) FOR DEVELOPMENT OF COINDS AND ENVIRONMENTAL STANDARDS FOR CALCINED PETROLEUM COKE INDUSTRIES

#### 1.0 Background

Calcined Petroleum coke (CPC) is manufactured from raw petroleum coke (RPC), which is obtained as bottom residues of refineries. Calcined Petroleum Coke is manufactured by the process known as high temperature calcinations. During calcinations of RPC, Volatiles are removed, ratio of Carbon to Hydrogen is increased, density is increased and it is converted into an electrically conductive Carbon. CPC finds its use in Aluminum, Graphite and Ferro Alloys Industries.

The process of manufacturing of CPC results in emission of CO<sub>2</sub>, PM, NO<sub>x</sub>, SO<sub>2</sub> and traces of heavy metals namely Ni, V, Mn, Si, As etc.

The quality of CPC produced depends on the source of raw materials towards its sulphur content, The grade obtained from Bombay High contains more sulphur than the raw crude found in NE zone of the country, as the grade in the NE fields are sweet in nature..

Since it is polluting sector and so far no study has been done for this sector, it is proposed to undertake the task with the following objectives .

#### 2.0 Objectives:

- To prepare a survey report on location of the industries, its capacity, detailed manufacturing processes.
- All the CPC units in North East, North and Western Zones need to be covered and its survey should include at-least 2 units from each zone.
- To study raw materials used, manufacturing process, source of air emissions, waste water analysis, waste disposal facility and pollution control devices to be installed, control strategic etc. in CPC units in the country;
- To compare the CPC characteristics with the coke obtained from Beehive coke ovens particularly in terms of its content of sulphur, carbon, V.M., Ash, real density and suitability towards the use of carbon paste for making graphites electrodes in electric arc furnace.

- To explore the possibility of utilization of kiln exit gas for energy recovery etc
- To identify appropriate pollution abatement and control systems based on 'Best Available Technology Not Entailing Excessive Cost (BATNEEC)' concept to evolve suitable environmental standards which could be techno-economically feasible
- To prepare COINDS and evolve suitable environmental (emission & effluent) standards, which could be techno economically feasible for CPC Units.
- To recommend good practices/guidelines and better housekeeping for all operations

### **3.0 Scope of Work**

- i) Inventorization of units involved in manufacturing of Calcined Pet Coke' operating in India and also indicating the location of their cluster on the map. The information would include details such as number of units, their location, year of commissioning, state-wise distribution etc and status of pollution control technologies adopted by industries in India and abroad.
- ii) Categorization based on production capacities, technology used in manufacturing processes etc.
- iii) Preliminary visits covering all the zones and in-depth study (12 Nos.) of the identified units including monitoring of all the four types of pollution viz. air (stack, fugitive emission, water, noise and solid/hazardous waste and to study Solid/Hazardous waste disposal and management facility in the identified units.
- iv) Field monitoring studies would include the study of raw material handling, manufacturing processes and Sources of pollution etc and to prepare process flow diagram.
- v) To monitor and analyze all types of pollution i.e. Emission, (Stack Monitoring for PM, SO<sub>2</sub>, NO<sub>x</sub>, CO, CO<sub>2</sub> and relevant heavy metals), Work place and Ambient Air Quality Monitoring for SPM, PM 10, SO<sub>2</sub>, NO<sub>x</sub> and relevant Heavy metals, Noise Monitoring and Waste water quantification and Characterization.
- vi) To evolve a monitoring programme with the following details:
  - a) Pollution Sources to be monitored

- b) Monitoring point
  - c) Parameters to be tested
  - d) Frequency of sampling
- vii) To explore the cleaner technology options.
  - viii) A comparison on proposed standards with EU/USEPA Standards, if any need to be presented.
  - ix) To prepare COINDS Incorporating all the works as mentioned above and evolve suitable environmental (emission & effluent) standards, which could be techno economically feasible.
  - x) To recommend good practices / guidelines and better housekeeping for all operations

#### **4.0 Eligibility Criteria:**

The expert agencies including Academic Institutions, Autonomous Bodies and other reputed organizations should fulfil the following criteria:

- (a) Adequate knowledge, experience of work in a similar field in India or abroad.
- (b) Adequate manpower in the field or Environmental Science and Engineering, Environmental Management and related field.
- (c) Average annual earnings, in terms of net consultancy fees, during the last 3 financial years of not less than Rs. 20 Lacs.

#### **5.0 Submission of EOI:**

Interested agencies including Academic Institutions. Autonomous Bodies and other reputed organizations may submit EOI in a sealed envelope by speed post clearly super-scribed Expression of Interest (EOI) for appraisal of '**Development of COINDS and Environmental Standards for calcined Petroleum Coke Industries**' to the Member Secretary, Central Pollution Control Board, Parivesh Bhawan, East Arjun Nagar, Delhi – 110032 by October 30, 2014 in hard copy and a CD containing the following information:

- (a) Type of organization and date of establishment with photocopies of supporting documents.
- (b) Areas of strength /specialization relevant to the scope of work and objective pertaining to Development of Environmental Standards.

- (c) Copies of attested statement of income earned from similar consultancy services for the last financial years.
- (d) Previous relevant experience.
- (e) Details of key staff to be entrusted for the assignment, together with their curriculum vitae.
- (f) Undertaking of the scope of work, objective, short approach and comments.

**6.0** Late submissions or submissions that do not conform to the above requirements will not be considered.

**7.0** Based on the response received, suitable consultants will be short-listed and the TOR document will be sent for submission of Technical and Financial Proposal.