

- Ref: (1) Head Office Order No. GPCB/CL/756/362053, dated 07.07.2016.  
 (2) No. GPCB/HO/2017-18/ICB floated on date 10.04.2017.  
 (3) Intimation regarding the meeting vide e-mail dated Mon, Apr 24, 2017 at 12:25 PM.  
 (4) Intimation regarding the meeting reschedule vide e-mail dated Wed, Apr 26, 2017 at 04:13 PM.

Sr. No	Item Code Instrument Name	Specifications no / Page No.	Specification mentioned in tender	Bidder comments /suggestions	Committee decision on 27.04.2017
1	ICB-17-28 VOC Sampler Portable Multi Gas Detector (Handy Gas Detector)	Sr. 6 of Specs. Page no. 132	The field measurement of gaseous pollutants like CH <sub>4</sub> , CO, H <sub>2</sub> S, NH <sub>3</sub> , NO <sub>2</sub> , SO <sub>2</sub> , HCl, Cl <sub>2</sub> and Volatile Organic Compounds (VOCs). The Multi Gas detector shall measure the maximum gases (atleast 5 including VOCs) simultaneously of the above mentioned gaseous pollutants and balance gases can be measured by replaceable type smart sensors.	You had mentioned that you require 5 gases simultaneously including VOCs but you had mentioned 9 Gases. We are assuming that you will require balance 5 sensors as spare sensor with each instrument. Kindly confirm.	No Change
2		Sr. 6 of Specs. Page no. 132	Humidity: 5 to 95 % RH	Humidity: 5 % Humidity too dry which is not applicable to our weather conditions so we request you to kindly consider Humidity range of 15% to 95 % RH also which will increase bidders also.	No Change
3		Sr. 8 Of specs Page no. 132	Maximum 6 hours or less is preferable	Kindly allow less than 7 Hrs. battery charge time which will allow you more battery life. Kindly allow Less than 7 hrs charging time.	No Change
4		Sr. 12 of Specs Page no. 133	Data Log facility(integral USB etc.) for data transfer to a PC,	We will provide you data link assy. which will have USB connection to down load data on PC. Kindly consider & confirm.	No Change
5		Sr. 14 of Specs Page no. 133	You asked for sampling probe with tubing 30 m with required length of hose	If you increase the length of tubing than it will increase gas travelling time & response of sensor will delayed. Probe will be difficult to	Read as : sampling probe with tubing <b>3 meter</b>

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				carry. So we suggest you to accept 10 feet tubing without probe. Kindly clarify.	
6		Sr. 16 of Specs Page no. 133	Free of cost instrument calibration for all the gases at the places of their installation within a warranty period of 5 years which shall be supported with required equipment, accessories, NIST/UKAS etc. certified calibration gases/solutions. Calibration shall be carried out at the places of installation of each detector and shall be carried out every three months in a year (total 20 times) during the warranty period	As per point no. 1.11 page no. 8 , warranty is 3 years but as per this Sr. no. 16 it is 5 years & as per point no. 22 of page no. 133 it should be 2 years. Kindly clarify on warranty period. We would suggest you for standard warranty of 2 years which is standard with all manufacturer. Can we perform calibration of all equipment at one place? Please clarify.	Warranty period will be 36 months as per tender condition No. 1.1. However Calibration shall be carried out at the places of installation of each detector and shall be carried out every three months in a year (total 20 times) during the warranty period
7		Sr. 22 of Specs Page no. 133	Free Maintenance Services will be provided by the supplier during the period of warranty. After warranty period, Comprehensive Maintenance and Repairs of the equipment supplied including supply of spares etc. (excluding consumable items) for next 36 months will be done by the Supplier.	As per this point , Instrument warranty is 2 years under which we will provide free service & We have to provide 3 Year Maintenance excluding consumable like sensors , filters ,battery pack , sampling pump etc. Kindly confirm.	No Change

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1	ICB-17-28 VOC Sampler Portable Multi Gas Detector			After going through the specifications it is clear that you need a single Multigas detector with VOC and 8 other sensors with Maximum of 5 sensor in one instrument. Other sensors you will keep as spare and will interchange as and when required. We wish	Not Acceptable

	(Handy Gas Detector)			to highlight the fact that these sensors are Electrochemical type and the Shelf life of any EC sensor is not more than 6 months. Due to its nature of Manufacturing as the name suggests Electro-Chemical the sensor needs to be powered by instrument for it to be "ALIVE" beyond six months. if you remove the sensor and do not insert the same within the specified frequency the sensor will go bad. Hence it is our suggestion that instead of having one instrument and spare sensors, you should look at two instruments where all the sensor combination is possible and sensors are also kept in ACTIVE mode .	
2				You have asked for expected life of Sensors to be 3 years , please note that the PID sensor which works on 10.6eV lamp has a life of only one year (Any PID lamp will not work for 3 years) . Also the EC sensors warranty is one year expected life is anything g more than 2 years again dsepending on exposure and maintenance.	Not Acceptable
3				You have asked for training to 20 scientists for one week , please confirm if the same has to be conducted at one location or at individual locations	The Training Clause remains <b>unchanged</b>

