STUDY ON HARMONIZATION & REVISION OF ENVIRONMENTAL STANDARDS FOR IRON & STEEL SECTOR

Terms of Reference

1) Need for Study

Integrated iron & steel sector is core of economy of a country. They are crucial for infrastructure development and industrial growth. A steel plant comprises complex set of interrelated process units. The area of operation extends from raw material handling & processing to carving out sealable steel. Due to large area of influence, steel plants affect all components of environment i.e. air, water, land and human.

At present, India is fourth crude steel producer in the world. During 2011, total steel production was 72.2 MT. As the country is slowly but surely switching from agrarian to industrial economy, iron & steel sector is going to play a crucial role. As per national steel policy 2005, indigenous production of steel is targeted to achieve 100 MTA by 2019-2020. This projected growth will have serious repercussions on environment, unless the sector switches to advanced pollution control technologies, efficient environment management system and implementation of techno economically feasible clean technologies.

Currently, there are emission & effluent standards for iron & steel plants, to ensure that under certain operating conditions emission/ effluent doesn't exceed the set values attainable with available pollution control technologies. Earlier environmental standards for various process units of steel plants were notified under Environmental (Protection) Act, 1986 during 1988 to 1997. Since then, many developments have taken place with regard to production and pollution control technologies.

Indian steel sector is on the brink for major growth in coming decade but this growth should be sustainable and without causing ecological turmoil. In view of this, it becomes important to prepare a realistic assessment of present scenario and an achievable roadmap for future. Also, it is essential to revise environmental standards and evolve guidelines for polluting process units/ areas of steel sector i.e. raw material handling area, sinter plant, blast furnace, basic oxygen furnace, refractory material plant, arc/induction furnace, coke oven and rolling mills operating within integrated steel plant.

2) Objective of the study

- Baseline data generation on integrated iron & steel plants
- Evaluate present status and adequacy of pollution control mechanisms and clean technologies.
- Identify gaps/emerging concerns and prepare an achievable action plan
- Identify steps for improving raw material, water, land and energy efficiency.

- Identify global best practices and its applicability in Indian steel plants.
- Revise environmental standards and evolve guidelines for pollution prevention.

3) Scope of work

The scope of work includes the following:

3. 1 Literature Survey/ Desktop studies

Status of Indian Integrated iron & Steel Plants: Inventorization of steel plants, process technology, cleaner technologies, environmental concerns, pollution control techniques, regulatory standards, guidelines & benchmark, raw material, water, land and energy requirement, solid waste & hazardous waste disposal practices, expansion& modernization program etc.

Integrated Iron & Steel Plant Industry world scenario: Best environment management practices, guidelines, standards, benchmark, cleaner technologies, environmental concerns, raw material, water, land and energy requirement, best pollution control techniques etc.

3.2 In depth study

In depth study will be conducted for five steel plants selected in consultation with CPCB. At least three samples for each parameter and source will be taken for analysis. The study will include collection of data and monitoring for following:

i. Process route
ii. Material, energy and water balance chart
iii. Monitoring of stack and fugitive emissions from process units/ area for example, raw material handling area, solid waste dumping area, sinter plant, blast furnace, basic oxygen furnace, lime/ dolo plant, captive power plant and only those arc/ induction furnace, coke oven & rolling mills which are operating inside integrated iron & steel plant.
iv. Information on type and efficiency of air pollution control devices
v. Data on water consumption, wastewater generation and storm water runoff.
vi. Composite sampling of all process unit related effluent streams and outlets.
vii. Information on efficiency, treatment method and inlet/outlet characteristics of ETPs.
viii. Identification of solid waste & hazardous waste generated, utilized and disposed
ix. Identification of sources of noise pollution & its measurements

3.3 Analysis & interpretation of results

i. Estimation of emission & effluent pollution load
ii. Assessment of technologies for prevention & control of air pollution

iii. Assessment of technologies for prevention & control of water pollution & handling storm water
iv. Evaluation of best available technologies and cleaner technologies
v. Review of solid waste and hazardous waste management practices and reduction techniques
vi. Identification of water consumption reduction, energy & material recovery options
vii. Analysis of noise pollution control technologies at source
viii. Identification of problems/ concern areas in view of expansion programs
ix. Assessment of identified technologies for economic feasibility & adaptability in Indian context

