MAHARASHTRA POLLUTION CONTROL BOARD

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Mumbai- 400 022.

Corrigendum 2

Date: 27/05/2025

Minutes of Pre-Bid Meeting of RFP for Supply, Testing, Commissioning and Maintenance of Real-Time Water Quality Monitoring Stations (RTWQMS) in Maharashtra

1. **Brief about the meeting**

   Date: 09/05/2025, Day: Friday, **Time:** 12:00 PM – 13:00 PM
   Place: MPCB Office and online meetings over MS Teams platform

2. **Agenda: Pre-bid meeting**

   Table 1: Pre-Bid Meeting attendees

   The following attendees were present for the Pre-Bid Meeting:

S. No.	Name	Designation and Organization	In-person / Online
1.	Mr. Shankar Waghmare	JD (WPC), MPCB	Online
2.	Mr. V R Thakur	PSO, MPCB	In-person
3.	Mr. Ravindra Andhale	JD (APC) MPCB	Online
4.	Mr. Sanjay Bhosale	RO BMW, MPCB	Online
5.	Mr. Ajit Patil	SRO WPC Section MPCB	In-person
6.	Mr. Ajinkya Chapnekar, Jay Aherkar, Sahil Ghuge	Aquamet Engineering Pvt Ltd.	In-person

S. No.	Name	Designation and Organization	In-person / Online
7.	Mr. Tushar Agarkar, Arjun Jasapure	VP, Aaxis Nano Technology	In- person
8.	Mr. Saddam Hussain	GM Projects, Mecwin Technologies	In-person
9.	Mr. Mohit Mankame, Priya Vishwakarma	PT Ecological Services Pvt Ltd	In- person
10.	Mr. Bhavin Panchal, Veer Sudhakar	NEVCO Engineers	Online
11.	Rajesh Bidye	Innowave	Online
12.	Sahadev	Max Engineering	Online
13.	Sanjeev Gogia	Aaxis Nano	Online
14.	Saptarshi Das	Consultant KPMG	In-person
15.	Prabhakar Bagade	Consultant KPMG	In-person
16.	Pritam Baruah	Consultant KPMG	In-person

3. Main Points Discussed

Table 2: Pre-Bid Queries and Clarifications

Corrigendum 2

(Tender Ref. No.: MPCB/JD(WPC)/RE-RTWQMS/250430-FTS-0058/2025-26) (Tender ID: 2025_MPCB_1176492_1)

Minutes of Pre-bid meeting of RFP For "Supply, Testing, Commissioning and Maintenance of Real-Time Water Quality Monitoring Stations (RTWQMS) in Maharashtra"

<table>
<tr><th>Sr. No</th><th>Clause No.</th><th>Page No.</th><th>Content of RFP Requiring Clarification</th><th>Change Requested/Clarification required</th><th colspan="3">Clarification/Amendment by MPCB</th></tr>
<tr><td>1.</td><td>Project Experience 1:</td><td>29</td><td>Project Experience 1: The Bidder shall have experience in "*Similar works" during last Seven (07) years as on last date of submission of bid as per following details:
- One (01) project with "Similar works" costing at least ₹ 8.00 Crore.
OR
- Two (02) projects with "Similar works" each costing at least ₹ 5.00 Crore.
OR
- Three (03) projects with "Similar works" each costing at least ₹ 4.00 Crore.</td><td>In order to maximize participation and competition in the tender process, we respectfully request your consideration of the following criteria:

The Bidder must have experience in similar works as per following details:
- One (01) project worth INR 6.5 Crore (Six Crore Fifty Lakhs and above)
OR
- Two (02) projects worth INR 4.0 Crore (Four Crore and above)
OR
- Three projects worth INR 3.20 Crore (Three Crore twenty Lakhs) and above</td><td colspan="3">The revised clause shall be read as:

<table>
<tr><th>S. No.</th><th>Minimum Eligibility Criteria-Pre-Qualification Criteria</th><th>Document to be submitted</th></tr>
<tr><td>PQ4</td><td>Project Experience 1:

The Bidder shall have experience in "*Similar works" during last Ten (10) years as on last date of submission of bid as per following details: -
One (01) project with "Similar works" costing at least ₹ 6.00 Crore.
OR
Two (02) projects with "Similar works" each costing at least ₹ 4.00 Crore.
OR
Three (03) projects with "Similar works" each costing at least ₹ 3.00 Crore.

For the purposes of evaluation of responses to this RFP, '*Similar works' means:
"Supply, installation, testing, commissioning and operation and</td><td>a) Bidders shall submit a copy of work order/ contract agreement.
b) Completion Certificate from the client or Proof of payment received i.e. copy of Bank statement clearly reflecting the name of the Bidder and amount received matching with Minimum Project value along with GST Invoice
OR
In case of on-going project, a certificate from the client on client's letter head mentioning the relevant scope of Work and current status of the partially completed project.
c) Project citation as per format in Annexure 4 Project Citation.
d) Self-Declaration as per Annexure 5 Format for Self-Declaration.
(In the case of sole Bidder, it should be met by the sole Bidder itself, whereas in the case of Consortium, either of the Consortium member should fulfil the relevant criterion individually or jointly)</td></tr>
</table>
</td></tr>
</table>

Sr. No	Clause No.	Page No.	Content of RFP Requiring Clarification	Change Requested/Clarification required	Clarification/Amendment by MPCB
					maintenance of the Real-Time Water Quality Monitoring Stations and integrated Software System in India for Central Government or its department / State Government or its department / Semi Govt./ Municipal Corporations / Municipal Councils / Urban Local Body (ULB)/ UT/ PSU/ **Private Company".
2.	Earnest Money Deposit (EMD) via online procurement portal	11	₹ 1,900,000/- (INR Nineteen Lakhs Only) to be paid online through e-tender portal	In order to maximize participation and competition in the tender process, we respectfully request your consideration of the following EMD amount: INR 16,00,000	No change, RFP clause prevails.
3.	Specifications for Display Board	54	Maximum Visibility Range 20 Meters	We understand that on site display will be of smaller size which would not be visible at 20 mtrs. distance: We request you kindly consider the	The clause 4.5.12 Specifications for Display Board stands deleted.

Sr. No	Clause No.	Page No.	Content of RFP Requiring Clarification	Change Requested/Clarification required	Clarification/Amendment by MPCB
				display size 1' X 3' feet with single color (considering Solar Power)	
4.	Specifications for Display Board	54	Nos. of LED Text Lines 4	Request to keep it single line display because all displays are powered by solar	The clause 4.5.12 Specifications for Display Board stands deleted.
5.	Measurement Principle	51	UV/ Scattered light measurement in accordance with EN ISO 7027 (DIN EN 27027 or ISO 7027)	For measuring turbidity, ISO 7027 is more accurate than UV-Vis spectrophotometry, especially for water quality analysis. UV-Vis spectrophotometry can be affected by absorbance from colored and high suspended solid substances in the rivers, making it less reliable for measuring turbidity, this is as per CPCB guidelines.	No change, RFP clause prevails.
6.	3.1 Pre-Qualification Criteria-PQ4	29	Project Experience 1: The Bidder shall have experience in "*Similar works" during last Seven (07) years as on last date of submission of bid as per following details: - One (01) project with "Similar works" costing at least ₹ 8.00 Crore. OR Two (02) projects with "Similar works" each costing at least ₹ 5.00 Crore.	We respectfully request your kind consideration to amend the eligibility criteria regarding work experience in the tender document. Specifically, we propose that the clause requiring "Similar Works experience during the last 7 years" be revised to "Similar Works experience during the last 10 years." This adjustment would encourage broader participation and	Refer to clarification given in **Sr. No. 1.** above.

Sr. No	Clause No.	Page No.	Content of RFP Requiring Clarification	Change Requested/Clarification required	Clarification/Amendment by MPCB
			OR Three (03) projects with "Similar works" each costing at least ₹ 4.00 Crore. For the purposes of evaluation of responses to this RFP, '*Similar works' means: "Supply, installation, testing, commissioning and operation and maintenance of the Real-Time Water Quality Monitoring Stations and integrated Software System in India for Central Government or its department / State Government or its department / Semi Govt./ Municipal Corporations / Municipal Councils / Urban Local Body (ULB)/ UT/ PSU/ **Private Company".	foster healthy competition by allowing more qualified and experienced bidders to participate, especially those with relevant project experience slightly beyond the current 7-year window.	
7.	Page No 31-- 3.1 Pre-Qualification Criteria	31	Private Company: Private: Company means an entity duly incorporated in India with a minimum twenty-five (25) years of operating history.	It has been proposed and respectfully requested to consider the deletion of the note related to the definition of a Private Company.	In the revised clause, the definition of Private Company shall be read as: "***Private Company:** Private Company means an entity duly incorporated and validly existing under the Companies Act, 1956/ 2013 (or any statutory amendment thereof) in India which has at least one (01) fully functional RTWQMS project for a continuous period of not less than three (03) years prior to the Bid Due Date. A letter from such private company should be submitted by the Bidder stating successful functioning of RTWQMS for a period of at least 03 years"

Corrigendum 2

(Tender Ref. No.: MPCB/JD(WPC)/RE-RTWQMS/250430-FTS-0058/2025-26) (Tender ID: 2025_MPCB_1176492_1)

Minutes of Pre-bid meeting of RFP For "Supply, Testing, Commissioning and Maintenance of Real-Time Water Quality Monitoring Stations (RTWQMS) in Maharashtra"

<table>
<tr><th>Sr. No</th><th>Clause No.</th><th>Page No.</th><th>Content of RFP Requiring Clarification</th><th>Change Requested/Clarification required</th><th colspan="6">Clarification/Amendment by MPCB</th></tr>
<tr><td>8.</td><td>Page No 32-TE2-TE2.1-3.3 Technical Evaluation Criteria</td><td>32</td><td>Project Experience 1:
The Bidder shall have experience in "*Similar works" during last Seven (07) years as on last date of submission of bid as per following details: -
One (01) project with "Similar works" costing at least ₹ 8.00 Crore.
Two (02) projects with "Similar works" each costing at least ₹ 5.00 Crore.
OR
Three (03) projects with "Similar works" each costing at least ₹ 4.00 Crore.
For the purposes of evaluation of responses to this RFP, '*Similar works as mentioned in this RFP.</td><td>It has been proposed and respectfully requested to consider Similar Wok Experience during the last 10 years instead of 7 years as specified.</td><td colspan="6">The revised clause shall be read as:

