

Amendment to:

A.) Section I-Invitation for Bids (IFB)

Sl. No.	Provisions as in Invitation for Bids (IFB) of published bid document	Modification now made
1.	Para 6 of IFB	
	<p>The Invitation for Bids (IFB) and the bidding documents are available at the Project website http://www.ncscm.org. Interested bidders can download the bidding documents and commence preparation of bids to gain time. The downloaded bidding document can be submitted along with non-refundable fee (through a demand draft) mentioned in the Table towards the cost of the bidding documents. However, in case of any discrepancy between the documents downloaded by the prospective bidder and the bidding documents (hard copy) available from the Project office, the latter shall prevail.</p> <p>The facility to download the bidding documents will be available from Dt. 11/12/2013 to Dt. 16/01/2014 up to 17.00Hrs.</p> <p>(a) Price of bidding document : Rs 2,100.00 (Including VAT) (non-refundable)</p> <p>(b) Postal charges, inland : Rs 500.00</p> <p>(c) Postal charges, overseas : Rs 2,000.00</p> <p>(d) Date of commencement of sale of bidding document : 11/12/2013</p> <p>(e) Last date for sale of bidding document : 16/01/2014</p> <p>(f) Last date and time for receipt of bids : 17/01/2014 up to 10.00 Hrs</p> <p>(g) Date and Time of opening of bids : 17/01/2014 at 10.30 Hrs</p> <p>(h) Place of opening of bids: National Centre for Sustainable Coastal Management, Koodal Building, Anna University Campus, Chennai-600025, Tamilnadu, India</p> <p>(i) Address for Communication :</p>	<p>The Invitation for Bids (IFB) and the bidding documents are available at the Project website http://www.ncscm.org. Interested bidders can download the bidding documents and commence preparation of bids to gain time. The downloaded bidding document can be submitted along with non-refundable fee (through a demand draft) mentioned in the Table towards the cost of the bidding documents. However, in case of any discrepancy between the documents downloaded by the prospective bidder and the bidding documents (hard copy) available from the Project office, the latter shall prevail.</p> <p>The facility to download the bidding documents will be available from Dt. 11/12/2013 to Dt. 23/01/2014 up to 17.00Hrs.</p> <p>(a) Price of bidding document : Rs 2,100.00 (Including VAT) (non-refundable)</p> <p>(b) Postal charges, inland : Rs 500.00</p> <p>(c) Postal charges, overseas : Rs 2,000.00</p> <p>(d) Date of commencement of sale of bidding document : 11/12/2013</p> <p>(e) Last date for sale of bidding document : 23/01/2014</p> <p>(f) Last date and time for receipt of bids : 24/01/2014 up to 10.00 Hrs</p> <p>(g) Date and Time of opening of bids : 24/01/2014 at 10.30 Hrs</p> <p>(h) Place of opening of bids: National Centre for Sustainable Coastal Management, Koodal Building, Anna University Campus, Chennai-600025, Tamilnadu, India</p> <p>(i) Address for Communication :</p>

<p>National Centre for Sustainable Coastal Management, Koodal Building, Anna University Campus, Chennai-600025, Tamilnadu, India Phone: 9144 22300108 Fax: 91 44 2220 0158</p> <p>A complete set of Bidding Documents in English may be purchased by interested bidders on submission of a written Application to the address below and upon payment of a non-refundable fee as mentioned above in shape of Demand Draft on any Scheduled bank payable at Chennai in favour of National Centre for Sustainable Coastal Management or in cash in Indian Rupees.</p> <p>The Schedules of Requirements for all the Lots are contained in a single bidding document. Bidders need not purchase more than one bid document even if they want to bid for more than one Lot.</p>	<p>National Centre for Sustainable Coastal Management, Koodal Building, Anna University Campus, Chennai-600025, Tamilnadu, India Phone: 9144 22300108 Fax: 91 44 2220 0158</p> <p>A complete set of Bidding Documents in English may be purchased by interested bidders on submission of a written Application to the address below and upon payment of a non-refundable fee as mentioned above in shape of Demand Draft on any Scheduled bank payable at Chennai in favour of National Centre for Sustainable Coastal Management or in cash in Indian Rupees.</p> <p>The Schedules of Requirements for all the Lots are contained in a single bidding document. Bidders need not purchase more than one bid document even if they want to bid for more than one Lot.</p>
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B.) Section II- Bidding Data Sheet (BDS)

