

PC-I

Enhanced Environmental Quality Monitoring System for Punjab's Air, Surface and Ground Water Resources



May, 2018

Total Cost: Rs. 1007.815 Million

Gestation Period: 2017-19

**Environment Protection Department
Government of the Punjab**

PC-I

1. NAME OF THE PROJECT	Enhanced Environmental Quality Monitoring System for Punjab’s Air, Surface and Ground Water Resources						
2. LOCATION	All Punjab						
3. AUTHORITIES RESPONSIBLE FOR:							
i. Sponsoring	Environment Protection Department, Government of the Punjab, Lahore						
ii. Execution	Strategic Planning & Implementation Unit (SP&IU), Environment Protection Department, Government of the Punjab, Lahore						
iii. Operation & Maintenance	Environment Protection Department, Government of the Punjab, Lahore						
iv. Concerned Federal Ministry	None						
4. PLAN PROVISION:	<p>The scheme titled “Enhanced Environmental Quality Monitoring System for Punjab's Air, Surface and Ground Water Resources” is at G. Sr. No. 9288 having LO17001781 of ADP 2017-18 with an estimated cost Rs.74.000 million. The allocation of funds for this scheme for the current financial year 2017-18 is Rs.30.000million.</p> <p>Recent recurring episodes of smog resulting from a combination of intense weather conditions and pollution from various point and diffused sources has necessitated enhanced monitoring of ambient air quality and preparation of emission inventory. The scope of this project has, therefore, been enhanced. Hence, an increase in its estimated cost.</p> <p>Thus, the following implementation schedule is proposed:</p> <div><div>Cost in Rs. Million</div><table><tr><td>Budget Estimates FY 2018-19</td><td>Total Estimated cost of project</td></tr><tr><td>1007.815</td><td>1007.815</td></tr></table></div>			Budget Estimates FY 2018-19	Total Estimated cost of project	1007.815	1007.815
Budget Estimates FY 2018-19	Total Estimated cost of project						
1007.815	1007.815						
i. If the project included in the five years plan	Yes.						

ii. If the Project is not included in current five-years plan, how is it proposed to accommodate?	N.A.
iii. If the Project is not in five-year plan, what warrants its inclusion in the plan?	N.A.
iv. Block allocation	N.A.
5. PROJECT OBJECTIVES AND RELATIONSHIP OF THE PROJECT WITH SECTORAL OBJECTIVES:	<p>The project aims at providing necessary resources to EPA field and laboratory staff so as to enable them to discharge their functions as defined in Section 6 of the Punjab Environmental Protection Act, 1997.</p> <p>EPA Labs and field formation have an essential role in implementation of the Punjab Environmental Protection Act, 1997. Implementation of the provisions of the Act is in line with the sectorial objectives and sustainable development goals.</p> <p>Specified objectives of the project are:</p> <ol style="list-style-type: none"> To enhance capacity of EPA Punjab for ambient air quality monitoring as per “Punjab Environmental Quality Standards for Ambient Air” by purchasing and installing 30 compact ambient air quality monitoring stations (AQMS) at strategic locations all over the province. These include both fixed and mobile stations professionally installed on vans containing all requisite accessories. Vehicles for EPA Officers at Headquarters for monitoring of field activities of field staff and inspections/monitoring of pollution causing industrial units. Purchase of motorcycles for field, laboratory, and EPA staff on hire and purchase basis. Special purpose vehicles for vehicular emission monitoring. Hiring of staff for operation and maintenance of both fixed and mobile Compact Ambient Air Quality Monitoring Stations. Approval & purchase of uniforms for EPA field staff. Purchase of necessary equipment for field staff of EPA Punjab for noise, smoke and vehicular pollution monitoring. Purchase of equipment for EPA laboratories including, <i>inter alia</i>, stack monitoring equipment, biological contamination facilities, biochemical oxygen demand, etc.
6. Description, Justification and Technical	Preamble to the Punjab Environmental Protection Act, 1997 states “protection, conservation, rehabilitation and improvement of the environment, for the prevention and

<p>Parameters:</p>	<p>control of pollution, and promotion of sustainable development.”</p> <p>Section 11 of the Act states that “no person shall discharge or emit or allow the discharge or emission of any effluent or waste or air pollutant or noise in an amount, concentration or level which is in excess of the Punjab Environmental Quality Standards”.</p> <p>The Punjab Environmental Protection Council notified under Section 3 of the Act approved the following Environmental Quality Standards for enforcement of the provisions of the Punjab Environmental Protection Act, 1997:</p> <ul style="list-style-type: none"> <i>i. Punjab Environmental Quality Standards for Municipal and Liquid Industrial Effluents</i> <i>ii. Punjab Environmental Quality Standards for Industrial Gaseous Emissions</i> <i>iii. Punjab Environmental Quality Standards for Ambient Noise</i> <i>iv. Punjab Environmental Quality Standards for Drinking Water Quality</i> <i>v. Punjab Environmental Quality Standards for Ambient Air.</i> <p>Section 15 of Punjab Environmental Protection Act states that “no person shall operate a motor vehicle from which air pollutants or noise are being emitted in an amount, concentration or level which is in excess of the Punjab Environmental Quality Standards”. The Punjab Environmental Protection Council has approved following Environmental Quality Standards for motor vehicles:</p> <ul style="list-style-type: none"> <i>i. Punjab Environmental Quality Standards for Motor Vehicle Exhaust and Noise</i> <p>This project will enable EPA/EPD Punjab to enhance its capacity in monitoring these mandated areas of environment. Additionally, Government of the Punjab, has given commitment to the Honorable Lahore High Court Lahore in the wake of Public Interest Litigation on Smog Episodes in the province that capacity of EPA Punjab is being enhanced through provision of 30 additional compact ambient quality monitoring stations. A major amount of this project is for the purchase of these stations (both fixed and mobile) and for acquiring resources for their operations and maintenance. Thus, through this project, EPD Punjab intends to provide following resources to its establishments.</p>
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1. RESOURCES REQUIRED FOR EPA FIELD OFFICES

- i. ***Provision of notified uniform and transport facility for enforcement of Punjab Environmental Protection (Motor Vehicles) Rules.***

Requirement:

EPA Punjab has notified the Punjab Environmental Protection (Motor Vehicles) Rules 2013. Rule 4(7) states as under:

“The authorized officer shall wear uniform notified by the Government and in the performance of functions under these rules he may use revolving green lights on the duty vehicle and may seek help of local or traffic police, of transport authorities or of district administration”.

Current Situation:

Currently, there is no uniform notified by Government of Punjab for authorized officers of EPA field staff. Similarly, duty vehicles with revolving green lights have not yet been purchased for EPA field.

Proposal:

Through this project, EPA Punjab envisages to notify and purchase notified uniform for its field staff. The uniform distinctly identifying EPA staff will add to EPA effectiveness in implementing the provisions of the Act, which are essentially command-and-control in essence.

100 (one hundred) 125-cc motorcycles (equipped with green revolving lights and necessary gear) will be purchased on hire-and-purchase basis and provided to EPA/EPD staff. The procurement will be made through procurement committee notified by the Punjab Environment Protection Department. The Vehicles will be provided to Inspectors, Field Assistants, and other staff of EPA/EPD.

