

## **CENTRAL POLLUTION CONTROL BOARD**

Parivesh Bhawan, East Arjun Nagar  
Delhi-110032

### **CPCB Project on “COIND and development of environmental standards and guidelines for Dairy industries”**

The Central Pollution Control Board (CPCB) intends to take up a project on **COIND and development of environmental standards and guidelines for Dairy industries”** for execution through engagement of outside Expert agency on Grant in aid/MoU/Agreement basis. Expert agencies/Organization is requested to submit in two bid system with technical and financial bids sealed separately. The bidder should put these two sealed envelopes in a bigger envelop duly sealed and submit the same to Incharge PCI-III, Central Pollution Control Board, Parivesh Bhawan, East Arjun Nagar, Delhi – 110032 on or before October 31,2014. The background, objective, scope of work, time schedule and terms & conditions are given below:

### **TERMS OF REFERENCE**

#### **01. INTRODUCTION**

There are more than four hundred dairy plants exist in the public, cooperative and private sectors in India. It reflects the importance of milk as part of the daily diet. Manufacturing process of various milk products varies and which in turn determine the quality and quantity of effluent. Main raw material is raw milk for various products i.e. milk, butter, yogurt, cheese and ice cream etc. The standards for dairies and COINDS have been notified way back in the year 1992. The present study would serve a basis for revising the standards and notifying guidelines.

#### **2.0 Objectives**

1. To review the existing effluent and emission standards of dairy industry.
2. To explore the possibilities of segregation of effluents from various streams and feasibilities of effluent minimization in each stream.
3. To revise the comprehensive document of Dairy Industry including different treatment options, general information on the industry, its present status in India, its water, odour and air pollution problems, existing air and water pollution control technologies, solid/hazardous waste generation and disposal etc.
4. To quantify proteinaious matters present in the effluent and explore options for its selective removal and its impact on organic load of effluent.
5. To prepare the environmental Standards and preparation of guidelines for dairy industry.
6. To achieve/minimize Zero Liquid Discharge (ZLD) full/ partially in total or in streams of effluents and its economic impact.
7. To suggest the parameters for installing online effluent monitoring in line with the policy of CPCB.

#### **3.0 Scope of work**

To achieve the above said objectives, the following scope of work is envisaged:

### **Phase-I: Collection, Collation of information (General)**

1. Inventory of Dairy Industry scale of operation, their capacity and location, based on questionnaire survey. The information already collated by CPCB can be shared in this case.
2. Classification of Dairy industry based on sector (public, co-operative, private) details of manufacturing process, material balance, pollution prevention and control technologies for pollution abatement.
3. Classification based on production, diversification, products, and consumption pattern.
4. Data on raw material, water, energy and milk.
5. Characteristics of wastewater and management practices.
6. Preliminary field visits to 10-15 industries in consultation with CPCB covering all products and process based on questionnaire survey for dry study.

#### **Also submission of interim report with following deliverables:**

- ✚ Summary of questionnaire & literature survey and dry study results.
- ✚ Criteria for selection of units for detailed study and proposing units for detailed study for consideration of CPCB.
- ✚ Tentative list of monitoring/sampling locations like process streams, emission and effluent inlets, outlets and other intermediate.
- ✚ Parameters to be analyzed including addition for standards, emission, solid waste and odour problem.
- ✚ The interim report will be submitted within six to eight month from the date of award of work
- ✚ The issues related to unorganized sectors and small scale operators may be highlighted.
- ✚ Interim report shall cover all objectives of the study and suggestions.

### **Phase-II: Collection, collation of information and in-depth study**

- Based on the interim report submitted in Phase-I, in-depth studies are to be carried out at least in 10-15 representative industries approved by CPCB.
- CPCB will approve the list of monitoring/sampling locations and parameters. The number of units to be monitored shall be covering different size, level of production, products, technology adopted for treatment of their effluent & control of air emission, odour and solid waste disposal followed.
- Study also should involve preparation of material balance, water balance. Study of pollution levels in each unit with a view to

compare various aspects including generations/possible segregation of proteinaious matters stream wise.

- The list of tentative parameters for monitoring is based on the standards already notified.
- However final conclusion will be after phase I report discussion. Monitoring and sampling shall be conducted by MoEF recognized laboratory/NABL accredited laboratory.
- The in-depth study will be completed within fifteen (15) months from the date of award of work.

### **Phase-III: Preparation of COINDS & Formulation of Environmental Standards**

**Based on information submitted in interim report and detailed information generated in studies COINDS shall be prepared with following deliverables.**

- Compiled field study results with interpretation and integrating with information presented in interim report giving environmental profile of the sector.
- Comparison of various plants, best treatment facilities and suggesting best practicable technology based on size of the plant/outcome of the study.
- Overall performance evaluation of pollution control systems and suggestion of online parameters for effluent and emissions in line with CPCB policy.
- The report should also include hazardous waste/Non hazardous waste generation and guidelines for safe disposal of Hazardous waste/Non Hazardous waste.
- Best available techniques as observed in units studied and as identified in literature survey.
- Possibilities of waste minimization/suggestions for ZLD fully/stream wise and recovering proteiniuous by products and in turn reduction in organic loads.
- Finalization of guidelines for dairy industries viz. water, air, odour and solid waste management.
- The report also should cover i.e. 1) General risk to Human Health, and 2) Risk to Other Environmental Entities based on site visit and literature survey.
- The rationale for fixing of standards and scope of their achievability will also be described.
- International environmental standards followed in the dairy industry may be presented for comparison and interest.

