



(NO. B-29012/ESS/CPA/2016-17)
CENTRAL POLLUTION CONTROL BOARD
(Ministry of Environment & Forests)
Parivesh Bhawan, East Arjun Nagar
Delhi-110032

“Notice inviting Expression of Interest (EOI)“

For

Project on ‘Monitoring, Sampling and Analysis for ambient air quality, surface water quality and ground water quality in around 100 Polluted Industrial Areas (PIAs)’

Expression of Interest is invited from eligible Expert Agencies for the execution of project on ‘Monitoring, Sampling and Analysis for ambient air quality, surface water quality and ground water quality in around 100 Polluted Industrial Areas’ during 2016-17 on MoU/Agreement basis.

Expert Laboratories /Agencies should have the following qualifications / requisites:

1. The agency should have similar type of work experience. It should have been awarded and successfully completed 5 similar types of projects during last seven years each costing not less than Rs. 25.00 Lacs.
2. It should have its own laboratories and qualified technical & scientific personnel.
3. The laboratory of the agency should have valid certification/recognition under Environment (Protection) Act, 1986 from MoEF.
4. The laboratory of the agency should have valid NABL Accreditation . Weightage will be accorded based on the number of parameters having valid NABL Accreditation during the evaluation of technical bids.

The interested Expert Agencies are required to submit the EOI alongwith necessary documents related to profile of the agency, work experience, certification under Environment (Protection) Act, 1986 from MoEFCC and NABL Accreditation. The details on Background, Objectives and Terms of Reference of the Project, are attached.

The interested parties are required to submit the EOI 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 22.08.2016 by 4:30 PM. For any kind of clarification, Shri N.K. Gupta, Scientist ‘E’ & Incharge - ESS, CPCB, New Delhi (011-43102306), may be contacted.

**Member Secretary
Central Pollution Control Board**

**Project
on
'Monitoring, Sampling and Analysis for ambient air quality, surface water quality and
ground water quality in around 100 Polluted Industrial Areas (PIAs)'**

1. Background :

Environmental pollution due to increasing industrialization and urbanization has reached to the alarming levels. Indiscriminate disposal of different categories of wastes into the environment at many places have resulted in serious damage to the natural resources (soil, water and air), flora & fauna, and health of human beings. During 2009-10, Central Pollution Control Board (CPCB) in collaboration with Indian Institute of Technology (IIT), Delhi and 15 other reputed institutes formulated the criteria for Comprehensive Environmental Pollution Index (CEPI) and 88 prominent industrial clusters have been identified in consultation with the Ministry of Environment & Forests for CEPI analysis. Out of identified 88 prominent industrial clusters, 43 industrial clusters in 16 States having CEPI score of 70 and above are identified as Critically Polluted Industrial Clusters (CPAs). Further, 32 industrial clusters with CEPI scores between 60 & 70 are categorized as severely polluted areas (SPAs).

As per the direction of MoEF, remedial Action Plans for the identified 43 critically polluted areas were prepared by concerned SPCBs/PCCs and are at various stages of implementation. The effective implementation of these remedial action plans would help in the pollution control and improvement of environmental quality.

To assess the environmental quality, monitoring is being carried out by CPCB through recognized Environmental labs periodically and CEPI is being assessed based on the recorded monitoring data in the 43 CPAs. The evaluated CEPI reflects the environmental quality of the 43 CPAs and also serves as a yardstick to assess the progress achieved in the implementation of action plans. So far, three rounds of monitoring have been undertaken by CPCB (2009, 2011, 2013) based on which CEPI assessment was done.

Further, MoEFCC has suggested CPCB to undertake environmental quality monitoring in CPAs through a third party on biennial basis (once in 2 years) for computing CEPI. Meanwhile, revised concept of CEPI has also been evolved. As such, it is proposed to undertake environmental quality monitoring in around 100 polluted industrial areas (which include 43 CPAs also), during 2016-17.

2. Objectives

Monitoring of identified Polluted Areas in terms of air, surface water and ground water quality parameters which could be used for assessment of the environmental quality of the area.

3. Terms of Reference

Clause 1. Name of the Project:

The name of the project is **“Monitoring, Sampling and Analysis for ambient air quality, surface water quality and ground water quality in around 100 Polluted Industrial Areas (PIAs)”**.