The cost of one motorcycle is estimated to be Rs. 110,000/- and owner/allottee will clear the said amount in the shape of monthly installments @Rs. 2,000/- for the period of 55 Months. POL on monthly basis equivalent of the conveyance allowance of the allottee will be provided for performance of official duties from non-development budget at the place of appointment of the allottee. The owner of a motorcycle/allottee will be responsible for its repairs& maintenance. The motorcycle will be transferred to the owner/allottee after successful completion of the installment period of 55 months. The motorcycles will be customized with provision of green revolving light, stickers, box at the rear end to contain the

portable pH meter, noise meter and conductivity meter, etc. for field monitoring. Through this project, EPD/EPA Field Office's mobility will be enhanced substantively.

The concerned Assistant Directors (Field), Deputy Director (Field), Deputy Director (Labs) will be responsible for 100% cost recovery from beneficiary within the stipulated time. After successful completion of installment period, the motorcycle will be handed over to the allottee by transferring it to his name.

Applications along with Affidavit on a Stamp Paper worth Rs. 100 recommended by their immediate officer/in-charge of the office will be required from each prospective allottee.

Specifications:

Two sets of uniforms – winter and summer – will be designed and procured.

Locally assembled durable motorcycles of high quality, Japanese or European origin will be purchased.

ii. Provision of thickness gauges for enforcement of Punjab Polythene Bag Rules 2004

Requirement:

Government of the Punjab has promulgated "Punjab Prohibition on Manufacture, Sale, Use and Import of Polythene Bags (Black or any other Polythene Bag below fifteen-micron thickness) Ordinance" which states that "no person shall manufacture, sell, use or import black polythene bags or any polythene bag below fifteen-micron thickness or offer any kind of eatable and non-eatable goods in any black polythene bag or any polythene bag below fifteen-micron thickness."

Rules made to implement the provisions of the Ordinance, states that "the samples shall be examined at the spot through a calibrated instrument and shall, within two days, be got confirmed from any Environmental Laboratory".

Current Situation:

Currently neither EPA Labs nor field staff has measurement gauges suitable for direct measurement of thickness of thin plastic bags. Mechanical screw-gages are used which are not free from human interference.

Proposal:

To increase regulatory intensity in use of plastic bags below fifteen-micron thickness, EPA Punjab intends to purchase two

types of instruments: gauges capable of measuring thickness of thin plastics without human interference for field staff and one non-contact gauge for EPA Headquarters Lab/EMC. The non-contact gauge will be used to certify/calibrate field gages. With this arrangement, plastic bag samples may be examined at the spot in field through a calibrated instrument.

Specifications:

The gauges proposed to be purchased shall those able to measure thin plastics without human influence/interference and shall necessarily be of North American, Japan, or European origin to ensure their durability.

iii. ***Provision of necessary scientific equipment and training for onsite and preliminary measurements.***

Current Situation:

Currently, EPA Field staff does not have capacity to measure very basic environmental parameters which require *in-situ* measurement such as temperature, dissolved oxygen concentration, conductivity, etc.

Proposal:

Portable and battery operated field monitoring instruments will be provided to field staff for *in-situ* measurement of parameters of samples of **drinking, surface water, groundwater, and wastewater** which require *in-situ* measurement. These instruments include sound level meter, pH meter, dissolved oxygen meter, conductivity/TDS meter. These instruments will comprise EPA/EPD field operative's kit to be carried along on his motorcycle on need basis.

Outcome of this activity will be assessed by the number and quality of data generated by reports produced using equipment.

Specifications:

The instruments shall be those complying US EPA reference methods/ standards methods/ or and equivalent European method. To ensure high quality, these shall be of North American, Japanese, or European origin.

iv. ***Provision of necessary implements and consumables to discharge functions as "authorized persons" as per Environmental Samples Rules 2001 for collection, preservation, and dispatch of samples to a certified environmental laboratory.***

Current Situation:

Certified HDPE sampling bottles are needed for metal content analyses. Currently EPA Punjab has very limited number of such bottles. Additionally, samples collected are to be preserved for subsequent analyses in laboratories. EPA Punjab have limited capacity for sample preservation only at its central laboratory at Lahore.

Proposal:

Water and wastewater sample bottles, sample preservatives, ice boxes, sample sealing and shipment requirements will be provided to field staff to enable them to act as “authorized persons” within the meaning of “Environmental Samples Rules 2001” for collection, preservation, and dispatch of samples to Environmental Monitoring Center or an EPA certified environmental laboratory.

Specifications:

The HDPE sampling bottles of different capacities shall be those complying with Standard Methods (preferably Nalgene or an equivalent brand) with certificate of compliance with relevant use standard.

v. Purchase of Vehicular Emission Analyzers and Transport for motor vehicle inspections

Current Situation:

Currently, EPA Punjab uses very crude standard of Ringbaleman Scale for measuring vehicular emissions. The instruments purchased about ten years ago have outlived their useful service life.

Proposal:

EPA Punjab intends to purchase vehicular emission analyzers for EPA field staff for effective enforcement of the Punjab Environmental Quality Standards for Motor Vehicle Exhaust and Noise. For these vehicles, appropriate service vehicles will also be purchased. The vehicles will be equipped with the purchased instruments and utilities for the effective enforcement of vehicular pollution.

Specifications:

Vehicular emission analyzers capable of measuring all relevant PEQS parameters and compliant with US EPA (or equivalent European) standard shall be purchased. These instruments shall be housed in Suzuki WagonR vehicles.

2. RESOURCES REQUIRED FOR EPA LABORATORIES

Current Situation:

The province experiences periods of low visibility due to fog, mist and smog between November and February each year for an average of 10 to 25 days. In recent years, however, the situation is exacerbating as it causes a sensation of burning of eyes and foul smell. Data shows that this is a regional phenomenon, covering large areas of South Asia from Delhi to Faisalabad and beyond. The data also shows that the quality of air remains well beyond permissible limits throughout the year; it only becomes visible during winters due to a combination of weather conditions – dropping mercury levels, high humidity, and formation of inversion layer.

Currently, EPA Punjab has six compact ambient air quality monitoring stations (AQMS). Though purchased to install in other cities of the province, these are being used to measure quality of air in Lahore only. These stations are not sufficient to the geographic expanse of the province. Hence, EPA intends to purchase more AQMS to cover the entire geographical expanse of the province.

Additionally, EPA Punjab is also planning to establish a regime to measure state of environment throughout the province. This would, in addition to measurement of ambient air quality, would include regular measurement of water and subsurface water quality as defined in relevant PEQS.

Proposal:

For establishing an environmental measurement regime in the province, the following procurements are proposed.

- i. Provision of transport for maintenance and operations of air quality monitoring network, water quality network in the province.***

Proposal:

The proposed ambient air quality and water quality measurement networks require intensive maintenance of the installed instruments and equipment, which necessarily include their frequent calibration.

For these purposes 5 heavy duty 4x4 short bed, double cabin and 5 jeeps will be purchased.

Additionally, 5 high-roof stations wagons will be purchased for fitting of ambient air quality monitoring stations and using them as mobile ambient air quality monitoring stations.

