

EXPRESSION OF INTEREST (EOI) FOR CONSULTANCY SERVICES

Environment Protection Department (EPD) intends to hire International consultancy services under the ADP Scheme “**Rationalization, Revision, and Development of Environmental Quality Standards and Industry Specific Standards (PC-II)**” as per Terms of References. The firms will be short listed as per the provisions of the Punjab Procurement Rules 2014, evaluation criteria and other applicable laws. The scopes of work/ TORs/short listing criteria are available in the office of Deputy Director (Imp), EPA Punjab Lahore and also at EPD website www.epd.punjab.gov.pk

The EOI must contains the following documents/ information

- i. Valid legal entity of the firm i.e. registration with Securities & Exchange Commission or Registration of Firms, etc.*
- ii. National Tax Number of the firm.*
- iii. Registration of the firm with Pakistan Engineering Council.*
- iv. CVs of key relevant staff permanently and exclusively employed with the firm.*
- v. List of similar projects (along with cost) carried out by the firm during the past 10 years.*
- vi. Audited statement of accounts.*
- vii. Annual turnover (last five years).*
- viii. Undertaking that the firm has not been blacklisted or debarred by any Government/ Semi-Government organization of Pakistan.*

The interested firms are invited to submit their EOI in the office of Deputy Director (Implementation), EPA Punjab with this advertisement but not later than **25.04.2017 till 02:30 PM.**

**DIRECTOR GENERAL
EPA PUNJAB, NATIONAL HOCKEY STADIUM
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TERMS OF REFERENCE

1.0 CONTEXT

The Environmental Protection Agency (EPA), Punjab is a Regulatory body under provisions of the Punjab Environmental Protection Act, 1997 (Amendment 2012) in the Province of the Punjab.

2.0 PURPOSE

The purpose of this study under an ADP scheme titled, "PC II for Rationalization, Revision, and Development of Environmental Quality Standards and Industry Specific Standards" is revision/rationalization of existing and development of new industry/process specific Punjab Environmental Quality Standards (PEQS). The consultancy is cuts across many disciplines and is highly legal and technical in nature requiring hiring services of a local Consulting Firm in association with International Experts. The scope of the consultancy is:

- 1- Develop a framework for deriving environmental quality standards;
- 2- Review, rationalize, and revise existing Punjab Environmental Quality Standards (PEQS);
- 3- Identify industrial processes in the province, including but not limited to the list provided herein, which need to be environmentally regulated by specifying Environmental Quality Standards;
- 4- Develop process flow diagrams and mass-balances of the identified processes/industrial units;
- 5- Specify best available/applicable treatment options for each process/industrial unit;
- 6- Specify reference effluent/emission values both with and without treatment;
- 7- Coordinate and consult stakeholders on the framework and derived standards;
- 8- Workout both private and social costs and benefits of derived standards;
- 9- Arranging workshops/Seminars in phases for input of stakeholders on draft PEQS.

3.0 EXISTING PUNJAB ENVIRONMENTAL QUALITY STANDARDS (PEQS) WHICH NEED REVISION AND RATIONALIZATION

The following environmental quality standards will be reviewed, and updated if needed, in the light of the framework developed under this project for deriving environmental quality standards:

- PEQS for Municipal and liquid Industrial Effluents
- PEQS for Industrial Gaseous Emissions
- PEQS for Motor Vehicle Exhaust and Noise
- PEQS for Ambient Air
- PEQS for Drinking Water
- PEQS for Ambient Noise

4.0 NEW ENVIRONMENTAL QUALITY STANDARDS REQUIRED TO BE MADE

PEQS for Municipal and Industrial Liquid Effluents (32 parameters) and Industrial Gaseous Emissions (16 parameters) are uniform for all sectors of industry. Thus, environmental standards are same for Textile, Paper, Tanneries, Cement, Chemical, Fertilizer, Sugar, Distilleries, Electroplating, etc.

Optimum and efficient internalization of environmental pollution costs requires industry specific environmental standards. EPA has identified the following major processes for which environmental standards are required:

