

**CENTRAL POLLUTION CONTROL BOARD, DELHI**

**Subject: - Corrigendum regarding publishing list of EoI Eligible firms for  
Tender Notice No.: C-12013/34/2017-18/Tech/Sr. No.2**

**The list of Expression of Interest (EOI) Eligible firms which was due on  
27-04-2017 will be uploaded soon.**

  
27/04/2017

**Aditya Sharma  
(Scientist 'D' IT Division)**

## Calling Expression of Interest

for

“Development of Real Time Water Quality Data Management Software (RTWQMS) in India”

**Tender Notice No. : C-12013/34/2017-18/Tech/Sr. No. 2**

Real Time Water Quality Monitoring of  
River Ganga and Yamuna



**CENTRAL POLLUTION CONTROL BOARD**

**Parivesh Bhawan, East Arjun Nagar**

**Delhi -110032**

**April'2017 (Ver-1.1)**

## EXPRESSION OF INTEREST FOR PROJECT

“Development of Real Time Water Quality Data Management Software (RTWQMS) in India” is invited from software developing firms/consultants.

### e-Tender Notice No. : C-12013/34/2017-18/Tech/Sr. No.2

The firms/consultants interested to take the project, should go through this EoI document. The firms should submit their suggestions alongwith required bids as per “Important Information and date sheet” addressed to Member Secretary, Central Pollution Control Board, Parivesh Bhawan, East Arjun Nagar, Delhi -32 through e-tendering process detailed at Annexure-A.

Three bids system will be followed.

**A. First Bid: EoI Eligibility Bids:** Firms are requested to submit their EoI proposals alongwith EoI qualifying documents as per eligibility criteria mentioned at A.1 in this document alongwith tender acceptance letter at Annexure-B. EoI Eligibility of firms will be checked on the basis of documents uploaded, therefore, all the interested firms are requested to upload scanned copies of all supporting documents required for evaluation. If copy of the original document is scanned and uploaded on e-procurement portal, it should have signature of firm’s authorized representative. Submission of any of the document in Hard Copies is not required. However, the EoI qualified firms may be asked to submit hard copies of documents uploaded, if required by CPCB at any point of time. Any document uploaded in procurement portal at any stage of project, if found to be fudged or managed, the awarded work will be cancelled immediately and firm will be held responsible to return entire amount, paid by CPCB in addition to other penalties, if any levied as per rules. Such firms will also be blacklisted.

### A.1 EoI Eligibility Criteria for firm/software consultant:

As per EoI Eligibility criteria specified herein below, following documents have to be uploaded.

- a. Firm must be in operation for three years as on 01.01.2017. **Document No. '1'**.
- b. Firms must be engaged in atleast 05 Projects of software development and maintenance during last three years in the fields of Web Developments, Mobile APP development, M2M with IoT (Internet of Things), SCADA integration and development using open source platforms.
- c. Out of five mentioned projects the firm should have executed:
  - 1) **at least one project** of similar nature in last three years worth **Rs. 30 Lakhs** OR
  - 2) **at least two projects of Rs. 15 Lakhs (Thirty lakhs) each** of similar nature in last three years OR
  - 3) **at least three projects of Rs. 10 Lakhs (Fifteen lakhs) each** of similar nature in last three years

Table 1

Sr. No. (01)	Name of Project (02)	Type of project M2M/MobApp /Web/IoT/ SCADA/others (03)	Software development component details Platform/DB /Language etc. (04)	Projects Undertaken				Software development component cost (10)
				Start Date (05)	Expected Delivery date (06)	Actual delivery date (07)	Cost (09)	

01								
02								
03								
04								
05								

Submit a summary sheet as per Table 1 of projects and attach supporting documents for the claims. **Document No. '2'**.

- d. Firm should not have been blacklisted by any Government Agency. Self declaration to be provided. **Document No.3.**
- e. Firm should provide the customer list containing at-least **Three** Organizations in Govt. /PSU /Semi Govt. Sector as per table 2. **Document No.4.**

Table 2

Sl. No.	Name of Organization	Org. Address	Concerned Officer			Name of Project	Cost of Project	Date of award of Project	Date of Completion of project	Software component module name
			Name	Mobile	E-mail					
01										
02										
03										

- f. Firm should have a valid ISO certification for software development/IT enabled services/ data management of process industries. **Document No.5.**
- g. Firm should have turnover of at-least **2(two)** Crores (cumulative) in last three financial years (2013-14, 2014-15 & 2015-16) from software development or related specialized areas as mentioned in document. **Document No.6 (balance sheets highlighting software development related information).**

**A.2 List of EoI eligible firms will be published on CPCB website as per scheduled date.**

Only EoI eligible firms will be allowed to submit second and third bids (Technical & Financial). The tender requesting technical and financial bids together will be published.

**B. Technical & Financial Bids (Second & Third Bids):**

**RFP Preparation: Technical and Financial bids will be invited through e-Tendering process. RFP document will be prepared with the inputs received from the firms participating in EoI and circulated along with tender. The firms having interest to participate in the project work are requested to examine the EoI document and provide their suggestions and changes for incorporation in RFP. A pre bid meeting will be arranged to take further inputs on the contents of the RFP document and amendments if any will be issued thereafter for final bidding. The finalized document will be placed on e-tendering portal for bids submission (Technical and Financial) from EoI Eligible firms and evaluation procedure will be followed for award of work.**

For any queries you may please contact Incharge IT Division Sh. A. Sudhakar, Additional Director at [asudhakar.cpcb@nic.in](mailto:asudhakar.cpcb@nic.in) Ph. 8800326699 and Sh. Aditya Sharma Scientist 'D' at [aditya.cpcb@nic.in](mailto:aditya.cpcb@nic.in) Ph. 9911328120.

# Calling Expression of Interest

for

“Development of Real Time Water Quality Data Management Software (RTWQMS) in India”

**Tender Notice No. : C-12013/34/2017-18/Tech/Sr. No. 2**

Real Time Water Quality Monitoring of  
River Ganga and Yamuna



**CENTRAL POLLUTION CONTROL BOARD**

**Parivesh Bhawan, East Arjun Nagar**

**Delhi -110032**

**March'2017 (Ver-1.0)**

### Revision and Signoff Sheet

“Development of Real Time Water Quality Data Management Software (RTWQMS) in India”

### Change Record

Date	Author	Version	Change reference
18.03.2017	Aditya Sharma Scientist ‘D’ IT Division,CPCB	1.0	Initial draft for review/discussion
03.04.2017	Aditya Sharma Scientist ‘D’ IT Division,CPCB	1.1	Initial Draft

### Reviewers

Name	Version approved	Position	Date

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**Project: “Development of Real Time Water Quality Data Management Software (RTWQMS) in India”, Tender Notice No. : C-12013/34/2017-18/Tech/Sr. No.2**

### 1. Important Information and Dates (Table 3)

Stage-I		
1	Starting Date of EOI for Project Tender	03.04.2017
2	Last Date of Submission of EOI proposal alongwith eligibility criteria & Other required documents	21.04.2017 on or before 6:00 pm (27.04.2017 - List of EoI Eligible firms publishing on CPCB website www.cpcb.nic.in)
Stage-II		
3	Starting of Tender Request for Proposal (RFP) from EoI Eligible Firms	04.05.2017
4	Pre Bid for finalization of RFP document	11.05.2017
5	Amendments to RFP document & uploading of Tender for bids submission	17.05.2017
6	Last Date of Submission of Proposals/Bids (only from the EOI eligible firms)	31.05.2017* on or before 6:00 pm
7	Date of opening of Technical Bids	01.06.2017 4:00pm (Tentative shall be confirmed)
8	Venue	Central Pollution Control Board, 5 <sup>th</sup> Floor Committee Room, IT Division, Parivesh Bhawan, East Arjun Nagar, Delhi-32
9	Release of list of technically shortlisted firms	08.06.2017
10	Date of Technical Presentations of the Action Plan (If required)	15.06.2017
11	Release of list of Technically qualified firms and opening of financial proposals	22.06.2017
12	EMD Value (Exemption applicable as per MSME & NSIC etc as per Govt.of India Rules)	60,000/- (Rs. Sixty thousand only) IN FAVOUR OF "CENTRAL POLLUTION CONTROL BOARD" payable at DELHI. -To be deposited in physical form at CPCB before due date and time. -EMD is to be submitted by EoI eligible firms only at the time of stage-II
13	Tender Document Fee	Rs. 1000/- (Rs. One thousand only) To be deposited in physical form at CPCB before due date and time. Tender document fee is to be submitted by EoI eligible firms only at the time of stage-II