Specifications:

The proposed vehicles by Toyota Company will be purchased.

ii. Purchase of necessary laboratory/repairs & maintenance of equipment, hiring of staff**Current Situation:**

Currently seven regional laboratories of EPA Punjab have limited capacity to analyze environmental samples. Central laboratory also needs to be upgraded to monitor air, surface, and ground water resources. Through this project, following resources will be provided to EPA Labs to achieve the following minimum scope:

Scope of work of each of the seven Regional Laboratories and interventions to meet that target:

- a. Necessary resources will be provided for establishing standardized basic infrastructure of environmental laboratories for performing basic environmental sample processing like storage, weighing, heating and cooling, safety, and utilities infrastructure.
- b. Provide sampling implements, sample identification tools, and consumables to the seven regional laboratories of EPA Punjab for the duration of the project to perform sampling activities for drinking, ground, surface, and wastewater resources and to dispatch samples for further analysis to EPD Central Laboratory, if and when required, and for their preservation and retention.
- c. Develop standardized capacity in the EPA Laboratories to perform wastewater analysis of 11 parameters: temperature or temperature increase, pH value, Five-day Biochemical Oxygen Demand at 20°C, Chemical Oxygen Demand (COD), Total Suspended Solids (TSS), Total Dissolved Solids (TDS), Grease and Oil of relatively clean samples, Chloride(as Cl^-), Sulfate (SO_4^{2-}), Sulfide (SO_2^-), and Chlorine.

For this purpose, repair and maintenance of repairable non-functional laboratory equipment will be carried out and laboratories will be provided with equipment, lab-ware and consumables in which these are deficient for the duration of the project.

- d. Provide to EPA Punjab Laboratories requisite equipment and instruments to perform industrial gaseous emissions tests for selected parameters of Smoke Opacity,

Particulate Matter, Sulphur Oxides, Carbon Monoxide and Oxides of Nitrogen on small to medium industries' stacks.

For this purpose, repair, maintenance and up-grading & repairing of non-functional stack sampling equipment will be done and laboratories will be provided with the deficient equipment, lab-ware and consumables for the duration of the project.

- e. Develop capacity in EPA Punjab Laboratories to perform ambient noise tests as per the applicable PEQS.

For this purpose, the deficiency will be made up by providing suitable noise level meters with all the required accessories for the generation of noise level test reports.

Specifications:

All the instruments and equipment shall be of North American, Japanese, European origin and complying with US EPA (or equivalent European Agency) reference methods/Standard Methods.

Scope of work for Central Laboratory/EMC at Lahore, and interventions to meet that target:

Proposal:

- a. Having required infrastructure of environmental laboratory, capable to perform advanced level environmental sample processing like storage, weighing, heating and cooling, safety, and utilities infrastructure and environmental controls.

For this purpose, deficiencies in proper housing, storage and installation of laboratory equipment will be identified and provided for from this project.

- b. Capable to perform sampling activities for drinking, ground, surface, and waste water and to estimate pollution loads using state of the art methods. Also, capable to gather supporting data for correct interpretation of lab reports so as to give a meaningful picture of state of environment concerning the issue at hand.

For this purpose, deficient sampling implements, sample identification tools, and consumables will be identified and provided for the duration of the project. Flow measurement setup will be provided as per surface water and wastewater streams requirement in consultation with

the technical committee of the department.

- c. Capable to perform wastewater analysis of all PEQS as well as significant other non-criteria parameters as nitrogen and phosphorous, except pesticides and non-criteria organics.

For this purpose, repair and maintenance of repairable non-functional laboratory equipment will be done and laboratory will be provided with the deficient equipment, lab-ware and consumables for the duration of the project.

- d. Capable to perform industrial gaseous emissions tests for all parameters as per PEQS on all kinds of stacks.

For this purpose, repair and maintenance of repairable non-functional stack test equipment will be done and laboratories will be provided with the deficient equipment, lab-ware and consumables for the duration of the project.

- e. Capable to perform vehicular emissions testing for three parameters namely Smoke, Carbon Monoxide, and Noise, as applicable to “in use vehicles” as and when required for specific purposes.

For this purpose, deficient equipment and accessories and relevant requirements will be met through this project as per standard procedures of performing such measurements.

- f. Capable to perform ambient noise tests as per PEQS.

For this purpose, the deficiency will be made up by providing noise level meters with all the required accessories for the generation of noise test report.

- g. Capable to monitor all PEQS parameters as well as supportive and descriptive parameters required for the correct interpretation of ambient air quality of an are across Punjab through fixed and mobile ambient air quality monitoring stations as well as USEPA reference methods. A comprehensive system of reporting ambient air quality will be established with appropriate data reduction, interpretation and dissemination capabilities. Data for the refinement and revision of Ambient Air Quality Standards will also be collected.

For this purpose, EPD will purchase 30 ambient air quality monitoring stations of which five will remain mobile and 25 AQMSs will be fixed on representative places across Punjab. Disbursement of Ambient Air Quality Monitoring Stations will be as under:

		DISTRICT	No. of Air Quality Monitoring Stations	
		Lahore	8	
		Sheikhupura	1	
		Faisalabad	3	
		Rawalpindi	3	
		Multan	2	
		Gujranwala	2	
		Sialkot	1	
		Bahawalpur	2	
		D.G Khan	1	
		Sargodha	2	
		Mobile AQMS	5	
		Total	30	
	<p>Additional staff such as Deputy Analyst, Assistant Analyst, Assistant Data Analyst, Instrument Technician, Electrician, drivers etc. will be needed. These staff, originally proposed to be hired under this project, will now be hired under the ongoing Capacity Building... project for the smooth functioning of AQMSs. However, drivers will be hired under this project. EPA will purchase supportive and logistic articles as transport vans and boarding and lodging facilities for the staff deputed at ambient air quality monitoring stations.</p>			
7. COST ESTIMATES	<p>Total cost of the project is Rs. 1007.815 Million.</p> <p>Estimated cost of scheme in detail is at Annex-I.</p>			
8. ANNUAL OPERATING AND MAINTENANCE COST AFTER COMPLETION OF THE PROJECT:	<p>The annual operating and maintenance cost will be met through non-development budget after completion of the project.</p> <p>POL on monthly basis equivalent to the conveyance allowance of the motorcycle allottee will be provided for performance of official duties from non-development budget/ concerned Field office.</p>			
9. DEMAND AND SUPPLY ANALYSIS:	<p>N.A.</p>			
10. FINANCIAL PLAN AND MODE OF FINANCING:	<p>Financed through ADP FY2017-19.</p>			
11. PROJECT BENEFITS AND ANALYSIS:				

i. Financial:	The project is expected to benefit the social condition of the people through better monitoring of environmental conditions in Punjab. The indicators of this project will be better monitoring of soil, wastewater, vehicular pollution, water and air pollution.
ii. Social benefits with indicators:	The project is expected to benefit the social condition of the people through better monitoring of environmental conditions in Punjab. The indicators of this project will be better monitoring of soil, water and air pollution.
iii. Employment generation (direct and indirect):	EPA will hire support staff as Deputy Analyst, Assistant Analyst, Assistant Data Analyst, Instrument Technician, Electrician, drivers etc. for operation of Compact Ambient Air Quality Monitoring Stations. Further, indirect employment is likely to be generated to vendors for supply of equipment and spares and repair job etc.
iv. Environmental Impacts:	The project is aimed to control the environmental pollution through better monitoring system.
v. Impact of delays on project cost and viability:	If the project is delayed, the condition of the environment may further deteriorate and the process of action against the polluters may delay and result in environmental damage.
12. IMPLEMENTATION SCHEDULE/PROCUREMENT PLAN:	The project is expected to be completed till June, 2019. Implementation schedule/Procurement Plan is at Annex-XII
13. MANAGEMENT STRUCTURE AND MANPOWER REQUIREMENTS INCLUDING SPECIALIZED SKILLS DURING EXECUTION AND OPERATIONAL PHASES:	Nil. Project Director SP&IU will be the over all in-charge of the project and will implement with the help of Director (ML&I), Director (Admin & Monitoring), Deputy Director (Labs), Assistant Directors (Field)/Deputy Directors (Field) EPA Punjab. The Committees e.g. procurement committee, technical committee, Inspection Committee, Internal audit Committee notified by the Punjab Environment Protection Department will perform their duties for purchases under this ADP Scheme (Copy of Notifications of these Committees are at Annex-VIII, IX, X, XI)
14. ADDITIONAL PROJECTS/DECISIONS REQUIRED TO MAXIMIZE SOCIO-ECONOMIC BENEFITS FROM THE PROPOSED	N.A.