Sr. No	Item Code Instrument Name	Specifications no / Page No.	Specification mentioned in tender	Bidder comments /suggestions	Committee decision on 27.04.2017
1	ICB-17-01-Atomic Absorption Spectrophotometer (AAS) – GTA / VGA	2.1 page no 35	Width: Automatic bandwidth of 0.2 to 2.0 nm	Request to change as 0.2-1.0 nm or better. As with our advanced technology we cover the entire elemental wavelength range (190 – 900) with help of 0.2 to 1 nm with better sensitivity	Acceptable
2		2.2 page no 35/36	Flame Automizer - Flame Alignment in liquid beam - Fully automatic, optimized with motorized burner mount for vertical & Horizontal burner adjustment	Request to change as : Burner movement should be automatic for better sensitivity.(As per our specialised design we do not require Horizontal adjustment of Burner).	No Change
3		2.3 page no 36	Flame Control: Computer controlled ignition	Request to change as : Manual ignition for safety reasons with glowing indicator	No Change

Sr. No	Item Code Instrument Name	Specifications no / Page No.	Specification mentioned in tender	Bidder comments /suggestions	Committee decision on 27.04.2017
4		2.7 page no 36	Lamp Holder: Atleast 8 lamp holder with built-in power supplies for hollow cathode lamps and electrode-less discharge lamps or equivalent	Request to change as : Atleast 6 lamp holder or better with built-in power supplies for hollow cathode lamps and electrode-less discharge lamps or equivalent AAS is single element technique. Only one element is analyzed at a given time. Practically number of lamp positions is not really significant whether 8/ 6 lamp or any other number. Increased Number of lamps does not gives any technological advantage like increase in sensitivity or Detection limits. 6 lamp is sufficient to perform a day's work without changing the lamps. More importantly there are 16 lamps in the list of required elements as per tender, even a higher number of lamp turret will require a lamp change after some times. Multielement lamps can be used to reduce the lamp changeover requirements wherever possible. Allowing 6 Lamp Holder capacity will increase competition, also price wise their is no difference between a 6 / 8 Lamp turret facility. Allowing 6 Lamp turret facility with Multi-Element lamp at a time 10 elements can be installed in six lamp turret facility.	No Change
5		2.9.4 page no 37	Nitrogen gas regulator: Nitrogen regulator ( two stage) with necessary tubings and Connectors	Request to change as : Argon gas regulator (two stage) with necessary tubings and connectors. As Hydrid generation assembly & Furnace requires Argon gas instead of Nitrogen	No Change

Sr. No	Item Code Instrument Name	Specifications no / Page No.	Specification mentioned in tender	Bidder comments /suggestions	Committee decision on 27.04.2017
				USEPA quality guideline warns about not using Nitrogen for many elements. Pls find attached details (Full doc ref EPA 7010)	
6		2.9.5 page no 37	Nitrous Oxide Gas Cylinder – One High pressure seamless steel cylinder fitted with high purity Nitrous oxide gas. Should be ISI marked conforming to IS 7285 specifications. Flat bottom with valve as per complete neck ring and cap painted as specified under Gas cylinder Rules alongwith Hydraulic test certificate and explosive certificate from Chief Controller of Explosives, Nagpur.	Request to change as : Argon gas Cylinder. As Hydride Generator & Furnace requires Argon and not a Nitrogen	No Change
7		2.10 page 38	Graphite Tube Atomizer: Should be computer controlled fully enclosed graphite tube system consisting of stabilized temperature/total pyrolytic graphite platform and Zeeman Background correction	Request to change as : Dual Atomizer with dedicated flame and furnace for full automisation. Alignment of the Graphite tube along the source path is the most critical, time consuming, depends majorly on the skill and experience of the users, when it comes to manual changeover of flame with furnace compartment. This process is not only time consuming but also limits the productivity. A Dual Atomizer AAS on the other hand does not require any such process. The flame and the furnace works independent of each other. Reducing manual process, increasing automation and increased productivity.	No Change
8		2.10 page 38	Temperature range: Temperature range ambient to 2600 °C or more in 1 °C	Request to change as : Temperature range ambient to 2700 °C or more in 1	No Change

Sr. No	Item Code Instrument Name	Specifications no / Page No.	Specification mentioned in tender	Bidder comments /suggestions	Committee decision on 27.04.2017
			increments	°C increments Many elements like B requires 2700 temp for Atomisation , hence the min temp should be at least atomisation temperature	

Sr. No	Item Code Instrument Name	Specifications no / Page No.	Specification mentioned in tender	Bidder comments /suggestions	Committee decision on 27.04.2017
1	ICB-17-01 Atomic Absorption Spectrophotometer (AAS) – GTA / VGA		Atomic Absorption Spectrophotometer (AAS) – GTA / VGA	(Tandem Atomic Absorption Spectrometer with Dual Atomiser (Flame and Graphite Furnace) in a single system. Change of Atomiser should be fully software controlled, without any hardware change)	No Change
2		2.1 Page 35	Automatic bandwidth of 0.2 to 2.0 nm.	Please make it 0.2 to 1.0 nm or higher	Acceptable
		2.7 Page 36	At least 8 lamp holder with built-in power supplies for hollow cathode lamps and electrode-less discharge lamps or equivalent	Please keep it as it is. Considering 16 elements of your interest, with 8 lamp turret, user will be able to analyse in two sets. In case of less lamp turret, user have to run more than 3 sets, which is more time consuming.	No Change
		2.10 (B) Page 38	Refrigerating water circulation unit of appropriate capacity. No discharge of water from this water circulation unit.	Please ask for imported and possibly same make of chiller from the same manufacturer. No local chiller will be able to perform well.	No Change