**Development of Real Time Water Quality Data Management Software (RTWQMS) in India,  
Tender Notice No. : C-12013/34/2017-18/Tech/Sr. No.2**



**CENTRAL POLLUTION CONTROL BOARD**  
**(Ministry of Environment, Forest & Climate Change, Govt. of India)**  
**Parivesh Bhawan, East Arjun Nagar, Delhi-110032**  
**+91 22308902, 43102296, 43102300**

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## **1. Introduction / Background**

With rapid increase in industrial activities and inadequate waste management systems availability in our country, a large amount of pollutants are being discharged into the water bodies in the form of Water Pollution. On the other hand, the large poor population in India does not have much choice but to live off the natural resources base and pollute the environment in the process.

In order to track the river water quality CPCB runs number of programs through which monthly, quarterly, six monthly and yearly monitorings are conducted to assess the water quality in different water bodies. The river water quality is monitored through manual monitoring mechanism and through real time monitoring systems using state of art technologies. Presently, CPCB is operating more than 3000 manual monitoring stations in various river stretches and water bodies in the country and has started installing real time water quality monitoring stations. Initially ten such stations were operated in river Ganga and these are operational for last few years.

The results of this river water quality monitoring programs were quite encouraging. Hence, to monitor the River Ganga Water Quality on real time basis 36 such real time stations have been installed and nearly 100 more such installations will take place in the next year. River water quality monitoring is being done at key locations, for example, upstream and downstream of cities, at water supply intake points, at bathing ghats, downstream of wastewater treatment plants. These systems are expected to provide real-time picture of the water quality of the Ganga which will continue on 24x7 basis.

These stations will keep on increasing depending upon the requirement and availability of infrastructure and may grow up to 500 in near future. The data received through manual monitoring stations and real time continuous monitoring stations have to be synchronized to get an over all scenario of water quality over the entire stretch of a river.

The data received from continuous water quality monitoring stations is to be utilized and consumed in such a way that becomes useful information on real time basis so that pollution in the river can be controlled in the shortest possible time before it damages the entire stream. In order to do so, it is planned to build a national repository where data from manual and continuous water quality monitoring stations will be collected at a single location. Continuous stations will be connected through automatized system and will be automated in such a way that received data becomes automatically part of the repository. While data collection from manual monitoring stations will also be done in a systematic manner. The day system comes in operation all manual data handling will be stopped and data shall be collected through this system only. The received data has to be disseminated through reporting procedures in a meaningful manner. Water quality standards are available, which will be applied to the data received and a comparative status will be informed on real time basis. The water quality database so created would be utilized to generate Water Quality Index at different locations being monitored with manual and continuous monitoring systems. Data display mechanisms will be developed to showcase the results on real time basis and webpages will be created to display slide shows of real time data through CPCB website to the public.

The consumption of real time data is also foreseen in the form of Mobile APP through which the data could be shared with the policy makers, researchers, students of school & colleges to develop awareness on mass scale in the public. In addition a system will be developed through which data will be made available to public through telephone lines for general public.

## **2.0 System Details**

Central Pollution Control Board, has to establish a Real Time Water Quality Monitoring repository, where water quality data generated from all Continuous & Manual Ambient water Quality Monitoring Stations being operated in the country be collected at a single location. The collected data is to be converted into Water Quality Index. Based on WQI status of a particular area and the most significant pollutants levels, Response is to be generated by Central Pollution Control Board. The response has to be shared with respective agencies responsible for control of higher pollutants levels in the river water quality. As per levels automatic direction and manual directions have to be issued.

Local Authorities have to take up the special activities in their area to mitigate the higher water pollution levels. In emergency situations CPCB will be calling meetings with respective authorities responsible for its mitigation and the efforts made will have to be recorded through this software.

Mechanism will be put in place for all local authorities of different regions (which are responsible for the Water pollution control related activities) to get the information through this system for their local

regions. Data to be collected at any location will be put to use for decisions by CPCB or by the SPCBs/other agencies involved in the control of water pollution in the country.

Presently there is one firm providing water quality data on data purchase basis. Following the same pattern there may be many such firms which can provide data to CPCB. The software being proposed for development has to accommodate as many number of data providers as possible.

It is proposed to have a full fledged data validation mechanism in place. The data validation will be done at RTWQM Station through Central Software to be developed in the proposed software. Presently, CPCB is following manual data validation mechanism through which these instruments are being cross checked for precision & accuracy. Teams have been created and help of local experts is being taken to follow calibration and data validation procedures. Various Institutes and Organizations having knowledge in this field are being involved. Protocols for the validations have been developed. Teams formed are engaged in the calibration and validation activity. These protocols and validations procedures have to be implemented through centralized software system to collect store and generate results of calibration and validation procedures adopted as on date. These procedures will keep on updated time to time as per experience in the coming years. The database corrections are also considered on the basis of QA/QC procedures adopted. Any new parameter if added should also become part of the software and any new station as and when integrated into the system has to be added into the system automatically. The system of auto email triggering and SMS generation is to be developed. Record of each activity has to be kept through software system to be developed.

### 3.0 Objectives

The overall objectives of the Project are:

- I. A Software System development, capable of data acquisition from heterogeneous Water quality monitoring systems
  - Already installed in different locations & Connected (08) with CPCB
  - Under process of installation like
    - under Data Purchase agreement with CPCB,
    - 100 More to come under same project,
    - Stations to be installed by other agencies/SPCBs/Municipal Corporations, Jal Boards etc. in the project duration.
- II. Continuous development/upgrade of software system
- III. **No technological restrictions** of number of stations or number of channels, which can be hooked into the system for data acquisition.
- IV. **Parallel processing** capable software development is required for the expansion of number of station's data collection with more number of servers.

- V. Develop interface to collect **water quality related data** from other agencies like water flow in a river stretch at different locations.
- VI. Accomodating data available at any frequency, present system provides data at an interval of an hour from routein stations while there are few stations whose data will be available on continuous basis.
- VII. To **generate WQI** through software and to disseminate it, with an automated Bulletin generation. Automatic deployment of bulletin on CPCB website for public on daily basis through automated system at a specific interval.
- VIII. To Develop interface to **pick up and display** Water Quality Data alongwith other available data data in a **scientific manner**
- IX. To develop an interface to collect Water quality data from **manual** Water quality monitoring stations and place it in repository. Offline and online mechanism needs to be developed. The developed system has to be platform independent which works on all predominant browers (Google, ie, firefox).
- X. To develop a Mobile APP to get the complaint on water quality lodged with CPCB and procedure to forward the same to concerned agencies.
- XI. To develop standard interface to collect information (through MobileAPP) on **public complaints lodged** by the citizens and their redressal through responsible agencies.
- XII. To develop standard interface to forward information on response generated by CPCB & to operate the application through MobileAPP, Web Application, & emails.
- XIII. Facility for Data validation and calibration data entries remotely through web, Mobile App etc.
- XIV. Prescribed standard's data entry procedure rto be developed for various parameters to generate exceedances and alarms. The data input procedure should be simple and visualization of these limits should be user specific.
- XV. To develop **report section providing 25(Twenty Five) types of reports** through which data needs to be disseminated in tabular, graphical formats using statistical procedures like minimum, maximum, average, standard deviation, regression etc. The report details shall be provided at the time of SRS generation.
- XVI. To develop WQI values from manual Water quality monitoring stations data collected.  
A tool is required to be created, where selection based reports on specific purpose may be created. In general reports are like single station, multi station, single parameter, multi parameter, 24hrly or 08 hrly or 01 hrly reports, auditing reports, calibration reports, exceedance reports, user reports, data availability reports, data delay reports, number of stations reports, different state wise reports, map based reports, specific area specific reports etc. are required to be generated through this system. Development of specific reports like calibration of instruments etc.