PROJECT	
15. CERTIFIED THAT THE PROJECT PROPOSAL HAS BEEN PREPARED ON THE BASIS OF INSTRUCTIONS PROVIDED BY THE PLANNING COMMISSION FOR THE PREPARATION OF PC-I FOR SOCIAL SECTOR PROJECTS:	Certified that the project proposal has been prepared on the basis of instructions provided by the Planning Commission for the preparation of PC-I for Social Sector projects.

Prepared by:

Analyst (Air), EMC,
EPA Punjab

Analyst (Liquid), EMC,
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Deputy Director (Labs), Lahore
EPA Punjab

Checked by:

Director (ML&I), EPA Punjab

Recommended by:

Project Director (SP&IU)

Approved by:

Secretary
Government of the Punjab
Environment Protection Department

GENERAL ABSTRACT OF COST*(Rs. in Millions)*

#	Description	Head of Account	Total
1.	Pay of Other Staff- Pay of Contract Staff (Details are at Annex-IV)	A01156	9.42
2.	Communications-Electronic Communication	A03204	1.0
3.	Utilities-Electricity	A03303	1.00
4.	Occupancy Costs-Rates & Taxes	A03407	1.50
5.	Motor Vehicles-Registration	A03603	2.0
6.	Travel & Transportation-Travelling Allowance	A03805	3.0
7.	Travel & Transportation-POL Charges	A03807	5.0
8.	Travel & Transportation-Conveyance Charges	A03808	0.1
9.	General-Stationery	A03901	0.3
10.	General-Printing & Publication	A03902	0.1
11.	General-Uniform & Protective Clothing	A03906	10.0
12.	General-Adverting and Publicity (For clearance of DGPR Bills)	A03907	0.20
13.	General-Cost of Other Stores	A03942	6.0
14.	General-Computer Stationary	A03955	0.1
15.	General-Others	A03970	1.0
16.	Entertainment & Gifts	A06301	0.03
17.	Computer Equipments- Hardware	A09201	5.0
18.	Computer Equipment – IT Equipment	A09203	5.0
19.	Other Stores & Stocks-Specific Consumables	A09407	0.02
20.	Other Stores & Stocks-General Consumables	A09408	0.05
21.	Other Stores & Stocks-General Utility Chemicals	A09411	0.10
22.	Other Stores & Stocks-Specific Utility Chemicals	A09412	5.0
23.	Other Stores & Stocks-Others	A09470	1.0
24.	Purchase of Transport (Details are at Annex-III)	A09501	81.00
25.	Purchase of Plant & Machinery (Details are at Annex-II)	A09601	865.395
26.	Repairs and Maintenance – Transport	A13001	0.50
27.	Repairs and Maintenance – Machinery and Equipment	A13101	4.0
Grand Total			1007.815

DETAILS OF PURCHASE OF MACHINERY & EQUIPMENT

Sr #	Description	Details	Qty	Unit Price	Total Price
1.	Compact Ambient Air Quality Monitoring Stations capable to monitor the Punjab environmental quality standards for ambient air for the following parameters on real time basis: NO,NO2 (method of measurement- Chemi-luminescence) SO2 (UV-Fluorescence) CO (NDIR method) O3 (UV-Absorption method/ Fluorescence) PM2.5 PM10 with US-EPA reference or US-EPA equivalent method	Should be compact. Should have built in facility for the real-time monitoring and relay of Punjab environmental quality standards for ambient air parameters along with online complete data storage and acquisition, with three years comprehensive warranty. The analyzers of Ambient Air Quality Monitoring Stations must comply with US-EPA reference methods or any other equivalent / agency compliance (such as European etc.) As per detailed specifications approved by technical committee of the department. The instrument shall be US EPA, EU Environmental recognized for their approved methods and capable of measuring parameter within the ranges required as per the PEQS. 5 of such instruments shall be fitted on an appropriate hi-roof station wagon and all fittings and conversions shall be carried out by the vendor. 25 instruments shall be installed at fixed locations across the province by the vendor. At least 8-hr backup shall also be provided for each and every station.	30	21,000,000	630,000,000
2.	Portable Generators	5 KVA, measurements per detailed specifications approved by technical committee of the department component of mobile AQMS	5	300,000	1,500,000
3.	Multi-gas Analyzer for monitoring the Stack Emissions	Comply with US-EPA method for continues emissions measurement of SOx, NOx, CO, O2, CO2, etc., using prescribed measurement techniques of UV Fluorescence, Chemi-luminescence, NDIR etc. as per detailed specification approved by technical committee of the	10	8,300,000	83,000,000

Sr #	Description	Details	Qty	Unit Price	Total Price
		department. Must be portable The equipment shall be US EPA, EU Environmental recognized for their approved methods and capable of measuring parameter within the ranges required as per the PEQS.			
4.	Ambient Mercury Analyzer	Capable to measure mercury levels, especially in the vicinity of coal fired power plants. Must be with all accessories, including calibrator, etc. The instrument shall be US EPA, EU Environmental recognized for their approved methods and capable of measuring parameter within the ranges required as per the PEQS.	1	25,000,000	25,000,000
5.	Vehicular Emission Analyzer	Capable to measure the PEQS notified for motor vehicle exhaust as per detailed specifications approved by technical committee. The instrument shall be US EPA, EU Environmental recognized for their approved methods and capable of measuring parameter within the ranges required as per the PEQS. These analyzers should be those with measuring capacities applicable in economically advanced countries.	18	300,000	5,400,000
6.	Autoclave (EMC)	As per detailed specifications approved by technical committee of the department. The instrument shall be US EPA, EU Environmental recognized for their approved methods and capable of measuring parameter within the ranges required as per the PEQS.	10	1,500,000	15,000,000
7.	High Volume Sampler and accessories For SPM, PM ₁₀ , PM 2.5 assemblies	As per detailed specifications approved by technical committee of the department. 5 new samplers shall be purchased and available shall be repaired.	5	2500000	12,500,000

Sr #	Description	Details	Qty	Unit Price	Total Price
8.	Sound Level Meter for regulatory and compliance purpose.	Leq Based – Portable with tripod stand and calibrator	90	105,000	9,450,000
9.	Consumables for ambient air quality monitoring stations	Consumables for existing ambient air quality monitoring stations for at least three years.	15	750,000	11,250,000
10	Conductivity meter	Must be portable as per detailed specifications approved by technical committee of the department. The instrument shall be US EPA, EU Environmental recognized for their approved methods and capable of measuring parameter within the ranges required as per the PEQS.	90	93,000	8,370,000
11	Thickness gauge	As per detailed specifications approved by technical committee of the department. The instrument shall be US EPA, EU Environmental recognized for their approved methods and capable of measuring parameter within the ranges required as per the PEQS.	50	175000	8,750,000
12	Bench top Ion Selective Electrode Meter with compatible electrode and calibration standards for Fluoride, Sulfide, Cyanide, Nitrate and Ammonia	As per detailed specifications approved by technical committee of the department	1	7,500,000	7,500,000
13	pH Meter	Must be Portable as per detailed specifications approved by technical committee of the department The instrument shall be US EPA, EU Environmental recognized for their approved methods and capable of measuring parameter within the ranges required as per the PEQS.	90	85,000	7,650,000
14	Flow measurement setup (For Pollution Load calculation)	As per detailed specifications approved by technical committee of the department. The instrument shall be US EPA, EU Environmental	2	3000000	6,000,000

