

## **Bid Submission Information**

1. Bidders may kindly note that the bids shall be submitted only through the Central Public Procurement Portal (<https://eprocure.gov.in/eprocure/app>).
2. Bidders may search for the bid on the Central Public Procurement Portal using the Tender ID **2024\_CPCB\_839354\_1**
3. For any query, bidders may send email to: [bvbabu.cpcb@nic.in](mailto:bvbabu.cpcb@nic.in) , [anurag.cpcb@gov.in](mailto:anurag.cpcb@gov.in)

**Request for Proposal**  
*for*  
**Upgradation, Operation and Maintenance of  
National Air Quality Data Management System**

December 2024



**CENTRAL POLLUTION CONTROL BOARD**

**Parivesh Bhawan, East Arjun Nagar**

**Delhi -110032**

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## Section 1: Important Dates

S. No.	Description of activities	Date & Time
1.	Date of publishing of tender	12.12.2024 at 02.00 PM
2	Pre-Bid Meeting	19.12.2024 at 3 PM (Hybrid Mode)
4	Bid Submission Start Date	26.12.2024 at 11:00 AM
5	Bid Submission Closing Date (End Date)	08.01.2025 at 04:00 PM
6	Technical Bid Opening	09.01.2025 at 05:00 PM
6	Technical Presentation	25.01.2025 at 11:30 AM
7	Opening of Financial Proposals	To be announced
8	Declaration of H1 Bidder	To be announced

## Section 2: Abbreviations & Glossary

S. No.	Abbreviation/Term	Meaning/Explanation
	AMC	Comprehensive Annual Maintenance Contract phase of the project which involves development of new features, modules, functionalities, reports, data analytics tools, maps, mobile apps, APIs etc. as well as bug fixes, system updates, upgrades and so on.
	Bidder/Agency/Firm/Company	The entity participating in the tender process. As per the context, will also refer to entity that has subsequently been awarded the contract for carrying out the project outlined in this RFP.
	CAAQMS	Continuous Ambient Air Quality Monitoring System
	CCR	CCR is the software system developed by CPCB for acquisition of CAAQMS Data, and publication of AQI. It is also integrated with Sameer App for public grievance redressal.
	CPCB	Central Pollution Control Board  Official Website of CPCB: <a href="https://cpcb.gov.in/">https://cpcb.gov.in/</a>
	Cut-off Date	Cut-off date for calculation of experience, past projects etc. in evaluation shall be from the last date of submission of bid.
	Existing System/National Air Quality Data Management System	Existing Portals/Software Applications/Mobile Application that include:  (a) Air Quality Information Portal/CCR Portal.  (b) NAMP Portal.  (c) Industrial CAAQMS Portal.  (d) Mobile Apps (Android & iOS): Sameer App, Industrial CAAQMS App, Sameer Agencies/GRAP App.
	GIGW	Guidelines for Indian Government Websites
	NAMP Portal	Portal operated by CPCB for storage of manual air quality monitoring data.
	Real-time Data	Continuous stream of data from a network of data generating sources.





## Section 3: Introduction

Central Pollution Control Board (CPCB) is a statutory organisation constituted under the Water (Prevention and Control of Pollution) Act, 1974, and also entrusted with the powers and functions under the Air (Prevention and Control of Pollution) Act, 1981.

CPCB provides technical advice and services to the Ministry of Environment, Forest, and Climate Change (MoEF&CC) under provisions of the Environment (Protection) Act, 1986. Principal functions of the CPCB, as spelt out in the Water (Prevention and Control of Pollution) Act, 1974, and the Air (Prevention and Control of Pollution) Act, 1981 are:

- (1) To promote cleanliness of streams and wells in different areas of the States by prevention, control and abatement of water pollution.
- (2) To improve the quality of air and to prevent, control or abate air pollution in the country.

Through this tender, CPCB intends to hire a suitable firm for Upgradation, Operation and Maintenance of National Air Quality Data Management System.

## Section 4: Overview of Existing System

### Background

The initial software was developed by CPCB in the year 2006 and later updated in 2009 which worked on limited data sources, as available/required at that time for CAAQMS. A separate software was implemented for NAMP Stations in which data is entered manually, by the station operators mostly from State Pollution Control Boards (SPCB).