<table>
<tr><th>S. No.</th><th>Parameters</th><th>Max. Marks</th><th colspan="2">Marks</th><th>Supporting Documents</th></tr>
<tr><td>TE 2.1</td><td>Project Experience 1:

The Bidder shall have experience in "*Similar works" during last Ten (10) years as on last date of submission of bid as per following details: -
One (01) project with "Similar works" costing at least ₹ 6.00 Crore.
OR
Two (02) projects with "Similar</td><td>25</td><td>Total Project Value of maximum any three projects submitted meeting the Criteria:</td><td></td><td rowspan="3">a) Bidders shall submit a copy of work order/ contract agreement.
b) Completion Certificate from the client or Proof of payment received i.e. copy of Bank statement clearly reflecting the name of the Bidder and amount received matching with Minimum Project value along with GST Invoice
OR
In case of on-going project, a certificate from the client on client's letter head mentioning the relevant scope of Work and current status of the partially completed project.</td></tr>
<tr><td></td><td></td><td>Total Project Value ≥ ₹ 6.00 Crore and < ₹ 9.00 Crore</td><td>10</td></tr>
<tr><td></td><td></td><td>Total Project Value ≥ ₹ 9.00 Crore and < ₹ 12.00 Crore</td><td>15</td></tr>
</table>
</td></tr>
</table>

Sr. No	Clause No.	Page No.	Content of RFP Requiring Clarification	Change Requested/Clarification required	Clarification/Amendment by MPCB					
						works" each costing at least **₹ 4.00 Crore.** OR Three (03) projects with "Similar works" each costing at least **₹ 3.00 Crore.** For the purposes of evaluation of responses to this RFP, '*Similar works' as mentioned in this RFP.		Total Project Value ≥ ₹ 12.00 Crore	25	c) Project citation as per format in **Annexure 4 Project Citation.** d) Self-Declaration as per **Annexure 5 Format for Self-Declaration.** (In the case of sole Bidder, it should be met by the sole Bidder itself, whereas in the case of Consortium, either of the Consortium member should fulfil the relevant criterion individually or jointly)
9.	Page No. 37- paragraph 1, line no. 9- SECTION 4: SCOPE OF WORK	37	SECTION 4: SCOPE OF WORK: Titanium offers superior corrosion resistance, durability, and non-reactivity, making it ideal for Real-Time Water Quality Monitoring Systems (RTWQMS) in harsh environments.	It has been desired in NIT RFP that titanium sensors are required to be submerged and to monitor river water quality parameters. Is this applicable for single spectrophotometric senor or meant for all submerged sensors to ensure long-term reliability? We propose to deploy all sensors with full body titanium probes to have the same level of protection as defined in the	The conditions stated in the RFP shall remain unchanged.					

Sr. No	Clause No.	Page No.	Content of RFP Requiring Clarification	Change Requested/Clarification required	Clarification/Amendment by MPCB
				tender. This is required to be replaced in all technical specifications to have all bidders on the same platform.	
10.	Page No 39-4.4 Technical Specifications and Salient Features Regarding Online Water Quality Monitoring System	39	Salient Features, point no. 2.... like EPA or ISO 15839 (for Environmental and Performance standard), ISO 9001, ISO 17025 (for calibration and quality control standards) or TUV/ BIS/ CSIR-NPL etc.	It has been proposed to please accept and agree for OEM's standard certification of the products, such as any two certifications of TUV Or ISO Or EPA Or CE Or BIS Or CSIR -NPL, and others.	The revised clause shall be read as: "2. The systems installed or to be installed which may include sensors/ electrodes/ data communicating devices or other related devices, should have the certification of institutions like TUV/EPA/ISO Certification (for sensors, panels, enclosures), etc."
11.	Page No 39-4.4 Technical Specifications and Salient Features Regarding Online Water Quality Monitoring System-	39	Salient Features, point no. 3.... The system supplier will comply with testing/ calibration protocol as per International Standards ISO 17025.	It has been proposed to please accept and remove specific OEM related and favouring certificates such as ISO 17025 as these are not part of any guidelines of CPCB or any SOP documents as raised by CPCB and not applicable for this tender.	The revised clause shall be read as: "The supplier shall carry out all testing, calibration and QA/QC of the RTWQMS as laid out in CPCB's SOP or as per International Standards ISO 17025."
12.	Page No 40-4.4 Technical Specifications and Salient Features Regarding Online Water	40	Salient Features, point no 13: The system should have a multipoint calibration facility.	point no 13, It has been proposed to define at least 99 points of calibration considering calibration to be performed as per CPCB guidelines and SOP, which specifies that about 24 points	The revised clause shall be read as: "The system should have a multipoint (96 points) calibration facility or as per CPCB SOP/guidelines."

Sr. No	Clause No.	Page No.	Content of RFP Requiring Clarification	Change Requested/Clarification required	Clarification/Amendment by MPCB
	Quality Monitoring System-			of calibration must be performed during initial commissioning and later periodically every 15 days calibration has to be performed which means 24 calibrations in a year and at least 72 calibrations during 3 Years. Therefore, a total of 96 calibrations are mandatory as per the guidelines, which are the minimum. We propose to accept a minimum of 99 points or more calibration points to have an important feature of matrix adaption as well as to comply as per CPCB protocols and SOPs.	
13.	Page No 41-4.4 Technical Specifications and Salient Features Regarding Online Water Quality Monitoring System-	41	Salient Features, point no 36. MOC of Sensor should be Titanium grade or better with ultrasonic cleaning/ compressed air cleaning.	It has been proposed to accept the sensors automatic cleaning either with Ultrasonic OR by pressurized air OR by Automatic Brush cleaning OR as per OEMs recommendation to achieve accurate and plausible data.	The revised clause shall be read as: "MOC of Sensor should be Titanium grade or equivalent with ultrasonic cleaning/ compressed air cleaning/ automatic brush cleaning OR as per OEM's recommendation to achieve accurate data".

Sr. No	Clause No.	Page No.	Content of RFP Requiring Clarification	Change Requested/Clarification required	Clarification/Amendment by MPCB
14.	Page No 44-4.5.2 Specifications for Biochemical Oxygen Demand (BOD) sensor -	44	specifications, point no. 3, Accuracy: - +/- 2.0 % in reference solution.	It is proposed to delete the ±2% reference to BOD solution accuracy. Kindly remove this requirement, as BOD standards are not available for validating the accuracy of BOD measurements. As per CPCB SOP, validation of BOD accuracy using standard solutions is not required due to the instability of BOD standards in field conditions. Instead, the accuracy of BOD measurements should be verified through comparative testing with laboratory results."	Please refer to the revised clause 4.5.2 in Annexure 1.
15.	Page no. 45-Point 11/ 46-Point 13 /47-Point 13	45	4.5.2: Specifications for Biochemical Oxygen Demand (BOD) sensor-point 11/ 4.5.3 Specifications for Chemical Oxygen Demand (COD) -Point no 13/ sensor 4.5.4: Specifications for Total Suspended Solids (TSS) sensor-point 13. The sensor must have two mode of automatic cleaning facility with integrated system for cleaning at a predefined interval	It has been proposed to amend the Automatic cleaning either by Pressurized air, OR Ultrasonic Cleaning OR with Automatic Brushes OR as per standard technique of OEM to achieve accurate and plausible data.	Please refer to the revised clauses 4.5.2 (Specifications for Biological Oxygen Demand (BOD) sensor), 4.5.3 (Specifications for Chemical Oxygen Demand (COD) sensor), and 4.5.4 (Specifications for Total Suspended Solids (TSS) sensor) in Annexure 1.

Sr. No	Clause No.	Page No.	Content of RFP Requiring Clarification	Change Requested/Clarification required	Clarification/Amendment by MPCB
			i.e., ultrasonic, and compressed air. Chemical cleaning is not recommended.		
16.	Page No 47-4.5.3 Specifications for Chemical Oxygen Demand (COD) sensor	47	Point No-26. Calibration frequency-Once in a month	It has been proposed to follow calibration frequency of once every 15 days as per CPCB SOP and Guidelines.	Please refer to the revised clause 4.5.3 in Annexure 1.
17.	Page No. 49-Point no 23-4.5.4 Specifications for Total Suspended Solids (TSS) sensor/ page no 54-point 11-4.5.11 Specifications for Smart Controller and Data logger	49	Point no -23 Protection Sensor IP-68 and Transmitter IP-66 /point no 11-Protection Rating-IP 66 or better	It has been proposed to amend that all sensors must be IP68 protected with integral fixed cable to operate on real time in submerged conditions, and all transmitters, loggers, and enclosures must be IP65 protected for outdoor conditions.	Please refer to the revised clauses 4.5.4 (Specifications for Total Suspended Solids (TSS) sensor) and 4.5.11 (Specifications for Smart Controller and Data logger) in Annexure 1.
18.	Page no. 50, 51 4.5.5 Specifications for Nitrate (NO_3-N) / 4.5.6 Specifications for Chloride / 4.5.7	50, 51	Specifications of NO_3-N, chloride, dissolved oxygen, Turbidity, Conductivity, Ammonia.	It has been proposed to accept single standalone sensors or multiple probes and electrodes for all parameters in one sensor body as a multiparameter sensor.	The provision of either standalone individual probe body with one sensor/ electrode or multiple sensor/ electrodes for selected parameters (viz. pH, NO_3-N, Chloride, Dissolved Oxygen, Turbidity, Conductivity, Ammonia) in one sensor body probe as a multiparameter sensor could be allowed provided the **accuracy of the sensor is ensured** as defined in the RFP or revised corrigendum. Each sensor should have direct value, direct calibration, have individual operation and control and should be removed separately during any

Sr. No	Clause No.	Page No.	Content of RFP Requiring Clarification	Change Requested/Clarification required	Clarification/Amendment by MPCB
	Specifications for Dissolved Oxygen/ 4.5.8 Specifications for Turbidity/ 4.5.9 Specifications for Conductivity/ 4.5.10 Specifications for Ammonia				replacement. Each sensor/probe shall be calibrated individually in isolation using its designated buffer solution.
19.	Page no. 50,51 4.5.5, 4.5.6, 4.5.7, 4.5.8, 4.5.9, 4.5.10	50,51	Technical specification - 4.5.5 Specifications for Nitrate (NO_3-N)/ 4.5.6 Specifications for Chloride / 4.5.7 Specifications for Dissolved Oxygen/ 4.5.8 Specifications for Turbidity/ 4.5.9 Specifications for Conductivity/ 4.5.10 Specifications for Ammonia	It has also been proposed to accept technical specifications of various sensor parameters as per OEM standard conditions meant for River and Drain monitoring purposes. In the current tender document, the specifications of various parameters are either incorrect or favoring a single and specific product in the market.	Please refer to the revised clauses in Annexure 1.
20.	Page no.49 / 50-------4.5.8 Specifications for Turbidity/ sensor 4.5.4: Specifications for Total	49, 50	Specifications of Turbidity Or TSS	Please consider this parameter deleted as the TSS parameter has already been considered in the bid. It has been proposed to keep any one of TSS or TURBIDITY parameters as	Both parameters- TSS and turbidity are to be monitored. Therefore, RFP condition prevails.