Sr #	Description	Details	Qty	Unit Price	Total Price
		recognized for their approved methods and capable of measuring parameter within the ranges required as per the PEQS.			
15	Stack Particulate Matter Assembly	As per US-EPA approved methodology with all the required accessories and consumables for PM10/2.5, Dioxins and Furans etc. as per detailed specifications approved by technical committee of the department. The instrument shall be US EPA, EU Environmental recognized for their approved methods and capable of measuring parameter within the ranges required as per the PEQS.	2	2500000	5,000,000
16	BOD Test Facility	As per the 5210-D APHA method and as per detailed specifications approved by technical committee of the department. The instrument shall be US EPA, EU Environmental recognized for their approved methods and capable of measuring parameter within the ranges required as per the PEQS.	8	600,000	4,800,000
17	Upgrading of Stack Particular Matter Assembly	Up-Gradation to US-EPA approved methods as per detailed specifications approved by technical committee of the department.	6	700000	4,200,000
18	IP Security and surveillances set up for regional and central Labs of EPA Punjab.	As identified during survey of each EPA Regional Laboratory As per detailed specifications approved by technical committee of the department.	8	500000	4,000,000
19	Temperature Gun	For measurement of temperature of incineration chamber. The instrument shall be US EPA, EU Environmental recognized for their approved methods and capable of measuring parameter within the ranges required as per the PEQS.	30	205,000	6,150,000
20	Basic Infrastructure of Environmental Laboratories capable to	As identified during survey of each EPA Regional Laboratory As per detailed specifications approved by technical	8	350,000	2,800,000

Sr #	Description	Details	Qty	Unit Price	Total Price
	perform basic Environmental Sample Processing e.g. Storage, weighing, heating, cooling, safety etc.	committee of the department. The instrument shall be US EPA, EU Environmental recognized for their approved methods and capable of measuring parameter within the ranges required as per the PEQS.			
21	Automated Distillation Apparatus with digester, scrubber, chiller and accessories	As per detailed specifications approved by technical committee of the department. The instrument shall be US EPA, EU Environmental recognized for their approved methods and capable of measuring parameter within the ranges required as per the PEQS.	1	2,500,000	2,500,000
22	Reference Non-Contact, thickness gauge for polythene sheets	As per detailed specifications approved by technical committee of the department. The instrument shall be US EPA, EU Environmental recognized for their approved methods and capable of measuring parameter within the ranges required as per the PEQS.	1	1500000	1,500,000
23	COD Test Facility	As per the 5220 B and D APHA method and as per detailed specifications approved by technical committee of the department. The instrument shall be US EPA, EU Environmental recognized for their approved methods and capable of measuring parameter within the ranges required as per the PEQS.	5	200,000	1,000,000
24	Water / Wastewater sampling, Preservation-Transportation Setup	As per detailed specifications approved by technical committee of the department. The instrument shall be US EPA, EU Environmental recognized for their approved methods and capable of measuring parameter within the ranges required as per the PEQS.	3	200,000	600,000
25	Bench top turbidity meter 0-2000 NTU	As per detailed specifications approved by technical committee of the department	1	500,000	500,000
26	D.O Meter	As per detailed specifications approved by technical	3	125000	375,000

Sr #	Description	Details	Qty	Unit Price	Total Price
		committee of the department. The instrument shall be US EPA, EU Environmental recognized for their approved methods and capable of measuring parameter within the ranges required as per the PEQS.			
27	Laboratory Incubator (53 liters)	As per detailed specifications approved by technical committee of the department. The instrument shall be US EPA, EU Environmental recognized for their approved methods and capable of measuring parameter within the ranges required as per the PEQS.	1	350,000	350,000
28	Laboratory Oven (EMC)	As per detailed specifications approved by technical committee of the department. The instrument shall be US EPA, EU Environmental recognized for their approved methods and capable of measuring parameter within the ranges required as per the PEQS.	1	250,000	250,000
Total					865,395,000

Note: Detailed specifications of equipment will be approved by the Technical Committee of the Department.

Annex- III

DETAILS OF PURCHASE OF TRANSPORT
(Costs are in Pak Rupees)

Sr#	Description	Details	No.	Unit Price (PKR)	Total
1	4x4 Field Vehicles for Maintenance & Operation.	Double cabin, short bed	5	4,500,000	22,500,000
2	Jeeps	Standard 4x4 jeeps	5	2,100,000	10,500,000
3	Vehicles for Mobile Compact Ambient Air Quality Monitoring Stations	High-roof station wagon.	5	5,000,000	25,000,000
4	Purchase of Motorcycles for Field Staff and Laboratory Staff of EPA Punjab on hire and purchase basis.	<ul style="list-style-type: none"> - CG-125 Latest Model, - 4 Stroke OHV Cooled by Air - Powerful Japanese Technology OHV 125 CC Engine. - Honda Motorcycle (CG-125) or equivalent. 	100	110,000	11,000,000
5	Special purpose vehicles for Vehicular Emission Analyzer installation for EPA Field Staff.	<ul style="list-style-type: none"> - Petrol operated - Manual transmission, - Seating capacity: 5 persons - No. of doors: 4 - 1000 CC, - Wagon R VXL or equivalent 	10	1,200,000	12,000,000
Sub Total					81,000,000

Annex – IV**COST BREAK UP OF SALARIES of EMPLOYEES (PKR)**

Sr. No.	Description	Posts	Salary per Month	Funds requirement (For 12 months)	Total salaries for 1 year
1.	Instrument Technician	3	35,000	1,260,000	1,260,000
2.	Electrician	1	30,000	360,000	360,000
3.	Driver	26	25,000	7,800,000	7,800,000
Total			90,000	9,420,000	9,420,000

Details of eligibility criteria and job description are at **Annex-V)**

ELEGIBILITY CRITERIA FOR VARIOUS POSTS UNDER ADP SCHEME “ENHANCED ENVIRONMENTAL QUALITY MONITORING SYSTEM FOR PUNJAB’S AIR, SURFACE AND GROUND WATER RESOURCES”

(Add 7.5% annual increment)