Air Quality Index (AQI) was introduced in the year 2015, to make the public understand the quality of air with simple index number and colour code. For this, a separate software was developed and the primary input data source for this system is CAAQMS stations operated by SPCBs and other agencies.

With the evaluation of technology, increase in number of data generating sources, increasing awareness in public, the major upgradation of software was done in the year 2017, which combines CAAQMS, NAMP, AQI and some new modules such as Industrial CAAQMS, Air Complaints Redressal System, Mobile Apps (for Air Quality, Complaints, Calibration of Instruments, GRAP-CPCB Mobile Application etc.) etc. with many more features.

At present, the Air Quality Data Management System of CPCB comprises of following:

1. Air Quality Information Portal/CCR Portal: For acquisition of CAAQMS data, generation of AQI, management of public grievances, and other features related to air quality information.
2. NAMP Portal: For acquisition, storage, and management of air quality data from manual monitoring stations.
3. Industrial CAAQMS Portal: For acquisition, storage, and management of air quality data from CAAQMS monitoring stations.
4. Mobile Apps (Android & iOS): Sameer App, Industrial CAAQMS App, Sameer Agencies/GRAP App.

### Additional Information

1. **Integration of CAAQM Stations:** CAAQM Stations are monitoring stations specifically designed to measure and monitor air quality in urban and industrial areas on a continuous basis (24x7). These stations are equipped with sophisticated instruments that continuously measure various air pollutants present in the ambient air, providing real-time data for analysis and decision-making. These stations are operated by concerned agency such as Station Pollution Control Board (SPCB), Indian Meteorological Department (IMD) etc. Industrial CAAQMS stations are operated by concerned industry.

For any new station, meta data will be provided by respective agencies, mostly through their station operators. In most of the cases, the data is stored in CSV format in \*.txt file as per a simple protocol available at CPCB website [https://cpcb.gov.in/upload/caaqm/Protocol\\_CAAQM.pdf](https://cpcb.gov.in/upload/caaqm/Protocol_CAAQM.pdf). Once the CSV file is ready, CPCB's client software will be installed & configured in the station computer and the data pushing starts to CPCB Servers, in real time. Though this process is followed by majority of the stations, CPCB is also getting the data through other methods as well, such as extracting the data from FTP Server, getting the data directly from the station software's database, through APIs etc. Once the data is received at server end (raw data), it will be processed with some defined set of rules of CPCB (Processed Data).

2. **National Air Quality Index (Herein referred as AQI):**

- a. Air Quality Index is a tool for effective communication of air quality status to people in terms, which are easy to understand. It transforms complex air quality data of various pollutants into a single number (index value), nomenclature and colour.
- b. There are six AQI categories, namely Good, Satisfactory, Moderately Polluted, Poor, Very Poor, and Severe. Each of these categories is decided based on ambient concentration values of air pollutants and their likely health impacts (known as health breakpoints). AQ sub-index and health breakpoints are evolved for eight pollutants (PM<sub>10</sub>, PM<sub>2.5</sub>, NO<sub>2</sub>, SO<sub>2</sub>, CO, O<sub>3</sub>, NH<sub>3</sub>, and Pb) for which short-term (up to 24-hours) National Ambient Air Quality Standards are prescribed.
- c. Based on the measured ambient concentrations of a pollutant, sub-index is calculated, which is a linear function of concentration. The worst sub-index determines the overall AQI.