- XVII. Mechanism of delayed data entries reports on real time basis. The mechanism should provide weekly reports of data entry delayed in the system automatically. These reports will be scrutinized for arriving at solution to the delay in data acquisition.
- XVIII. Data validation & Payment module development for the release of payment through automated process on the basis of protocols defined.
- XIX. To **transfer real time data to other portals** like NDTV.com or others as required from time to time in a specific format during project duration.
- XX. To develop an **auto slide show** like continuous slides in the form of real time data with specific one day or a week option on search & Selection basis on the basis of name of station, state, type of station, etc.
- XXI. To provide link of the software to all stake holders to view data ( WQI, Public Complaints, etc.) specific to their region.
- XXII. To forward Water quality data to any other agency if required for any specific purpose at any point of time.

## 4.0 Data Qualification Process

### 4.1 Data Qualification

Non-proprietary open relational database such as MySQL or PostGreSQL is to be utilised for the system. The Data Provider will provide a continuous stream of data to the CPCB's computer system through a secure FTP process and/or an HTTP POST process. Data delivered in the form of files, containing data from all stations for all transmissions in a non-proprietary ASCII format, such as XML or SHEF will be captured in the server of CPCB. The software proposed shall import these records into a selected database and shall process through the software.

The CPCB has developed this data qualification process and propose to engage a dedicated 'In-house data qualification team (referred as Team hereunder)' to use the incoming data that has been delivered to the CPCB server by the Data Provider. The data qualification process shall evaluate each data point and reject data from being qualified based on evidence of the following through the software proposed to be developed.

- Data being an artifact or a change in the data trend that draws doubt about the data quality
- Missing data, or data not arriving within the specified time window
- 14 day calibration/validation field visit missed for the station in question
- Parameters not being adjusted during the 14-day calibration/validation field visit

In the event an artifact is identified, or change in trend that casts doubt about the data, the Data Provider can get credit for the data if the Data Provider can prove beyond reasonable doubt that the data is correct within three weeks from the date of generation of monthly validation report. The logic given has to be incorporated into the software.

#### **4.2 Qualifying Data based on Regular Field Calibration/Validation**

The Data Provider will be performing calibrations on all stations/cross-sections at an interval no longer than every 14 days. These calibrations, and adjustments to the parameters being calibrated, are one of several pieces of information used to qualify data for payment. The Data Provider will be coordinating the calibrations with the team of CPCB to witness to the calibration.

Software should have provisioning to manage this activity online through system itself. The data entry about calibration will be done online and data collected will be used for this specific purpose to validate the water quality data generated/sumitted. Field calibration entries have to be made through Mobile APP and web interface with user authentication dynamically.

#### **4.3 Reporting of Activities**

All visits to stations will be recorded, and put into the data base for review by the CPCB. Results of audits will be recorded and stored in a database. The result of the audits will be made available to the CPCB so as to notify the Data Provider (Contractor) about the data qualification results. The Team will also provide quarterly reports as identified below through the software system to be developed.

#### **4.4 Reporting and Storing Field Visits and Activities**

Notes will be taken for every field visit, and any activity that may impact the audit, validation and calculation of credit due to the Data Provider (Contractor). The CPCB shall record all activities, including, but not limited to the following:

- Date and time arriving at the Audit site
- Time of actual Audit (i.e. observation) by element
- General observations, including:
  - Condition of station
  - Notable observations of water level, condition (this will be refined by the CPCB)
  - Current Weather (Cloud cover, Temperature, rain/no rain, etc.)
  - Any other notable observations or general comments
- Date and time departing the Audit site

The CPCB shall provide a monthly report of all field visits and results of calibration/validation. The report shall be due no later than the 15<sup>th</sup> of the month which will describe the aforementioned activities for the month prior.

This report will be known as the “Monthly Maintenance Report”.

#### **4.5 Reporting and Storing Audits Database**

The Team shall store the results of the audits in a database that will be accessible by the CPCB 24 hours a day, 7 days a week. Reports will be accessible that will allow the CPCB to review

the results of any audits performed throughout the life of the contract. The Team shall develop a program that can access this database that will allow the CPCB to perform the following (at a minimum):

- Audit report of a user defined number of parameter(s) for a user defined number of station(s) for a user defined period
- Audit report of audit failures of a user defined number of parameter(s) for a user defined number of station(s) for a user defined time period.
- Team shall be required to perform reports on an “as-needed” basis at the direction of the CPCB.

The CPCB will use a web based interface that will be deployed by the firm. This interface will NOT require the CPCB to acquire a license or pay any other fees for the access to the interface and/or the data/reports. The Team shall modify/customize in the web based interface as required by the CPCB.

#### **4.6 Reporting on Data Qualification Process and Recommended Payment**

The Team will provide a quarterly report that is due no later than the 15<sup>th</sup> of the month after the close of a particular quarter. The end of the quarter is defined to be March 31, June 30, September 30, and December 31. The data qualification report will provide a spreadsheet that will identify the following:

- Number of hours the data reporting fell below 90% for all parameters
- Number of hours the data reporting fell below 90% for all stations
- The qualified data payments due by each station for the quarter
- The qualified data payments due for all stations for the quarter
- Any other reporting the CPCB may require to produce.

This report will be known as the “Quarterly Data Provider (Contractor) Payment Report”.

#### **4.7 Reporting and Storing Communication**

A ‘Verification and Certification Committee (VCC)’ will be formed within CPCB to verify as well as certify the process for data qualification leading to payment to the service provider. All communication between the Team and VCC, which involves the Audit process will be stored in the same database that the actual audits are stored. This communication includes audit disputes that may be registered by the Data Provider (Contractor) and brought to the attention of the CPCB.

The Team shall store the results of the audits in a database that will be accessible by the CPCB 24 hours a day, 7 days a week. Reports will be accessible that will allow the VCC to review the results of any audits performed throughout the life of the contract.

The Team shall develop reports that the VCC can access that will allow the CPCB to review all communication related to the Team’s activities related to the data Audit. The Team shall add/change report format based on the input of the VCC on an “as-needed” basis.



#### 4.8 Summary of Reports Required and Deadlines for Report

The reports required by the Team are summarized as follows:

- The complete specification of the server(s) and software (OS & RDBMS) within one week from the date of award of contract in consultation with IT Division, CPCB.
- Inception report providing details of the methodology and work plan be submitted within one month
- Phase 1 report due at the end 30 days.
- Phase 2 report due at the end of the 3<sup>rd</sup> month.
- Phase 3 report due at the end of the 4<sup>th</sup> month.
- Monthly Status Report based on station visited (station wise) due the 15<sup>th</sup> of the month following the month the audits took place.
- Monthly Validation Report due the 15<sup>th</sup> of the month following the month data was collected.
- Monthly Calibration Reports based on the information provided by the data service contractor. Report due the 15<sup>th</sup> of the month following the month the calibration was performed.
- Monthly Data Provider (Contractor) Payment Report due within 07 days of receipt of invoice from Data Provider (Contractor).
- Other report as conceptualized at inception report stage

#### 5.0 Calculation of Credit and Payment Due to the Data Provider (Contractor)

Beside automation of calibration and validation procedures, the payment procedure is to be generated through the system. Present RTWQMS installation project is based on data purchase agreement with the firm handling the project. Monthly payment of data purchased by CPCB is to be generated following protocols agreed in between CPCB and the firm. Some of the details of these protocols/procedure are made available through this document. System for generating payment on monthly basis after verifications of data following agreed protocols is to be developed on the basis of which monthly payment will be released to the firm and the system will be automated.