Clause 2. Sponsoring Agency:

The sponsoring agency is Central Pollution Control Board (CPCB), Delhi

Clause 3. Terms and Conditions:

- i. The Expert Agency shall carry out the monitoring, sampling and analysis work for ambient air quality, Surface water quality and ground water quality monitoring **in around 100 Polluted Industrial Areas (PIAs)** during 2016-17 or during the period as per agreed TOR and monitoring & analytical protocols.
- ii. The list of identified industrial clusters for which monitoring, sampling and analysis work shall be carried out by the laboratory, is placed at Annexure-1.
- iii. The Expert Agency may submit the proposal to cover either all the 100 PIAs (nos. may likely to increase or decrease) or selected PIAs . However, in each of the proposed PIAs, complete monitoring (air quality, surface water quality and ground water quality) for all the designated parameters shall be performed.
- iv. It shall be at the sole discretion of the Competent Authority, CPCB to award the work either in parts or as a whole.
- v. The tentative list of the parameters for ambient air quality monitoring, surface water quality monitoring and ground water quality monitoring, is given in Annexure 2.
- vi. At the time of submission of technical & financial bids by the short-listed agencies, the rates for monitoring, sampling and analysis (including transportation & other miscellaneous charges) shall be required to be quoted for the following items-
 - A. Charges per sample per location for ambient air quality monitoring.
 - B. Charges per sample per location for surface water monitoring.
 - C. Charges per sample per location for ground water quality monitoring
 - D. Charges per sample per location for bio-assay test.) Bio-assay test will be conducted on selected samples (to be informed by CPCB).
- vii. Service tax shall be paid as per the applicable norms and TDS shall be made as per rules applicable.

viii. **Details of Project Team suitability & experience.** The offer/proposal should contain the details of the infrastructure / laboratory facilities available with the interested party 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.

ix. Evaluation Criteria

The evaluation of the 'Expression of Interests' shall be undertaken based on the following criteria-		
i.	Certification of the laboratory of the Agency under E(P) Act - 1986 : ✓ (The laboratory of the Agency should have valid certification under EPA.)	20 marks
ii.	Work Experience : ✓ (No. of Marks per project: - 4 marks)	20 marks
iii.	Nos. of technical / scientific staff & their qualifications: ✓ (Marks to be awarded as per the no. of Scientific / technical personnel employed with the agency and their respective qualifications)	20 marks
iv.	Infrastructure Facilities available with the Laboratory of the Agency : ✓ (Marks to be awarded based on parameter-wise facilities available for sampling / monitoring / in-house analysis) ✓ (Air monitoring / analysis - 10 marks , Water monitoring / analysis - 10 marks)	20 marks
v.	Nos. of parameters having NABL Accreditation : ✓ (Marks - Air Parameters : 10; Water Parameters :10) ✓ (Marks to be awarded proportionately depending upon the no. of parameters having NABL accreditation)	20 marks
Total Marks - 100 marks		
The shortlisting of agency to become eligible for submission of the 'Technical and Financial Bids' shall be based on the following criteria:		
<ul style="list-style-type: none"> • The laboratory of the Agency should have valid certification under E(P) Act - 1986 • Each of the subcategory score {except (i) above} should be 50% or more of the marks allotted for that sub-category and • Overall score of an agency should be more than 75 against a total score of 100. 		