AQI Category (Range)	PM <sub>10</sub> 24-hr	PM <sub>2.5</sub> 24-hr	NO <sub>2</sub> 24-hr	O <sub>3</sub> 8-hr	CO 8-hr (mg/m <sup>3</sup> )	SO <sub>2</sub> 24-hr	NH <sub>3</sub> 24-hr	Pb 24-hr
Good (0-50)	0-50	0-30	0-40	0-50	0-1.0	0-40	0-200	0-0.5
Satisfactory (51-100)	51-100	31-60	41-80	51-100	1.1-2.0	41-80	201-400	0.6-1.0
Moderate (101-200)	101-250	61-90	81-180	101-168	2.1-10	81-380	401-800	1.1-2.0
Poor (201-300)	251-350	91-120	181-280	169-208	10.1-17	381-800	801-1200	2.1-3.0
Very poor (301-400)	351-430	121-250	281-400	209-748*	17.1-34	801-1600	1201-1800	3.1-3.5
Severe (401-500)	430+	250+	400+	748+*	34+	1600+	1800+	3.5+

Apart from the CPCB CCR Web Portal, Sameer App, Social Media, AQI Data is also disseminated through AQI Bulletin daily at 4:00 PM.

### 3. Complaints Redressal System:

- a. CCR Software has a facility for the public, to lodge complaints related to Air Pollution and its tracking. Based on the nature of the complaints, these complaints will be forwarded to concerned agencies such as Delhi Pollution Control Committee, Municipal Corporation of Delhi etc. for necessary action. The system to lodge complaints is mainly through Mobile App called "Sameer".
- b. An automated system assigns all the complaints to the respective agencies based on the pre-defined categories. Manual assignment facility is also there for undefined category. As on today, there are nearly 50 agencies have been on-boarded on Complaint Redressal System. Several Reports with complaints status such as new tickets, open tickets, closed tickets, agency wise reports etc. are generated.
- c. The winter season is critical to CCR application and traffic to this portal increases during this period. The maintenance team should work proactively and needs special focus to run the system smoothly without any performance issue.

### 4. Sameer Mobile App (Android & iOS):

- a. The main purpose of this app is to disseminate AQI Data and lodge complaints related to Air Pollution. It can display City level as well as station level AQIs. Historical AQI data is also available in the app.

- b. While lodging the complaints, it will capture the Geo-location of the complaint and assigns the complaints to the respective agencies. Setting up/use of boundaries at State, District, City and Zone/Region level is also one of the key element of the app working functionality.
5. **NAMP:** Manual Air Quality Monitoring stations are installed and operated under NAMP Program and the data is being entered manually by States where these NAMP stations are operating. The collected information is then manually used for making payments to each SPCB based on amount of data, quality of data collected depending upon their category as decided by CPCB. This process need to be automated in the new system.
6. **Industrial CAAQMS Portal & App:** This Web Portal and App is used to collect ambient air quality data from CAAQMS stations installed in industrial premises and generate various kind of reports and graphs based on this data.
7. **Reports and Data Depository:** Each and every Web Application/App has reports section with several options. Apart from this, a data depository is also maintained in CCR for Raw Data, Processed Data, with different time frames & frequencies, AQI Data – Hourly, Daily, Station level, City level etc.
8. **Dashboards, Sliders etc.:** Different types of Web Pages, Dashboards, AQI Sliders have been provided for external agencies/users.
9. **Key software technologies used in existing system:** Python, Angular, Mongo DB, Elastic Search, Kairos, Swift, Java (for Android) etc.
10. **Servers Infra:** The system is hosted in NIC Cloud VMs. These can be accessible only through VPN, only one user at a time and no internet is available in these Servers. For updates of the server, NIC has their update server which is connected to our servers. Eight VMs are catering for existing system as of now.

## Section 5: Scope of Work

1. **Overview:** At present, the Air Quality Management System of CPCB comprises of following:
  - a. CAAQMS & Complaint Management: For acquisition of CAAQMS data, generation of AQI, management of public grievances, and other features related to air quality information.
  - b. NAMP: For acquisition, storage, and management of air quality data from manual monitoring stations.
  - c. Industrial CAAQMS: For acquisition, storage, and management of air quality data from automatic monitoring stations.
  - d. Mobile Apps (Android & iOS): Sameer App, Industrial CAAQMS App, Sameer Agencies/GRAP App.

The details of the existing Air Quality Management System is provided under Section 4 of this RFP.