#	Post& Remuneration	Appointing Authority	Minimum Education/ Experience	Mode of Appointment	Job Description
1	INSTRUMENT TECHNICIAN Max Age: 40 Years Remuneration of Rs. 35,000/- per month all inclusive for person selected from market. In case of Government servant pay and allowances will be applicable as per Finance Department Notification issued Vide No. FD.SRI/9-20/2006 dated 30.12.2016	Administrative Secretary	DAE Electrical / DAE Electronics as a subject and 5 year laboratory work experience	Initial recruitment or by transfer from amongst Government Servants with appropriate experience and expertise	The Instrument Technician will be required to undertake the following tasks: <ul style="list-style-type: none">• Maintain Ambient Air Quality Monitoring Stations, Stack Monitoring equipments and other Lab equipments etc. in appropriate state of operation, cleanliness and order.• Inspect, test, adjust, and repair electric, electronic, Lab instruments.• Oversee and participate in repairing, troubleshooting, installing, and maintaining high and low voltage electrical equipment and Lab Equipments in Field and Laboratories.• Respond to emergency call-outs on nights, weekends and holidays.• Assist Deputy/Assistant Analysts in maintaining laboratory/field equipment in ready state at all times.• Assist Analysts and Deputy/Assistant Analysts in the performance of their duties when extra hands are required.• Perform everyday support tasks related to laboratory/field work, as directed by superior officers.• Any other task assigned by the Program Director
2	ELECTRICIAN Max Age: 40 Years Remuneration of Rs. 30,000/- per month all inclusive for person selected from market. In case of Government servant pay and allowances will be applicable as per	Administrative Secretary	DAE Electrical or Engineering equivalent and 3 year laboratory work experience	Initial recruitment or by transfer from amongst Government Servants with appropriate experience and expertise	The Electrician will be required to undertake the following tasks: <ul style="list-style-type: none">• Provide electricity / UPS connections for Installation/ operation of Compact Ambient Air Quality Monitoring Stations.• Assemble, install, test, and maintain electrical or electronic wiring, equipment, appliances, apparatus, and fixtures, using hand tools and power tools• Diagnose malfunctioning systems, apparatus, and components, using test equipment and hand tools, to locate the cause of a breakdown and correct the problem

#	Post& Remuneration	Appointing Authority	Minimum Education/ Experience	Mode of Appointment	Job Description
	Finance Department Notification issued Vide No. FD.SRI/9-20/2006 dated 30.12.2016				<ul style="list-style-type: none"> Inspect electrical systems, equipment, and components to identify hazards, defects, and the need for adjustment or repair, and to ensure compliance with codes. Advise higher authorities on whether continued operation of equipment could be hazardous. Test electrical systems and continuity of circuits in electrical wiring, equipment, and fixtures, using testing devices such as ohmmeters, voltmeters, and oscilloscopes, to ensure compatibility and safety of system. Adheres to all safety guidelines Use and care for hand tools and equipment necessary to perform various electrical repairs tasks. Any other task assigned by the Program Director
3	DRIVER Max Age: 40 Years Rs. 25,000/- per month all inclusive for person selected from market In case of Government servant pay, allowances will be applicable as per Finance Department Notification issued Vide No. FD.SRI/9-20/2006 dated 30.12.2016	Administrative Secretary	<ul style="list-style-type: none"> Matric LTV License 3 Years' experience Only persons domiciled in province of the Punjab are eligible to apply. NOC is required from the present employer 	Initial recruitment	The driver will be required to undertake the following tasks: <ul style="list-style-type: none"> Drive the vehicles of Compact Ambient Air Quality Monitoring Stations in all over the Punjab as and when directed by the authority. To provide secure and timely driving services to officers Update monthly mileage records Maintain log book of each service vehicle on daily basis Check oil and tyres properly and keep the service vehicles in clean condition, both inside and outside Ensure sound running of the vehicles assigned and arrange minor repairs where necessary Determine when and what kind of maintenance the vehicle needs, keep track of general maintenance schedules, especially car tyre condition. Schedule annual vehicle examination for service vehicles with the Transportation Department and apply for the renewal for the vehicle license. Responsible for conveying materials, equipment, and staff of the organization to the areas where they are required Any other task assigned by the Program Director



**GOVERNMENT OF THE PUNJAB
ENVIRONMENTAL PROTECTION AGENCY
GADDAFI STADIUM, LAHORE**

Photograph

APPLICATION FOR MOTORCYCLE

Name: _____

Designation: _____

CNIC #

[illegible]

Mobile #

[illegible]

Office:

Regular / Contract _____

Date of Birth: _____

Date of Retirement:

Model, Make, Company & Color of the Motorcycle Required: _____

Note:

Please attach a copy of CNIC and Latest Salary Slip

Signature (with Date) : _____

اقرارنامہ

میں مسمیٰ _____ ولد _____ عہدہ _____
 زیر انتظام دفتر _____ اپنے ہوش و حواس خمسہ خود غیر جبر و کرار
 غیرے اپنی آزادانہ رضامندی سے اقرار کرتا ہوں کہ من مظہر نے ایک عدوموٹرسائیکل 125 سی ڈی ماڈل 2018 جس کی تفصیل درج ذیل ہے از ان جناب
 _____ درست حالت میں وصول پایا۔

انجن نمبر	چسی نمبر	رجسٹریشن نمبر
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شرائط

1. کہ موٹرسائیکل مذکورہ بالا کی کل قیمت مبلغ _____ روپے تقرر پائی ہے۔ جو کہ 55 ماہانہ اقساط میں مبلغ _____ روپے ماہانہ بروقت ادا کی جائے گی۔
2. من مظہر ملازمت چھوڑ دے یا ریٹائرڈ ہو جائے تو بقایا رقم یک مشمت ادا کی جائیگی بصورت دیگر رقم سرکاری واجبات من مظہر کو حکومت کی طرف سے ادا کی جانے والی رقوم مثلاً "گریجویٹی، پنشن یا جی پی فنڈ سے منہا کی جائیگی۔
3. من مظہر موٹرسائیکل اپنی تحویل میں رکھے گا اور استعمال کرے گا۔
4. موٹرسائیکل مذکورہ بالا کی دیکھ بھال اور مرمت وغیرہ بذمہ من مظہر ہوگی۔
5. موٹرسائیکل تمام واجبات کی ادائیگی تک گورنمنٹ کی ملکیت میں رہے گی۔
6. موٹرسائیکل کی قیمت پوری ہونے سے پہلے اسے فروخت نہیں کیا جاسکے گا۔
7. حادثے کی صورت میں من مظہر کے قانونی ورثہ مذکورہ شرائط کے پابند ہونگے۔
8. کسی قسم کے تنازعہ کی صورت میں ڈائریکٹر جنرل (انوائزمنٹ) کا فیصلہ حتمی اور آخری ہوگا۔
9. من مظہر درج بالا ماہوار قسط زیر انتظام دفتر میں باقاعدگی سے جمع کروانے کا پابند ہوگا۔
10. من مظہر کے ذمہ گورنمنٹ کی طرف سے موٹرسائیکل ایڈوائس کی کوئی رقم واجب الادا نہیں ہے اور نہ ہی گورنمنٹ کی موٹرسائیکل میری ملکیت ہے۔
11. اگر من مظہر مندرجہ بالا شرائط کی پابندی نہ کرے گا تو ڈائریکٹر جنرل (انوائزمنٹ) یا اس کے مقرر کردہ نمائندے کو یہ حق حاصل ہوگا کہ وہ موٹرسائیکل کو اپنی تحویل میں لے سکتا ہے اور من مظہر کو اس بارے میں کسی قسم کی قانونی چارہ جوئی کا حق حاصل نہ ہوگا۔

_____ العبد



**GOVERNMENT OF THE PUNJAB
ENVIRONMENT PROTECTION DEPARTMENT**

Dated Lahore the 2nd June, 2017

NOTIFICATION

NO. SO(T)EPD/1-18/2013 In supersession of earlier notification of even number dated 28.09.2015, the following Technical Committee is hereby re-constituted for approval of purchase of equipment, chemicals, consumables and repair of equipment for EPA Laboratories:

1	Director (ML&I), EPA Punjab, Lahore	Convener
2	Director General or Representative SUPARCO, Lahore	Member
3	Director General or Representative PCSIR, Lahore	Member
4	Head of Institute of Chemistry, Punjab University, Lahore	Member
5	Deputy Director (Labs), EPA Punjab, Lahore	Member/ Secretary

2. Terms of References (TORs) of the Committee are as under:
- Analysis of requirement.
 - Scrutiny and approval of specifications.
 - Technical scrutiny of bids/ offers.
 - Inspection of goods/ stores before processing the bill for payment. Pre-qualification of supplier and contractors.
 - Adherence to rules and regulations.