Sr. No	Item Code Instrument Name	Specifications no / Page No.	Specification mentioned in tender	Bidder comments /suggestions	Committee decision on 27.04.2017
1	ICB-17-01 Atomic Absorption Spectrophotometer (AAS) – GTA / VGA	2.0 page 35	Sensitivity at least 0.35 abs for 5 µg/ml aqueous copper standard solution with air- acetylene flame	change it as >0.8 abs for 5 ppm Cu standard with 0.5 % RSD for same measurement  <b>Reason for change</b>  Normally a standard instrument have 0.8 abs and above.	No Change
		2.1 page 35	At least 250 mm focal length	change it to 300 mm or more  <b>Reason for change</b>  That gives better resolution and separate different element	No Change

Require 2 years minimum continuous agency from authorized agent.	Our Principal GBC Scientific can quote for this tender and we as distributor Skytech System India Pvt Ltd. will provide EMD in INR with authorization letter from principal	GBC is already having 500 instruments in india, supplied to many government organization and pollution control board however skytech is appointed as distributorship in 2016. And assurance will be provided by our principle.	Not Acceptable
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Sr. No	Item Code Instrument Name	Specifications no / Page No.	Specification mentioned in tender	Bidder comments /suggestions	Committee decision on 27.04.2017
1	ICB-17-01 Atomic Absorption Spectrophotometer (AAS) – GTA / VGA	2.10 page 38	<b>Graphite Furnace System</b> <b>(a) Graphite Tube Atomizer</b> Should be computer controlled fully enclosed graphite tube system consisting of stabilized temperature, transversely heated total pyrolytic graphite platform and Zeeman background correction.	Please amend the specification to read as transversely heated / longitudinal-heated graphite furnace and Zeeman background/	No Change

2		2.10 page 38	Temperature range: Temperature range ambient to 2600 oC or more in 1 oC increments	Please amend the specification to read as temperature range ambient temperature up to 3000 o C increment.	No Change
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Sr. No	Item Code Instrument Name	Specifications no / Page No.	Specification mentioned in tender	Bidder comments /suggestions	Committee decision on 27.04.2017
1	ICB-17-01 Atomic Absorption Spectrophotometer (AAS) – GTA / VGA	2.7 page 36	At least 8 lamp holder with built-in power supplies for hollow cathode lamps and electrode-less discharge lamps or equivalent	At least 8 lamp holder with built-in power supplies for hollow cathode lamps and electrode-less discharge lamps or equivalent to be quoted. 8 Lamps are required so that you can use 6 HCL & 2 EDL lamps simultaneously. This increases the productivity as you handle multiple samples in a day.  All leading companies like PerkinElmer, Agilent & Analytical Jena are having their latest models with 8 Lamps. Only few vendors are providing 6 lamps with their older models. All latest models are coming with 8 Lamps or higher which can accommodate both HCL & EDL lamps. EDL Lamps provide high sensitivity.	No Change

Sr. No	Item Code Instrument Name	Specifications no / Page No.	Specification mentioned in tender	Bidder comments /suggestions	Committee decision on 27.04.2017
1	ICB-17-01 Atomic Absorption Spectrophotometer (AAS) – GTA / VGA	2.0 Page 35	Sensitivity atleast 0.35 abs for 5 µg/ml aqueous copper standard solution with air-acetylene flame	Sensitivity atleast 0.5 abs for 5 ug/ml aqueous copper standard solution with air acetylene flame with the auto sampler.	No Change
2		2.2 Page 35	Flame Alignment in liquid beam : Fully automatic, optimized with	Fully automatic ,optimized alignment as per the supplier	No Change

Sr. No	Item Code Instrument Name	Specifications no / Page No.	Specification mentioned in tender	Bidder comments /suggestions	Committee decision on 27.04.2017
			motorized burner mount for vertical and horizontal burner adjustment	instrument design (as only vertical adjustment is required in maximum brands and horizontal is required in a specific brand only.)	
3		2.3 Page 36	Computer controlled ignition	Flame control should be safe and prevent the inadvertent operation and have the suitable provision for the same.	No Change
4		2.7 Page 36	At least 8 lamp holder with built-in power supplies for hollow cathode lamps and electrode-less discharge lamps or equivalent	Atleast 6/8 lamp holder as this varies from brand to brand.	No Change
5		2.91, Page 36	Should be continuous flow based hydride/mercury vapour generator with option of using with or without a programmable auto sampler.	Please clarify whether Hyride vapor generator or Mercury vapor generator is required as in specification both are mentioned. One option should be clarified so as the comparison could bedone.	Read as: Should be continuous flow based hydride <b>and</b> mercury vapour generator with option of using with or without a programmable auto sampler.
6		2.10 (a) Page 38	Should be computer controlled fully enclosed graphite tube system consisting of stabilized temperature, transversely heated total pyrolytic graphite platform and Zeeman background correction.	Background correction Zeeman/SR correction should be also accepted as the main aim is to have the background correction and our correction is SR Based. Zeeman correction works only with Furnance whereas SR can work with Flame and furnance both.	No Change
7		3,2,Page 39	Reputed brand such as HP/Compaq/Dell	Please clarify if UPS is also required for the main equipment and its accessory operation .Also clarify the required rating and backup	UPS required. It should be Compatible and branded/make like TATA liebert/API/Uniline / Emerson giving power back