- x. *No EMD (earnest money deposit) is required at the time of submission of 'Expression of Interest'. However, the shortlisted & qualified bidders shall be requested to submit the proposal (technical & financial bids) accompanied with an EMD (earnest money deposit) of Rs. 10,00,000 (Rupees Ten Lacs only) in the form of Demand Draft in favour of Central Pollution Control Board, Delhi. That EMD should be valid for six months. The EMD of unsuccessful bidders shall be returned after award of work to successful bidder. The EMD of successful bidder shall be returned after completion of the project & submission of the satisfactory report, however no interest will be paid. Any proposal received without EMD will be rejected summarily.*
- xi. The Executing agency shall carry out the monitoring, sampling and analysis works as per the procedure and norms stipulated in 'Standard Methods'.
- xii. At each of the PIAs, three rounds of monitoring shall be carried out and the tentative no. of samples to be collected by the monitoring agency will be as per the details provided in Annexure-1. The zonal officers of CPCB in co-ordination with concerned SPCBs will review and update the existing monitoring locations in 43 CPAs (if any) alongwith identification of new monitoring locations in remaining polluted industrial areas **in accordance with the CPCB guidelines for ambient air quality monitoring (NAAQMS/25/2003-04) and water quality monitoring (MINARS/27/2007-08)**. During the process of identification of monitoring locations, field visit to the selected PIAs be conducted by officers and the zonal officer of CPCB and will submit a field verification report with justification for the selection of each monitoring location under each PIA. Further, the existing monitoring locations in 43 CPAs may be retained. Finally, the exact no. of samples and the sampling locations in each of the PIAs will be finalized in a joint meeting of ZO CPCB, concerned SPCBs and the monitoring agency, to be convened at the level of Zonal officer of CPCB. In view of the above, there may be changes (either increase or decrease) to the total no. of samples to be collected and as such, may also alter the total cost of the project .
- xiii. At each of the CPAs, 24 hourly ambient air quality monitoring (excluding rainy day) shall be carried out for parameters specified at Part-A of Annexure-2. Also representative samples each for surface water quality and ground water quality shall be collected from prominent surface and ground water bodies located in and around the clusters/ areas and the collected samples shall be analysed for the parameters specified at Part-B of Annexure-2.
- xiv. The Executing agency shall inform to CPCB (both Zonal office as well as Head Office Delhi) and concerned SPCBs about the constitution of the teams, names and contact nos. of team leaders and their visit schedule to the allocated CPAs for the monitoring and sampling works.
- xv. The Executing agency shall co-ordinate with the concerned Zonal Offices of CPCB and local SPCBs officials for efficient monitoring and sampling works.

- xvi. The Executing Agency shall also provide the monitoring schedule to the concerned SPCBs /PCC and Zonal Offices of CPCB seeking their participation in the monitoring & sampling works.
- xvii. Payment shall be made in 2 parts as follows-
- a) First instalment shall be made after completion of the monitoring, sampling and analysis work and on submission of the satisfactory reports in respect of 50% of the PIAs allocated / covered. The amount to be paid shall commensurate the total number of samples analysed in the said PIAs.
 - b) Final instalment shall be made after completion of the monitoring, sampling and analysis work and on submission of the satisfactory reports in respect of remaining 50% of the PIAs allocated / covered. The amount to be paid shall commensurate the total number of samples analysed in the said PIAs.
- xviii. 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.
- xix. The Agreement between the selected Expert Agency and CPCB shall be operative until the completion of the project and acceptance of the final report by CPCB.
- xx. 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.
- xxi. CPCB shall not bear any responsibility for the personnel engaged under the project.
- xxii. During the course of implementation of the project, the executing agency shall conduct the monitoring and analysis strictly as per methodologies/ techniques prescribed in Standard Methods by APHA / EPA / BIS / CPCB manuals (as the case may be) . The executing agency shall provide the information in this regard to the participating CPCB / SPCB officials.
- xxiii. The Executing agency shall co-ordinate with the concerned Zonal Offices of CPCB and local SPCBs officials for efficient monitoring and sampling works. The zonal officer of CPCB may depute officer(s) to selected PIAs and verify the progress of monitoring work. The zonal officer of CPCB may submit a field verification report certifying the execution of monitoring work as per the norms in each of the 88 PIAs falling under their jurisdiction. Further, CPCB may also depute officers from Head Office / Zonal office to verify the progress of monitoring work and check the analytical work at the reference laboratory of the Agency(ies) and in the process, may undertake surprise visits to the analytical laboratory of the agency/monitoring locations in any of the 100 PIAs.
- xxiv. The executing agency shall collect duplicate samples (3% of the total samples under each zone) for selected parameters to be specified by CPCB and submit the

same in sealed condition to CPCB. These samples shall be analysed in CPCB laboratory to ensure the analytical quality control.