The Data Provider is to be paid on each data point that is received that meets the data qualification process. The CPCB Team shall develop a process to use the audit results in conjunction with the data that has been delivered to the CPCB by the Data Provider using this software proposed. This process shall aggregate the qualified data so that it can be fed into the data compensation model shown in the 'Financial Protocol'. The Financial Protocol will be a module to be developed as software proposed for development.

The data qualification process shall flag the data that was not qualified, with the flag indicating the reason the data was not qualified. Qualified data will be indicated with a qualified flag that can be readily used in aggregating the number of qualified data for payment. This software program has to process the data and use of the payment model as outlined in 'Financial Protocol'.

The calculation of credit and payment due to the Data Provider (Contractor) will be performed by the software and CPCB Team has to verify it on monthly basis. By the 15<sup>th</sup> of the following



month, the calculation of credit and payment due to the Data Provider (Contractor) will be prepared by the system and verified by CPCB Team.

## 6.0 Financial Protocol

Various parameters of water quality have been assigned different weightages for the purpose of payment. For this purpose various parameters of water quality have been classified under 4 categories, A, B, C and D. Each category of parameters of water quality has been assigned different weightage depending upon the relative importance of the parameters, as given in the table below: as in the table – 4, as below:

**Table – 4: Assigned weightages**

Sl. No.	Parameters of water quality	Category of parameters	Relative weight of each category
1.	BOD	A	10
2.	DO	A	10
3.	EC	A	10
4.	pH	A	10
5.	Temperature	A	10
6.	Ammonia	B	5
7.	Chloride	B	5
8.	COD	B	5
9.	TSS	B	5
10.	Turbidity	B	5
11.	Color	C	3
12.	Fluoride	C	3
13.	Nitrate	C	3
14.	Potassium	C	3
15.	BTX	D	2
16.	TOC	D	2
17.	Water level	D	2

Parameters having a weightage of 10 are placed in category A. Similarly, other parameters having weightages of 5, 3 and 2 are placed in categories B, C and D respectively.

**Table – 5: Parameters to be measured category wise at different locations.**

Sl. No.	Locations code	Locations	No. of parameters of Water Quality to be measured				Total No. of Parameters
			Under A Category Sensor	Under B Category Sensor	Under C Category Sensor	Under D Category Sensor	
<b>A. FIXED STATIONS (For supplying hourly data)</b>							
<b>Uttarakhand</b>							
1.	UK8	Haridwar Nallah	5	4	4	2	15
<b>Uttar Pradesh</b>							
2.	UP2	Madhya Ganga barrage	5	4	2	2	13
3.	UP3	Sukartal Ghat	5	3	1	0	9
4.	UP8	Barrage at Narora (Ganga)	5	3	1	2	11
5.	UP9	Kachla Ghat Bridge Badaun	5	4	1	3	13
6.	UP10	Ranganga ( d/s of Moradabad)	5	5	4	2	16
7.	UP13	Bridge on kali River at kanpur-Farrukhabad Road	5	5	3	3	16
8.	UP14	Bridge at ghatia Ghat Farrukabad	5	5	3	3	16
9.	UP16	Bridge SH21 down-stream of kannauj	5	5	3	3	16
10.	UP17	Bridge SH40 down-stream of kannauj	5	5	3	3	16
11.	UP18	Bridge in Bithur	5	5	3	3	16
12.	UP19	Barrage up-stream Kanpur	5	5	3	3	16
13.	UP26	Bridge at Kanpur 1	5	5	4	3	17
14.	UP29	Bridge 2 at Kanpur NH25	5	5	4	2	16
15.	UP32	Bridge near Fatepur	5	3	1	0	9
16.	UP40	Brudge DS of tributary near Sirsa	5	5	3	2	15
17.	UP46	Nalla at allahabad 4	5	4	4	1	14
18.	UP54	Varanasi at Bathing Ghat 1	5	5	3	3	16
19.	UP55	Bridge on Tributary in Varanasi	5	3	1	0	9
20.	UP56	Tributary @ Rahwari	5	3	1	0	9

	<b>Bihar</b>		0	0	0	0	0
21.	Bh7	Nalla in Patna 2	5	4	3	1	13
22.	Bh9	Rajapul Nalla	5	4	3	1	13
23.	Bh10	Nalla in Patna 3a	5	4	3	1	13
24.	Bh11	Nalla in Patna 3b	5	4	3	1	13
	<b>West Bengal</b>				0	0	0
25.	WB5	1 River u/s of Ganga Nallah	5	4	3	1	13
26.	WB6	2 River u/s Ganga -Nallah	5	4	3	1	13
27.	WB10	Ganga River d/s Murshidabad (u/s Berhampore )	5	5	3	3	16
28.	WB11	Ganga River d/s of Murshidabad ( d/s Berhampore )	3	3	2	1	9
29.	WB21	Ghat d/s of Srirampore	5	3	1	0	9
30.	WB22	Nallah opposite ghat d/s Shrirampur	5	4	3	2	14
31.	WB23	Ganga River near Belgharia	5	3	1	0	9
32.	WB24	Nalla @ ballykhal	5	4	3	1	13
33.	WB26	Nalla @Chitpur	5	4	3	1	13
34.	WB27	Ganga River @ Howrah Bridge	5	5	3	2	15
	<b>Sub-Total (A)</b>		<b>168</b>	<b>141</b>	<b>89</b>	<b>56</b>	<b>454</b>
<b>B. Cross section stations (For supply of daily data)</b>							
1.	UP6	Bridge at Anupshahr	4	3	1	0	8
2.	UP24	U/s Bathing Ghat Kanpur	4	3	1	0	8
		<b>Total daily data</b>	8	6	2	0	16
		Equivalence in terms of hourly data for purpose of payment ( <b>Sub- Total (B)</b> )	<b>192</b>	<b>144</b>	<b>48</b>	<b>0</b>	<b>384</b>
	<b>Grand Total (A+B)</b>		<b>360</b>	<b>285</b>	<b>137</b>	<b>56</b>	<b>838</b>

### 6.1 Method for calculating price for data supply;

At the end of each calendar month Service Provider shall submit its bill for the data validated as per the 'Data Qualification Technical Protocol' on the basis of rates determined in the manner provided in SCC 6.4.2 of the contract signed with the Service Provider. After due verification and indicating deductions due from the payment, CPCB will process the certified bill for arranging payment. The CPCB shall make payment within the stipulated date on receipt of bill after necessary Data Qualification. The part of the document referred will be made available to the firm awarded the work for software development.

Service Provider will submit its bills for payments for price adjustment and the amount of price adjustment will be determined in accordance with SCC 6.6.1 of the contract signed with the Service Provider, the calculation of which has to be automated.

### 6.2 Method for calculating price for data supply:

#### A. Price for hourly data supplied from Fixed Stations:

Price payable for data supplied from Fixed Stations will be determined from the contract price as under:

Contract Price = € XXXXX (Euro) (Assumed P)

**Table -6: Determination of Price payable to the Service Provider**

Category of parameter	Weight of Parameter	Quantity of Parameters	Price for hourly data under each category of parameter
A	10	Qa	$P*10/5*365*24*(Qa*10+Qb*5+Qc*3+Qd*2)$
B	5	Qb	$P*5/5*365*24*(Qa*10+Qb*5+Qc*3+Qd*2)$
C	3	Qc	$P*3/5*365*24*(Qa*10+Qb*5+Qc*3+Qd*2)$
D	2	Qd	$P*2/5*365*24*(Qa*10+Qb*5+Qc*3+Qd*2)$

As per Section V- Activity Schedule of the contract of the Service Provider, total no. of parameters for 36 locations is as under;

**Table – 7: Number of Parameters**

Quantity of Parameters	No.s (A+B)
Qa	360
Qb	285
Qc	137
Qd	55

**B. Price for 24 hourly data supplied from Cross-Section Stations:**

Payments for 24 hourly data for a particular parameter supplied from cross section stations will be made at the rate of 24 times the corresponding “Price for hourly data” as per table – 6 above.