Sr. No	Item Code Instrument Name	Specifications no / Page No.	Specification mentioned in tender	Bidder comments /suggestions	Committee decision on 27.04.2017
				time.	system for 1 hour. battery type: sealed maintenance free lead acid long life battery. Battery expected life 5 years or more. Display : indicator display and alarm system
8		7.0 ,Page 40	The principal supplier has to impart on site operation training at the time of installation followed by, Complimentary (all expenditure inclusive) two weeks training to ten Scientists on operation and maintenance aspects of the application at the local application center and one week training to five Scientists at laboratory facility at manufacturer's site at abroad. The trainees and Regional Officer / Lab Head have to certify the same i.e. for satisfactory completions of Operation and Maintenance Training.	Please clarify the principal supplier clause and 1) Two weeks training to ten Scientists on operation and maintenance aspects of the application at the local application center in India. 2) One week training clause to five Scientists should be as laboratory facility at abroad location as many supplier training lab facility are in different country from the manufacturing country. Also clarify the number of person mentioned is for total quantity of same equipment required or for individual quantity.(ie 5 persons for the 5 nos of AAS will go abroad 1 week for training)	No Change

Sr. No	Item Code Instrument Name	Specifications no / Page No.	Specification mentioned in tender	Bidder comments /suggestions	Committee decision on 27.04.2017
1	Item Code No. ICB-17-13 – MICROWAVE DIGESTION SYSTEM.	1 page no 84	Microwave Digestion System must have 10 high throughput closed vessel microwave. Digestion / extraction / synthesis workstation suitable for AAS spectrophotometer samples for the best digestion. This workstation meets the need of batch processing of samples and raises safety and reaction control accuracy with following features	in any vendor digestion and extraction is performed for sample preparation of AAS Spectrophotometer , but not synthesis. Hence it is requested to change 8 to 15 vessels	No Change
2		2 page no 84	Chamber capacity -65 L, with double magnetron microwave emission, with the highest microwave output power of 1800W; the operating power realizes automatic variable frequency control (VFC) and non-pulse continuous microwave heating via reaction temperature and pressure feedback.	Magnetron performance 2000 W, Microwave oven approx. 26 L circular microwave oven for homogeneous distribution of microwaves and uniform heating of all samples Hence please mention chamber capacity 26 to 65 L range	No Change
3		4 page no 84	High pressure reaction vessel must have a fully closed anticorrosive super strength composite fiber outer vessel under the support of high strength frame structure and vertical explosion pressure relief technique, with max. Sustained pressure of 15MPa (2250psi) and the highest sustained temperature of 300°C.	10 to 15 MPA to be mentioned	No Change
4		6 page no 84	System have high precision platinum resistor sensor controls and displays the internal temperature and temperature rise curve of the reaction vessel in real time, with temperature control range of 0 to 270°C and the precision of $\pm 1$ °C.	patented DIRC thermometer for individual temperature measurement in each single digestion vessel (measurement range 50 –300°C, 1°C precision at 200°C), for measurement of vessel surface temperature in each individual digestion vessel	No Change
5		7 page no 84	Should be high throughput reaction rotary table can bear up to 15 high pressure reaction vessels with the capacity of 100ml	Dap-100X: 100 ml capacity, 40 bar (580 psi), 12 vessels per turntable daK-100X: 100 ml capacity,	No Change

Sr. No	Item Code Instrument Name	Specifications no / Page No.	Specification mentioned in tender	Bidder comments /suggestions	Committee decision on 27.04.2017
			simultaneously, and system should have the facility to increase or decrease such vessels according to need.	100 bar (1.450 psi), 8 vessels per turntable Mention 8 to 15 vessels	
6		8 page no 84	15MPa (2250psi)	100 bar (1.450 psi), 8 vessels per turntable 10 to 15 MPA is recommended to be mentioned	No Change
7		8 page no 84	more than 10 pieces per time	Dap-40X: 40 ml capacity, 40 bar (580 psi), 24 vessels per turntable dap-60X: 60 ml capacity, 40 bar (580 psi), 12 vessels per turntable dap-100X: 100 ml capacity, 40 bar (580 psi), 12 vessels per turntable daK-100X: 100 ml capacity, 100 bar (1.450 psi), 8 vessels per turntable Safety Please mention 8 to 15 vessels	No Change
		10 page no 85	Free Maintenance Services will be provided by the supplier during the period of warranty. After warranty period, Comprehensive Maintenance and Repairs of the equipment supplied including supply of spares etc. (excluding consumable items) for next 36 months will be done by the Supplier.	we warranty on the instrument and also on the rotor and its vessels	No Change