1. Environment Quality Standards for Aluminum Industry
2. Environment Quality Standards for Asbestos Products
3. Environment Quality Standards for Battery Manufacturing Industry
4. Environment Quality Standards for Boilers run of different types of fuels, including bagasse
5. Environment Quality Standards for Brick Kiln Sector
6. Environment Quality Standards for Briquette Industry (Coal)
7. Environment Quality Standards for Calcium Carbide Plant
8. Environment Quality Standards for Carbon Black Industry
9. Environment Quality Standards for Cement Plants and Cement plants with co-processing
10. Environment Quality Standards for Ceramic industry
11. Environment Quality Standards for Chlor-Alkali (Caustic Soda)
12. Environment Quality Standards for Coal Mines and Coal Washeries
13. Environment Quality Standards for Coke Ovens
14. Environment Quality Standards for Common Effluent Treatment Plants
15. Environment Quality Standards for Controlled environment poultry and layer farms
16. Environment Quality Standards for Copper, Lead or Zinc Smelters
17. Environment Quality Standards for Cupola Furnace
18. Environment Quality Standards for Dairy Industry
19. Environment Quality Standards for Diesel/Petrol/Kerosene/Furnace Oil Generator Set (Old and New)
20. Environment Quality Standards for Dyes and Dye Intermediate Industry
21. Environment Quality Standards for Edible Oil & Vanaspati Industry
22. Environment Quality Standards for Electroplating, Anodizing Industry
23. Environment Quality Standards for Fermentation Industry (Distilleries, Maltries & Breweries)
24. Environment Quality Standards for Fertilizer Industry
25. Environment Quality Standards for Food & Fruit Processing Industry
26. Environment Quality Standards for Foundries
27. Environment Quality Standards for Glass Industry
28. Environment Quality Standards for Grain Processing, Flour Mills, Pulse Making or Grinding Mills
29. Environment Quality Standards for Hazardous Waste Incinerator Emissions
30. Environment Quality Standards for Hospital Wastes
31. Environment Quality Standards for Hotel Industry Effluents

32. Environment Quality Standards for Incinerators of all types, including for Pharmaceutical Industry, and hazardous substances
33. Environment Quality Standards for Inorganic Chemical Industry
34. Environment Quality Standards for Integrated Iron and Steel Plant
35. Environment Quality Standards for Pulp & Paper Industry
36. Environment Quality Standards for Leather Industry
37. Environment Quality Standards for Natural & Synthetic Rubber Processing Industry
38. Environment Quality Standards for Nitric Acid Plant
39. Environment Quality Standards for Oil Refinery, Oil Drilling, and Gas Extraction Industry
40. Environment Quality Standards for Paint Industry
41. Environment Quality Standards for Paper and Board Industry
42. Environment Quality Standards for Pesticide Industry
43. Environment Quality Standards for Petrochemical Storage, Basic and Intermediates, including gasoline, diesel, CNG, LNG, etc. storage and filling stations
44. Environment Quality Standards for Pharmaceuticals Industry
45. Environment Quality Standards for Polymers and Plastics
46. Environment Quality Standards for Refractory Industry
47. Environment Quality Standards for Seed Processing Industry
48. Environment Quality Standards for Slaughter House, Meat & Sea Food Industry
49. Environment Quality Standards for Soda Ash Industry
50. Environment Quality Standards for Solar power generation
51. Environment Quality Standards for Starch Industry
52. Environment Quality Standards for Stone Crushing Unit
53. Environment Quality Standards for Sugar Industry
54. Environment Quality Standards for Sulfur Recovery Unit (SRU) in Petroleum Oil Refinery
55. Environment Quality Standards for Sulfuric Acid Plant
56. Environment Quality Standards for Tanneries
57. Environment Quality Standards for Thermal Power Plants
58. Environment Quality Standards for Tobacco Industry
59. Guidelines for Disposal of Solid Waste, Drill Cuttings and Drilling Fluids for Offshore and Onshore Drilling Operation, Standards for Boilers using Agriculture Waste as Fuel and Guidelines for Pollution Control in Ginning Mills

In addition to these and the existing PEQS, environmental quality standards, rules, and guidelines are also needed in following areas:

1. Surface water bodies
2. Noise Emission & Vibration Standards for anthropogenic sources
3. Land/Soil Quality
4. Solid Waste
5. Hazardous Waste
6. Reuse/recycling of treated liquid effluent for irrigation/ horticulture purpose

Therefore, the existing PEQS shall be rationalized for their effective enforcement and facilitation of polluters in taking remedial measures for compliance through designing cost effective pollution control devices/systems/plants. While new standards in deficient areas shall be formulated.

5.0 PROFESSIONAL LIABILITY OF CONSULTANT

Professional liability as stated in the prevalent conduct and practice of consulting firms/consultants prescribed by PEC and as given under rule 54 of Punjab Procurement Rules, 2014 shall be applicable to the consultant.

6.0 PAYMENT

All payments made to the consulting firm are subject to sales tax and income tax deductions as per the governing laws.

7.0 ROLE OF CLIENT

No lodging, boarding, office accommodation, and logistics will be provided by the client to consulting firm. The client shall only assist the consultant in obtaining information/data form other departments/organizations. Data from the field shall be collected by the consultant.