**Adjustment of contract price:**

Following formula will be applicable for adjustment of contract price irrespective of the currency of the price:

$$P_s = 0.8 + 0.2 L_i/L_o$$

**Where**

$P_s$  is the adjustment factor to be applied to the amount certified for payment for the Data relating to a month that was supplied from the locations in a State. This factor will be determined separately for each State in which Data measurement locations fall.

$L_o$  = Consumer Price Index for industrial workers for the State in which sites are located for the month preceding the date of opening of Bids as published by Labour Bureau, Ministry of Labour and Employment, Government of India.

$L_i$  = Consumer Price Index for industrial workers for the State in which sites are located for the month under consideration as published by Labour Bureau, Ministry of Labour and Employment, Government of India.

Payment shall be made within 30 days of receipt of the invoice and the relevant documents specified in the contract of the Service Provider, and within 45 days in the case of the final payment.

**6.3 Method of Calculation:**

The spreadsheet attached provides a method to calculate a data purchase for four different price categories. The cells in red are to be completed by the Purchaser. The uppermost part of the spreadsheet indicates the Sensor Category in column 1. The sensor category weight is indicated in column 2. The sensor category weight is a measure of the value of the category. For instance, sensor category “a” has a weight of 10. Sensor category “b” has a weight of 5. This means that the measurements (sensors) belonging to category “a” will be purchased for twice the amount of the measurements in category “b”. The Quantity of sensors is indicated in the column 3, which is the total number of sensors that belong to this category. The spreadsheet would be filled up for all of the items in red, including the final cell in red which is the contract price on an annual basis. After these cells are completed, a price will be calculated for each sensor measurement-hour in a given category. This hourly compensation rate will be multiplied by the number of qualified sensor hours in the given category to arrive at the compensation for the data purchase.

### 6.4 Payment Calculation through Software System

The tentative format of payment to be developed is given in table 8.

**Table 8: Payment Sheet (Tentative) for Calculation of water quality data**

Sensor-hour Purchase Plan					Category Totals		
Sensor Category	Sensor Weight	Qty of Sensors	SW*Q S	Hourly Sensor Rate	Hourly	Daily	Yearly
A	6	36	216	€ 0.593	€ 21.360	€ 513	€ 1,87,118
B	5	28	140	€ 0.494	€ 13.845	€ 332	€ 1,21,280
C	2	13	26	€ 0.198	€ 2.571	€ 62	€ 22,523
D	3	5	15	€ 0.297	€ 1.483	€ 36	€ 12,994
<b>Totals</b>	<b>16</b>	<b>82</b>	<b>397</b>	<b>€ 1.582</b>	<b>€ 39.260</b>	<b>€ 942</b>	<b>€ 3,43,915</b>

<b>Bid Annual</b>	€ 3,43,915	Quoted price	€ 19,50,000	₹ 1380,40,500
<b>Bid Monthly</b>	€ 28,660	Monthly	21,495	15,21,610
<b>Bid Daily</b>	€ 942	Annual	3,43,915	243,45,767
<b>Bid Hourly</b>	€ 39	Advance Payment	€ 1,95,000	₹ 138,04,050

- Sensor A  $((B/365)/24)/(Qa*Wa+Qb*Wb+Qc*Wc+Qd*Wd)*Wa$
- Sensor B  $((B/365)/24)/(Qa*Wa+Qb*Wb+Qc*Wc+Qd*Wd)*Wb$
- Sensor C  $((B/365)/24)/(Qa*Wa+Qb*Wb+Qc*Wc+Qd*Wd)*Wc$
- Sensor D  $((B/365)/24)/(Qa*Wa+Qb*Wb+Qc*Wc+Qd*Wd)*Wd$

Legend	Fixed Stations	Cross sections	Qty of Sensors	Hourly Sensor Rate	Monthly		
					Hourly	Daily	Monthly
Bid Price =				0.1357			
A	17	2	12	66058	€ 1.63	€ 3.26	€ 9.78
B	14	4	30	0.0678			
Weight= W				83029	€ 2.04	€ 4.07	€ 12.22
Quantity= Q				0.0407			
C	8	8	12	29817	€ 0.49	€ 0.98	€ 14.66
Category A= a				0.0271			
D	3	0	11	53212	€ 0.30	€ 0.60	€ 8.96
Category B=b				0.2715			
Category C=c	42	14	65	32116	€ 4.45	€ 8.91	€ 45.62
Category D=d			(6 locations)				₹ 3,513

Qty of Sensors	Hourly Sensor Rate	Hourly	Daily	Monthly
32	0.1357		€	#####
8	66058	€ 4.34	104.27	##
18	0.0678		€	€
40	83029	€ 0.54	13.03	391.01
	0.0407		€	€
	29817	€ 0.73	17.60	527.86
	0.0271		€	€
	53212	€ 1.09	26.07	782.01

98	0.2715		€	#####	₹
(16 locations)	32116	€ 6.71	160.96	##	3,71,827

Qty of Sensors	Hourly Sensor Rate	Hourly	Daily	Monthly	
10	0.1357		€	€	
	66058	€ 1.36	32.58	977.52	
10	0.0678		€	€	
	83029	€ 0.68	16.29	488.76	
18	0.0407		€	€	
	29817	€ 0.73	17.60	527.86	
18	0.0271		€	€	
	53212	€ 0.49	11.73	351.91	
56	0.2715		€	#####	₹
(26 locations)	32116	€ 3.26	78.20	##	1,80,645

Qty of Sensors	Hourly Sensor Rate	Hourly	Daily	Monthly	
19	0.1357		€	#####	
	66058	€ 2.58	61.91	##	
18	0.0678		€	€	
	83029	€ 1.22	29.33	879.76	
16	0.0407		€	€	
	29817	€ 0.65	15.64	469.21	
3	0.0271		€	€	
	53212	€ 0.08	€ 1.96	€ 58.65	
56	0.2715		€	#####	₹
(36 locations)	32116	€ 4.53	108.83	##	2,51,397

## 7.0 Requirements

Herein, It is proposed to develop a Centralized Water Pollution Control Software with enhanced capabilities of:

- collecting data from all water Quality Monitoring Stations (manual + Continuous), and collection of other relevant data like flow, water quality of locations other than being monitored by CPCB, if available with other agencies in the country
- generating WQI
- displaying information specifically designed for a State Pollution Control Board, Specific Agency with respect to its location, Response according to WQI levels in different locations, if generated.
- generating Action points based on Response to be initiated by different agencies involved as per CPCB suggestions.
- collecting Responses on Action taken by different agencies
- facilitating Scientific data depiction at CPCB in single window

- **developing Complaint receiving system through Mobile APP and website application and transferring these public complaints to respective nodal agencies**
- **collecting public complaints and redressal information at CPCB single location for cor-relating with river water quality**
- **collecting and validating data on every hour basis from remote locations connected**