- xxv. The Executing agency shall submit the complete monitoring, sampling and analysis reports including summary of the parameters exceeding the prescribed standards / norms for each of CPAs within a period of 3 weeks from the day of completion of the monitoring in all the assigned PIAs.
- xxvi. The Executing Agency shall submit 5 copies of final report along with CD (Soft copy) on completion of the project. The final report shall be submitted within 3 weeks from the day of completion of the monitoring in all the assigned PIAs. The executing agency shall provide the analysis data in MS Excel as well as in MS word (Area-wise). For any delay in submission of the final report beyond the specified period, penalty @ 1% per week of the project cost shall be charged, maximum upto 15% of the project cost. However, the Chairman, CPCB may condone the delay in sampling, monitoring and submission of reports for justified and genuine reasons which are beyond the control of CPCB, SPCB and executing agency. Such reasons shall be recorded.
- xxvii. It shall be at the sole discretion of the Competent Authority, CPCB either to differ the entire project or part of the project or reject any proposal without assigning reasons thereof.
- xxviii. Applicable Taxes shall be deducted at source.
- xxix. Proposal being submitted must be signed by an authorized person representing the company/ firm.
- xxx. 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.
- xxxi. It may be noted that mere quoting the lowest rates will not entitle any firm to get the work order.
- xxxii. The tenders shall be valid for a period of 06 months from the date of their opening.
- xxxiii. In case of any dispute, the decision of the Chairman, CPCB will be final and binding to both the parties.
- xxxiv. The work order shall be valid for a period of 01 year from the date of issue extendable further for a maximum period of 02 years and the monitoring agency shall undertake monitoring at the approved rates, in any of the PIAs to be assigned by CPCB at any later date. However, the approved rates of monitoring shall be revised at the rate of 10% annually.

		Jharsuguda (73.34)	4	4	4								
West Bengal		Haldia (75.43),	4	4	4	Durgapur (68.26)	8	8	8	--			
		Howrah (74.84),	4	4	4								
		Asansole (70.20)	4	4	4								
Total PIAs		7				7				3			
West Zone													
Gujarat		Ahmedabad (75.28),	4	4	4	Vadodara (66.91),	8	8	8	Surat (57.90)	8	8	8
		Bhavnagar (70.99),	4	4	4								
		Junagarh (70.82)	4	4	4								
		Ankleshwar (88.50)	6	6	6								
		Vapi (88.09)	6	6	6	Rajkot (66.76)	8	8	8				
		Vatva (74.77)	6	6	6								
Maharashtra		Chandrapur (83.88),	4	4	4	Nashik (69.25),	8	8	8	--			
		Dombivalli (78.41),	4	4	4	Chembur (69.19),	8	8	8				
		Aurangabad (77.44),	4	4	4	Pimpri- Chinchwad (66.06)	8	8	8				
		Navi Mumbai (73.77),	4	4	4								
		Tarapur (72.01)	4	4	4								
Total PIAs		11				5				1			

North Zone													
Delhi	Najafgarh-Drain basin (79.54) including Anand Parbat, Naraina, Okhla, Wazirpur	4	4	4	--					--			
Haryana	Faridabad (77.07), Panipat	6	6	6	--					--			
		22	22	22									
Himachal Pradesh	--				Baddi (69.07),	8	8	8		--			
					Kala Amb (68.77),	8	8	8					
					Parwanoo (63.83)	8	8	8					
Punjab	Mandi Govindgarh (75.08)	4	4	4	Batala (68.59),	8	8	8		--			
	Ludhiana (81.66)	15	15	15	Jalandhar (64.98)	8	8	8					
Uttar Pradesh	Noida (78.90),	7	7	7	Moradabad (64.71),	8	8	8		Mathura (59.98),	8	8	8
	Ghaziabad (87.37)	18	18	18									
	Kanpur (78.09),	5	5	5						Meerut (59.38),	8	8	8
	Agra (76.48),	4	4	4	Aligarh (63.83),	8	8	8		Bulandsahar-Khurza (49.09)	8	8	8
	Varanasi-	8	8	8	Ferozabad	8	8	8					

		Mirjapur (73.79)				(60.51)							
		Singrauli (UP & MP)- (81.73)	18	18	18								
	Uttarakhand	--				Haridwar (61.01)	8	8	8	Udhamsingh Nagar (54.37)	8	8	8
	Total PIAs	11				9				4			
	South Zone												
	Andhra Pradesh	Vishakhapatnam (70.82),	4	4	4	Vijayawada (60.57)	8	8	8	Kathedan (57.73),	8	8	8
	Telangana	Patancheru-Bollaram(70.07)	4	4	4					Kukatpalli (56.56)	8	8	8
	Karnataka	Mangalore (73.68),	4	4	4	Raichur (68.07),	8	8	8	--			
		Bhadravati (72.33)	4	4	4	Bidar (67.64),	8	8	8				
						Pinia (65.11)	8	8	8				
	Kerala	Greater Kochin (75.08)	4	4	4	--				--			
	Tamil Nadu	Vellore -North Arcot (81.79)	4	4	4	Tirupur (68.38),	8	8	8	Erode (58.19)	8	8	8
		Cuddalore (77.45),	4	4	4	Mettur (66.98)	8	8	8				
		Manali (76.32),	4	4	4								