Sl. No.	Provisions as at Section II - Bidding Data Sheet of published bid document	Modification now made
1.	ITB 24.1	
	<p>For bid submission purposes, the Purchaser's address is: National Centre for Sustainable Coastal Management Koodal Building, Anna University Campus, Chennai-600025, Tamilnadu, India Phone: +91 44 22300108,Fax: 91 44 2220 0158</p> <p>The deadline for the submission of bids is: Date: 17/01/2014 Time: 10:00 A.M.</p> <p>Add at the end of ITB Clause 24.1 the following: "In the event of the specified date for the submission of bids, being declared a holiday for the Purchaser, the bids will be received up to the appointed time on the next working day."</p>	<p>For bid submission purposes, the Purchaser's address is: National Centre for Sustainable Coastal Management Koodal Building, Anna University Campus, Chennai-600025, Tamilnadu, India Phone: +91 44 22300108,Fax: 91 44 2220 0158</p> <p>The deadline for the submission of bids is: Date: 24/01/2014 Time: 10:00 A.M.</p> <p>Add at the end of ITB Clause 24.1 the following: "In the event of the specified date for the submission of bids, being declared a holiday for the Purchaser, the bids will be received up to the appointed time on the next working day."</p>
2.	ITB 27.1	
	<p>The bid opening shall take place at: In The office of :- The Director National Centre for Sustainable Coastal Management Koodal Building, Anna University Campus,</p>	<p>The bid opening shall take place at: In The office of :- The Director National Centre for Sustainable Coastal Management Koodal Building, Anna University Campus,</p>

Chennai-600025, Tamilnadu, India
Phone: +91 44 22300108, Fax: 91 44 2220 0158

Date:**17/01/2014**

Time: **10.30A.M.**

Add at the end of ITB Clause 27.1 the following:
“In the event of the specified date of the bid opening being declared a holiday for the Purchaser, the bids shall be opened at the appointed time and location on the next working day.”

Chennai-600025, Tamilnadu, India
Phone: +91 44 22300108, Fax: 91 44 2220 0158

Date:**24/01/2014**

Time: **10.30A.M.**

Add at the end of ITB Clause 27.1 the following:
“In the event of the specified date of the bid opening being declared a holiday for the Purchaser, the bids shall be opened at the appointed time and location on the next working day.”

Section VI- Schedule of Requirements: Technical Specifications

Lot 1. Gas Chromatography (GC with FID and ECD) - Coupled with High Resolution Mass Spectrometry HRMS(Amended as Gas Chromatography (GC with FID and ECD)-coupled with Mass Spectrometry)

Specification as at Section VI - Schedule of Requirements-Lot 1. Technical Specifications			Modification now made (Blue)		
Lot 1. Gas Chromatography (GC with FID and ECD) - Coupled with High Resolution Mass Spectrometry HRMS			Lot 1. Gas Chromatography (GC with FID and ECD) - Coupled with Mass Spectrometry		
S.No	Particulars	Specifications		Particulars	Specifications
1	GC Specifications	<ul style="list-style-type: none"> System should be capable of supporting two inlets and three detector ports, should have electronic pneumatic / pressure controls for all the gases and should have Chromatography Data system which is based on Microsoft Windows Operating System for instrument control, data acquisition, data analysis, quantization, automation & customization with online and offline sessions provided. NIST library along-with Automated Mass Spectral Deconvolution and Identification System (AMDIS) and Deconvolution reporting software should be provided. System should have capability of locking / adjusting the retention time, method should be electronically transferred, high resolution separation facility for n-alkanes, POPs (such as PAHs, Pesticides), VOC and Semi-VOC to be provided. 		GC Specifications :	<ul style="list-style-type: none"> System should be capable of supporting two inlets and three detector ports, should have electronic pneumatic / pressure controls for all the gases and should have Chromatography Data system which is based on Microsoft Windows Operating System for instrument control, data acquisition, data analysis, quantization, automation & customization with online and offline sessions provided. NIST library along-with Automated Mass Spectral Deconvolution and Identification System (AMDIS) and Deconvolution reporting software should be provided. System should have capability of locking / adjusting the retention time, method should be electronically transferred, high resolution separation facility for n-alkanes, POPs (such as PAHs, Pesticides), VOC and Semi-VOC to be provided.
	The instrument should meet the following requirement:			• The instrument should meet the following requirement:	