Sr. No	Clause No.	Page No.	Content of RFP Requiring Clarification	Change Requested/Clarification required	Clarification/Amendment by MPCB
	Suspended Solids (TSS)			both are almost going to serve a similar purpose.	
21.	Page 54, Clause 4.5.12, Specifications of display board/ Page no. 58— clause 4.6.3 Power backup and Storage Facility	54	Clause 4.5.12, Specifications of display board/ clause no 4.6.3/ 4.6.3 Power backup and Storage Facility	It has been proposed to delete the display board at each site as this is not only increasing the cost of each station but also this is increasing the power load of RTWQMS where the defined test clause of 36 hours operation with battery as per Page no. 58, clause no 4.6.3 cannot be qualified as the LED power consumption is at least 20 to 50 times more than the RTWQMS system. This will cause the operation challenges at each site.	The clause 4.5.12 Specifications for Display Board stands deleted.
22.	Page no 55, clause no 4.5.13	55	point no 9-Datalogger must have 2 digital inputs for Wind sensor and rain gauge and 1 digital output.	Page no 55, clause no 4.5.13, Datalogger... It has been proposed to delete the complete logger specifications, and this is not applicable for RTWQMS, and the defined one is meant for Rain Gauges, weather sensors, and meteorological sensors The RTWQMS LOGGER specifications have already been considered on page no. 52, 53 under clause no. 4.5.11	The clause 4.5.13 stands deleted.

Sr. No	Clause No.	Page No.	Content of RFP Requiring Clarification	Change Requested/Clarification required	Clarification/Amendment by MPCB
23.	Page no 56, clause no 4.5.14, Specifications of cabinet shelters,	56	Specifications of cabinet shelters 1. Size-10' x 10' x 8 ½' 2. Bottom Frame 100mm x 50mm "C" channel 3. Top Frame-50mm x 50mm MS Sq. Pipe 4. Stiffener Bottom Bottom I beam 100 x 50, Rect MS Pipes 80mm x 40mm, Sq. MS Pipes 50mm x 50mm MS Sq. Pipe.	It has been proposed to delete the complete clause as the cabinet shelter of 10x10x8.5 feet is not possible and not required for RTWQMS to be mounted standalone with fixed installation on the bridges.	The clause 4.5.14 stands deleted.
24.	Page no. 57, Clause no. 4.6.1, Calibration Frequency, point no. 1	57	4.6.1 Calibration Frequency: 1. All instruments shall be calibrated at frequencies no longer than once every three months. If the instruments are not calibrated within the next quarter since the previous calibration, then any data delivered will not be taken up for validation and hence the same shall not qualify for payment. However, after the calibration is done and the same is witness by the Data Qualification Consultant, data will then be considered for validation/ payment.	It has been proposed to calibrate the RTWQMS once every 15 days as per CPCB guidelines and SOP. There is no third-party data qualification consultant in this project, hence required to be deleted.	The revised clause 4.6.1 Calibration Frequency shall be read as: 1. "All instruments shall be calibrated at frequencies once every fifteen (15) days. If the instruments are not calibrated within the next fifteen (15) days since the previous calibration, then any data delivered will not be taken up for validation and hence the same shall not qualify for payment. However, after the calibration is done, data will then be considered for validation/ payment. 2. The Service Provider shall submit the schedule and method of calibration to the MPCB in advance. The schedule for calibration will be approved by MPCB- which shall periodically cross-validate the calibration on any of the date, time and locations specified in the schedule, as per its discretion. The Bidder shall share this schedule with MPCB on regular and instantaneous basis."
25.	Page no. 59, Clause no. 4.6.5 Specifications of Software	59	1. Weatherproof Enclosure: It will be up to the Bidder to provide a well thought out design that can provide station maneuverability and	This has to be deleted as the specifications given for software are wrongly written as for enclosure and hardware. Please delete the same.	The heading of the clause 4.6.5 "Specification of Software" stands deleted. The following table shall be part of clause **4.6.4- Enclosures**: S. No. / Items / Description

Sr. No	Clause No.	Page No.	Content of RFP Requiring Clarification	Change Requested/Clarification required	Clarification/Amendment by MPCB
			flexibility as even bridge mount stations may need to be moved on an annual basis because of the changing river course during low flow period. 2. Micro-siting: Bidder will work with the client to determine the most suitable site. By no means will the client be responsible for the placement of the equipment. The client will gain the necessary permission to use the property or land needed for the station.		1 Weatherpro of Enclosure: It will be up to the Bidder to provide a well thought out design that can provide station maneuverability and flexibility as even bridge mount stations may need to be moved on an annual basis because of the changing river course during low flow period. 2 Micro-siting: Bidder will work with the client to determine the most suitable site. By no means will the client be responsible for the placement of the equipment. The client will gain the necessary permission to use the property or land needed for the station. 3 Accessories: All components needed for the station shall be included in the Successful Bidders offer. 4 Security: The Bidder shall be responsible for replacing any equipment or infrastructure lost due to theft or vandalism, so it is important that the Bidder have a well thought out plan to prevent equipment loss. In some instances, the Bidder may enlist the local security. Enclosure shall have a safety lock of good quality.
26.	Page no. 62, point no. C, Web Platform and clause no. 4.6.6 specifications of Cloud	62	**Hardware Requirements (Application and Web Server)** 1. Intel Xeon Processor – 2 Core or above 2. 64 Bit System 3. 32 GB RAM. In case Camera is to be setup the RAM has to be 2X. 4. 200 GB Hard Disk 5. Firewall Enabled with Access to Port 80 / 443 (for HTTPS) & 3389 (For Remote Desktop)	Page no. 61, point no. C, Web Platform and clause no. 4.6.6 specifications of Cloud .... please inform, which is required among MPCB existing Web platform to be connected for RTWQMS, or do you need bidder to supply cloud software?	Bidder has to provide the web-based interface with GIS extension to continuously monitor the water quality parameters being calculated by the sensors mentioned within the scope of this RFP. The **Hardware Requirements (Application and Web Server)** specifications mentioned under the clause **4.6.6** Specification of CLOUD are minimum / representative, however bidders may propose and implement minimum or better specification hardware / virtual machines on cloud to support and run their own solution at optimum level.

Sr. No	Clause No.	Page No.	Content of RFP Requiring Clarification	Change Requested/Clarification required	Clarification/Amendment by MPCB
			6. RAID Level 1 to be implemented. 7. UPS Power Backup for Servers **Software Requirements** *Application Server* 1. Windows 2012 Server or above 2. SQL Server 2012 Standard Edition or above or Postgre SQL Server 3. NET Framework 4.6.1 or above 4. Internet Information Services *Web Server* 1. Windows 2012 Server or above 2. Internet Information Services 3. NET Framework 4.6.1 or above		
27.	Page no. 66, point no. 1: 4.10 Delivery Schedule:	66	1.The bidder should have experience of supply, installation and commissioning of Real-Time Water Quality Monitoring Stations for at least 8 parameters i.e. pH, BOD, COD, TSS, Chloride, Dissolved Oxygen, Ammoniacal Nitrogen,	It defines the PQ clause of bidders' experience of RTWQMS with at least 8 parameters at each station. Is this applicable for PQ?	No, it is not applicable for pre-qualification (PQ) criteria.

Sr. No	Clause No.	Page No.	Content of RFP Requiring Clarification	Change Requested/Clarification required	Clarification/Amendment by MPCB
			Turbidity as per requirement specified in this RFP.		
28.		11	Earnest Money Deposit (EMD) to be paid via Online Payment Gateway mode only INR 19,00,000 (INR Nineteen Lakhs Only).	We kindly request consideration for an exemption under the MSME and Start-up relaxation policies as per the GOI GR No. OM. No. F 20/22024-PPD (Pt) dated 20.09.2024	No change, RFP condition prevails.
29.		11	Security Deposit / Performance Bank Guarantee (PBG)	Kindly permit us to submit the FDR from Nationalized/ Scheduled banks.	No change, RFP condition prevails.
30.	PQ 4 Project Experience 1:	29	The Bidder must have experience in similar works with any State Government / Central Government / PSU / Union Territory (UT) / Urban Local Body (ULB)/ Govt in India/ large scale industries in past seven (07) years as on date of submission of bid per following details: - One (01) project with "Similar works" costing at least ₹ 8.00 Crore. OR - Two (02) projects with "Similar works" each costing at	Since there are very few tenders for RTWQMS work, only a limited number of vendors have been awarded the projects. We would recommend the following points to encourage greater bidder participation and enhance competitiveness. a. We request that the experience criteria allow for consideration of 5 work orders with a cumulative value of ₹5.0 crore. b. Request for the Considered the completion certificate, we	Refer to clarification given in **Sr. No. 1.** above.