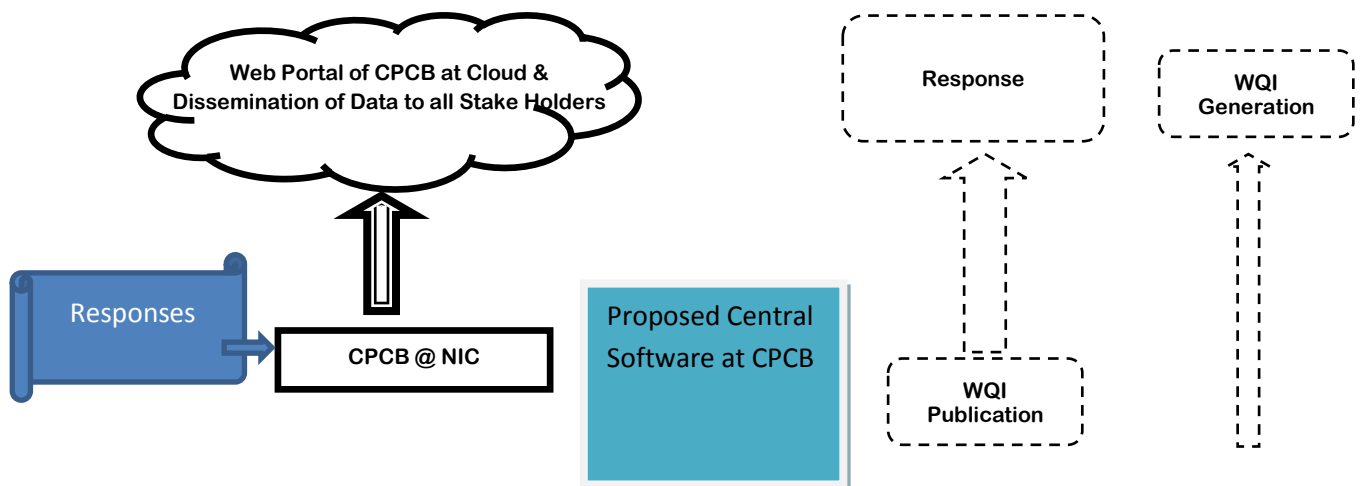
Specific activity wise requirement details of the proposed software are as follows:

- 1. Automated Acquisition of**
  - a. Water Quality Data of RTWQMS operated by any agency in the country during project duration and collection of data at a single location i.e. at CPCB.**
  - b. Water quality data generated through manual water quality monitoring stations**
  - c. Specific area-wise water flow data or any other data, related to water quality, if made available during project duration**
- 2. Water Quality data (Collected from various locations in the country) transfer to Central Software at CPCB**
- 3. Development of Water Quality Index at each station & its display at CPCB website for public and the information exchange among stake holders**
- 4. National and area specific information generation & Dissemination**
  - a. WQI From both Continuous & Manual Water quality monitoring stations**
  - b. Specific stations data for specific area under the control of different agencies**
  - c. Grouping function for River Ganga for which RTWQMS operated by different states could be seen together, similar grouping facility in the country**
  - d. At Central RTWQMS Software/SPCB/specific location/Agency based data mgmt**
- 5. Data Analysis System at Central RTWQMS software for different parts of country including River Ganga or any other river in the country**
  - a. Water Quality Data & other related data collected at Central software of CPCB to be displayed scientifically in a defined manner to decide further course of action connected with response mechanism**
- 6. Response Generation and transmission to different agencies to take action based on CPCB direction/suggestion available through Mobile APP and website software**
  - a. State Pollution Control Boards**
  - b. Municipal Corporations**
  - c. Ground Water Authority &**
  - d. Any other stake holder**
- 7. Collection of actions taken (responses) by different agencies through Mobile APP & Website software & emails**



8. Review of WQI Levels post actions taken on ground by Agencies involved
9. Issue of Revised Response in time bound manner
10. Archiving of Responses and WQI Levels variation
11. Development of a discussion forum similar to whatsapp group for discussion of issues within the group
12. Development of IVR software module for collecting information from public and forwarding to concerned agency
13. Installation, commissioning and operation of complete IVR services for Water pollution control
14. Repository of WQI, Response, Action Points, Revised action Points, Response of various agencies datewise, response wise, Water quality levels wise, specific agency wise etc.
15. Administrative module for creating at least three-four levels of user logins architecture for users authentications

**Proposed System** needs to create table of prescribed standards for different uses of water (A-E) like for drinking, bathing, gardening etc. The system has to generate alarms on exceedance of limits of a specific parameter definable through the system. The proposed system should provide different types of reports based on finished data. These reports shall contain various tables, graphs, texts, formulae, etc. using standard statistical tools. It will include Mean, Mode, Median, Daily, Yearly, Monthly, Diurnal variation etc. since, this software is going to become a repository it should have all scientific capabilities to analyse water quality data. The details of such capabilities will be defined at the time of Software Requirement Specifications (SRS) preparation. The Schematic representation of the data flow in the Proposed Software is shown in Figure 1. Here all the stake holders will be able to access the data through user id and password.



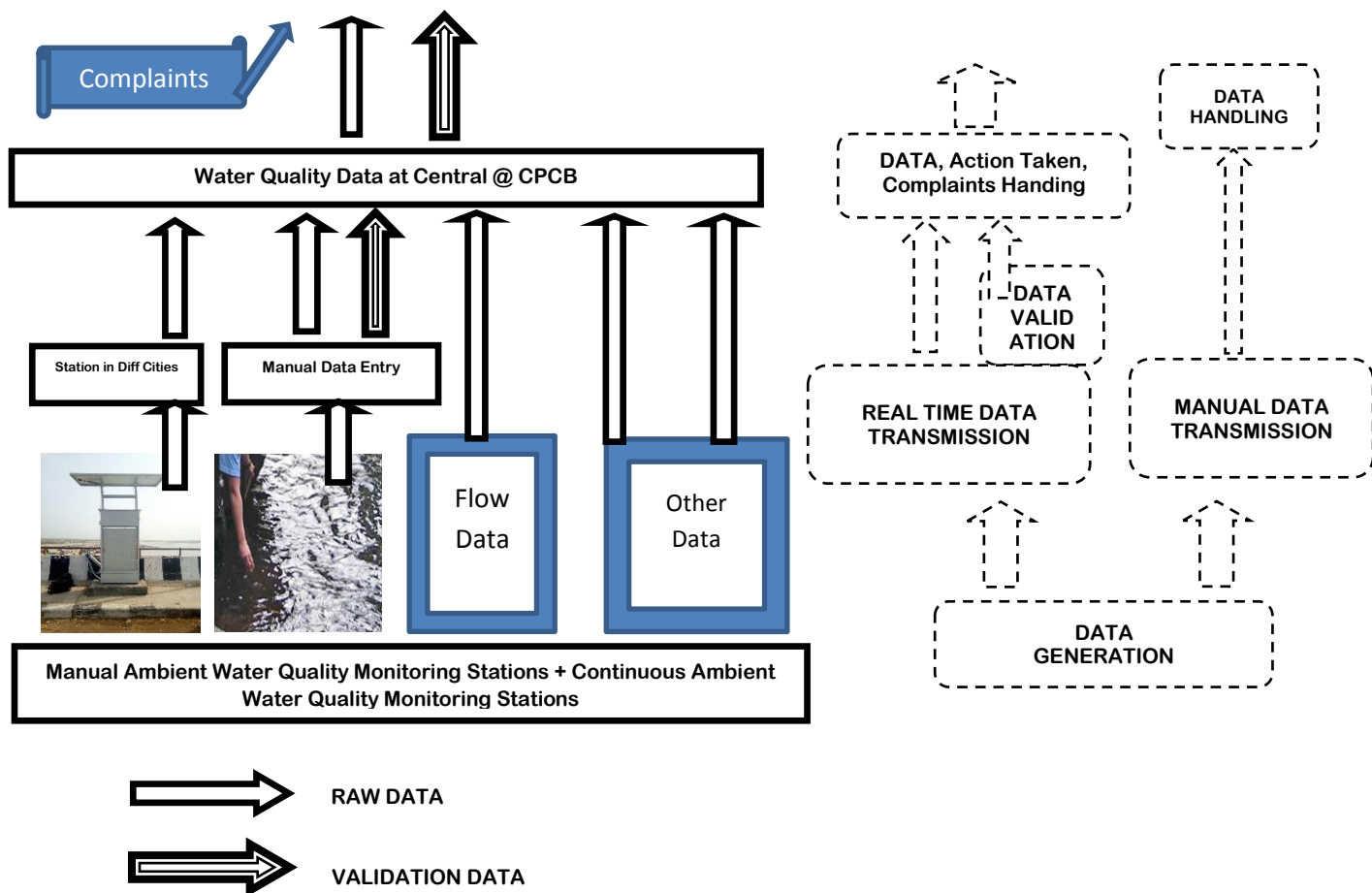


Figure 1: The schematic Presentation of Proposed System

### 8. Scope of Work

The major component of the project are:

- A. To develop and operate RTWQMS software with logical scientific functions and depiction of Water quality data alongwith other important parameters like flow, complaint lodged data, complaint redressal data etc.
- B. Configure all monitoring stations and various parameters into the system through out the project duration.
- C. To provide manpower for the smooth operation and modification required day to day for operating the system as per requirement.
- D. Development of software for Water Quality Data collection from existing and new Continuous Water Quality Monitoring Stations irrespective of agency involved in data generation (CPCB, SPCB, Municipal Corporations etc.) without delay and without any human intervention.