The scope of work under this tender involves project takeover and maintenance of existing functionalities, fixing security issues, upgradation, continuous development and comprehensive maintenance of entire system. This includes new applications, features, modules, functionalities, reports, data analytics tools, GIS features, maps, Mobile Apps, APIs and associated maintenance and upgradation activity, server management etc., during entire project duration i.e. during Phase 1 as well as Phase 2 of the project. Bidder is required to undertake all activities to ensure optimal functioning of the air quality management system and cater needs of CPCB.

### 2. Phase I: Project Takeover, Upgradation and Post-Upgradation Support Phase

- (a) **Project takeover and maintenance of existing system:** A brief description of modules and functionalities of this existing systems has been provided under Section 4. Bidder needs to undertake all necessary activities to ensure optimal and non-interrupted functioning of this existing system. This includes code updates, optimization, security fixes, bug fixes etc.
- (b) **Initial Upgradation of the System:** The bidder will need to perform initial upgrade of the entire system as per requirements of CPCB. The indicative list of requirements is given under Annexure-A of this RFP.  
For this, bidder may either use existing code/technologies or re-develop the entire system, based on discussion with IT Division of CPCB, in such a manner that there does not arise any technical limitation for the activities mentioned in scope of work, during the entire project duration.  
In case the implementation of some of the requirements of Phase-I are deferred during upgradation due to certain reasons, the bidder may need to implement them during Comprehensive AMC phase, with approval of CPCB, without any additional costing.
- (c) **Migration:** Migration to upgraded system has to be smooth from the current system where data is being collected presently. Migration has to occur in a phased manner without disturbing the running system.
- (d) **Go-Live, Signoff, and Post-Upgradation Support**
  1. 'Go Live': After upgradation and deployment, project will enter 'Go Live' stage. Bidder shall provide all support for resolving issues/upgrade system.
  2. 'Sign Off': Sign Off will take place after UAT, user training, documentation and successful implementation of live system.

3. Post-Upgradation Support Period: Post-Upgradation Support period shall be of six months. It will start after 'Sign Off' stage. Bidder will undertake all kind of new development, maintenance, upgradation of the system during post-upgradation support period, for ensuring security and smooth functioning of the system. Bidder shall also provide/apply the patches, upgrades etc. in relation to any change by 3rd party components, tools, adaptors, connectors, certifications etc. wherever necessary.
- (e) Development of new reports:** Approximately 50-100 new types of reports are expected to be developed in Phase-I. Some of them may involve advanced data analytics and logics which bidder need to incorporate in consultation with CPCB. More reports may need to be developed in Phase-II as and when required, without any additional costing to CPCB.
- (f) Integration with PFMS/Payment Gateways:** In case the need arises, the bidder will have to integrate the system with PFMS (Public Financial Management System) or Payment Gateways.
- (g) Development of Data Repository:** For the purpose of data archiving and retrieval, bidder will need to develop and maintain a system of data repository for the air quality data. It can be further segregated as raw database, validated database and AQI generation database.
- (h) Development & Maintenance of Data Dissemination APIs:** To transfer real time data to other organizations like MoEF&CC, DMRC, News Channels etc. as required from time to time in a specific format.
- (i) Implementation of Data Validation Mechanism:** Implementation of mechanism to implement the validation protocol on CAAQMS and NAMP with record trails. This also needs development of a quality control portal for the Air Quality Monitoring Network (CAAQMS, NAMP and Industrial CAAQM).
- (j) New Mobile Apps Development:** Development of up-to 5 new Mobile Applications (Android & iOS Versions not to be separately counted). In case development of some of these new Mobile Applications is deferred during Phase-I due to certain reasons, the bidder may need to develop and maintain them during Comprehensive AMC phase (i.e. Phase-II), with approval of CPCB. The cost for App Development will be as per cost quoted under S. No. 5 of the Financial Bid.
- No separate charges shall be paid towards maintenance and upgradation of existing and new Apps during project duration, and should be covered under comprehensive AMC. Cost for any new App beyond these 5 Apps will be on pro-rata basis.
- (k) Integration of Satellite Data in Air Quality Management:** The firm will understand the requirement of the CPCB and accordingly develop and maintain the module.
- (l) Data Analytics:** Firm will need to implement advanced data analytics algorithms to extract meaningful Insights from the collected air quality data. This includes algorithms for data cleaning, validation, and analysis to improve data accuracy and reliability, as well as enhance data visualization and reporting tools to enable comprehensive analysis and interpretation of air quality data. The scope of data analytics also includes cross-functional prescriptive analytics.
- (m) Artificial Intelligence:** Firm will need to incorporate artificial intelligence techniques for tasks such as predictive analysis, anomaly detection, user interaction (chatbot like feature) etc. Open Source tools and libraries may be used by bidder for this purpose.
- (n) GIS Integration:** Firm will need to integrate the system with GIS tools and applications. This includes creation of shape files and KML files to display information such as station location, as well as creation of services such as WMS Service, WPS Service etc. The license of GIS tools shall be procured by CPCB.
- (o) Integration with External Systems:** Firm will need to integrate the upgraded system with other external systems, such as meteorological data sources, environmental