Sr. No	Clause No.	Page No.	Content of RFP Requiring Clarification	Change Requested/Clarification required	Clarification/Amendment by MPCB
			least ₹ 5.00 Crore. OR - Three (03) projects with "Similar works" each costing at least ₹ 4.00 Crore.	can submit the commissioning report or handover report in the bidder's specified format, stamped and signed by the client c. Request For proof of payment from a private company, will be tax invoice suffice, or any other financial documents are required please specify	
31.	PQ 5- Project Experience 2:	30	The Bidder shall have experience in Supply, installation, testing, commissioning and operation and maintenance of Five (05) Real-Time Water Quality Monitoring Stations and integrated Software System during last Seven (07) years in India for Central Government or its department / State Government or its department / Semi Govt./ Municipal Corporations / Municipal Councils / Urban Local Body (ULB)/ UT/ PSU/ **Private Company.	We request consideration for the successful installation of at least 30 RTWQMS units in any Govt./ PSU/ Municipal Corporation/large scale industries within India. We kindly request consideration for the supply of at least four (04) river/drain or Flowing surface water body RTWQMS units, including their operation and maintenance.	No change, RFP condition prevails.

Sr. No	Clause No.	Page No.	Content of RFP Requiring Clarification	Change Requested/Clarification required	Clarification/Amendment by MPCB
32.	PQ 6- Certifications:	30	OEM / authorized bidder of OEM should have valid ISO 9001: 2015 Certificate as on Bid submission Due date.	▪ Valid ISO 9001: 2015 certification, ▪ If the participate are Indian bidder than the OEM must possess a valid consent copy from the Pollution Control Board and a CE certificate. Clarification on mention certification is required ▪ TUV certification for Sensors	No change, RFP condition prevails.
33.	4.4 Technical Specifications and Salient Features Regarding Online Water Quality Monitoring System	39	3. The system supplier will comply with testing/ calibration protocol as per International Standards ISO 17025.	The supplier shall adhere to the testing and calibration protocols in accordance with CPCB guidelines and SOP. Also please clarify the which international standers to are mentioned	The revised clause shall be read as: "The system supplier will comply with testing/ calibration protocol as per International Standards ISO 17025/CPCB SOP."
34.	4.4 Technical Specifications and Salient Features Regarding Online Water Quality Monitoring System	41	36. MOC of Sensor should be Titanium grade or better with ultrasonic cleaning/ compressed air cleaning.	Kindly consider the material of construction (MOC) to be either Titanium or SS316.	No change, RFP condition prevails.

Sr. No	Clause No.	Page No.	Content of RFP Requiring Clarification	Change Requested/Clarification required	Clarification/Amendment by MPCB
35.	4.4 Technical Specifications and Salient Features Regarding Online Water Quality Monitoring System	41	43. Individual parameter method analysis, Individual Calibration, Individual Validation without any coefficient calculation from one parameter to another.	For the BOD parameter, there is no separate calibration or validation process, as BOD is measured in correlation with COD. In compliance with CPCB Guidelines	No change, RFP condition prevails. BOD and COD can be validated individually as detailed in APHA Guidelines (Standard Methods for the Examination of Water and Wastewater) as well as EPA Guidelines (Code of Federal Regulations- Title 40, Part 136).
36.	4.3.3 Additional Technical Points	41	3. System must have Automatic File Transfer features. 4. PLC Based basic features for process control to comply regulatory guidelines.	Please clarify this scope and Laboratory sampling	3. System must have Automatic File Transfer features – this is related to transfer of data from sensor linked data logger to the centralized data center. The proposed system should have such feature. 4. PLC based basic features for process control to comply regulatory guidelines – It is Programmable Logic Controller (PLC) based system feature complying with key features viz. various programming languages, capability to handle digital and analog signals and modularity. The proposed system should have such complying feature.
37.	4.5.1 Minimum specification for pH Sensor	42	Measuring Principle - ISE - Potentiometric	Request for measuring principle Glass Electrode/ ISE -Potentiometric in Compliance with CPCB guidelines	No change, RFP condition prevails.
38.	4.5.1 Minimum specification for pH Sensor	43	Controller to Display distance - Up to 3 km cable length required as per site conditions	Laying cable up to 3 KM may result in cable damage for various reasons; therefore, we recommend considering the IOT based Display board and data can be transmitted remotely	The inclusion of display boards for this RFP has been removed- as a result of which, this point stands deleted.

Sr. No	Clause No.	Page No.	Content of RFP Requiring Clarification	Change Requested/Clarification required	Clarification/Amendment by MPCB
39.	4.1 Overview of this Project Structure	38	Reporting of data to MPCB: The price for the data Supply would include the Operation and Maintenance, including incidental charges, electricity, providing manpower at site, security, etc. The number of security personnel to be deployed on-site shall be determined by the Successful Bidder, ensuring round the clock safety and security of the entire system.	Additionally, for manpower and security, please specify the required number of personnel to be deployed on-site.	The onus of number of manpower and security personnel to be deployed on-site shall lie on the Successful Bidder as long as round the clock safety and security of the entire system is ensured. This is explicitly stated in clause 4.1, sub-clause 6 b.
40.	4.5.5 Specifications for Nitrate (NO_3-N)	50	Measurement Principle - Potentiometric	We request that the Ion Selective Electrode/ Potentiometric measuring principle be considered. In Compliance with CPCB guidelines	Ion Selective Electrode (ISE) using Potentiometric measuring principle is CPCB-compliant for monitoring Nitrate (NO_3-N) in RTWQMS.
41.	4.5.10 Specifications for Ammonia	52	Measuring Principle - Potentiometric	We kindly request that the Ion Selective Electrode/ Potentiometric measuring principle be taken into consideration. In Compliance with CPCB guidelines	Ion Selective Electrode (ISE) using Potentiometric measuring principle is CPCB-compliant for monitoring Ammonia in RTWQMS.
42.	4.5.11 Specifications for Smart Controller and Data logger	53	• Control unit should be rugged with keypad	We request that a rugged design with a touchpad display be considered.	No change, RFP clause prevails.

Sr. No	Clause No.	Page No.	Content of RFP Requiring Clarification	Change Requested/Clarification required	Clarification/Amendment by MPCB
43.	4.5.12 Specifications for Display Board	55	Size of the Display: To be proposed by the Successful Bidder	The quantity of the display boards needs to be specified.	The clause 4.5.12 Specifications for Display Board stands deleted.
44.	4.3 Fixed Stations for Data collection	38	No Floating Stations are included and allowed in this bid.	We would like to strongly recommend the floating station for your consideration.	The revised clause shall be read as: "Floating stations will also be considered."
45.	4.10 Delivery Schedule:	66	2. The bidder must provide Country of Origin certificate at the time of supply.	Please clarify which certificate is required	The "Country of Origin" Certificate referred to, in the RFP is the standard Certificate of Origin, specifying the manufacturer's name and address, description of RTWQMS equipment (make/model of sensors, analyzers, etc.), and country of manufacture of the RTWQMS equipment.
46.	Addition of E. Coli Parameter			It is proposed to include E. Coli as a mandatory to monitoring parameter considering its importance in detecting fecal contamination this addition would enhance alignment with national water quality monitoring program and ensure better compliance with environmental and public health norms	Only physico-chemical metrics are to be monitored by the RTWQMS. The presence of *E. Coli* in the surface water must be determined via grab samples and lab analysis only as per CPCB SOP. Therefore, **no change, RFP clause prevails.**
47.	Section 7: Annexures	73-91	Checklist for documents to be included in the Pre-Qualification	N/A	Please refer to the revised Checklist for documents to be included in the Pre-Qualification in Annexure 2.
48.	Section 7: Annexures	110-111	Checklist for documents to be included in the Technical Qualification	N/A	Please refer to the revised Checklist for documents to be included in the Technical Qualification in Annexure 3.

Annexure 1

4.5 Technical Specifications

Sensors shall meet the following specifications:

Spectrometry Based multi-parameter probe:

1. No consumables will be required for use within the next three years.
2. System should have built-in spectral information for River Water Quality data.
3. No sample preparation required.
4. Sensor shall be submersible in open channels or tanks.
5. No moving parts in contact with Drain/River water.
6. Auto compensation of potential interference by turbidity/solids.
7. All sensors should be IP68, and transmitter should be IP65 or better.
8. Auto diagnostic features.

4.5.1 Minimum specification for pH Sensor

S. No.	Parameter	Specification
1	Basic Requirement	**pH Sensor Specifications:** • Integrated temperature measurement and compensationshould be provided in the pH sensor. • The pH sensor should have galvanically separated input. • Calibration history should be stored automatically in thesensor. • Field Sensor calibration • Signal Output – Digital • Sensor Check function/Diagnostics should be available in the pH sensor. • protection type: IP 68
2	Measuring Range	• Measuring Range: pH: 0 - 12 (Sensor should be designedfor wastewater application) • Measuring: 0 - 45 °C
3	Measuring Principle	ISE - Potentiometric
4	Sensor Cable	15-meter cable (minimum) with arrangement to increase length as per site conditions and all sensor cable must be interchangeable

S. No.	Parameter	Specification
5	Operating Temperature	Temp Compensation: 0 to + 45 °C
6	Material of Construction of sensor	The model/ make of the pH sensor should be top of the line.
7	Calibration	Calibrate pH meter with Certified (having international traceability) Buffer solutions of pH 4, 7, 9.2 & 10. Perform at-least two-point calibration within the expected range of the pH in the plant. For example, if pH is expected to be 7.8 then perform two points calibration with pH 7 and 9.2.
8	Reagent Free	The pH combination electrodes should require very little maintenance and there should be no electrolyte replacement.
9	Voltage Protection	Transient Voltage Protection should be integrated in the sensor
10	Accuracy	≤ 0.1 units of pH certified reference standard
11	Resolution	≤ 0.01 units of pH
12	Response Time	≤ 30 seconds
13	Method of Measurement	Potentiometric-Automatic compensation of Temperature
14	Cleaning	Automatic cleaning
15	Operating Humidity	5 to 95% non-condensing
16	Interface connection to display	sys plug (IP 65), RS485
17	Protection Class	IP68 for sensor
18	Pressure Resistance	10 Bar
19	Transmitter Mounting	Pole/wall mounted
20	Display	Large, colour display with user-friendly buttons in all weather conditions
21	Datalogger	Minimum 5,00,000 data points or better
22	Controller	Should have provision of at least 20 sensors for future upgradation
23	Automatic sensor recognition feature	Required
24	Remote Access	Full remote access feature required
25	Enclosure Material	Stainless Steel (SS) with epoxy coating for Analyser or similar kind
26	Tag plate	SS Tag plate

