



**ADDENDUM-I**  
**Tender No. 1060C16103: SUPPLY, INSTALLATION & COMMISSIONING OF CONTINUOUS AMBIENT AIR QUALITY MONITORING SYSTEM (CAAQMS) TO ONGC MANGALORE PETROCHEMICALS LTD (OMPL) – AN SEZ UNIT**



Addendum - I to tender document is as follows:

Sl.	Bidders Query	OMPL Replies/modification/clarifications
1	Under Clause No. 4) Specifications for Analysers & Accessories at Page 16 of the tender document, Typographical errors are observed under Clause 4.1, 4.2 & 4.3 in the specifications for analysers.	Typographical error have been corrected and Revised clause 4.1, 4.2 and 4.3 with tabulation is placed below the replies.
2	Certifications of Analysers.	All analyzers should be USEPA/TUV/MCERTS certified. However in case of NH3 analyzer specification as given will be considered. Certificates to be submitted along with supply.
3	Cl. No. 5 of section I – Instruction to Bidders (ITB) (Pg. No. 4 of 54) & Cl. No. 7 of Section – III (GCC) (Pg No. 26 of 54): Payment Terms: As major portion of the system is imported items, we request for Payment Terms as follows: 1) For Supply: 90% payment against dispatch documents through bank and remaining 10% payment within 15 days of receipt of material at OMPL. 2) For Supervision of Installation & Commissioning: 100% against completion of work and submission of invoice.	Tender terms & conditions shall prevail.
4	Cl. No. 8 of section I – Instruction to Bidders (ITB) (Pg. No. 5 of 54) & Cl. No. 8 of Section II – Technical Specifications & Special Conditions of Contract (Pg. No. 22 of 54 & Cl. No. 12 of Section – III (GCC) (Pg. No. 28 of 54) Warranty Period: Warranty period shall be 18 months from date of dispatch of material or 12 months from commissioning, whichever is earlier. Please confirm your acceptance.	Tender terms & conditions shall prevail.
5	Cl. No. 3.1.1 (vii) & Cl. No.3.1.2 (x) of Section II –Technical Specifications & Special Conditions of Contract (Pg. No. 14 of 54)&Cl. No. 4.12. Wireless data connectivity to OMPL DCS Section II – Technical Specifications & Special Conditions of Contract (Pg. No. 19 of 54) Wireless communication to OMPL's DCS: We shall provide the wireless communication and make data available in the format required. However, configuration at DCS end shall be in Purchaser's/DCS vendor's scope.	<b>i) To CPCB:</b> wireless router to be provided by bidder. OMPL will provide SIM card and monthly charges will be in OMPL's account. <b>ii) To OMPL DCS:</b> RF mode communication is required. In RF communication device supporting 2.4 GHz or 5GHz unlicensed band (long range Wi-Fi or outdoor CPE) to be supplied. Modbus TCP data protocol to be used to communicate with OMPL DCS. Bidder to

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		provide one pair of long range Wi-Fi /outdoor CPE for connecting CAAQMS station with OMPL DCS station. Cabling from CAAQMS station to antenna on one end and antenna to DCS at other end (up to 100m armored CAT-5) is in bidder's scope. Bidder shall provide the data which is compatible with existing hardware of OMPL. It is bidder's responsibility to establish communication between CAAQMS station and OMPL Honeywell Experion System.
6	Cl. No. 3.1.2 (xi) of Section II – Technical Specifications & Special Conditions of Contract (Pg. No. 14 of 54) UPS battery Backup: Please confirm if the battery backup time is 30 minutes or 6 hours, as 6 hours is very high back up time	UPS shall have at least 2 hour battery back-up
7	Cl. No. 2 (4) of Section II –Technical Specifications &Special Conditions of Contract (Pg. No. 4 of 54) CCOE & NIST Certified Calibration Gas Cylinder: Please provide your approved gas cylinder manufacturers list. The certificates provided by cylinder manufacturers shall be provided.	All calibration cylinders should have CCOE, concentration and stability certificates.
8	Cl. No. 3. 2 of Section II –Technical Specifications &Special Conditions of Contract (Pg No. 16 of 54) OMPL's scope: Construction of Earthing Pits (2 nos.) shall be in OMPL's scope. Please confirm.	2 no. earth pits will be made available by OMPL at shelter location
9	Cl. No. 4.1 – Specifications for SO2/NO2/CO/O3/NH3analyzers of Section II –Technical Specifications &Special Conditions of Contract (Pg No. 16 of 54). NH3 & NOx Analyzer: Kindly confirm if we can offer combined model for measurement NH3 and Nox simultaneously. All the readings of NH3, NO, NO2 & NOx will be provided simultaneously	Combined model can be supplied for NH3 & NOx but compulsory USEPA/TUV/MCERTS certificates to be provided for NOx analyzer. Otherwise separate analyzers to be supplied.
10	Cl. No. 4.11 – Connectivity to CPCB Section II –Technical Specifications &Special Conditions of Contract (Pg No. 19 of 54): Connectivity to CPCB: CPCB connectivity: For transfer of data to CPCB, OMPL to provide broadband connectivity with public static IP address at Local Station's DAS. Please confirm.	Please refer replies to Query SI. No. 5 above.
11	Cl. No. 11 of Section II –Technical Specifications &Special Conditions of Contract (Pg No. 22 of 54) Consumables during AMC: Consumable during AMC: Supply of Consumables during AMC shall be in OMPL's scope just like spares and calibration cylinders. Please confirm the acceptance.	All spares used during AMC will be in vendor scope as it's a comprehensive maintenance contract. OMPL will provide calibration gas only during AMC period.