- E. Development of software for Water Quality Data collection from existing and new Manual Water Quality Monitoring Stations without delay for which a standard template for data entry be devised.
- F. Development of software for Water Quality Data Validation mechanism establishment and effective operation.
- G. Development of software for generating Water Quality Index.
- H. Development of software for transmitting Water quality data to other agencies if required.
- I. To collect, collate and disseminate the data in unified format, complaints in a template Responses in a defined template & Responses of stake holders on Action Points raised by CPCB.
- J. Four tiers user login management administrator selectable with all security measures.
- K. Software development for specific location data dissemination
- L. Mobile APP development in all three platforms i.e. iOS, Windows & Android
- M. Data depiction on Maps
- N. Installation of system in NIC domain after CERT-IN empanelled auditing.
- O. Dissemination of data at NIC domain without human intervention and without delay with controlled user access.
- P. Delay tracking mechanism development and operation from each station and its timely reporting.
- Q. Development of audit, optimisation and calibration reports.
- R. Application of artificial Intelligence using meaningful filters to use data for logical conclusions.
- S. To keep the stake holder bind to each other without requiring direct dialogue.
- T. To maintain everything through the system only.
- U. To provide 24x7 support to stake holders to manage its data connectivity.
- V. To deploy the software with remote backup procedure etc. at NIC end.
- W. To provide training to CPCB officials (Five numbers) for one week for operating the proposed system and integrating new Water Quality Stations, parameter channels etc.
- X. To provide detailed training to **two core team members** of CPCB in programming of the basic technology used to develop the software program for a period of atleast one week either at an Institute or at CPCB through certified professionals only.
- Y. To maintain the system for five years (01yr warranty+ 04 yr Maintainance including development) by assistance and deploying at least one programmer / IT Engineer
- Z. Daily backup and storage of data to be done automatically.
- AA. The firm has to host the software on a cloud server to be arranged by the firm for a period of one year initially during development phase and modification phase. Thereafter, after auditing it has to be shifted in NIC domain by the firm.

## **9. System Requirement Specifications**

System has to integrate the data in **open source databases** with no limitation of volume of data. As the number of Continuous Water Quality Stations could be more than 200 in coming time with number of such stations could go up to 500. The number of Manual Ambient Water Quality Monitoring Stations to be connected as ondate is nearly 3000 and may go up to 6000 in coming years. The selection of system should be such that it does not fall short or fails during deployment/operation. The best possible solution has to be adapted at open source.

The system should be capable to acquire the data on real time basis and should report if delay occurs. It should also be capable to compare the parameter values with respect to prescribed standards alongwith hourly, daily, weekly, monthly, Yearly report periodic generation.

The data has to be collected from different servers may be belonging to different states for continuous stations while for Manual stations templates based data uploading and data collection system needs to be devised. Here, state-wise data filtering is required but system should have each entity separately defined so that in the need data with respect to any specific field could be collected and provided. The data may further be filtered based on specific parameter on Google maps/or other maps. Various modalities will be finalized at the time of actual development.

The firm will discuss the project requirements with CPCB officials and prepare SRS for the project. The SRS will be accepted by CPCB IT Division & Air Quality Monitoring –I Division and firm will start writing code. The firm will provide Proto type and IT Division & AQM –I Divn. will analyse and provide its feedback. There will be three iterations for which firm will provide the change in source code without any additional cost. The firm will make final presentation before the CPCB Committee and Competent Authority, CPCB. Suggestions made by Committee or Authority will have to be incorporated by the firm and the system will be made GO LIVE! in NIC domain. NIC domain will be procured by CPCB team.

The firm selected for developing this software will have to owe the responsibility of connecting each Water Quality Stations without visiting any Water Quality Stations for this purpose. Water Quality Monitoring Station's visits can be made if required in consultation with CPCB, to understand the mechanism. The facilities as being provided to Scientist'B' level in the CPCB shall be extended to the firm's representatives based on the approval of the Competent Authority in advance.

## **10 Data Acquisition & Availability**

- a. Integration of data from existing Water Quality Stations (including collecting data from different servers) having data from different locations using web services based software development or through any better technology.
- b. Providing dashboard with Statistical summary report on Water quality data etc. from a single station or multiple stations in a city with total data availability and %age data availability.
- c. Configuring each parameter with every station in RDBMS.
- d. Configuring each station and each channel on Google maps/static maps
- e. Developing Slide Show Modules specific to a particular agency
- f. Providing details of data availability on real time basis.
- g. Communication with respective agencies involved in the monitoring and getting the connectivity & Configuration issues resolved.

### **11 Integration of New Station or a new agency**

Installation of new station or a new agency is a continuous process. Different make instruments get installed at different locations in the country. Data from these locations is to be made available on CPCB server. The data at RTWQMS will be made available by the RTWQMS operator dynamically on every hour basis from most of the stations and on every minute basis from some of the stations. Data collection, transmission and dissemination from all such locations after installation of Water Quality Monitoring Stations will be the responsibility of the firm and continuity of data has to be managed by the firm throughout the project duration of 5 (five) years.

### **12 Deployment of system over dynamic Maps**

- a. Bhuwan/Google services have to be used for the purpose.
- b. Static maps of Survey of India may also be deployed.

### **13. New Pages Development**

- a. Since the system is still evolving there are requirements all the time to develop output in different formats. Hence, development of such five web pages in each year (total 25 web pages) is anticipated.

### **14 Manpower Deliverables**

- a. One programmer has to be deployed at CPCB on five days a week in office hours at CPCB for the entire project duration.

- i. **Team Member** : B. Tech., IT with at least two years of experience in the software development in open source programming or in the relevant discipline in which software is developed.
- b. Support services will have to be provided, which will cater to the needs and co-ordinate between SPCBs/Stake holders and technical team to accomplish the given tasks in a given time frame.
- c. Programmers should be capable to operate and create new pages in the system as per requirements of CPCB from time to time.

#### **15 Intermediate Software required for data transmission if any**

Any intermediate software required for data transmission from these industries to central server at VM has to be provided by the firm.

#### **16 Stake Holders and their Setup Requirements**

The project work requires involvement of many agencies which are directly or indirectly responsible to control Water pollution in a specific area. These agencies will be provided access on web portal of the system wherein comments and suggestions will be taken through the webportal online mechanism. These suggestions will be recorded in the database and would be available for further action. All stake holders will be connected with this system through online mechanism. Directions /responses will also be issued through online mechanism and shall be recorded. The data of a specific region will have to be made available on agency page which is responsible for water quality in their specific area. Map based information of specific agency will be made available on agency specific web page.

**17 SCHEDULE OF ‘SOFTWARE DEVELOPMENT FOR WATER QUALITY DATA COLLECTION & DISSEMINATION - 2017-18**

(Scheduled time based on practical approach) Starting from Day 1 after advertisement in the News Papers

S. No.	Activities to be carried out	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6
1.	Advertisement & Tendering & Finalization						
2.	SRS Development						
3.	Development of Basic Software						
4.	Development of other Modules + Response Module Software + Module for Manual Data Entry from WQMS						
5.	Development of Payment Module, Protocol for data validation, calibration, Mobile APPs in three platforms						
6.	CERT in Certification - Obtaining VM-NIC - Hosting						
7.	Connectivity with existing RTWQMS						
8.	Training						
9.	Procurement of Servers, software & Other peripheral Items						
10.	IVR Development/ SMS Generation/Alert Mgmt.						
11.	Fully functional and connected system at CPCB & Other State Boards/Agencies						

## **Instructions for Online Bid Submission:**

The bidders are required to submit soft copies of their bids electronically on the CPP Portal, using valid Digital Signature Certificates. The instructions given below are meant to assist the bidders in registering on the CPP Portal, prepare their bids in accordance with the requirements and submitting their bids online on the CPP Portal.