analysers/sensors, and regulatory reporting platforms, to streamline data exchange and facilitate comprehensive analysis.

**(p) Training:**

1. Technical Training: To provide detailed training to 2-3 members of IT team in CPCB in the programming of the basic technology used to upgrade the software/operate/modify program for a period of at least one week either at an Institute or at CPCB through certified professionals and/or developers of this system only. Bidder will also need to develop user manuals and documentation to support ongoing system usage and troubleshooting.

**3. Phase II – Comprehensive AMC (Five Years)**

- a. After Sign-off and six months post-upgradation support period, the 05 Years Comprehensive AMC period will start. Bidder will undertake all kind of development, maintenance, upgradation of the system during the comprehensive AMC. Bidder shall also provide/apply the patches, security fixes, upgrades etc. in relation to any change by 3rd party components, tools, adaptors, connectors, certifications etc. wherever necessary.
- b. Comprehensive AMC shall include:
  - i. All functions and tasks including new web page, new modules, new tools, external interface integrations, reports development, dashboard development, new feature, migration, GIS integration, API Development etc. as per the requirements of the CPCB.
  - ii. Fixing any issues (within given time frame), as well as making necessary modification, upgrades.
- c. No separate charges shall be payable by CPCB for such modification/upgrades/new developments. It all will be covered under AMC Charges quoted by the bidder for the project. During this period, the bidder will also be responsible for maintaining and upgrading all work done during Phase-I.
- d. The rates for Comprehensive AMC shall be as per financial bid submitted under this tender.
- e. The contract may be extended If required with mutual consent, after the end of contract period, on mutually agreed rates and terms and conditions.

**4. Routine Work (Costing to be included in Phase I & Phase II costings)**

**a. Integration of New Stations:**

CAAQM Stations are monitoring stations specifically designed to measure and monitor air quality in urban and industrial areas on a continuous basis (24x7). These stations are equipped with sophisticated instruments that continuously measure various air pollutants present in the ambient air, providing real-time data for analysis and decision-making. These stations are operated by concerned agency such as Station Pollution Control Board (SPCB), Indian Meteorological Department (IMD) etc. Industrial CAAQMS stations are operated by concerned industry.

For any new station, meta data will be provided by respective agencies, mostly through their station operators. In most of the cases, the data is stored in CSV format in \*.txt file as per a simple protocol available at CPCB website [https://cpcb.gov.in/upload/caaqm/Protocol\\_CAAQM.pdf](https://cpcb.gov.in/upload/caaqm/Protocol_CAAQM.pdf). Once the CSV file is ready, CPCB's client software will be installed & configured in the station computer and the data

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pushing starts to CPCB Servers, in real time. Though this process followed by majority of the stations, CPCB is also getting the data through other methods as well, such as extracting the data from FTP Server, getting the data directly from the station software's data base, through APIs etc. Once the data is received at server end (raw data), it will be processed with some defined set of rules of CPCB (Processed Data).

As the air quality monitoring network is continuously expanding, new stations are being added in the system on regular basis. Bidder need to integrate these stations, the tentative projections of which are as follows:

- i. CAAQMS Stations: Up to 2500 new stations.
- ii. Industrial CAAQMS Stations: Up to 2000 new stations.
- iii. NAMP: Up to 5000 new stations.