#### **4.0 Review/Development of Standards**

Standards for effluents are to be modified, if necessary, and also new parameters may be added based on the project outcome. The existing emission standard also should be reviewed. The standards are desired in terms of concentration as well as load based. General guidelines for unorganized sector in dairy sector may be attempted.

#### **5.0 Time Schedule**

A maximum of two years is allotted for the submission of final draft report to the Central Pollution Control Board from the date of receipt of first installment. The final report shall be

presented before CPCB and Peer & Core expert committee meeting for finalization of standards proposed.

### **6.0 Mode of Execution**

The project can be executed on MOU/Agreement basis. The Private firms and their consortium /reputed Institute including CSIR lab or IITs. The organisations institutes nationally recognised working in this field.

### **7.0 Mode of Payment**

The payment will be made after submission of bill and utilization certificate at different stages as detailed below in the following terms:

- (i) 10 % of the consultancy fee after award and signed the MOU/agreement.**
- (ii) 10 % of the consultancy fee after submission of inception report.**
- (iii) 10% of the consultancy fee after completion of Phase – I and submission of dry study report.**
- (iv) 20 % of the consultancy fee after completion of Phase – II and submission of in-depth study report.**
- (v) 30 % of the consultancy fee after submission of draft final report after Phase -III.**
- (vi) 20 % of the consultancy fee after accepting the report by the Peer and core Expert committee of CPCB.**

### **Terms and Conditions**

- I. The Executing agency shall carry out the monitoring, sampling and analysis work in identified dairy units during the period as mutually agreed upon.
- II. The list of identified units for which monitoring, sampling and analysis work shall be carried out shall be finalised after preliminary visit.
- III. Details of Project Team suitability & experience. The proposal should contain the details of the infrastructure / laboratory facilities available with the interested party or third party (in case of laboratory) and also provide a list of personnel proposed to be deployed for the assignment, outlining specifically the qualifications & experience of each person relevant to this project and each member's role and responsibility.

The evaluation of the 'Technical Bid' shall be undertaken based on the following Criteria:

	Criteria	Overall Qualifying Marks required
1	Work Experience of the organization with documentary proof	Overall score of the Agency should be more than 75 out of 100.
2	Specific Experience relevant to the assignment with documentary proof	
3	Technical approach and	

	methodology	
4	Qualification and competence of key staff with documentary proof	
5	No of scientific and technical persons	
6	Facilities for analysis of parameters (In case of agency / third party)	

- IV. Agency(ies) having overall score more than 75 for technical bid, will only be considered for financial bid(s).
- V. The agency can quote rate in lump sum for full project i.e. consultation and analysis costs.
- VI. The rates for monitoring, sampling and analysis (including transportation & all other miscellaneous charges) should be clearly quoted. Charges per sample per location for monitoring should be clearly mentioned.
- VII. Service tax shall be paid as per the applicable norms and TDS shall be made as per rules applicable. Applicable Taxes shall be deducted at source.
- VIII. Procedure for Ranking: For the purpose of ranking of bids called on two bids basis, weightage shall be given in the ratio of 65:35 w.r.t. technical bid and financial bid respectively.
- IX. All the short listed organisation are required to give technical presentation at CPCB, Delhi and technical presentation be a part of technical evaluation of the bids.
- X. The Executing agency shall deposit 10% of the project cost as bank guarantee after award of work against advance payment.
- XI. The Executing agency shall carry out the monitoring, sampling and analysis works as per the procedure and norms stipulated in 'Standard Methods or any other recognized method like IS or US EPA'.
- XII. The Executing agency shall co-ordinate with the concerned Zonal Offices of CPCB and local SPCBs officials for efficient monitoring and sampling works.
- XIII. The Executing Agency shall also provide the monitoring schedule to the concerned SPCBs /PCC and Zonal Offices of CPCB to ensure their participation in the monitoring& sampling works.
- XIV. All the information and data generated or collected during the execution of the work shall be treated as confidential and sole property of CPCB and the findings of the study shall not be published without prior permission of CPCB.
- XV. The project shall be implemented as per the rates finalized and CPCB will not provide any additional fund on account of any further cost escalation due to delay in project implementation or due to any other reasons.
- XVI. CPCB shall not bear any responsibility for the personnel engaged under the project.
- XVII. During the course of implementation of the project, the executing agency shall provide the information to the participating CPCB's

officials regarding the methodologies/ techniques being adopted for implementation of the project.

- XVIII. The Executing Agency shall submit 3 copies of final draft report along with CD (Softcopy) on completion of the project. For any delay in submission of the final report beyond the specified period, penalty @ 1% per week of the project cost shall be charged subject to maximum penalty of 15% of the project cost.
- XIX. It shall be at the sole discretion of the Competent Authority, CPCB either to award the entire project or part of the project or reject any proposal without assigning reasons thereof.
- XX. Proposal being submitted must be signed by an authorized person representing the company/ firm.
- XXI. The parties submitting the proposal are requested not to erase or mutilate any word(s) or figures occurring in the quotation. The overwriting is not allowed.
- XXII. It may be noted that mere quoting the lowest rates will not entitle any firm to get the work order.
- XXIII. The bids shall be valid for a period of 06 months from the date of their opening.
- XXIV. In case of any dispute, the decision of the Chairman, CPCB will be final and binding to both the parties.