More information useful for submitting online bids on the CPP Portal may be obtained at: <https://eprocure.gov.in/eprocure/app>.

### **REGISTRATION**

- 1) Bidders are required to enroll on the e-Procurement module of the Central Public Procurement Portal (URL: <https://eprocure.gov.in/eprocure/app>) by clicking on the link “**Online bidder Enrollment**” on the CPP Portal which is free of charge.
- 2) As part of the enrolment process, the bidders will be required to choose a unique username and assign a password for their accounts.
- 3) Bidders are advised to register their valid email address and mobile numbers as part of the registration process. These would be used for any communication from the CPP Portal.
- 4) Upon enrolment, the bidders will be required to register their valid Digital Signature Certificate (Class II or Class III Certificates with signing key usage) issued by any Certifying Authority recognized by CCA India (e.g. Sify / nCode / eMudhra etc.), with their profile.
- 5) Only one valid DSC should be registered by a bidder. Please note that the bidders are responsible to ensure that they do not lend their DSC’s to others which may lead to misuse.
- 6) Bidder then logs in to the site through the secured log-in by entering their user ID / password and the password of the DSC / e-Token.

### **SEARCHING FOR TENDER DOCUMENTS**

- 1) There are various search options built in the CPP Portal, to facilitate bidders to search active tenders by several parameters. These parameters could include Tender ID, Organization Name, Location, Date, Value, etc. There is also an option of advanced search for tenders, wherein the bidders may combine a number of search parameters such as Organization Name, Form of Contract, Location, Date, Other keywords etc. to search for a tender published on the CPP Portal.
- 2) Once the bidders have selected the tenders they are interested in, they may download the required documents / tender schedules. These tenders can be moved to the respective ‘My Tenders’ folder. This would enable the CPP Portal to intimate the bidders through SMS / e-mail in case there is any corrigendum issued to the tender document.
- 3) The bidder should make a note of the unique Tender ID assigned to each tender, in case they want to obtain any clarification / help from the Helpdesk.



## **PREPARATION OF BIDS**

- 1) Bidder should take into account any corrigendum published on the tender document before submitting their bids.
- 2) Please go through the tender advertisement and the tender document carefully to understand the documents required to be submitted as part of the bid. Please note the number of covers in which the bid documents have to be submitted, the number of documents - including the names and content of each of the document that need to be submitted. Any deviations from these may lead to rejection of the bid.
- 3) Bidder, in advance, should get ready the bid documents to be submitted as indicated in the tender document / schedule and generally, they can be in PDF / XLS / RAR / DWF/JPG formats. Bid documents may be scanned with 100 dpi with black and white option which helps in reducing size of the scanned document.
- 4) To avoid the time and effort required in uploading the same set of standard documents which are required to be submitted as a part of every bid, a provision of uploading such standard documents (e.g. PAN card copy, annual reports, auditor certificates etc.) has been provided to the bidders. Bidders can use “My Space” or “Other Important Documents” area available to them to upload such documents. These documents may be directly submitted from the “My Space” area while submitting a bid, and need not be uploaded again and again. This will lead to a reduction in the time required for bid submission process.

## **SUBMISSION OF BIDS**

- 1) Bidder should log into the site well in advance for bid submission so that they can upload the bid in time i.e. on or before the bid submission time. Bidder will be responsible for any delay due to other issues.
- 2) The bidder has to digitally sign and upload the required bid documents one by one as indicated in the tender document.
- 3) Bidder has to select the payment option as “offline” to pay the tender fee / EMD as applicable and enter details of the instrument.
- 4) Bidder should prepare the EMD as per the instructions specified in the tender document. The original should be posted/couriered/given in person to the concerned official, latest by the last date of bid submission or as specified in the tender documents. The details of the DD/any other accepted instrument, physically sent, should tally with the details available in the scanned copy and the data entered during bid submission time. Otherwise the uploaded bid will be rejected.
- 5) Bidders are requested to note that they should necessarily submit their financial bids in the format provided and no other format is acceptable. If the price bid has been given as a standard BoQ format with the tender document, then the same is to be downloaded and to be filled by all the bidders. Bidders are required to download the BoQ file, open it and complete the white coloured (unprotected) cells with their respective financial quotes and other details (such as name of the bidder). No other cells should be changed. Once the details have been completed, the bidder should save it and submit it online, without changing the filename. If the BoQ file is found to be modified by the bidder, the bid will be rejected.

- 6) The server time (which is displayed on the bidders' dashboard) will be considered as the standard time for referencing the deadlines for submission of the bids by the bidders, opening of bids etc. The bidders should follow this time during bid submission.
- 7) All the documents being submitted by the bidders would be encrypted using PKI encryption techniques to ensure the secrecy of the data. The data entered cannot be viewed by unauthorized persons until the time of bid opening. The confidentiality of the bids is maintained using the secured Socket Layer 128 bit encryption technology. Data storage encryption of sensitive fields is done. Any bid document that is uploaded to the server is subjected to symmetric encryption using a system generated symmetric key. Further this key is subjected to asymmetric encryption using buyers/bid openers public keys. Overall, the uploaded tender documents become readable only after the tender opening by the authorized bid openers.
- 7) The uploaded tender documents become readable only after the tender opening by the authorized bid openers.
- 8) Upon the successful and timely submission of bids (ie after Clicking "Freeze Bid Submission" in the portal), the portal will give a successful bid submission message & a bid summary will be displayed with the bid no. and the date & time of submission of the bid with all other relevant details.
- 9) The bid summary has to be printed and kept as an acknowledgement of the submission of the bid. This acknowledgement may be used as an entry pass for any bid opening meetings.

#### **ASSISTANCE TO BIDDERS**

- 1) Any queries relating to the tender document and the terms and conditions contained therein should be addressed to the Tender Inviting Authority for a tender or the relevant contact person indicated in the tender.
- 2) Any queries relating to the process of online bid submission or queries relating to CPP Portal in general may be directed to the 24x7 CPP Portal Helpdesk.

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**TENDER ACCEPTANCE LETTER**  
(To be given on Company Letter Head)

Date:

To,

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**Sub: Acceptance of Terms & Conditions of Tender.**

**Tender Reference No:** \_\_\_\_\_

**Name of Tender / Work: -**

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Dear Sir,

**1. I / We have downloaded / obtained the tender document(s) for the above mentioned 'Tender/Work' from the web site(s) namely:**

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as per your advertisement, given in the above mentioned website(s).

**2. I / We hereby certify that I / we have read the entire terms and conditions of the tender documents from Page No. \_\_\_\_\_ to \_\_\_\_\_ (including all documents like annexure(s), schedule(s), etc .), which form part of the contract agreement and I / we shall abide hereby by the terms / conditions / clauses contained therein.**

**3. The corrigendum(s) issued from time to time by your department/ organisation too have also been taken into consideration, while submitting this acceptance letter.**

**4. I / We hereby unconditionally accept the tender conditions of above mentioned tender document(s) / corrigendum(s) in its totality / entirety.**

**5. I / We do hereby declare that our Firm has not been blacklisted/ debarred by any Govt. Department/Public sector undertaking.**

**6. I / We certify that all information furnished by the our Firm is true & correct and in the event that the information is found to be incorrect/untrue or found violated, then your department/ organization**

**shall without giving any notice or reason therefore or summarily reject the bid or terminate the contract , without prejudice to any other rights or remedy including the forfeiture of the full said earnest money deposit absolutely.**

Yours Faithfully,

(Signature of the Bidder, with Official Seal)