Sr. No	Item Code Instrument Name	Specifications no / Page No.	Specification mentioned in tender	Bidder comments /suggestions	Committee decision on 27.04.2017
1	ICB-17-13 Microwave Digestion System	1 Page 84	Microwave Digestion System must have 10 high throughput closed vessel microwave. Digestion / extraction / synthesis workstation suitable for AAS spectrophotometer samples for the best	12 Vessel or higher with 100 ml volume of each.	Acceptable and Read as: Microwave Digestion System must have <b>12</b> high throughput closed vessel microwave. Digestion / extraction / synthesis workstation suitable for AAS

			digestion. This workstation meets the need of batch processing of samples and raises safety and reaction control accuracy with following features		spectrophotometer samples for the best digestion. This workstation meets the need of batch processing of samples and raises safety and reaction control accuracy with following features
2		2 Page 84	Chamber capacity -65 L, with double magnetron microwave emission, with the highest microwave output power of 1800W; the operating power realizes automatic variable frequency control (VFC) and non- pulse continuous microwave heating via reaction temperature and pressure feedback.	65 Ltrs or higher with megnetron power of 1400W or higher	No Change
3		3 Page 84	Six-layer steel structure armored glass explosion proof chamber door is equipped with an automatic pop-up buffer structure and electronic and mechanical dual-control door lock.	Preferably top loading to avoid handling of heavy rotor and vessels.	No Change
4		4 Page 84	High pressure reaction vessel must have a fully closed anticorrosive super strength composite fiber outer vessel under the support of high strength frame structure and vertical explosion pressure relief technique, with max. Sustained pressure of 15MPa (2250psi) and the highest sustained temperature of 300°C.	Pressure 40 bar or higher, Temperature 210 C or higher	No Change
5		5 Page 84	System have piezoelectric crystal pressure sensor controls and displays the internal pressure and pressure rise curve of reaction vessel in real time, with pressure control range of 0 to 10 MPa (1500psi) and control precision of 0.0 1 MPa.	Preferably contact free Infrared temperature sensor with real time temperature monitoring of all vessels and contact free (remote) pressure monitoring, to avoid contamination.	No Change
6		7 Page 84	Should be high throughput reaction rotary table can bear up to 15 high	12 high pressure reaction vessels	Acceptable

			pressure reaction vessels with the capacity of 100ml simultaneously, and system should have the facility to increase or decrease such vessels according to need.		
7		8 Page 84	Maximum sustained pressure: 15MPa (2250psi)	40 bar	No Change
8			Temperature : 300°C	Vessel temperature 210 C	No Change

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1	ICB-17-05 Gas Chromatograph With NPD-FPD-ECD	3.4 page 51	Functional keyboard with four line alphanumeric display	Request to change as: Touch screen Colour Display & Keypad. This will help to easily setup Methods in Gas Chromatograph. Also you can run real time service related video files on the Colour touch screen, which can help a user to service GC due to which downtime of GC will be very less.	Functional key board with four line alphanumeric display <b>or better</b>
2		9.1 page 54	>10 <sup>5</sup> for Nitrogen ; >10 <sup>4</sup> for phosphorous: >10 <sup>3</sup> for Sulphur	Request to change as : 10 <sup>4</sup> . This is vendor specific. Hence request you to generalise to 10 <sup>4</sup>	Read as: >10 <sup>4</sup> for Nitrogen ; >10 <sup>4</sup> for phosphorous: >10 <sup>4</sup> for Sulphur
		9.2 Page 54	Dynamic range: Better than 10 <sup>6</sup>	Request to change as : 10 <sup>4</sup> . This is vendor specific. Hence request you to generalise to 10 <sup>4</sup>	Read as dynamic range better than 10 <sup>4</sup>
3		10.0 page 55	Auto sampler Injection volume: Between 1 and 200 µl or more should be available for accurate sample dosing	Request to change as: Between <b>1 and 100 µl</b> or more should be available for accurate sample dosing. As 100ul is more than sufficient for any kind of	Acceptable

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				analysis	
4		10.0 page 55	Auto sampler Automated internal standard calibration and "sandwich" technique	Should be removed. Internal standard calibration and sandwich technique is complicated and can be performed externally. Also this technique in Auto sampler will increase the overall cost of equipment.	Real as: <b>auto sampler automated internal standard calibration</b>
5		16.0 page 59	Operation and Maintenance Training : The principal supplier has to impart on site operation training at the time of installation followed by, Complimentary (all expenditure inclusive) two weeks training to eight Scientists on operation and maintenance aspects of the application at the local application center and one week training to four Scientists at laboratory facility at manufacturer's site at abroad. The trainees and Regional Officer / Lab Head have to certify the same i.e. for satisfactory completions of Operation and Maintenance Training.	Should be changed to Manufacturing site or International Application Laboratory (Training centre). As many times Manufacturing site do not have any Training centres. Hence the International training at any Application Lab situated outside India other than Manufacturing site should be acceptable Also instruments like Gas Chromatograph does not require more than 3 Days time for training. Hence the Training period at Local Application Centre should be changed to One week instead of two week. Hence Complimentary (all expenditure inclusive) one weeks training to ten Scientists on operation and maintenance aspects of the application at the local application center	No Change

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1	ICB-17-05 Gas Chromatograph With NPD-FPD-ECD	3.4,Page 51	Functional keyboard with four line alphanumeric display Display include temperature and pressure / flow arameters, type of carrier gas, carrier gas column pressure, flow rates, split flow, detector gas flow rates and all detector parameters including method and Auto sampler Information.	The functional keyboard should have a graphical display for alphanumeric and real time chromatogram viewing. All the parameter should be displayed,	Functional keyboard with four line alphanumeric display rest remain unchanged.
2		8.0,page 54	Solvent rejection and back flush	Solvent rejection and back flush facility should be through independent computer controlled device from the same manufacturer as the main equipment.	No change
3		9.1,Page 54	NPD: >105 for Nitrogen ; >104 for phosphorous:	Please mention as Nitrogen 103 Please mention as Phosphorous 103 As specifications vary from brand to brand.	Read as: >10 <sup>4</sup> for Nitrogen ; >10 <sup>4</sup> for phosphorous: >10 <sup>4</sup> for Sulphur
4		9.2,Page 54	FPD: Dynamic Range :Better than 106	Please mention as Sulphur 103 Please mention as Phosphorous 104 As specifications vary from brand to brand.	Read as dynamic range better than 10 <sup>4</sup>
5		9.3,Page 55	FPD: Operating temperature (maximum) :400 °C	Please mention Operating temperature (maximum) : 350 °C	No change
6		10. page 55	Access two injection ports without requiring an additional tower	Mounting auto injector on two separate injector ports should be possible without additional tower	Read as: Access two injection ports without requiring an additional tower. <b>It should be fully automatic</b>
7		12.0.Page 56	Battery backup for memory protection	Battery backup for the memory through the UPS.	No change