**SAIF ANJUM
SECRETARY ENVIRONMENT**

NO. & DATE EVEN

A copy is forwarded for information and necessary action to:-

- The PS to Secretary, EPD Punjab, Lahore.
- The PA to Director General, EPA Punjab, Lahore.
- The Director (AL&C), EPA Punjab, Lahore.
- The officers concerned.

Section Officer (Technical)



**GOVERNMENT OF THE PUNJAB
ENVIRONMENT PROTECTION DEPARTMENT**

Dated Lahore the 13th February, 2018

NOTIFICATION

NO. SO(TECH)/EPD/1-2/2005 (V-I) A Procurement Committee is hereby constituted for procurement of items for development projects of Environmental Protection Agency, Punjab with the following composition:-

1.	Dr. Javaid Iqbal, Project Director (SP&IU), EPD, Punjab, Lahore	Convener
2.	Mr. Nawaz Manik, Director (Legal), EPA Punjab, Lahore	Member
3.	Mr. Muhammad Tahir, Director (EIA), EPA Punjab, Lahore	Member
4.	Mr. Muhammad Javed, Deputy Secretary (Technical), EPD Punjab, Lahore	Member
5.	Mr. Naseem-ur-Rehman, Deputy Director (Field), EPA Punjab, D.G Khan	Member
6.	Mr. Muhammad Shoaib, Procurement Specialist (SP&IU), EPD Punjab, Lahore	Secretary

2. The Committee shall ensure compliance with PPRA Rules, while making procurements.

**SAIF ANJUM
SECRETARY ENVIRONMENT**

NO & DATE EVEN

A copy is forwarded for information and necessary action to:

1. Members of the above notified Procurement Committee.
2. The PS to Secretary EPD Punjab, Lahore.
3. The PS to Additional Secretary, EPD Punjab, Lahore.
4. The PA to Director General, EPA Punjab, Lahore.

(SANA BASHIR)
SECTION OFFICER (TECHNICAL)



GOVERNMENT OF THE PUNJAB
ENVIRONMENT PROTECTION DEPARTMENT

Dated Lahore the 13th April, 2018

NOTIFICATION

NO. SO(TECH)/EPD/1-2/2005 An Inspection Committee is hereby constituted for procurement of items for development projects of Environmental Protection Agency, Punjab with the following composition:-

1.	Director (ML&I), EPA Punjab, Lahore	Convener
2.	Director (P&C), EPA Punjab, Lahore	Member
3.	Director (A&M), EPA Punjab, Lahore	Member

16/4/18
16/04/18

2. The Committee shall ensure compliance with PPRA Rules, while making procurements.

SAIF ANJUM
SECRETARY ENVIRONMENT

NO & DATE EVEN

A copy is forwarded for information and necessary action to:

1. Members of the above notified Inspection Committee.
2. The PS to Secretary EPD Punjab, Lahore.
3. The PS to Additional Secretary, EPD Punjab, Lahore.
4. The PA to Director General, EPA Punjab, Lahore.

16/4/18

16/4/18

16-4-18

16/4/18

(SANA BASHIR)
SECTION OFFICER (TECHNICAL)



042-35774341

GOVERNMENT OF THE PUNJAB
ENVIRONMENT PROTECTION DEPARTMENT

Dated Lahore the 27th February, 2017ORDER

In pursuance of Finance Department's letter No.FD(SO)M-II-3-15/2010 PAC(C&W)P-I, dated 17.02.2017 and Directive of Public Accounts Committee-II regarding establishment of internal audit wing, the following Internal Audit Committees / Wing are hereby constituted to carry out the Internal Audit of the Department / Attached Department in order to improve the financial & procurement disciplines as notified by the Government.

Sr. #	Formation	Name of the Internal Audit Committee Members
1.	Environment Protection Department	i. Section Officer (Tech.), EPD ii. Superintendent (Estt.), EPD
2.	Environmental Protection Agency	i. Section Officer (Estt.), EPD ✓ ii. Budget & Accounts Officer, EPA ✓ iii. Assistant Director (P&C), EPA ✓
3.	Punjab Environmental Tribunal, Lahore	i. Member (Tech), PET, Lahore ii. Budget & Account Officer EPA

SECRETARY, EPD

NO. & DATE EVEN.

A copy is forwarded for information & necessary action to:-

- The Secretary, Provincial Assembly of Punjab, Lahore.
- The Assistant Secretary, Public Accounts Committee-II for kind information of Chairperson PAC-II.
- The Ps to Chairperson, Punjab Environmental Tribunal, Lahore.
- The Section Officer (M-II), Finance Department w.r.t his letter referred above.
- The Officers concerned.
- PS to Secretary, EPD.
- PA to DG, EPA.

SECTION OFFICER (GENERAL)

790 DIR (AL&C)
D. NO. 03.03.17
Dated 03.03.17
876
Diary No. 163/DD (M-II) EPD
1-13/17

1- DD (Lab),
2- AD (Imp),
3- AD (Admin),

PROCUREMENT PLAN/IMPLEMENTATION SCHEDULE OF ADP SCHEME “ENHANCED ENVIRONMENTAL QUALITY MONITORING SYSTEM FOR PUNJAB'S AIR, SURFACE AND GROUND WATER RESOURCES”

#	Activity	Months													
		Jun 2018	Jul 2018	Aug 2018	Sep 2018	Oct 2018	Nov 2018	Dec 2018	Jan 2019	Feb 2019	Mar 2019	Apr 2019	May 2019	Jun 2019	
1.	i. Approval of specifications by Procurement Committee and Technical Committee of EPD Punjab for Purchase of Plant & Machinery, Stationery, Purchase of Transport, Purchase of Others Stores & Stock (Glasswares) ii. Advertisement and Recruitment of Staff														
2.	Advertisement of Tender and Tender Processing for Purchase of Plant & Machinery, Stationery, Purchase of Transport, Purchase of Others Stores & Stock (Glasswares)														
3.	Opening of Technical Bids, Preparation of comparative statements, opening of financial bids and issuance of Purchase Order to the Technically qualified lowest bidders.														
4.	Receiving, Physical and Technical Inspection of items by the Procurement Committee and Technical Committee and Inspection Committee of the Department.														
5.	Handing over of items purchase under said scheme to the end users and processing of Bills from the AG Office Punjab.														
6.	Registration of Transport/Motorcycles from Excise and Taxation Department.														
7.	Monitoring & Evaluation of the project by Internal Audit Committee of the Department														
8.	Risk Mitigation Plan: Risk identification / mitigation / analysis would be made under PPRA Rules 2014. If there would be any complaint against the purchases then Complaint Redressal Committee will be notified and Department will handle it under PPRA Rules 2014.														

