

CENTRAL POLLUTION CONTROL
BOARD
DELHI

EXPRESSION OF INTEREST

CPCB invites Expression of Interest (EOI) from reputed institutions/ Organization for “Development of Comprehensive Industry Document for Secondary Copper Smelting Industry”. For details please visit <http://www.cpcb.nic.in/tenders.php>. Last date for receipt of EOI is 12th March, 2012 by 5.00 PM.

(J. S. Kamyotra)
Member Secretary

CENTRAL POLLUTION CONTROL BOARD DELHI

Notice inviting Expression of Interest (EOI) for “Development of Comprehensive Industry Document for Secondary Copper Smelting Industry”.

1. Background:

Since the cost of Cu production from primary sources is very high due to the involvement of a number of tedious steps, recovery from secondary sources such as various types of solid wastes, scraps and copper electro-refining bleed streams, byproducts from other processes containing appreciable amount of Cu is gaining importance day by day. Nearly 40 % of the total copper used in the world is produced from secondary sources.

The copper processing industry refines copper from metal ores or scrap copper. The leading consumers of copper are wire mills and brass mills, which use the copper to produce copper wire and copper alloys, respectively. End uses of copper include construction materials, electronic products, and transportation equipment.

Secondary copper processing involves two steps: metal pretreatment and smelting. Pretreatment includes cleaning and concentrating the copper. Concentrating is done manually or mechanically and includes sorting, stripping, shredding and magnetic separation. The metal can be further refined using pyro-metallurgical methods — including sweating, insulation burning, or drying — or hydrometallurgical methods — including flotation and leaching. The concentrated metal is then smelted. Generally, copper is fire refined, similar to primary copper smelting operations although the exact procedure depends on the quality of copper scrap. This secondary copper can be refined into relatively pure metallic copper, alloyed with zinc or into form brass or bronze, incorporated into chemical products, or used in a number of smaller applications.

The smelting process utilizes large volumes of air to oxidize sulfides, zinc, and other undesirable constituents of the scrap. This oxidation procedure generates particulate matter in the exhaust gas stream. Thus, the principal pollutant emitted from secondary copper smelting activities is particulate matter. As is characteristic of secondary metallurgical industries, pyro-metallurgical processes used to separate or refine the desired metal, such as the burning of insulation from copper wire, result in emissions of metal oxides and unburned insulation. Similarly, drying of chips and borings to remove excess oils and cutting fluids can cause discharges of volatile organic compounds (VOC) and products of incomplete combustion.

Fugitive emissions occur from each process associated with secondary copper smelter operations. These emissions occur during the pre-treating of scrap, the charging of scrap into furnaces containing molten metals, the transfer of molten copper from one operation to another, and from material handling. Fugitive emissions of metal oxide fumes are generated not only during melting, but also while pouring molten metal into molds

Liquid wastes from the copper processing plant include large quantities of water. Most of the water can be reused with minimal refinement. The leaching process creates some sulfuric acid liquid waste. The sulfuric acid is almost always directly reused. Electrolytic refining procedures also produce some liquid waste. This waste is usually sent to waste water treatment facilities and discharged.

As Air and water pollution are the main problems generated by the industries and so far environmental standards have not been stipulated for this sector, it is proposed to undertake the task of bringing out Comprehensive Industry Document to provide necessary information on the status of Secondary copper processing in the country.

In view of the above the Central Pollution Control Board (CPCB) intends to take up a project on "Development Comprehensive Industry Document for Secondary Copper smelting Industry" by engaging Expert agencies/ Organizations have similar experience. The interested Organizations are requested to submit Expression of interest (EOIs). The objective & scope of work is as follows:

2. Objectives:

- i. To prepare inventory of all types of secondary copper processing units
- ii. To classify the industry into small, medium and large category
- iii. To assess and monitor all the four types of pollution viz; air (stack/fugitive emission), noise and solid/hazardous waste and to study Solid/Hazardous waste management in the identified Secondary Copper Processing units;
- iv. To study existing levels of Pollution control Technologies etc.
- v. To recommend the Environmental Standards, Good practiced and siting criteria as per National Environmental Policy, 2006

3.0 Scope of work:

- i. Inventorization of Secondary copper processing industries 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 locations, 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 manufacturing processes etc.
- iii. Preliminary visits to 24 units and In-depth study (12 Nos.) of the identified units including monitoring. Monitoring shall be carried out covering all types (viz, small, medium, large) Industrial units. Units for in-depth study will be selected in consultation with CPCB.
- iv. Field monitoring studies would include the Study of Manufacturing processes, raw material Handling, Production Source etc. and to prepare process flow diagram.
- v. To monitor and analyse all types of pollution i.e. Emission, (Stack Monitoring Studies for PM,SO₂, NO_x, CO, CO₂ and relevant heavy metals), Work place and Ambient air Quality Monitoring for SPM, PM 10, SO₂, NO_x 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 evolve national Environmental standards for all types of pollution based on the information collected, and in-depth study in line with National Environment Policy 2006.
- viii. To prepare Comprehensive Industry Document Incorporating all the works as mentioned above.

4. 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 of 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 lakhs.

5. 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 Comprehensive Industrial Document (COINDS) for Secondary Copper Smelting Industry to the Member Secretary, Central Pollution Control Board, Parivesh Bhawan, East Arjun Nagar, Delhi- 110032 by 12th March, 2012 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 COINDS.
 - (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.** Late submissions or submissions that do not conform to the above requirements will not be considered.
- 7.** 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.