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8		13.1,Page 57	Compatible required branded/ make like TATA liebert/API/Uniline/Emerson having Power Back system for 1 Hour .Battery Type: Sealed maintenance free Lead Acid long life Battery. Battery Expected Life 5 Years or more. Display: indicator display and alarm system.	Please accept Numeric Make also as a option for the approved UPS options.	No change
9		16.0 ,Page 59	The principal supplier has to impart on site operation training at the time of installation followed by, Complimentary (all expenditure inclusive) two weeks training to eight Scientists on operation and maintenance aspects of the application at the local application center and one week training to four Scientists at laboratory facility at manufacturer's site at abroad. The trainees and Regional Officer / Lab Head have to certify the same i.e. for satisfactory completions of Operation and Maintenance Training.	Please clarify the principal supplier clause 1) Eight Scientists on operation and maintenance aspects of the application at the local application Centre in India 2)One week training clause to five Scientists should be as laboratory facility at abroad location as many supplier training lab facility are in different country from the manufacturing country . Also clarify the number of person mentioned is for total quantity of same equipment required or for individual quantity.(ie 4 persons for the 4 nos of GC will go abroad 1 week for training)	No change
10		17.0,Page 59	Free Maintenance Services will be provided by the supplier during the period of warranty. After warranty period, Comprehensive Maintenance and Repairs of the equipment supplied including supply of spares etc. (excluding consumable	Please clarify that warranty is 3 years and whether next 3 years AMC has to be included in the offer.	Warranty clause is as per tender clause no 1.11. <b>However, the bidder has to quote AMC price separately; it will</b>

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			items) for next 36 months will be done by the Supplier.		not be consider for evaluation of L1 bidder.

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1	ICB-17-26 TOC	3.0 Page 123	<b>AUTO SAMPLER / DILUTER :</b> Auto sampler/ Diluter should be compatible with TOC analyser, with sipper tube, sample delivery system, providing automatic analysis including measurement and rinse time	with sipper tube or direct septum less injection by variable volume auto injectors	No change

Sr. No	Item Code Instrument Name	Specifications no / Page No.	Specification mentioned in tender	Bidder comments /suggestions	Committee decision on 27.04.2017
1	ICB-17-26 TOC	2.2 page 122	<b>Measuring Range :</b> For Solid sample – 5 µg to 30 mg or better Carbon absolute	Range should be increase for TOC sample specially for solid sample where organic load in wastewater sample is always high i.e. more than 50 ppb. If we like about pharmaceutical water where range is below 50 ppb and for the there is additional investment on technology also with mentioned specification there is except a vendor nobody could be able to participate for this item the minimum range should be 50 ug – 30 mg.	No change

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1	ICB-17-17 Noise level meter with data	Point 6. (page 93) Time Weighting	Switchable to different time intervals i.e. 1/ Sec., 1 Sec., 10 Sec. etc. or 8 slow, fast, max.	It seems that what GPCB need the time step at which GPCB wants to have time history rather than the time weighting	Read as: Switchable to different time intervals i.e. 1/ Sec.,

	logger			itself which in noise is standardize as Fast, Slow and Impulse detectors. Once can have time history at user selectable time intervals from fractions of second to several seconds as it is specified in this point, however please confirm if GPCB wants to have time history (logger step) or time weighting (Fast, Slow, Impulse)?	1 Sec., 10 Sec. etc. or 8 slow, fast, <b>impulse.</b>
2		Point 14 (page 94) - Data logger	Communications with data logger should be possible using a standard RS 232 cable along with compatible modems in order to provide communications facilities (Radio/Telephone). A compatible software supplied with the data logger shall be able to handle all communication requirement.	our instruments have USB communication and RS232 as an option so we meet specs, however, do we need to include connectivity charges ? which is used for continuous noise monitoring for some days. please confirm if GPCB wants a hand-held SLM's or a complete Noise Monitoring Systems for continuous monitoring by fixing at one place.	No change
3		Point 16 (page 94) - compatibility for meteo data	Please mention details	We would like to know whether we need to include the cost of meteo meters to be included in the proposal.	Specification at sr. no 16 (page 94) i.e. system capability for measurement of after parameter line meteorology <b>is deleted.</b>

Sr. No	Item Code Instrument Name	Specifications no / Page No.	Specification mentioned in tender	Bidder comments /suggestions	Committee decision on 27.04.2017
1	ICB-17-17 Noise Level Meter with data logger	3 page 93	Min. IEC 804 (BS 6698) Grade I or ANSI Type I	Ref. Point no 3 where mentioned standard of IEC 804 & BS 6698 Grade 1, we request you to mention IEC 61671 2002 Class 1. This is the latest and more stringent standard	No change
2		8 page 93	Data logging system with RS	Point 8, Computer Interface: you have requested for RS 232 interface which is slow and now	Read as: Data logging system with