4.5.2 Specifications for Biochemical Oxygen Demand (BOD) sensor

S. No.	Parameter	Specification
1	Basic Requirement	Continuous Riverwater Monitoring of BOD, COD, TOC, TSS with UV-Vis Full Spectrum dual beam technology. • System should work on wavelength of 200-750nm as per the CPCB guidelines and all analyses should have independent values. • System should have spectrophotometric probe made of Titanium. • Multi Parameter probe ideal for monitoring of BOD/ COD/ TSS / TOC in river water/ wastewater • The Sensor should have optimized function check referencingfor excellent zero point and long-term stability. • The Sensor should provide compensation of interferences by evaluation of the whole measured spectrum. • System should be UV-Visible double beam spectrometry. • System should have unlimited multipoint calibration facility asper CPCB SOP published on CPCB website in July 2020. • System should be complied with as per latest CPCB Direction, SOP& Guidelines. • Should produce analytically valid results with precision and repeatability. • The instrument/Analyzer should be robust and rugged, for optimal operation under extreme environmental conditions, while maintaining its calibrated status. • The Analyzer should have inbuilt features for automatic watermatrix change adaption. • The instrument / Analyzer should have onboard library of calibration spectra for different industrial matrices with provision of accumulating further calibration matrices. • For each parameter there should be provision for independent analysis, validation, independent parameter calibration & data transmission. • Sensor IP68 rating and specially designed for submerged installations and all sensor cable must be interchangeable.
2	Measuring Range	0 - 200 mg/L (with possibility to check higher ranges)
3	Accuracy	+/- 10% of Parameter value with reference to certified laboratory results or as per latest reference of

S. No.	Parameter	Specification
		published CPCB SOP/ Guidelines, whichever is less.
4	Reagent Free	• The Sensor should not use any reagents and should be easy to use and operate without any running costs. • The sensor should completely be reagent free for operation.
5	Measuring Principle	UV-Visible is double Beam Spectrophotometry with multipoint calibration from wavelength 200 – 750 nm, as per the CPCB Guideline,xenon flash lamp, 256 photo diodes, two beam measurement, complete spectrum
6	Measurement	Must be direct In-Situ/Submersible measurement in Outlet or Inlet of wastewater treatment plant
7	Operating Temperature	0°C to + 45 °C;
8	MOC	The MOC must be Titanium grade or better to sustain the sensor in riverwater/ wastewater application.
9	Light Source	Must emit UV and Vis wavelength of light.
10	Sensor Cable	15-meter cable (minimum) with arrangement to increase length as per site conditions and all sensor cable must be interchangeable.
11	Inbuilt Cleaning	The sensor must have automatic cleaning facility with integrated system for cleaning at a predefined interval i.e., ultrasonic/ compressed air/ automatic brushes. Chemical cleaning is not recommended.
12	Calibration	Multipoint calibration for each spectrophotometric parameter
13	Protection Rating	IP 68
14	Certifications	TUV/ USEPA
15	Automatic compensation cross sensitivities	Turbidity / solids and temperature
16	Interface connection to display	MIL connector, IP 68, RS485, 12 VDC
17	Operating Humidity	5 to 95% non-condensing
18	Pressure	10 Bar
19	Power	12 VDC Nominal
20	Signal output	Compatible with Data Acquisition System
21	Resolution	≤ 1 mg/L or better

S. No.	Parameter	Specification
22	Response Time	≤ 60 seconds
23	Protection	Sensor IP-68
24	Enclosure	Stainless Steel with epoxy coating for Analyzer or similar kind
25	Diagnostics features	▪ System diagnostics: power shutdown, sensor failure, data transmission failure. ▪ Parameter diagnostics: Calibration timeframe, calibration drift alert. ▪ High/low parameter permissible thresholds limit diagnostic ▪ Maintenance and calibration schedule diagnostics
26	Calibration frequency	Once every fifteen (15) days
27	Transmitter Mounting	Pole/ wall mounted
28	Display	Large, colour display with user-friendly buttons in all weather conditions
29	Surge Protection	Inbuilt
30	Tag Plate	SS tag plate

4.5.3 Specifications for Chemical Oxygen Demand (COD) sensor

S. No.	Parameter	Specification
1	Basic Requirement	Continuous Riverwater Monitoring of BOD, COD, TOC, TSS with UV-Vis Full Spectrum dual beam technology • System should work on wavelength of 200-720 nm as per the CPCB guidelines and all analyses should have independent values. • System should have spectrophotometric probe made of Titanium • Multi Parameter probe ideal for monitoring of BOD/COD/TOC/TSS in Riverwater/ Wastewater. • The Sensor should have optimized function check referencingfor excellent zero point and long-term stability. • The Sensor should provide compensation of interferences by evaluation of the whole measured spectrum. • System should be UV-Visible double beam spectrometry.

S. No.	Parameter	Specification
		• System should have unlimited multipoint calibration facility asper CPCB SOP published on CPCB website in July 2020. • Sensors and probes should be validated with known standards such as KHP (potassium hydrogen phthalate) for COD. • System should be complied as per latest CPCB Direction, SOP & Guidelines. • Should produce analytically valid results with precision and repeatability. • The instrument/Analyzer should be robust and rugged, for optimal operation under extreme environmental conditions, while maintaining its calibrated status. • The Analyzer should have inbuilt features for automatic water matrix change adaption. • The instrument / Analyzer should have onboard library of calibration spectra for different industrial matrices with provision of accumulating further calibration matrices. • For each parameter there should be provision for independent analysis, validation, independent parameter calibration & data transmission. • Sensor IP68 rating and specially designed for submerged installations and all sensor cables must be interchangeable.
2	Measuring Range	0 - 300 mg/L (with possibility to check higher ranges)
3	Accuracy	+/- 2.5% in reference solution. +/- 10% of Parameter value with reference to certified laboratory results or as per latest reference of published CPCB SOP/Guidelines, whichever is less.
4	Reagent & Consumables Free	• The Sensor should not use any reagents and should be easy to use and operate without any running costs. • The sensor should completely be reagent free for operation.
5	Resolution	≤ 1 mg/L or better
6	Response Time	≤ 60 seconds
7	Measuring Principle	UV-Visible is double Beam Spectrophotometry with multipoint calibration from wavelength 200 – 750 nm, as per the CPCB Guideline,xenon flash lamp, 256 photo diodes, two beam measurement, complete spectrum

S. No.	Parameter	Specification
8	Measurement	Must be direct In-Situ/Submersible measurement in riverwater/ wastewater
9	Operating Temperature	0°C to +45 °C.
10	MOC	The MOC must be Titanium grade or better to sustain the sensor in Sewage wastewater application.
11	Light Source	Must emit UV and Vis wavelength of light.
12	Sensor Cable	15-meter cable (minimum) with arrangement to increaselength as per site conditions and all sensor cable must be interchangeable
13	Inbuilt Cleaning	The sensor must have automatic cleaning facility with integrated system for cleaning at a predefined interval i.e., ultrasonic/ compressed air/ automatic brushes. Chemical cleaning is not recommended.
14	Calibration	Multipoint calibration for each spectrophotometric parameter
15	Protection Rating	IP 68
16	Certifications	TUV/MCERT/USEPA
17	Automatic compensation cross sensitivities	turbidity / solids
18	Interface connection to display	MIL connector, IP 68, RS485, 12 VDC
19	Operating Humidity	5 to 95% non-condensing
20	Pressure	10 Bar
21	Power	12VDC Nominal
22	Signal Output	Compatible with Data Acquisition system
23	Protection	Sensor IP-68 and Transmitter IP-65 or better
24	Enclosure	Stainless Steel with epoxy coating for Analyzer or similar kind
25	Diagnostics features	▪ System diagnostics: power shutdown, sensor failure, data transmission failure. ▪ Parameter diagnostics: Calibration timeframe, calibration drift alert ▪ High/low parameter permissible thresholds limit diagnostic ▪ Maintenance and calibration schedule diagnostics
26	Calibration frequency	Once every fifteen (15) days

S. No.	Parameter	Specification
27	Transmitter output	Default: 2 X 4-20 mA Additional optional: MODBUS RS485, HART, PROFIBUS.
28	Transmitter Mounting	Pole/ wall mounted
29	Display	Large, colour display with user-friendly buttons in all weather conditions
30	Surge Protection	Inbuilt

4.5.4 Specifications for Total Suspended Solids (TSS) sensor

S. No.	Parameter	Specification
I	Basic Requirement	Continuous Riverwater Monitoring of BOD, COD, TOC, TSS with UV-V is Full Spectrum dual beam technology. • System should work on wavelength of 200-750nm as per the CPCB guidelines and all analyses should have independent values. • System should have spectrophotometric probe made of Titanium or better • Multi Parameter probe ideal for monitoring of BOD/COD/TSS/ TOC in Riverwater/ Wastewater. • The Sensor should have optimized function check referencing for excellent zero point and long-term stability. • The Sensor should provide compensation of interferences by evaluation of the whole measured spectrum. • System should be UV-Visible double beam spectrometry. • System should have unlimited multipoint calibration facility asper CPCB SOP published on CPCB website in July 2020 • System should be complied as per latest CPCB Direction, SOP& Guidelines. • Should produce analytically valid results with precision and repeatability. • The instrument/Analyzer should be robust and rugged, for optimal operation under extreme environmental conditions, while maintaining its calibrated status. • The Analyzer should have inbuilt features for automatic watermatrix change adaption. • The instrument / Analyzer should have onboard library of calibration spectra for different