a	Provision to install two or more columns (packed and capillary columns) with necessary adapters		<ul style="list-style-type: none"> • Provision to install two or more capillary columns.
b	Operating temperature range of oven from near ambient to 450°C		<ul style="list-style-type: none"> • Operating temperature range of oven from near ambient to 450°C
c	Oven temp ramp rate of oven should be 120°C or better		<ul style="list-style-type: none"> • Oven temp ramp rate of oven should be 120°C or better
d	Possible to program 15 temp ramps (16 plateaus) or better		<ul style="list-style-type: none"> • Possible to program 15 temp ramps (16 plateaus) or better
e	15 EPC/PPC channels for inlets, detectors or auxiliary gases or more		<ul style="list-style-type: none"> • 15 EPC/PPC channels for inlets, detectors or auxiliary gases or more
f	Flow sensor for control & storage of split ratio		<ul style="list-style-type: none"> • Flow sensor for control & storage of split ratio
g	Provision to use both i) packed and ii) capillary columns [50, 100, 250, 320 microns and above]		<ul style="list-style-type: none"> • Deleted
h	The pressure set points should be adjustable by increments of 0.001 psi up to 100 psi Temperature attainable should be 400°C or more		<ul style="list-style-type: none"> • The pressure set points should be adjustable by increments of 0.001 psi up to 100 psi Temperature attainable should be 400°C or more
	Inlets: Two split/split less injectors shall be provided. One Programmable Temperature Vaporizer (PTV) for large volume injection and one split/splitless injector Split ratio of upto 7500:1 Gas saver mode to reduce gas consumption Total flow setting range of 0 to 200ml/min for N2& 0 to 1250ml/min for H2 or He		<ul style="list-style-type: none"> • Inlets: Two split/split less injectors shall be provided. One Programmable Temperature Vaporizer (PTV) for large volume injection and one split/splitless injector Split ratio of upto 7500:1 Gas saver mode to reduce gas consumption Total flow setting range of 0 to 200ml/min for N2& 0 to 1250ml/min for H2 or He
i	Flame Ionization Detector (FID)with the following specification or better: MDL: 1.5 pg c/s or better Dynamic range: 107or better; Flow for all gases should be adjustable/controlled by software without manual control.		<ul style="list-style-type: none"> • Flame Ionization Detector (FID)with the following specification or better: MDL: 1.5 pg c/s or better • Dynamic range: 107or better; Flow for all gases should be adjustable/controlled by software without manual control.
j	Electron capture detector (ECD)Electronic pressure and flow control of auxiliary/purge/makeup gases.		<ul style="list-style-type: none"> • Electron capture detector (ECD)Electronic pressure and flow control of auxiliary/purge/makeup gases.
k	Headspace Auto sampler with vial capacity of 15 vials or more. The system should be upgradable to 100 vial or more capacity. Autosampler should be capable of handling large volume injection with syringe size from 0.5 µl to 250 µl. Auto sampler should be upgradable with bar code reader, dilution, vortex, heating capability.		<ul style="list-style-type: none"> • Auto sampler with 2 ml vial capacity of 100 vials or more.
	Headspace sampler (Head Space injector)		Deleted
l	Sampling method: Pneumatic and pressure-balanced		Deleted