Sr. No	Item Code Instrument Name	Specifications no / Page No.	Specification mentioned in tender	Bidder comments /suggestions	Committee decision on 27.04.2017
			232 interface	getting obsolete and hence new protocol popular is USB and it should be specified.	RS 232 interface <b>or</b> <b>USB</b>
3		12 page 93	Accessories Required	Point 12. Please specify length of extension cable and whether it should weather proof. Also do you need a spare Microphone?	No change
4		13 page 94	Adaptors	Point 13. A. Adapter are available from ¼ inch to ½ inch. Point b. Type Permanently Charge electret is latest Air condensers are prone to humidity fluctuations	No change
5		18 page 95	Operation and Maintenance Training	Point 18. Please clarify training of 62 scien can be done at centralized location at GPCB HQ. or at suitable venue in Ahmedabad.	No change

Sr. No	Item Code Instrument Name	Specifications no / Page No.	Specification mentioned in tender	Bidder comments /suggestions	Committee decision on 27.04.2017
1	ICB-17-27 Spectrophotometer	4.1,Page 128	Compatible required branded/ make like TATA liebert/API/Uniline/Emerson having Power Back system for 1 Hour .Battery Type: Sealed maintenance free Lead Acid long life Battery. Battery Expected Life 5 Years or more. Display: indicator display and alarm system	Please accept Numeric Make also as a option for the approved UPS options.	No change
2		7.0,Page 131	The principal supplier has to impart on site operation training at the time of installation Complimentary (all expenditure inclusive) three days training to eight Scientists on operation and maintenance aspects of the application. The trainees and Regional Officer / Lab Head have to certify the same i.e. for satisfactory completions of Operation and Maintenance Training.	Please clarify the principal supplier clause and also the three day training clause to eight Scientists should be at laboratory facility in India No abroad training is required	No change

Sr. No	Item Code Instrument Name	Specifications no / Page No.	Specification mentioned in tender	Bidder comments /suggestions	Committee decision on 27.04.2017
1	ICB-17-27 Spectrophotometer	3.13 page 127	Absorbance: -3 ~ 5 Abs Transmittance, reflectance: 0 ~ 999.9%	-3 to +3 Abs	No change
2		3.15 page 127	$\pm 0.002$ Abs (0 ~ 0.5 Abs) $\pm 0.004$ Abs (0.5 ~ 1.0 Abs) $\pm 0.3\%T$ (0 ~ 100% T)	VISIBLE at 546 nm with Neutral glass filter Hellma F4 : $\pm 0.003$ A  UV with Potassium dichromate according Ph. Eur. : $\pm 0.01$ A	No change
3		3.16 page 127	$\pm 0.001$ Abs (0 ~ 0.5 Abs) $\pm 0.002$ Abs (0.5 ~ 1.0 Abs) $\pm 0.1\%T$	< 0.0005 A	No change
4		3.17 page 127	$\pm 0.001$ Abs (excluding noise, using 2nm slit, and slow wavelength scanning speed)	< 0.0001 (RMS) without maintaining any conditions	No change
5		3.19 page 127	0.0004Abs/h (after power is on for 2 hours)	$\pm 0.0005$ A/h at 500 nm over 8 hours	No change
6		3.23 page 127	Photomultiplier	or two separate Photo Diode Array Detector for sample and reference	No change

Sr. No	Item Code Instrument Name	Specifications no / Page No.	Specification mentioned in tender	Bidder comments /suggestions	Committee decision on 27.04.2017
1	Item Code No. ICB-17-25 – TKN Analyser.	2 page no 119	Should have electrically heated (230 $\pm$ 10 Volts, 50 Hz AC) metal blocks	Aluminium block with Enamelled, acid-resistant surface with illuminated digestion chamber with numbered sample positions on the aluminium block	No change
2		2 page no 119	should be capable of providing a temperature range from 100C – 440deg C With $\pm 10C$ repeatability	$\pm 0.5$ degree C repeatability, normally $\pm 10$ deg C is too much of variation which is not good for proper digestion.	No change

Sr. No	Item Code Instrument Name	Specifications no / Page No.	Specification mentioned in tender	Bidder comments /suggestions	Committee decision on 27.04.2017
3		2 page no 119	Should have inbuilt temperature controller with digital display and LED display along-with manual temperature adjustment.	There are new systems in today modern world with many features- Program Library with pre defined 30 methods in built, user name & password - Export of data in Excel file or LIMS or documentation though USB as per ISO 17025 & GLP	No change
4		2 page no 119	Heating time setting with steps from 1- 150 minutes	This is just a simple one step you have mentioned which normally Local manufacturer will supply, all the imported suppliers have Minimum 99 programs with minimum 40 heating ramps in each program for digestion process, used especially used while analyzing water samples as the volume needed more & hence heating should be in phased manner for estimating Nitrogen.	No change
5		2 page no 119	Should have the capacity to accommodate at least eight numbers of digestion tubes each of at least 250ml capacity	You can also mention facility to use of 400 ml tube capacity in the same block specially used in case of water samples analysis being a GPCB.	No change
6		2 page no 119	Should have leak proof integrated condensers fumes carriers) made up of glass, fixed on a movable panel along with adopter for outlet to the scrubber unit.	Must be included two tier console to keep the fume carriers, Drip tray to avoid bench space. (Generally suppliers will not supply suitable insert rack as it is not mentioned in your specifications)	No change
7		4 page no 119	Fully programmable distillation unit including sample dilution, alkali and receiver addition, distillation and tube draining facility.	With Touch Screen with pre defined methods 1000 with Audit trials/ Input sample weight as per ISO 17025, body made up of Reinforced plastic corrosion free, CE certified. (are some of the important features useful for ISO 17025 accerdated laboratories)	No change
8		4 page no 119	Should be made-up of standard quality borosilicate glass.	Borosilicate glass is prone to breakage, imported suppliers offer SS.	No change
9		4 page no 119/120	Should possess a steam generator made-up of borosilicate glass along with heater and have 3 step manual	Maintenance free steam generator of stainless steel with tray in the front to collect the waste from the outlet of steam generator.	No change