8.0 DURATION

The consulting firm will be required to complete the whole activity/ assignment and furnish the final documents/ reports within a period of 18 months from the award of contract. The duration for peer review by Independent Consultants will be 1 month each inclusive in 18 months.

9.0 DELIVERABLES

Consulting firm will provide two hardcopies and softcopies(in Word and Portable Document Formats) of following reports:

9.1 INCEPTION REPORT

The consulting firm shall prepare and submit an inception report within 30 days of signing of the agreement which shall include and explain the methodology of work plan and time schedule for approval of EPA.

9.2 WORKSHOPS/SEMINARS

The consulting firm shall organize workshops/seminars with stakeholders as per requirement in consultation with EPA.

9.3 ENVIRONMENTAL QUALITY STANDARDS

These shall, for each process/industry, necessarily comprise the following:

- i) Process description
- ii) Process mass balances
- iii) Best available treatment technologies for the process
- iv) Effluent/Emission quality without treatment
- v) Rationale for environmental quality standard
- vi) Environmental Quality Standards

Core Team for Consultancy (12 Months)

#	Position	Job Description, Qualification, and Experience	Person-month
1	Team Leader International Consultant	<p>To oversee consultancy and be responsible for all deliverables of the consultancy. His/her main role is envisaged to be development of framework to derive environmental quality standards for the province.</p> <p>Qualification and Experience PhD/Masters or equivalent, (Environmental Management, Natural Resource Management, Climate Change, or any other field of Environmental Protection and/or Management, or any other field related to environment including for example biology, chemistry, physics, etc.) Experience 10 years for PhD 15 years for Masters</p>	<p style="text-align: center;">3</p> <p style="text-align: center;">Intermittent spread over the entire period of the consultancy</p>
2	Air Quality Expert International Consultant	<p>In respect of each process identified, the air quality expert is expected to:</p> <ul style="list-style-type: none"> • provide rationale for emission standard; • guide preparation of mass-balance for the process; • derive environmental quality standard • recommend best available treatment option for meeting the standard <p>Qualification and Experience PhD/Masters or equivalent in environmental/chemical engineering of any other field relevant 5 years for PhD 10 years for MSc</p>	<p style="text-align: center;">1.5</p> <p style="text-align: center;">Intermittent spread over the entire period of the consultancy</p>
3	Wastewater Treatment Expert International Consultant	<p>In respect of each industrial process identified, the wastewater treatment expert is expected to:</p> <ul style="list-style-type: none"> • provide rationale for effluent standard; • guide preparation of mass-balance for the process; 	<p style="text-align: center;">1.5</p> <p style="text-align: center;">Intermittent spread over the entire period of the consultancy</p>

#	Position	Job Description, Qualification, and Experience	Person-month
		<ul style="list-style-type: none"> • derive environmental quality standard • recommend best available treatment option for meeting the standard <p>Qualification and Experience PhD/Masters or equivalent in environmental/chemical engineering of any other field relevant 5 years for PhD 10 years for MSc</p>	
5	Environmental Economist International Consultant	Environmental economist is expected to provide costs and benefits (both private and social) of implementation of each standard. <p>Qualification and Experience PhD/Masters or equivalent in environmental/chemical engineering of any other field relevant 5 years for PhD 10 years for MSc</p>	3 Intermittent spread over the entire period of the consultancy
6	Air Quality Expert Local Consultant	Assist international consultant in deriving ambient air and air emission quality standards for the identified processes. His duties may, <i>inter alia</i> , include frequent field visits. <p>Qualification and Experience PhD/Masters or equivalent in environmental/chemical engineering of any other field relevant 5 years for PhD 10 years for MSc</p>	12 Intermittent spread over the entire period of the consultancy
7	Wastewater Treatment Expert Local Consultant	Assist international consultant in deriving effluent quality standards for the identified processes. His duties may, <i>inter alia</i> , include frequent field visits. <p>Qualification and Experience PhD/Masters or equivalent in environmental/chemical engineering of any other field relevant 5 years for PhD</p>	12 Intermittent spread over the entire period of the consultancy

#	Position	Job Description, Qualification, and Experience	Person-month
		10 years for MSc	
9	Environmental Economist Local Consultant	<p>Assist international consultant in cost-benefit (both private and social) analyses of the proposed environmental quality standards. The assignment may require frequent field visits.</p> <p>Qualification and Experience</p> <p>PhD/Masters or equivalent in environmental/chemical engineering of any other field relevant</p> <p>5 years for PhD 10 years for MSc</p>	<p>12</p> <p>Intermittent spread over the entire period of the consultancy</p>