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12	Cl. No. 14 of Section – III (GCC) (Pg No. 28 of 54) Insurance: Insurance shall be in OMPL's scope. Please confirm.	Transit Insurance shall be in the scope of OMPL. All other terms & conditions shall be as per tender document.
13	Wireless communication to DCS through Ethernet: Kindly clarify how the communication to DCS can be done wireless through Ethernet. In case of LAN communication static IP to be provided at local station.	Please refer replies to Query SI. No. 5 above.
14	Sample handling system minimum heated manifold: Kindly note manifold is not heated. Moisture can be removed due to peltier effect and hence heating at manifold is not required. Kindly confirm your acceptance.	Tender terms & conditions shall prevail.
15	CPCB Connectivity: Customer to provide broadband internet connection with static IP for communication with CPCB.	Please refer replies to Query SI. No. 5 above.
16	PLC for switching over AC: Kindly note automatic switch over circuit will be used to switch from one AC to other. Hence PLC is not required. Kindly confirm your acceptance.	PLC to be provided to execute shelter logic and AC switchover as mentioned in tender document. The PLC inside the analyzer shelter shall cut off the power to the analyzers, air conditioner and other components inside the analyzer shelter in the event of smoke/hazardous gas being detected and high temperature.
17	PLC for detectors: Kindly note we shall install warning panel for detection of smoke and gas. And hence PLC is not required. Kindly confirm the acceptance.	Please refer replies to Query SI. No. 16 above.
18	Clause No. 4.1 of 4) Specifications for Analysers & Accessories on Page No.16 under Section-II Technical Specifications & SCC of the tender. NO2 analyzer and NH3 analyzer: (i) we shall supply a single model for measurement of both Oxides of Nitrogen and Ammonia with an external Converter. This single unit will give measurement output for NO, NO2, NOx and NH3 simultaneously and separately. Please confirm your acceptance. (ii) Please note that since NH3 is non-criteria pollutant, USEPA do not carry any approval program for NH3, Hence please delete the line "US-EPA" for NH3.	Combined model can be supplied for NH3 & NOx but compulsory USEPA/TUV/MCERTS certificates to be provided for NOx analyzer. Otherwise separate analyzers to be supplied.
19	Clause No. 3.1.2 of 3) Scope of Work Details on Page No.15 under Section-II Technical Specifications & SCC of the tender. UPS with battery backup for six hours: Please provide the complete specifications of UPS along with make and model. Also note that generally UPS with 2 hours battery backup is sufficient.	Please refer replies to Query SI. No. 6 above.
20	Clause No. 3. 2 of 3) Scope of Work Details on Page No.16 under Section-II Technical Specifications & SCC of the tender Civil Work: 3.2.1 Civil Work: Civil foundation required to erect/install the AAQMS shelter shall be in OMPL scope. To facilitate the job, vendor shall provide dimensional drawings of the shelter to OMPL along with the techno commercial bid. Vendor shall mention the weight	Please refer replies to Query SI. No. 8 above.