Sr. No	Item Code Instrument Name	Specifications no / Page No.	Specification mentioned in tender	Bidder comments /suggestions	Committee decision on 27.04.2017
			control facility i.e. standby, water inlet and distillation.		
10		4 page no 120	Should have inbuilt bellows pump for accurate reagent (alkali / acid) dispensing.	Diaphragm pumps has a facility to calibrate while adding the reagents of alkali/acid as per ISO 17025 accredited procedure.	No change
11		4 page no 120	Should have ventilation valve.	Additionally Door sensor, tube sensor, illuminated distillation chamber, Transparent door to view the process can be offered by all the imported suppliers.	No change
12		4 page no 120	Can able to monitor and measurement of distillate temperature	There are dual control pressure monitoring uses system of water flow setting according to sample temperature must be present allows the water flow to condenser is maintained, prevents heating of receiver vessel.	No change
		4 page no 120	Safe feature for safe distillation	Soft start feature for safe distillation	No change

Sr. No	Item Code Instrument Name	Specifications no / Page No.	Specification mentioned in tender	Bidder comments /suggestions	Committee decision on 27.04.2017
1	ICB 17-19 PM <sub>2.5</sub> Sampler	1.0 page 102	PM <sub>2.5</sub> Dichotomous Sampler Conforming to USEPA Manual Reference Method (Method No. RFPS-0789-073) housed in a weather resistant module for routine/compliance monitoring for PM <sub>10</sub> and PM <sub>2.5</sub> )	<b>Point No.1.Sampler:-</b> Please amend the specification from PM <sub>2.5</sub> Dichotomous Sampler USEPA Manual Reference Method (Method No. RFPS-0789-073) to <b>Manual Filter based</b> confirming to USEPA reference method/Equivalent method. The reference method mentioned in the specification was issued to Andersen Graseby Dichotomous Sampler which is no longer valid and the company has been closed down.	No change

				<p>"PQ200 VSCC is the Only US EPA approved designated sampler which can be used to hours from its internal 12 Volt DC battery".</p> <p>It is also worth to mention here that we have supplied 23 units of PQ 200, VSCC PM 2 Central Pollution Control Board. The order copy is enclosed for your ready reference.</p>	
2		2.0 page 102	10 µm inlet and 2.5 µm virtual impactor assembly	<p><b>Point No. 2. Sampling Module:-</b> Please amend the specification PM 10 µm/PM 2.5 v read as <u>"Very sharp cut cyclone/WINs impactor for PM2.5 Cut off"</u>.</p>	No change
3		3.0 page 102	37 mm coarse and fine particulate filter holders	<p><b>Point No. 3. Filter Holder:-</b> Please amend the specification to read as "47 mm particulate".</p>	No change

Sr. No	Item Code Instrument Name	Specifications no / Page No.	Specification mentioned in tender	Bidder comments /suggestions	Committee decision on 27.04.2017
1	ICB-17-18 Organic Halogen Analyser (AOX)	3.4 page 96	Double Furnace (Vertical and Horizontal) with Heater Capacity of 600-900 watt heating temperature range ambient to 1000 oC or more	<p>Single Furnace (Vertical or Horizontal) with heater capacity 600-900 watt heating temperature range ambient to 1000°C or more</p> <p><b><u>REASON FOR CHANGE</u></b></p> <p>With single furnace (Horizontal) you can do all analysis (ie. AOX, POX, EOX) in liquid, solid and gas as you mentioned in specification.</p> <p>Vertical furnace cannot do EOX (ie. liquids) or solid samples.</p> <p>In double furnace (.ie. vertical and horizontal). It is a lock out specs and only one vendor can participate. For single furnace (vertical or horizontal) all vendors can participate.</p>	No change

<b>Sr. No</b>	<b>Item Code Instrument Name</b>	<b>Specifications no / Page No.</b>	<b>Specification mentioned in tender</b>	<b>Bidder comments /suggestions</b>	<b>Committee decision on 27.04.2017</b>
1	Item Code No. ICB-17-11- MICRO BALANCE	3.2 page no79	6.1gm	± 6 g	Read specification at sr. no 3.2 as Maximum capacity <b>as 6.0 gm</b>
2					Read specification at sr. no 3.12 i.e. Free height above weighing pan as <b>65 to 80 mm</b>

**Date:** 27.04.2017

**Place:** Gandhinagar

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