	sampling Sample thermostat needed Compatible with the supplied GC model as well as higher versions		
2	MS SPECIFICATIONS: LAN based Quadrupole Mass Spectrometer system with Non-coated Inert source conforming to International safety standards, designed and manufactured under a quality system registered to ISO 9001 with appropriate high-end computer & printer to support the system from original manufacturer. It should include turbo molecular pump with 250 l/sec capacity or more with the source.		<ul style="list-style-type: none"> MS SPECIFICATIONS: LAN based Quadrupole Mass Spectrometer system with Non-coated Inert source conforming to International safety standards, designed and manufactured under a quality system registered to ISO 9001 with appropriate high-end computer & printer to support the system from original manufacturer. It should include turbo molecular pump with 250 l/sec capacity or more with the source.
	<ul style="list-style-type: none"> New addition 		<ul style="list-style-type: none"> “Incorporate direct insert mode to inject samples directly in to the mass spectrometer”.
	<ul style="list-style-type: none"> Mass range of 2-1000 amu in 0.1 amu steps or better 		<ul style="list-style-type: none"> Mass range of 2-1000 amu in 0.1 amu steps or better
	<ul style="list-style-type: none"> Mass axis stability should be 0.10 amu/48 hrs 		<ul style="list-style-type: none"> Mass axis stability should be 0.10 amu/48 hrs
	<ul style="list-style-type: none"> Scan speed up to ~12,000 u/sec or better 		<ul style="list-style-type: none"> Scan speed up to ~12,000 u/sec or better
	<ul style="list-style-type: none"> Ion source temp - up to 350oC for better sensitivity for active compounds and it should be programmable. Transfer line temp - 100-350°C 		<ul style="list-style-type: none"> Ion source temp - up to 350oC for better sensitivity for active compounds and it should be programmable. Transfer line temp - 100-350°C
	<ul style="list-style-type: none"> Quadrupole temperature: 150 to 190°C. Quadrupole should be heated to keep quadrupole clean for a longer period. 		<ul style="list-style-type: none"> Deleted
	<ul style="list-style-type: none"> Ionization energy range: 5 to 220eV 		<ul style="list-style-type: none"> Ionization energy range: 5 to 70eV or above
	<ul style="list-style-type: none"> Ionization current range: 1 to 315µ A 		<ul style="list-style-type: none"> Ionization current range: 1 to 315µ A/or automatically optimized.
	<ul style="list-style-type: none"> EI source should be inert to active compounds and should be programmable with maximum tempt of 350 deg C 		<ul style="list-style-type: none"> EI source should be inert to active compounds and should be programmable with maximum tempt of 350 deg C
	<ul style="list-style-type: none"> EI scan sensitivity and is a must parameter to demonstrate atleast: ~1500:1 S/N for 1 pg OFN scanning from 50-300 amu at nominal m/z 272 ion. 		<ul style="list-style-type: none"> EI scan sensitivity and is a must parameter to demonstrate atleast: ~1500:1 S/N for 1 pg OFN scanning from 50-300 amu at nominal m/z 272 ion.
	<ul style="list-style-type: none"> EI SIM Instrument detection limit of 10 Fg or better for OFN standard at nominal 272 µ ion should be demonstrated at site. 		<ul style="list-style-type: none"> EI SIM Instrument detection limit of 10 Fg or better for OFN standard at nominal 272 µ ion should be demonstrated at site.
	<ul style="list-style-type: none"> The mass spectrometer shall have the capability to create a 90 SIM ion groups with up to 45 ions per group or more. 		<ul style="list-style-type: none"> The mass spectrometer shall have the capability to create a 90 SIM ion groups with up to 45 ions per group or more.
	<ul style="list-style-type: none"> Preferably Mass Spectrometer must utilize a Quadrupole 		<ul style="list-style-type: none"> Preferably Mass Spectrometer must utilize a