S. No.	Parameter	Specification
		industrial matrices with provision of accumulating further calibration matrices. • For each parameter there should be provision forindependent analysis, validation, independent parameter calibration & data transmission. • Sensor IP68 rating specially designed for submerged installations and all sensor cable must be interchangeable
2	Measuring Range	0 - 300 mg/L (with possibility to check higher ranges)
3	Accuracy	With Calibration: <1% of the measured value ±0.01 FNU/NTU+/- 10% of Parameter value with reference to certified laboratory results or as per latest reference of published CPCB SOP/Guidelines, whichever is less.
4	Reagent & Consumables Free	• The Sensor should not use any reagents and should be easy touse and operate without any running costs. • The sensor should completely be reagent free for operation.
5	Resolution	≤ 1 mg/L or better
6	Response Time	≤ 60 seconds
7	Measuring Principle	UV-Visible is double Beam Spectrophotometry with multipoint calibration from wavelength 200 – 720 nm, as per the CPCB Guideline, xenon flash lamp, 256 photo diodes, two beam measurement, complete spectrum
8	Measurement	Must be direct In-Situ/Submersible measurement in Outlet or Inlet of wastewater treatment plant
9	Operating Temperature	0°C to + 45 °C;
10	MOC	The MOC must be Titanium grade or better to sustain the sensor in river application.
11	Light Source	Must emit UV and Vis wavelength of light.
12	Sensor Cable	15-meter cable (minimum) with arrangement to increase length as per site conditions and all sensor cable must be interchangeable
13	Inbuilt Cleaning	The sensor must have automatic cleaning facility with integrated system for cleaning at a predefined interval i.e., ultrasonic/ compressed air/ automatic brushes. Chemical cleaning is not recommended.
14	Calibration	Multipoint calibration for each spectrophotometric parameter

S. No.	Parameter	Specification
15	Protection Rating	Protection type: IP 68
16	Certifications	TUV/MCERT/USEPA
17	Automatic compensation cross sensitivities	turbidity / solids
18	Interface connection to display	RS485, 24VDC
19	Operating Humidity	5 to 95% non-condensing
20	Pressure	10 Bar
21	Power	24 VDC
22	Signal output	Compatible with Data Acquisition System
23	Protection	Sensor IP-68 and Transmitter IP-65 or better
24	Enclosure	Stainless Steel with epoxy coating for Analyzer or similar kind
25	Diagnostics features	• System diagnostics: power shutdown, sensor failure, data transmission failure. • Parameter diagnostics: Calibration timeframe, calibration drift alert. • High/low parameter permissible thresholds limit diagnostic. • Maintenance and calibration schedule diagnostics.
26	Calibration frequency	Once every fifteen (15) days
27	Transmitter output	Default: 2 X 4-20 mA Additional optional: MODBUS RS485,HART, PROFIBUS.
28	Transmitter Mounting	Pole/ wall mounted
29	Display	Large, colour display with user-friendly buttons in all weather conditions
30	Surge Protection	Inbuilt

4.5.5 Specifications for Nitrate (NO_3-N)

S. No	Parameter	Specification
1	Measurement Principle	Potentiometric/ ISE/ UV-Vis
2	Measurement Range	1- 1,000 mg/l
3	Resolution	1 mg/l
4	Calibration	± 5 % of measured value ± 0.2 mg/l or better
5	Reagent Free	The Ammoniacal Nitrogen and Nitrate Nitrogen electrodes should require very little maintenance, and they should not require any add on chemical for continuous measurement.
6	Pressure Resistance	Maximum 0.2 Bar
7	Sensor Cable	15-meter cable with arrangement to increase length as per site conditions and all sensor cable must be interchangeable.
8	Calibration frequency	Once every fifteen (15) days
9	Protection Rating	IP 68
10	Cleaning	Automatic compressed air cleaning or ultrasonic cleaning

4.5.6 Specifications for Chloride

S. No.	Parameter	Specification
1	Measurement Range	0.1 – 1,000 mg/l
	CHEMICAL METHOD	
2	Chloride	Ion Selective Electrode
3	Temperature Measurement and compensation	Integrated NTC thermistor
	MEASUREMENT PERFORMANCE	
4	Accuracy	± 5 % of measured value ± 0.2 mg/l in standard solution or better
5	Repeatability	<Max. ±5 % of reading3 or ±0.030 ppm (whichever is the greater)
6	Resolution	0.001 ppm or 1 ppb
7	Measurement units	mg/l, ppm, ppb, µg/l
8	Calibration	Multi-point-calibration possible with multiple standard solution
	ENVIRONMENTAL DATA	

S. No.	Parameter	Specification
9	Ambient Operating Temperature	32 °F - 104 °F (0 °C - +45 °C)
10	Ambient Operating Humidity	Up to 95 % RH non-condensing
11	Sample Temperature	1°C to 40 °C (32 °F to 104 °F)
12	Calibration frequency	Once every fifteen (15) days
13	Protection Rating	IP 68
14	Cleaning	Automatic compressed air cleaning or ultrasonic cleaning

4.5.7 Specifications for Dissolved Oxygen

S. No.	Parameter	Specification
1	Measuring Principle	Fluorescence
2	Resolution	0.01 mg/l O_2
3	Accuracy (Standard Solution)	O_2: +/- 0.02 mg/l or +/- 1 %* (*whichever is greater)
4	Response Time (T90)	60 sec.
5	Reference Standard	Saturated Sodium Sulphite Solution
6	Integrated Temperature sensor	0 - 50 °C
7	Operating Temperature	0 - 45 °C
8	Operating Pressure	0 - 7 bar
9	Installation / Mounting	Submersed or in a flow cell
10	Ingress Protection Class	IP68
11	Automatic Cleaning	Media: compressed air Permissible pressure: 2 - 4.5 bar
12	Storage Temperature	0 - 45 °C

4.5.8 Specifications for Turbidity

S. No.	Parameter	Specification
1	Measurement Principle	UV/ Scattered light measurement in accordance with EN ISO 7027 (DIN EN 27027 or ISO 7027)
2	Measurement Range	0-2000 NTU
3	Resolution	1.0 NTU
4	Accuracy	< 1 % in the range to 2000 FNU
5	Cleaning	Automatic compressed air cleaning or ultrasonic cleaning
6	Repeatability limit or repeatability according to DIN ISO 5725 or DIN 1319 respectively	< 0.015 % or min. 0.006 FNU
7	Pressure Resistance	Maximum 10 Bar
8	Sensor Cable	15-meter cable with arrangement to increase length as per site conditions and all sensor cable must be interchangeable.
9	Calibration frequency	Once every fifteen (15) days
10	Ingress Protection	IP68

4.5.9 Specifications for Conductivity

S. No.	Parameter	Specification
1	Measuring Principle	4-electrode, direct-contact
	Range	1.0 to 5000 µS/cm
2	Resolution	1.0 µS/cm or 0.01 mS/cm
3	Accuracy (Standard Solution)	±2 % of measured value or better
4	Automatic Compensation Instrument	Temperature
5	Integrated Temperature Sensor	-20 - 90 °C
6	Operating Temperature	0 - 45 °C
7	Operating Pressure	0 - 10 Bar
8	Installation / Mounting	submersed or in a flow cell
9	Process Connection	quick connect

S. No.	Parameter	Specification
10	Flow Velocity	0.01 m/s (min.) to 3 m/s (max.)
11	Automatic Cleaning	Ultrasonic/ compressed air
12	Storage Temperature	0 to 45 °C
13	Calibration frequency	Once every fifteen (15) days
14	Protection Class (-075)	IP68

4.5.10 Specifications for Ammonia

S. No.	Parameter	Specification
1	Measuring Principle	Potentiometric/ ISE
2	Range	NH_4-N: 1 - 2,000 mg/l / 1 mg/l; 0.1 - 100 mg/l / 0,1 mg/l
3	Resolution	0.1 mg/l
4	Accuracy (Standard Solution)	± 5 % of measured value ± 0.2 mg/l in standard solutions
5	Response Time (T90)	0 - 60 sec.
6	Operating Temperature	0 - 40°C
7	Operating Pressure	0 - 1 Bar
8	Installation / Mounting	submersed or in a flow cell
9	Flow Velocity	0.01 m/s (min.), 3 m/s (max.)
10	Automatic Cleaning	Ultrasonic/ compressed air
11	Storage Temperature (Electrode)	2 - 45 °C
12	Storage Temperature (Sensor)	2 - 45 °C
13	Calibration frequency	Once every fifteen (15) days
14	Protection Class	IP68

4.5.11 Specifications for Smart Controller and Data logger

S. No.	Parameter	Specification
1	Basic Requirement	Controller should have the latest features of highly advanced Multi Parameter Controller having capability of handling at least 20 Sensors in a single controller configuration for the parameters viz. *pH, BOD, COD, TSS, Chloride, Total Organic Carbon (TOC), Dissolved Oxygen, Ammoniacal Nitrogen, Turbidity, Water Level* and must be expandable for more parameters & sensors as and when required. • With Sensor ID recognition • High EMC interference immunity • Control unit should be rugged with keypad • Integrated lightning protection • With integrated back up controller function • The system should start automatically after the power is reset tothe system (in case of power failure). • The system should have Service mode for cleaning/ calibration / maintenance activities. • High-end IoT (Internet of Things) terminal preferably based on an industrial PC, minimum IP65 grade. • Sensor and station management of up to 20 parameters: automatic cleaning, data logging, sample & calibration incl. history and multipoint calibration, sensor function check, user management, easy data transfer via USB-stick etc. • The Controller should preferably be able to power all the sensors and terminals or accessories attached to it without having to need any additional power sources in the system for increased protection against lightening and possible electromagnetic interference. The controller shall be low power operation and operable in 220VAC / DC (to be generated within the controller itself). • IoT (Internet of Things) and M2M (Machine to Machine) connectivity: Minimum 1 Gb/s Ethernet, 300 Mb/s Wi-Fi 802.11a/b/g/n and optional worldwide HSPA+ 3G interface, remote control (http), data transfer into cloud via FTP, SSH and TML. • Process interface to SCADA via: Modbus RTU/TCP, SDI-12, Profibus DP, analog 0/4-20mA and relay outputs. • Integration of third-party sensors via analog 0/4-20 mA and digital (solid state) inputs, Modbus RTU/TCP. • Easily extendable: 8 slots to customize I/Os, additional software features like online data validation and