The system should be designed in such a way that addition of new stations does not degrade the system performance. For understanding purpose, few visit to Air Quality Monitoring Station visits can be made if required in consultation with CPCB.

Communication with respective agencies involved in the monitoring and getting the connectivity & configuration issues resolved is also in the scope of work for the firm. Firm may also be required to implement a mechanism to ensure traceability of data to the source/origin.

**Note:** Integration of new stations and maintenance of network connectivity of existing stations is a continuous process which will be carried out under Phase-II of the project also. During Comprehensive AMC Period (Phase – II), no separate charges shall be paid for Integration of new stations and maintenance of network connectivity of existing stations.

**b. Troubleshooting Data Transmission Issues:** For the existing stations as well as newly integrated stations, bidder need to develop a system to automatically monitor the transmission of data.

In case of any breakage in data transmission, bidder will need to troubleshoot the issue by coordinating with other stakeholders, and whenever required, re-integrating the station in the network.

**c. Data Backup:** Create Database Backup & Recovery procedure through which daily DR operations are performed automatically. DR will operate in the NIC domain but at a different location then the main server location shall be arranged by CPCB through NIC.

**d. Bug Fixes/Patches/Server Updates (such as OS and packages), System Monitoring and Issue Resolution:** Proactively monitor the system to identify any potential issues or performance anomalies. Respond promptly to reported incidents, investigate their root causes, and provide timely resolutions to minimize system downtime.

**e. Technical Support:** Bidder has to offer comprehensive technical support to address user inquiries, troubleshooting, malfunctions, breakdowns, software/tool updates patches, system issues etc., and provide guidance on software usage, configuration, and optimization. This support can be provided through various channels such as email, phone, or a dedicated helpdesk system.



- f. **Infra & DevOps for Staging, UAT, Production:** Staging and UAT Servers will have to be arranged by bidder. CPCB will provide only Production Servers and Production URL.

In all these environments, bidder need to undertake comprehensive infrastructure management activity, including server setup, OS and package updates, library updates, log management, fixing of security issues, regular backup, recovery and restoration etc. Further, bidder shall ensure that the same environment is maintained in all Servers so that issues related to different environments do not occur in Staging, UAT, and Production.

- g. **Testing:** Prior to deployment in production, bidder need to thoroughly test the code via Unit Testing and Integration Testing. Before deploying the code for UAT testing, bidder need to ensure that all the functionalities are thoroughly checked and are properly working. Bidder need to document the test cases and submit a comprehensive report of all the testing involved before deployment to UAT or Production, with all the test case details, to CPCB, after every major deployment or as required by CPCB

**h. Security & Compliance:**

- i. Assess and upgrade the security measures of the system to ensure the confidentiality, integrity, and availability of air quality data.
- ii. Review and align the system with relevant data protection and privacy regulations.
- iii. Conduct regular vulnerability assessments.
- iv. Develop and implement disaster recovery plans to mitigate the risk of data loss.
- v. Bidder should properly test the newly developed features and submit a test report.

- i. **Cyber Security Audit:** Bidder need to get the cybersecurity audit of the system from CERT-In empanelled firm, at such period as need arises, during the entire contract period. Bidder need to ensure that the security audit of the system is up to date and does not expire during the operation. A minimum of 4 security audits shall be performed, 1 at Go Live and 3 during AMC.

- j. **Documentation:** Bidder has to maintain up-to-date documentation, including user manuals, technical guides, and system documentation, to support system administrators and end-users. Provide training sessions or resources to familiarize new staff members with the software and its functionalities.

- k. **Refresher Training:** Bidder has to provide training to CPCB officials/SPCB officials/other users, regularly, at CPCB premises or through VC, about operating the system.

- l. **Change Request (CR):** No separate charges shall be paid by CPCB for any Change Request (CR) or New Development in the entire project duration, and should be covered under Post-Upgradation Support and Comprehensive AMC.

**5. General Requirements:**

- a. System shall support at least 3 common browsers.
- b. System should be compatible with NIC Cloud and other NIC Services.
- c. Support for multilingual features as per GIGW (Guidelines for Indian Government Website) norms.
- d. Integration with data.gov.in whenever required.