	Mass filter consisting of a Monolithic Quartz Structure.		Quadrupole.
	<ul style="list-style-type: none"> Should have auto tunes feature, One-click auto tune for BFB, DFTPP 		<ul style="list-style-type: none"> Should have auto tunes feature, One-click auto tune for BFB, DFTPP
	<ul style="list-style-type: none"> Spectral libraries: NIST LATEST VERSION WITH LICENSE. 		<ul style="list-style-type: none"> Spectral libraries: NIST LATEST VERSION WITH LICENSE.
3	The GC-MS system should be quoted with the following capabilities:		The GC-MS system should be quoted with the following capabilities:
	<ul style="list-style-type: none"> Replacement of GC column without venting MS vacuum which results in elimination of GC/MS downtime. 		Deleted
	<ul style="list-style-type: none"> Splitting of one column effluent with software controlled flow so that both detectors have the same relative standard deviation (RSD). The device should have pressure controlled carrier flow and should be controlled by software. 		Deleted
	<ul style="list-style-type: none"> Suitable configuration branded Desktop PC with Color LaserJet Printer A4 Format, and LANHub shall be supplied from Factory itself along with GC-MS system 		<ul style="list-style-type: none"> Suitable configuration branded Desktop PC with Color LaserJet Printer A4 Format, and LANHub shall be supplied from Factory itself along with GC-MS system
	<ul style="list-style-type: none"> Appropriate capillary columns for analysis of Alkanes (ethane, propane, butane, methane) & Alkenes, Aromatics & Heterocycles, Hydrogen & Oxygen, CO, CO₂ & Methane etc shall be provided. 		<ul style="list-style-type: none"> Appropriate capillary columns for analysis of Alkanes (ethane, propane, butane, methane) & Alkenes, Aromatics & Heterocycles, Hydrogen & Oxygen, CO, CO₂ & Methane etc shall be provided.
	<ul style="list-style-type: none"> Appropriate gas purification panel with gas cylinders & regulators for He, N₂, H₂, Zero Air etc shall be provided with the GCMS system. 		<ul style="list-style-type: none"> Appropriate gas purification panel with gas cylinders & regulators for He, N₂, H₂, Zero Air etc shall be provided with the GCMS system.
	<ul style="list-style-type: none"> Vendors shall enclose latest technical brochure, specifications sheet, and installation site preparation document. 		<ul style="list-style-type: none"> Vendors shall enclose latest technical brochure, specifications sheet, and installation site preparation document.
	<ul style="list-style-type: none"> Benchmarking parameters for detection limits and sensitivity prior to procurement and post procurement validation (acceptance tests). This will be a one of the major criteria for vendor selection. List of key parameters for acceptance test should be provided. 		<ul style="list-style-type: none"> Benchmarking parameters for detection limits and sensitivity prior to procurement and post procurement validation (acceptance tests). This will be a one of the major criteria for vendor selection. List of key parameters for acceptance test should be provided.
	<ul style="list-style-type: none"> Literature support for technical specifications is necessary 		<ul style="list-style-type: none"> Literature support for technical specifications is necessary