S. No.	Parameter	Specification
		event detection optional.
2	Display	• Large, colour display with user-friendly buttons in all weather conditions • Feature enhancements by addition of specific modules.
3	Power Supply	• 10-36VDC or 100-240VAC Power Supply. • The controller should be low power consuming with consumptionof less than 5W.
4	Number of sensors to be connected	• Minimum 20 Sensors to be connected
5	Output Communication	• Galvanically Separated current outputs (0/4-20 mA) that can beassigned arbitrarily. • USB-interface for data transfer, upgrading firmware etc. • It should be possible to download the data via the USB interface anextremely fast data exchange to USB memory stick.
6	Data Logger	• 50000 data points or Internal integrated Data logger with minimum data memory for 5 years parameters recording & logs data recoding (when 8 parameters, logged every 15 minutes) • The controller should store the sensor configurations and calibrations and shall preferably depict the details when remotely accessed. • The controller should have Log file to record the diagnostics. • Data logger must have provision of a system memory (Non-volatile) to record data. • Lifetime Free firmware update.
7	Accessibility	• The system should be fully programmable with multiple levels of access control with help of Electronic-Key for data security and protection against non-authorized access to avoid any tampering or changes to the system configuration by unauthorized access.
8	Status LED	• The system should have a status LED on Data logger terminal that gives reliable and fast information regarding function and status of system. And the Controller must show a LED for diagnostic purposes on the front. These LED should show diagnostic alert about normal and malfunctions of the system at a glance.
9	Operating Temperature	0°C to + 45 °C Storage temperature: 0 °C to +50 °C
10	Housing Material	ASA (Acrylonitrile-Styrene-Acrylic ester polymer)

S. No.	Parameter	Specification
11	Protection Rating	IP 65 or better
12	Essential features for the System	• System must have Automatic File Transfer features. • Automatic Sampling for laboratory measurement Feature Onboard • PLC Based basic features for process control to comply regulatory guidelines. • System must have display unit Large, colour display with user-friendly buttons in all weather conditions. • Remote system must be protected by a user-configurable firewall.

4.5.12 Specifications for Total Organic Carbon (TOC)

S. No.	Parameter	Specification
1	Basic Requirement	Continuous Riverwater Monitoring of BOD, COD, TOC, TSS with UV-Vis Full Spectrum dual beam technology • System should work on wavelength of 200-750 nm as per the CPCB guidelines and all analyses should have independent values. • System should have spectrophotometric probe made of Titanium • Multi Parameter probe ideal for monitoring of BOD/COD/TOC/TSSin riverwater/ wastewater. • The Sensor should have optimized function check referencingfor excellent zero point and long-term stability. • The Sensor should provide compensation of interferences by evaluation of the whole measured spectrum. • System should be UV-Visible double beam spectrometry. • System should have unlimited multipoint calibration facility asper CPCB SOP published on CPCB website in July 2020. • Sensors and probes should be validated with known standards such as KHP (potassium hydrogen phthalate) for COD. • System should be complied as per latest CPCB Direction, SOP & Guidelines. • Should produce analytically valid results with precision and repeatability.

S. No.	Parameter	Specification
		• The instrument/Analyzer should be robust and rugged, for optimal operation under extreme environmental conditions, while maintaining its calibrated status. • The Analyzer should have inbuilt features for automatic water matrix change adaption. • The instrument / Analyzer should have onboard library of calibration spectra for different industrial matrices with provision of accumulating further calibration matrices. • For each parameter there should be provision for independent analysis, validation, independent parameter calibration & data transmission. • Sensor IP68 rating and specially designed for submerged installations and all sensor cables must be interchangeable.
2	Measuring Range	0 - 300 mg/L (with possibility to check higher ranges)
3	Accuracy	+/- 2.5% in reference solution. +/- 10% of Parameter value with reference to certified laboratory results or as per latest reference of published CPCB SOP/Guidelines, whichever is less.
4	Reagent & Consumables Free	• The Sensor should not use any reagents and should be easy to use and operate without any running costs. • The sensor should completely be reagent free for operation.
5	Resolution	≤ 1 mg/L or better
6	Response Time	≤ 60 seconds
7	Measuring Principle	UV-Visible is double Beam Spectrophotometry with multipoint calibration from wavelength 200 – 750 nm, as per the CPCB Guideline,xenon flash lamp, 256 photo diodes, two beam measurement, complete spectrum
8	Measurement	Must be direct In-Situ/Submersible measurement in riverwater/ wastewater
9	Operating Temperature	0°C to +45 °C.
10	MOC	The MOC must be Titanium grade or better to sustain the sensor in riverwater/ wastewater application.
11	Light Source	Must emit UV and Vis wavelength of light.
12	Sensor Cable	15-meter cable (minimum) with arrangement to increaselength as per site conditions and all sensor

S. No.	Parameter	Specification
		cable must be interchangeable
13	Inbuilt Cleaning	The sensor must have automatic cleaning facility with integrated system for cleaning at a predefined interval i.e., ultrasonic/ compressed air/ automatic brushes. Chemical cleaning is not recommended.
14	Calibration	Multipoint calibration for each spectrophotometric parameter
15	Protection Rating	IP 68
16	Certifications	TUV/MCERT/USEPA
17	Automatic compensation cross sensitivities	turbidity / solids
18	Interface connection to display	MIL connector, IP 68, RS485, 12 VDC
19	Operating Humidity	5 to 95% non-condensing
20	Pressure	10 Bar
21	Power	12VDC Nominal
22	Signal Output	Compatible with Data Acquisition system
23	Protection	Sensor IP-68 and Transmitter IP-65 or better
24	Enclosure	Stainless Steel with epoxy coating for Analyzer or similar kind
25	Diagnostics features	▪ System diagnostics: power shutdown, sensor failure, data transmission failure. ▪ Parameter diagnostics: Calibration timeframe, calibration drift alert ▪ High/low parameter permissible thresholds limit diagnostic ▪ Maintenance and calibration schedule diagnostics
26	Calibration frequency	Once every fifteen (15) days
27	Transmitter output	Default: 2 X 4-20 mA Additional optional: MODBUS RS485, HART, PROFIBUS.
28	Transmitter Mounting	Pole/ wall mounted
29	Display	Large, colour display with user-friendly buttons in all weather conditions
30	Surge Protection	Inbuilt

4.5.13 Specifications for Water Level Sensor

S. No	Parameter	Specification
1	Sensor Type	Piezoresistive
2	Measurement Range	0 to 5 m
3	Resolution	0.01 m or better
4	Temperature	0-50 °C (operational)
6	Accuracy	± 0.35 % FS
7	Output options	USB via docking station; Wireless, Modbus
8	Power	12-32 VDC
9	Calibration frequency	Once every fifteen (15) days
10	Protection Rating	IP 68
11	Cleaning	Automatic compressed air cleaning or ultrasonic cleaning

Annexure 2

Checklist for documents to be included in the Pre-Qualification

S. No.	Minimum Eligibility Criteria-Pre-Qualification Criteria	Document to be submitted	Submitted (Yes/ No)	Document name & Page No.
	Annexure 1 Pre-Qualification Cover Letter			
PQ1	**Legal Entity**: ▪ a Company registered in India under the Companies Act 1956 or 2013 or ▪ a partnership firm under the Indian Partnership Act, 1932 or ▪ the Limited Liability Partnerships Act, 2008, (as amended from time to time) (In case of sole Bidder, it should be met by sole Bidder itself whereas in case of Consortium, this would be applicable for each of the Consortium members and all the members are required to submit above listed documents as applicable)	▪ Brief Profile of the Bidder along with **Annexure 2 Bidder's and Bidding Firms Particulars**		
		▪ For Companies registered under Companies Act 1956/ 2013: Incorporation documents such as Memorandum and Articles of Association and Copy of Certificate of Incorporation		
		▪ For companies registered Limited Liability Partnership (LLP) registered under the LLP Act, 2008 or Indian Partnership Act 1932 as amended time to time, Copy of Certificate of Incorporation/ Registration of Firm (RoF)/ Partnership deed of Bidder/ LLP deed, as applicable.		
		▪ Copy of valid PAN Card		
		▪ Copy of valid GST Certificate with GST Number		
		▪ Copy of Power of Attorney signed by legally authorized signatories as **Annexure 11 Power of Attorney** along with Board Resolution along with Board Resolution		
		▪ **Annexure 12 Joint Bidding Agreement (in case of consortium)**		
		▪ **Annexure 13 Format for Power of Attorney for Lead Member (in case of consortium)**		
		▪ Any other supporting document, as may be required.		
PQ2	**Annexure 3 Financial Declaration of Bidder**			
	Average Annual Turnover: Minimum Average Annual Turnover (MAAT) for the last three (03) audited financial years (FY 2021-22, FY 2022-23, and FY 2023-24) of the bidder should not be less than **₹ 3.00 Crore (INR Three Crore only)**	Copy of Annual Audited Financial Statements, Balance sheet and profit and loss statement, certified by a Statutory Auditor for the preceding Three years FY2021-22, FY 2022-23, and FY 2023-24). **Note:** Audited financial statement should match with certificate of chartered accountant		

S. No.	Minimum Eligibility Criteria-Pre-Qualification Criteria	Document to be submitted	Submitted (Yes/ No)	Document name & Page No.
	(In the case of sole Bidder, it should be met by the sole Bidder itself. Whereas in the case of Consortium, either of the Consortium member should fulfil the relevant criterion)	Certificate from Statutory Auditor as per **Annexure 3 Financial Declaration of Bidder**		
PQ3	**Annexure 3 Financial Declaration of Bidder**			
	Net-worth Criteria: The bidder should have a positive net worth for each of the last three audited financial years. FY 2021-22, FY 2022-23, and FY 2023-24 [Net Worth as defined in Companies Act 1956 / 2013 as amended from time to time.]	1. Duly filled Format for Financial years FY2021-22, FY 2022-23, and FY2023-24 to be submitted on the letterhead of the Chartered Accountant 2. Net worth Certificate duly certified by Statutory Auditor. 3. Certificate from Statutory Auditor as per **Annexure 3 Financial Declaration of Bidder** (In case of sole Bidder, it should be met by sole Bidder itself whereas in case of Consortium, this would be applicable for each of the Consortium Members)		
PQ4	**Annexure 4 Project Citation**			
	Annexure 5 Format for Self-Declaration			
	Project Experience 1: The Bidder shall have experience in **"*Similar works"** during last Ten (10) years as on last date of submission of bid as per following details: - One (01) project with "Similar works" costing at least **₹ 6.00 Crore.** OR Two (02) projects with "Similar works" each costing at least **₹ 4.00 Crore.** OR	a) Bidders shall submit a copy of work order/ contract agreement. b) Completion Certificate from the client or Proof of payment received i.e. copy of Bank statement clearly reflecting the name of the Bidder and amount received matching with Minimum Project value along with GST Invoice OR In case of on-going project, a certificate from the client on client's letter head mentioning the relevant scope of Work and current status of the partially completed project. c) Project citation as per format in **Annexure 4 Project Citation**		