	Coimbatore (72.38)	4	4	4									
Total PIAs	9				6				3				
Central Zone													
Chhatisgarh	Korba (83.00)	4	4	4	Raipur (65.45)	8	8	8	Bhillai- Durg (50.57),	8	8	8	
Madhya Pradesh	Indore (71.26)	4	4	4	Dewas (68.77),	8	8	8	Gwalior (54.63)	8	8	8	
					Nagda - Ratlam (66.67),	8	8	8					
					Pitampur (65.09)	8	8	8					
Rajasthan	Bhiwadi (82.91),	4	4	4	Jaipur (66.82)	8	8	8	--				
	Jodhpur (75.19),	4	4	4									
	Pali (73.73)	4	4	4									
Total PIAs	5				5				2				
	Total no. of samples in each round	249	249	249		256	256	256		104	104	104	
	Total no. of samples in 3 rounds of monitoring	747	747	747		768	768	768		312	312	312	
<p>Note:</p> <p>Additional Areas for study purposes shall include Morbi, Godhra in Gujarat and like-wise other areas may also. As such, the number of PIAs are likely to increase or decrease as per requirement.</p> <p>The proposed number of samples in each of the PIAs may also increase or decrease depending on the field conditions.</p>													

Annexure 2

A. Ambient Air Quality Monitoring for following parameters:

- i. SO₂, NO₂, PM₁₀, PM_{2.5}, Lead and Ammonia (for 24 hourly average monitoring values)
- ii. O₃, CO (for 1 hrly average and 8 hrly average)
- iii. Benzene, Benzo(a) Pyrene, Arsenic & Nickel (for 24 hrly average value)

B. Water Quality data of -

- (a) **Prominent Surface Water bodies** such as outfalls of CETPs, ETPs, FETP, treated effluent drainage, river, canal, ponds, lakes and other such water supply resources flowing through the area or flowing adjoining the CPA.
- (b) **Ground Water** Quality data of prominent ground water resources such as observation wells of Central Ground Water Board, drinking water wells, hand pumps, bore wells and other such water supply resources located in the industrial cluster/ area under consideration or in the peripheral areas.

Basic water quality requirements (for surface water and ground water both) are as follows-

(i) Simple Parameters -

Sanitary Survey, General Appearance, Color, Smell, Transparency and Ecological* (presence of animals like fish, insects etc. only in case of surface water bodies)

(ii) Regular Monitoring Parameters -

pH, O&G, Suspended Solids in mg/l, DO (% saturation), COD in mg/l , BOD in mg/l, Electrical Conductivity in µmhos/cm, Total Dissolved Solids, Nitrite-Nitrogen , Nitrate-Nitrogen, (NO₂+NO₃) total nitrogen in mg/l, Free Ammonia, Total residual chlorine, cyanide, fluoride, **chloride, sulphate**, sulphides, total hardness, dissolved phosphates, SAR, Total coliforms, Fecal Coliform (MPN/100 ml),

(iii) Special Parameters -

Total phosphorous, TKN, Total Ammonia(NH₄+NH₃)-Nitrogen, Phenols, Surface Active Agents, Anionic detergents, Organo-chlorine pesticides, PAH, PCB and PCT, Zinc, Nickel, Copper, Hexa-valent chromium, Chromium (Total), Arsenic (Total), Lead, Cadmium, Mercury, , manganese, iron, vanadium, selenium, boron .

(iv) Bio-assay (zebra Fish) Test - For specified samples only.

Note :

- DO is not applicable in case of ground waters.
 - DO in eutrophicated waters should include measurements for diurnal variations.
 - SS limit is applicable only during non-monsoon period.
 - Fecal Coliform values should meet for 90 % times.
 - Static Bio-assay method may be adopted.
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