Lot 2. UV-VIS Spectrophotometer

Specification as at Section VI - Schedule of Requirements-Lot 1. Technical Specifications			Modification now made(Blue)		
Lot 2. UV-VIS Spectrophotometer			Lot 2. UV-VIS Spectrophotometer		
Sl. No.	Particulars	Specifications	Sl. No.	Particulars	Specifications
1	Optical Design	Dual Beam optics	1	Optical Design	Double Beam optics
2	Cell Holder	Spacer for 1 cm cell, in standard cell holder(Cuvette) . Detachable Multiple Cuvette (1 cm) holder (n~8) Holder for 5 cm and 10 cm cuvette to be included	2	Cell Holder	<ul style="list-style-type: none"> Spacer for 1 cm cell, in standard cell holder(Cuvette) Detachable Multiple Cuvette (1 cm) holder (n~8) holder for 5 cm and 10 cm cuvette to be included
3	Monochromator	Czerny Turner Monochromator	3	Monochromator	Czerny Turner Monochromator
4	Spectral Bandwidth	0.2 to 5.0 nm	4	Spectral Bandwidth	0.2 to 4 nm or better Variable Bandwidth
5	Photometric system	Double beam optics	5	Photometric system	Double beam optics
6	Resolution	0.1 nm (at 656.1nm)	6	Resolution	0.1 nm (at 656.1nm)
7	Light Source	<ul style="list-style-type: none"> Xenon lamp/ Tungsten and D2 lamp with auto position adjustment The deuterium (D2) lamp must be of long life (> 2,000 hrs). Auto and software based selection of lamp 	7	Light Source	<ul style="list-style-type: none"> Xenon lamp/ Tungsten and D2 lamp with auto position adjustment The deuterium (D2) lamp must be of long life (> 2,000 hrs). Auto and software based selection of lamp
8	Detectors	Matched dual silicon photodiode detectors	8	Detectors	Photomultiplier Detector (PMT)
9	Photometric Modes	Absorbance (Abs), Transmittance(%T), Energy (E)	9	Photometric Modes	Absorbance (Abs), Transmittance(%T), Energy (E)
10	Wavelength Range	190 nm to 900 nm.	10	Wavelength Range	190 nm to 900 nm.
11	Wavelength Accuracy	± 0.4 nm at 656.1 nm	11	Wavelength Accuracy	± 0.4 nm at 656.1 nm
12	Wavelength Scanning speed	Repeatability : ± 0.1 nm at 656.1 nm	12	Wavelength Scanning speed	Repeatability : ± 0.1 nm at 656.1 nm
13	Maximum Data Resolution	<ul style="list-style-type: none"> Wavelength scan rate: about 0.5 nm/min to 3500 nm/min The system must be capable of 	13	Maximum Data Resolution	<ul style="list-style-type: none"> Wavelength scan rate: about 0.5 nm/min to 3000 nm/min and above. The system must be capable of

		collecting data for multiple wavelengths instantaneously.			collecting data for multiple wavelengths instantaneously.
14	Maximum Data Resolution	0.1 nm	14	Maximum Data Resolution	0.1 nm
15	Photometric Range	Transmittance: -0.1 to 1000 %T, Absorbance: -1.0 to 4.0 Abs	15	Photometric Range	Transmittance: -0.1 to 1000 %T, Absorbance: -1.0 to 4.0 Abs
16	Photometric Accuracy	± 0.005 Abs at 1.0 Abs ±0.1 %T	16	Photometric Accuracy	± 0.005 Abs at 1.0 Abs ±0.1 %T
17	Stray light	<0.02 %	17	Stray light	<0.02 %
18	Photometric system	Double beam optics	18	Photometric system	Double beam optics
19	Software	<ul style="list-style-type: none"> • Full control PC operations , Windows 7 compatible software. • The software must provide multiple data analysis modes (single and multiple wavelength reporting, quantification, multi component analysis). 	19	Software	<ul style="list-style-type: none"> • Full control PC operations , Windows 7 compatible software. • The software must provide multiple data analysis modes (single and multiple wavelength reporting, quantification, multi component analysis).
20	PC	<ul style="list-style-type: none"> • PC with latest Hardware configuration • Windows 7 operating software, 19" Flat TFT Monitor, Key board, Mouse and Laser Printer 	20	PC	<ul style="list-style-type: none"> • PC with latest Hardware configuration, • Windows 7 operating software, 19" Flat TFT Monitor, Key board, Mouse and Laser Printer
21	Accessories	<ul style="list-style-type: none"> • Xenon lamp/ Tungsten – 2 nos • deuterium (D2) lamp – 2 nos • Quartz Cuvettes – 1 cm (5 sets) & 5 cm (5 set) 	21	Essential Spares	<ul style="list-style-type: none"> • Tungsten – 2 nos • deuterium (D2) lamp – 2 nos • Quartz Cuvettes – 1 cm (5 sets) & 5 cm (5 set)