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- e. All external communication/3<sup>rd</sup> party integration/API integration is to be done through encrypted channels.
- f. Software Updates and Upgrades: Stay abreast of the latest technological advancements, industry standards, and regulatory requirements related to air quality monitoring.
- g. Any update or modification shall be thoroughly tested prior to rollout on the production system so as to avoid any potential problem in the system.
- h. Staging environment needs to be arranged by the bidder and no separate charge will be paid for it.
- i. CPCB will provide Cloud Infra for deployment/production (Preferable NIC Cloud).
- j. Any activity like Server Migration (NIC to NIC, NIC to Public Cloud, NIC to in-house hosting etc.)/Server Updates/Software Patch/Security Fixes/System Optimization, Database Optimization etc., required in project duration will be the responsibility of the firm, without additional cost requirement.
- k. Bidder should submit a quarterly report of activities carried out on the system during post-upgradation support period and Comprehensive AMC period.
- l. Since the Air Quality Management functioning is continuously evolving there will be requirements all the time (including in Comprehensive AMC Phase) to upgrade/modify system, new modules, new features, new applications, new tools, maps, upgrade of security, upgrade of basic platform & infra on which the software is developed and deployed, upgrade databases used etc. The change requests related to development of any new feature or any related requirement of air quality management is included within the scope of the project, and shall be considered throughout the project duration (including CAMC) without any additional payment.

## Section 6: Eligibility Criteria

**Important Note: Bidder need to mandatorily fill and submit the Eligibility Criteria Evaluation Format, provided at Annexure – II.**

S. No.	Eligibility Criteria
1	<p>The bidder/vendor must be either one of the following:</p> <ul style="list-style-type: none"><li>(a) A Company registered under the Companies Act, or</li><li>(b) A Society registered under the Societies Registration Act, or</li><li>(c) An LLP under the Limited Liability Partnership Act, or</li><li>(d) A Partnership under the Partnership Act.</li></ul> <p>Supporting Document Required: Copy of valid certificate issued by relevant authority.</p>
2	<p>The bidder should have valid PAN and GST registration certificate.</p> <p>Supporting Document Required: Copy of GST Registration Certificate and PAN.</p>
3	<p>The firm should be in existence for at least 05 years. The time period of 5 years shall be calculated from the date of publication of this RFP.</p> <p>Supporting Document Required: Copy of valid certificate showing the date of incorporation/establishment of the firm.</p>
4	<p>Firm should have ISACA CMMI Institute's minimum CMM Level 3 Certification for Software Development/IT Enabled Services/Data Management of Process Industries.</p> <p>Supporting Document Required: Copy of valid CMMI Certificate from the CMMI Institute. The name of the firm must be listed on ISACA CMMI Institute's Portal: <a href="https://cmmiinstitute.com/pars">https://cmmiinstitute.com/pars</a></p>
5	<p>Firms must have handled at least 04 projects of software development and/or maintenance during last five years from the date of publication of this RFP, with following sub-classification:</p> <ul style="list-style-type: none"><li>A. Should have developed and/or maintaining at least one portal/software application related to role based MIS (Management Information System), AND</li><li>B. Should have developed and/or maintaining user role based Mobile Apps, in both iOS as well as Android Platform. (Android &amp; iOS Versions not to be separately counted)</li></ul>