S. No.	Minimum Eligibility Criteria-Pre-Qualification Criteria	Document to be submitted	Submitted (Yes/ No)	Document name & Page No.
	Three (03) projects with "Similar works" each costing at least **₹ 3.00 Crore.** For the purposes of evaluation of responses to this RFP, '***Similar works**' means: ***"Supply, installation, testing, commissioning and operation and maintenance of the Real-Time Water Quality Monitoring Stations and integrated Software System in India for Central Government or its department / State Government or its department / Semi Govt./ Municipal Corporations / Municipal Councils / Urban Local Body (ULB)/ UT/ PSU/ **Private Company".***	d) Self-Declaration as per **Annexure 5 Format for Self-Declaration**		
PQ5	**Annexure 4 Project Citation**			
	Annexure 5 Format for Self-Declaration			
	Project Experience 2: The Bidder shall have experience in Supply, installation, testing, commissioning and operation and maintenance of **Five (05)** Real-Time Water Quality Monitoring Stations and integrated Software System during last Seven (07) years in India for Central Government or its department / State Government or its department / Semi Govt./ Municipal Corporations / Municipal Councils / Urban Local Body (ULB)/ UT/ PSU/ **Private Company.	a) Bidders shall submit a copy of work order/ contract agreement. b) Completion Certificate from the client or Proof of payment received i.e. copy of Bank statement clearly reflecting the name of the Bidder and amount received matching with Minimum Project value along with GST Invoice OR In case of on-going project, a certificate from the client on client's letterhead mentioning the relevant scope of Work, number of projects for which DPR/feasibility report prepared and current status of the partially completed project. c) Project citation as per format in **Annexure 4 Project Citation** d) Self-Declaration as per **Annexure 5 Format for Self-Declaration**		
PQ6	**Certifications:**	Copy of valid Certificate as of the date of bid submission.		

S. No.	Minimum Eligibility Criteria-Pre-Qualification Criteria	Document to be submitted	Submitted (Yes/ No)	Document name & Page No.
	OEM / authorized bidder of OEM should have valid **ISO 9001: 2015** Certificate as on Bid submission Due date.	(In the case of sole Bidder, it should be met by sole Bidder itself whereas in the case of Consortium, this would be applicable for each of the Consortium Members).		
PQ7	**Annexure 6 Manufacturer's Declaration about 100% compliance to Minimum Technical Specifications**			
	Annexure 7 MAF Manufacturer's Authorization form			
	Manufacturer's Authorization: The Bidder to submit Manufacturer Authorization Form (MAF) from the OEMs.	Self- Declaration should be submitted by the Original Equipment Manufacturer (OEM) for fulfilling the minimum technical specification of the product as per **Annexure 6 Manufacturer's Declaration about 100% compliance to Minimum Technical Specifications** And OEM/ Dealer of the OEM should submit Manufacturer's Authorization Form (MAF) as per **Annexure 7 MAF Manufacturer's Authorization form** An OEM can issue multiple MAFs to their channel partners for the products complying 100% with the specifications. (In case of sole Bidder, it should be met by the sole Bidder itself. Whereas in the case of Consortium, either of the Consortium member should fulfil the relevant criterion).		
PQ8	**Annexure 8 Compliance with technical specifications**			
	Minimum technical specification requirements: The bidder must meet the minimum technical specifications mentioned in the Bid document for the systems and other equipment involved in supply, installation, testing and commissioning of RTWQMS.	Self-certification signed by the Authorized Representative on the company letterhead as per format provided in **Annexure 8 Compliance with technical specifications** of this Bid document along with other supporting documents like brochures. (In the case of sole Bidder, it should be met by the sole Bidder itself. Whereas in the case of Consortium, the lead member should fulfil the relevant criterion).		
PQ9	**Annexure 9 Undertaking for After Sales Support Office in Maharashtra**			

S. No.	Minimum Eligibility Criteria-Pre-Qualification Criteria	Document to be submitted	Submitted (Yes/ No)	Document name & Page No.
	After Sales Support Capability: The bidder shall have a functioning after sales support office in Maharashtra or shall open office in Maharashtra within Fifteen (15) days in case of award of contract.	Copy of existing office address proof like lease agreement/ latest electricity bill (not older than Six (06) months from the Bid Due date) in the name of the bidder In the absence of an existing office in Maharashtra, the Bidder must submit an undertaking to setup office in Maharashtra, on letterhead of firm signed by authorized signatory as per the format provided in the Bid document as per **Annexure 9 Undertaking for After Sales Support Office in Maharashtra** (In the case of sole Bidder, it should be met by the sole Bidder itself, whereas in the case of Consortium, the Lead member of the Consortium should fulfil the relevant criterion.)		
PQ10	**Annexure 10 Declaration by the Bidder for not being Blacklisted /Debarred**			
	Blacklisting criteria: The bidder should not have been debarred by any Government (State / Central) / Semi Government / Corporation / Union Territories/ PSU/ any other local Body or body established under or in the control of the Central or state Government in India for unsatisfactory past performance, corrupt, fraudulent or any other unethical business practices as specified in **Rule 151 of GFR,** as on date of bid submission.	Self-certification signed by the Authorized Signatory, on the company letter head as per format provided in this Bid document as per format in **Annexure 10 Declaration by the Bidder for not being Blacklisted /Debarred** (In case of sole Bidder, it should be met by the sole Bidder itself. Whereas in case of Consortium, each of the Consortium member should fulfil the relevant criterion)		

Annexure 3

Checklist for documents to be included in the Technical Qualification

S. No.	Minimum Eligibility Criteria-Pre-Qualification Criteria	Document to be submitted	Submitted (Yes/ No)	Document name & Page No.
	Annexure 3 Financial Declaration of Bidder			
TE1.1	**Average Annual Turnover:** Minimum Average Annual Turnover (MAAT) for the last three (03) audited financial years (FY 2021-22, FY 2022-23, and FY 2023-24) of the bidder should not be less **than ₹ 3.00 Crore (INR Three Crore only)**	Copy of Annual Audited Financial Statements, Balance sheet and profit and loss statement, certified by a Statutory Auditor for the preceding Three years FY2021-22, FY 2022-23, and FY 2023-24) Note: Audited financial statement should match with certificate of chartered accountant Certificate from Statutory Auditor as per **Annexure 3 Financial Declaration of Bidder** (In the case of sole Bidder, it should be met by the sole Bidder itself. Whereas in the case of Consortium, either of the Consortium member should fulfil the relevant criterion)		
TE2.1	**Annexure 4 Project Citation** Error! Reference source not found.			
	Annexure 5 Format for Self-Declaration			
	Project Experience 1: The Bidder shall have experience in **"*Similar works"** during last Ten (10) years as on last date of submission of bid as per following details: - One (01) project with "Similar works" costing at least **₹ 6.00 Crore.** OR Two (02) projects with "Similar works" each costing at least **₹ 4.00 Crore.** OR Three (03) projects with "Similar works" each costing at least **₹ 3.00 Crore.**	i. Bidders shall submit a copy of work order/ contract agreement. ii. Completion Certificate from the client or Proof of payment received i.e. copy of Bank statement clearly reflecting the name of the Bidder and amount received matching with Minimum Project value along with GST Invoice OR iii. In case of on-going project, a certificate from the client on client's letter head mentioning the relevant scope of Work and current status of the partially completed project. iv. Project citation as per format in **Annexure 4 Project Citation** v. Self-Declaration as per **Annexure 5 Format for Self-Declaration**		

S. No.	Minimum Eligibility Criteria-Pre-Qualification Criteria	Document to be submitted	Submitted (Yes/ No)	Document name & Page No.
	For the purposes of evaluation of responses to this RFP, '*Similar works' as mentioned in this RFP.	(In the case of sole Bidder, it should be met by the sole Bidder itself, whereas in the case of Consortium, either of the Consortium member should fulfil the relevant criterion individually or jointly)		
TE2.2	**Annexure 4 Project Citation** Error! Reference source not found.			
	Annexure 5 Format for Self-Declaration			
	Project Experience 2: The Bidder shall have experience in Supply, installation, testing, commissioning and operation and maintenance of **Five (05)** Real-Time Water Quality Monitoring Stations and integrated Software System during last Seven (07) years in India for Central Government or its department / State Government or its department / Semi Govt./ Municipal Corporations / Municipal Councils / Urban Local Body (ULB)/ UT/ PSU/ **Private Company. (as defined in the RFP)	a) Bidders shall submit a copy of work order/ contract agreement. b) Completion Certificate from the client or Proof of payment received i.e. copy of Bank statement clearly reflecting the name of the Bidder and amount received matching with Minimum Project value along with GST Invoice OR In case of on-going project, a certificate from the client on client's letterhead mentioning the relevant scope of Work, number of stations supplied, installed and commissioned and current status of the partially completed project. c) Project citation as per format in **Annexure 4 Project Citation** d) Self-Declaration as per **Annexure 5 Format for Self-Declaration** (In case of sole Bidder, it should be met by the sole Bidder itself, whereas in case of Consortium, either of the Consortium member should fulfil the relevant criterion individually or jointly).		
	Annexure 15 Financial Proposal Cover Letter			

Shri. Ajit V Patil (SRO-JD(WPC) Convener	Shri. V. R. Thakur (PSO)	Shri. Sanjay Bhosle (RO, BMW)	Shri. Ravindra Andhale (JD, APC)	Shri. S. L. Waghmare JD (WPC)

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