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	<p>and other details required to make civil foundation for analyser shelter. Please note that two number of earthing pit one of instrument and one for electrical is also required for CAAQMS station. The same shall be in OMPL's scope.</p>	
21	<p>Clause No. 4.11 of 4) Specifications for Analysers &amp; Accessories on Page No.19 under Section-II Technical Specifications &amp; SCC of the tender. 4.11 CPCB Connectivity: The local station should provide data to CPCB server. There should be two separate channels to provide data to CPCB and OMPL DCS. There should be no interference between these two data channels. Please note that for transfer of data to CPCB server OMPL has to provide internet/broadband connection with fixed/static IP address. The data to OMPL DCS will be connected via wireless as per your clause no. 4.11 Please confirm your acceptance.</p>	Please refer replies to Query SI. No. 5 above.
22	<p>Clause No. 5) Specifications for Analyser Shelter on Page No.19 under Section-II Technical Specifications &amp; SCC of the tender 5.1 The analyser shelter shall have the following components typically. The size of the shelter shall be as required by the supplied system &amp; enough space required for maintenance by a person inside. We shall supply the shelter with 3Mx3Mx2.7M. And we understand that the location of shelter shall be in safe area. Please confirm.</p>	<p><b>Shelter Specifications:</b></p> <ul style="list-style-type: none"> <li>i) Shelter location is safe area.</li> <li>ii) There should be 2 no. split ACs wall mounted inside shelter, each 2 ton capacity.</li> <li>iii) UPS should be properly partitioned inside the shelter.</li> <li>iv) Weather protection shed should be provided to all the outside components of shelter including calibration cylinders.</li> <li>v) UPS should have at least 2 hour battery back-up.</li> <li>vi) PLC to be provided to execute shelter logic and AC switchover as mentioned in tender document. The PLC inside the analyzer shelter shall cut off the power to the analyzers, air conditioner and other components inside the analyzer shelter in the event of smoke/hazardous gas being detected and high temperature.</li> </ul>
23	<p>Clause No. 4.12 of 4) Specification s for Analysers &amp; Accessories on Page No.19 under Section-II Technical Specification s &amp; SCC of the tender. 4.12 Wireless Data Connectivity to OMPL DCS: Local station should provide data to OMPL DCS or to other computer through Wireless Ethernet communication. The communication protocol shall be Modbus TCP. DCS data connectivity should be independent of CPCB connectivity. Kindly confirm if the project requires RF mode of Wireless communication or GPRS mode of wireless communication. For RF communication provision of license etc. shall in the scope of Purchaser. And for GPRS mode of data communication Purchaser need to select the network provider and issue SIM card to the Bidder. GPRS mode of communication completely depends upon the signal strength of the service provider.</p>	Please refer replies to Query SI. No. 5 above.

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24	LAST DATE FOR SUBMISSION OF BID: 14:00 HOURS (IST) ON 09-Feb-2017	The last date of Bid submission due date for the above referred tender stands extended upto 14:00 Hrs (IST) on 21-Feb-2017. Unpriced Techno-Commercial bid shall be opened at 15:00 hours (IST) on extended date of bid submission.
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**Revised Clause 4.1 Specification for SO<sub>x</sub>/NO<sub>x</sub>/CO/O<sub>3</sub>/NH<sub>3</sub> Analyzers under Section II Technical Specifications & Special Conditions of Contract of Tender Document is as follows:**