OBSERVATIONS OF P&D DEPARTMENT IN PRE-PDWP MEETING HELD ON 29.03.2018 UNDER THE CHAIRMANSHIP OF MEMBER (SI) ON PC-I OF ADP SCHEME “ENHANCED ENVIRONMENTAL QUALITY MONITORING SYSTEM FOR PUNJAB’S AIR, SURFACE AND GROUND WATER RESOURCES”:

Sr. No.	Observations of P&D Deptt.	Remarks of Administrative Deptt.
i.	Total cost of the scheme in ADP 2017-18 was Rs. 74.00 million. Allocation in ADP 2017-18 was 30.00 million whereas allocation in ADP 2018-19 was Rs. 44.00 million. Now, Administrative Department has submitted revised PC-I of total cost of Ts. 1036.345 million. There is a tremendous increase in allocation which has surpassed the total budget allocation for the environment sector. Department may justify this massive increase in allocation and compare it with trend of previous utilization in this scheme.	This project will enable EPA/EPD Punjab to enhance its capacity in monitoring these mandated areas of environment. Additionally, Government of the Punjab, has given commitment to the Honorable Lahore High Court Lahore in the wake of Public Interest Litigation on Smog Episodes in the province that capacity of EPA Punjab is being enhanced through provision of 30 additional compact ambient quality monitoring stations. A major amount of this project is for the purchase of these stations (both fixed and mobile) and for acquiring resources for their operations and maintenance.
ii.	Allocation for this project may be decided based on past performance and the phasing set out in the PC-I.	During F.Y 2015-16, utilization of Department was 99 %. During F.Y 2016-17, Schemes involve hiring of consultancy services to achieve the desired objectives of projects. Hiring process of Consultants for different Projects was in process. Therefore, utilization was 75 %.
iii.	Administrative Department intends to allocate the resources for its field laboratories. AD is requested to mention the status of already existing facilities at their regional laboratories and ambient air quality monitoring stations installed under ADP 2016-17 scheme titled “Installation of ambient air quality monitoring stations.”	Currently, there is no facility of ambient air quality monitoring stations at regional laboratories of Department. Already purchased Compact Air Quality Monitoring Stations are installed in Lahore at different locations to determine the air quality of Lahore city. Department intends to enhance capacity of EPA Punjab for ambient air quality monitoring as per “Punjab Environmental Quality Standards for Ambient Air” by purchasing and installing 30 compact ambient air quality monitoring stations (AQMS) at strategic locations all over the province. These include both fixed and mobile stations professionally installed on vans containing all requisite accessories

Sr. No.	Observations of P&D Deptt.	Remarks of Administrative Deptt.
iv.	Budget estimates for the year 2017-18 is Rs. 237.875 million. How AD will justify the utilization of this amount as the financial year is expected to complete in June 2018. AD may explain.	During F.Y 2017-18, Department will purchase Plant & Machinery amounting Rs. 237.875. It is possible to utilize these funds. Details are provided in Annex-II.
v.	Administrative Department must justify the purchase of 5 Jeeps (standard 4x4) whereas 5 field vehicles have already been mentioned for maintenance and operation.	<p>The already mentioned 5 vehicles are allocated to regional Laborites. Their repair & maintenance is required.</p> <p>EPD is investing in establishment of ambient air quality monitoring network and water quality measurement network. Successful operation of these networks for gathering robust data requires intensive maintenance of the installed instruments and equipment, which include their frequent calibration. For these purposes 5 heavy duty 4x4 double cabin, short bed and 5 jeeps will be purchased. Additionally, 5 high-roof stations wagons will be purchased for fitting of ambient air quality monitoring stations.</p>
vi.	Rationale behind additional cost included in up-gradation of Stack Particulate Matter Assembly may be justified.	The facility of Stack Particulate Matter Assembly is currently not available in EPA Punjab. It is required for implementation of " <i>Punjab Environmental Quality Standards for Industrial Gaseous Emissions</i> " i.e. stack monitoring.
vii.	It has been mentioned in PC-I that 8 hours backup will be provided to 30 Compact Ambient Air Quality Monitoring. Moreover, additional cost of 35 UPS Systems for Ambient Air Quality Monitoring Stations has also been included. It must be clarified that whether there 35 UPS systems is required for 30 stations.	<p>Additional cost of 35 UPS Systems for Ambient Air Quality Monitoring Stations is excluded from the PC-I.</p> <p>The supplier of Compact Ambient Air Quality Monitoring Stations will be responsible for supply of UPS systems. The cost of UPS systems is already included in the cost of compact Ambient Air Quality Monitoring Stations.</p>
viii.	It is suggested to devise a mechanism to prohibit manufacturing of polythene bags or to dispose such polythene bags instead of procuring thickness gauges which will cost around Rs. 8.7 Million . In case, the purchase is required, Administrative Department must rationalize the cost of thickness gauges.	Government of the Punjab has promulgated "Punjab Prohibition on Manufacture, Sale, Use and Import of Polythene Bags (Black or any other Polythene Bag below fifteen-micron thickness) Ordinance" which states that "no person shall manufacture, sell, use or import black polythene bags or any polythene bag below fifteen-micron thickness or offer any kind of eatable and non-eatable goods in any black polythene bag or any polythene bag below fifteen-micron thickness".

Sr. No.	Observations of P&D Deptt.	Remarks of Administrative Deptt.
		<p>Rules made to implement the provisions of the Ordinance, states that “the samples shall be examined at the spot through a calibrated instrument and shall, within two days, be got confirmed from any Environmental Laboratory”.</p> <p>To increase regulatory intensity in implementing the said rules, EPA Punjab intends to purchase necessary instruments so that plastic bag samples may be examined at the spot in field through a calibrated instrument and also intends to purchase a non-contact thickness gauge for Central Laboratory for effective implementation of the rules</p>
ix.	<p>Portable generators have been mentioned in the items to be purchase. Such requirement of generator must be justified if UPS systems have already been included.</p>	<p>UPS systems amounting Rs. 12.250 Million are excluded.</p>
x.	<p>Purchase of Ion Selective Electrode needs to be strongly justified due to its cost and specifications. Basis for cost calculation of such gauges must also be elaborated.</p>	<p>Observations attended in Justification Chapter</p>
xi.	<p>Cost of the equipment has not been supported by the quotation and neither the technical committee has vetted the cost of the equipment.</p>	<p>Observations attended in Justification Chapter</p>
xii.	<p>Specifications of the machinery has not been mentioned in the PC-I and same may be incorporated in the PC-I.</p>	<p>Observations attended in Justification Chapter</p>
xiii.	<p>Economic and financial analysis of such huge investment has not been added in the PC-I.</p>	<p>Observations attended in Justification Chapter</p>
xiv.	<p>Risks associated with the project and plan to mitigate these is not part of the PC-I and same may be please be added.</p>	<p>Observations attended</p>
xv.	<p>Machinery involve in the project is of highly technical nature, sponsor</p>	<p>Observations attended</p>

Sr. No.	Observations of P&D Deptt.	Remarks of Administrative Deptt.
	may justify that how it will be sustained and how the O&M will be conducted to keep the machinery functional.	
xvi.	As per austerity measures 2017-18, procurement of the new machinery is banned. Sponsor may justify the procurement of heavy machinery in the light of austerity measures.	As per austerity measures, generator is banned. Approval of austerity will be obtained.
xvii.	It has been mentioned in the PC-I that motor bikes will be procured and will be allotted to the staff, resultantly staff will repay the cost and finally bike will be property of the employee. Sponsor may review this arrangement with due diligence that Punjab financial rules are not contravened.	The proposed practice is already exercised by Livestock Department, Govt. of the Punjab. Department will follow the same practice.
xviii.	Human resource required for the project may be justified furthermore if it is required then may be considered under the current budget.	Human resource is excluded after the discussion with Member (SI). The posts of drivers, Instrument Technician (3 No.) and Electrician (1 No.) are required for successful operation and maintenance of highly sophisticated and costly Compact Ambient Air Quality Monitoring Stations to be installed all over the Punjab.