3.4 Outcome & Deliverables

i. Evolve stack emission standards for sinter plant, blast furnace, basic oxygen furnace, lime/ dolo plant, captive power plant and only those arc/ induction furnace, coke oven & rolling mills which are operating inside integrated iron & steel plant.
ii. Evolve fugitive emission standards for raw material handling area, solid waste dumping area, sinter plant, blast furnace, basic oxygen furnace, lime/ dolo plant, captive power plant and only those arc/ induction furnace, coke oven & rolling mill which are operating inside integrated iron & steel plant
iii. Evolve standards for effluent from process units such as coke oven, sinter plant, captive power plant and final outlet
iv. Rationale behind standards proposed
v. Economics & time frame for implementation of new standards
vi. Guidelines for pollution prevention & control in integrated iron & steel plants
vii. Guidelines for reducing energy, water, land & raw material consumption.
viii. Monitoring guidelines for regulatory agencies and self monitoring by steel plants.
ix. Guidelines for plant operators for good operating practices.
x. Guidelines for solid & hazardous waste management practices.
xi. Suggestions for road map for future.

4) General Terms & Conditions

i. The consultant shall submit three copies of draft final report and final report, after including comments of CPCB. Beside this, a soft copy of draft final report and final report in MS word format will also be submitted.
ii. Consultant shall make presentations on interim report, draft final report, etc as and when required.
iii. Consultant shall inform schedule of field study to CPCB well in advance, so the CPCB official may also participate.
iv. All the information generated and collected by consultant during the execution of the project is strictly confidential and sole property of CPCB.

v. In case, CPCB is not satisfied with the progress of project as planned, consultant may be asked to refund the installments released.

vi. In case of delay in execution of project, consultant shall provide reason for the same in writing.

vii. In case of dispute while project execution and afterwards, the matter shall be referred to Chairman, CPCB to arbitrate. The decision of Chairman, CPCB will be final and binding.

5) Time Schedule

Duration of study- 24 months from release of Ist installment

1	Inception Report	Within 15 days of payment
2	Draft Report 1	After literature survey
3	Draft report 2	After in depth study of identified steel plants
4	Draft Final Report	After completion of study
5	Final Report	Within one week after including comments of CPCB

6) Terms of Payment

Estimated cost of project- Rs. 1.0 Crore

1	Inception Report	10% of consultancy fee
2	Draft Report 1	10% of consultancy fee
3	Draft report 2	30% of consultancy fee
4	Draft Final Report	10% of consultancy fee
5	Final Report (subject to approval by Peer & Core committee)	40% of consultancy fee

A bank guarantee equal to 10% of consultancy fees will be submitted by consultant during submission of inception report.

7) Facilities by CPCB

- Organizing meeting for stakeholders and technical expert of iron & steel sector
- Deputing officer(s) to accompany consultant during field visits
- Providing authorization letters for data collection and in depth studies

8) Compensation for delay

The consultant shall strictly follow the time schedule for the time project. The consultant shall pay an amount equal to one percent on the total cost of the work as compensation, for every month delay after the due period, provided that the entire amount of compensation to be paid under the provisions of this clause shall not exceed ten percent of the total cost of the work.

9) Arbitration clause/ dispute resolution

In case dispute arises while work is in progress or after the completion, matter shall be referred to the Chairman, Central Pollution Control Board for decision. The decision of Chairman, CPCB will be final and binding on the parties to the MoU. Arbitration shall be governed by The Arbitration and Conciliation Act, 1996.

10) Eligibility criteria/ qualification

1. The agency should have at least 10 years of experience in executing environmental studies, and at least 2 projects on environmental issues of large scale industries.
2. The agency should have ample experience on Integrated Iron & Steel Sector.
3. The agency should preferably have its own NABL/ E (P) A accredited laboratory else, tie up with NABL/ E (P) A accredited laboratory for relevant emission, effluent and solid waste parameters. Also, it should have emission and effluent monitoring experience of at least 3 years.
4. The agency should have valid ISO 9001 certification.
5. The agency should have its own qualified technical & scientific staff.

The interested expert agencies are requested to submit following documents:

1. Profile of the agency with supporting documents for qualifications mentioned at S.no. 1 to 5.
2. Brief of environmental projects completed during last three years, with one page summary, cost, duration and name & address of the client for each project.
3. Bio-data of technical & scientific personnel likely to be assigned with the project
4. Details of laboratory facilities available.

The interested parties are requested to submit technical & financial proposal to "The Member Secretary, Central Pollution Control Board, 'Parivesh Bhawan', CBD-cum-Office Complex, East Arjun Nagar, Delhi- 110032" and the last date of submission is ……. by 5.00 pm.

The interested agencies will be evaluated on score of 100. The evaluation criteria are as follows:

1. Qualification of personnel likely to be assigned with the project- 25
2. Experience in field of environment- 40
3. Experience in field of Integrated Iron & Steel Sector- 25
4. ISO 9001 certification & own NABL/ E (P)A accredited laboratory- 10