Gas	SO <sub>x</sub>	NO <sub>x</sub>	CO	O <sub>3</sub>	NH <sub>3</sub>
<b>Approval</b>	USEPA/TUV/MCERTS	USEPA/TUV/MCERTS	USEPA/TUV/MCERTS	USEPA/TUV/MCERTS	USEPA/TUV/MCERTS (not compulsory)
<b>Method of Measurement</b>	Pulsed UV Fluorescence	Chemiluminiscence	Non Dispersive Infra-Red (NDIR) with Gas Filter Correlation	UV Photometric/ Chemiluminiscence	Chemiluminiscence
<b>Range</b>	0 - 200 ppb	0-2000 ppb	0 - 100 ppm	0 - 500 ppb	0-1000 ppb
<b>Min. detectable limit</b>	1 ppb or better	1 ppb or better	0.1 ppm or better	1.0 ppb or better	1 ppb or better
<b>Zero drift</b>	< 1 ppb per 24 hours	<1 ppb per 24 hours	<0.2ppm per 7 days	< 0.5% per month	<5 ppb per 24 hours
<b>Span drift</b>	< 1 ppb per 24 hours	< 2% in 15 days of full scale	< 1% full scale in 24 hours	< 1% per month	< 2% in 15 days of full scale
<b>Response time</b>	120 sec or less	120 sec or less	30 seconds or less	30 seconds or less	180 second or less
<b>Precision</b>	<1.0% reading	<1.0% reading	<1.0% reading	<1.0% reading	<1.0% reading
<b>Linearity</b>	+/-1.0% FS	+/-1.0% FS	+/-1.0% FS	+/-1.0% FS	+/-1.0% FS
<b>Power Requirements</b>	220-240 VAC +/-10%, 47-63 Hz	220-240 VAC +/-10%, 47-63 Hz	220-240 VAC +/-10%, 47-63 Hz	220-240 VAC +/-10%, 47-63 Hz	220-240 VAC +/-10%, 47-63 Hz
<b>Operating Temperature</b>	10- 40 Deg C	10- 40 Deg C	10- 40 Deg C	10- 40 Deg C	10- 40 Deg C
<b>Mounting</b>	Rack Mounted	Rack Mounted	Rack Mounted	Rack Mounted	Rack Mounted
<b>Communication port</b>	RS 232/RS485/TCP	RS 232/RS485/TCP	RS 232/RS485/TCP	RS 232/RS485/TCP	RS 232/RS485/TCP
<b>Analog Output</b>	4~20mA	4~20mA	4~20mA	4~20mA	4~20mA
<b>Status Output</b>	Required	Required	Required	Required	Required
<b>Internal Data Logging</b>	Required	Required	Required	Required	Required

**Revised Clause 4.2 Specification for PM<sub>10</sub>/PM<sub>2.5</sub> Analysers under Section II Technical Specifications & Special Conditions of Contract of Tender Document is as follows:**

Gas/PM	PM <sub>10</sub>	PM <sub>2.5</sub>
<b>Approval</b>	USEPA/TUV/MCERTS	USEPA/TUV/MCERTS
<b>Principle</b>	Beta-ray attenuation	Beta-ray attenuation

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<b>PM Size</b>	0-10 micron	0-2.5 micron
<b>Range</b>	User selectable (0 – 500, 0 – 1000 & 0 -2000 µg/m3)	User selectable (0 – 500, 0 – 1000 & 0 -2000 µg/m3)
<b>Min. detectable limit</b>	2 µg/m3	2 µg/m3
<b>Response time</b>	30 minutes	30 minutes
<b>Precision</b>	+/- 5.0 microgram/m3	+/- 5.0 microgram/m3
<b>Accuracy/Linearity</b>	±1.0%	±1.0%
<b>Operating Temperature</b>	10 to 40 °C.	10 to 40 °C.
<b>Power Requirements</b>	220-240 vac +/-10%, 47-63 HZ	220-240 vac +/-10%, 47-63 HZ
<b>Communication port</b>	RS 232/RS485	RS 232/RS485
<b>Mounting</b>	Rack mounted	Rack mounted
<b>Analog Output</b>	4~20mA	4~20mA
<b>Status Output</b>	Required	Required
<b>Data Logging (Internal)</b>	Required	Required

Revised Clause 4.3 Specification for Benzene Analyser under Section II Technical Specifications & Special Conditions of Contract of Tender Document is as follows:

<b>Approval</b>	USEPA/TUV/MCERTS
<b>Principle</b>	Based on gas Chromatographic separation and Photo Ionization Detector (PID)
<b>Range</b>	0 - 100 ppb (0.32 – 325 µg/m3)
<b>Min. detectable limit</b>	0.2 ppb (0.65 µg/m3) for 15 min cycle
<b>Cycle time</b>	Total cycle time should not exceed 15 min
<b>Display</b>	Inbuilt digital display with graphics
<b>Operating Temperature</b>	10 to 35 °C.
<b>Power Requirements</b>	220-240 vac +/-10%, 47-63 HZ
<b>Communication port</b>	RS 232/RS485/TCP_IP
<b>Mounting</b>	Rack mounted
<b>Analog Output</b>	4~20mA
<b>Status Output</b>	Required
<b>Data Logging (Internal)</b>	Required

All other terms & conditions, stipulations, specifications etc. of tender document issued earlier shall remain unaltered. This addendum forms an integral part of bidding document. Bidders are requested to take cognizance of the same and submit their bids accordingly. Bidders are requested to submit the copy of this document duly signed & stamped along with the bid (in the techno-commercial part) as the token of acknowledgement & acceptance of the same.

Signature & Seal/Stamp of Bidder