	<p>C. Should have developed and/or maintaining at least one portal/software application related to use of Satellite based Data or Real Time Data, AND</p> <p>D. Should have developed and or maintaining at least one portal/software application related to Data Analytics w.r.t to characterization or classification or forecasting of Data (Manual Data or Real Time Data or Satellite based Data).</p> <p>Note: Of all the projects submitted under Criteria No. 5, at least two project must be in completion stage i.e. work completion certificate must have been issued for them.</p> <p>Supporting Documents Required: Copy of the work order, work completion certification, and other supporting documentation to establish the identity of the project w.r.t. point a/b/c/d above.</p>
6	<p>For each project submitted under point 5 of eligibility criteria, firm must provide brief description of each project mentioning technology adopted, optimization approach adopted, major challenges faced and how firm overcome these challenges during project execution, major algorithms used in data analysis if carried out during project execution etc.</p> <p>Supporting Documents Required: A brief two-page write-up for each project submitted under point 5 of the eligibility criteria. The write-up must cover the points mentioned above i.e. technology adopted, optimization approach adopted, major challenges faced and how firm overcome these challenges during project execution, major algorithms used in data analysis if carried out during project execution etc.</p>
7	<p>Average annual turnover of the firm in last 5 financial years i.e. 2018-19, 2019-20, 2020-21, 2021-22, 2022-23 shall be at least Rs. 1.6 crores.</p> <p>Supporting Documents Required: Certificate from the auditors of the firm, mentioning the average annual turnover for last 5 financial years i.e. 2018-19, 2019-20, 2020-21, 2021-22, 2022-23</p>
8	<p>Firm should have minimum 50 IT Professionals employed on its payroll.</p> <p>Supporting Documents Required: (1) Undertaking from the HR Head of the firm, mentioning the number of IT Professionals on payroll of the firm (2) EPFO Certificate or any other supporting govt. document.</p>
9	<p>The firm should not have been blacklisted by any government body.</p> <p>Supporting Documents Required: Self-declaration by the bidder that it has not been blacklisted by any government body.</p>



## Section 7: Technical Evaluation Criteria

**Important Note: Bidder need to mandatorily fill and submit the Technical Evaluation Format, provided at Annexure – III.**

S. No.	Parameter & Marking Slab												
1	<p>Number of portal/software applications, related to role based MIS (Management Information System), developed or maintained in the previous five years from the date of publication of this tender.</p> <p>Marking Slab:</p> <table border="1"><thead><tr><th>Quantity</th><th>Marks</th></tr></thead><tbody><tr><td>=1</td><td>2</td></tr><tr><td>&gt;=2 &amp; &lt;5</td><td>3</td></tr><tr><td>&gt;=5 &amp; &lt;8</td><td>5</td></tr><tr><td>&gt;=8 &amp; &lt;11</td><td>7</td></tr><tr><td>&gt;=11</td><td>10</td></tr></tbody></table> <p><b>Additional 1.5 mark will be given if at least one of the project is of govt. department.</b></p> <p><b>Total maximum marks: 10 + 1.5 = 11.5</b></p> <p>Supporting documents:</p> <ol style="list-style-type: none"><li>(1) Copy of work order.</li><li>(2) Copy of completion letter.</li><li>(3) Brief two page write-up about the project, technologies used in the project, end users, and brief description to establish that project belongs to above category.</li></ol>	Quantity	Marks	=1	2	>=2 & <5	3	>=5 & <8	5	>=8 & <11	7	>=11	10
Quantity	Marks												
=1	2												
>=2 & <5	3												
>=5 & <8	5												
>=8 & <11	7												
>=11	10												

2

Number of user role based Mobile Apps, developed/ maintained in the previous five years from the date of publication of this tender. (Android & iOS Versions not to be separately counted)

Marking Slab:

Quantity	Marks
=1	2
>=2 & <5	3
>=5 & <8	5
>=8 & <11	7
>=11	10

**Additional 1.5 mark will be given if at least one of the project is of govt. department.**

**Total maximum marks: 10 + 1.5 = 11.5**

Supporting Documents:

- (1) Copy of work order.
- (2) Copy of completion letter.
- (3) Brief two page write-up about the project, technologies used in the project, end users, and brief description to establish that project belongs to role based Mobile Apps.

3 Number of portals/applications related to use of Real Time Data or Satellite based Data, developed or maintained in the previous five years from the date of publication of this tender.

Marking Slab:

Quantity	Marks
=1	2
>=2 & <5	3
>=5 & <8	5
>=8 & <11	7
>=11	10

**Additional 1 mark will be given if at least one of the project is of govt. department.**

**Total maximum marks: 10 + 1 = 11**

Supporting Documents:

- (1) Copy of work order.
- (2) Copy of completion letter.
- (3) Brief two-page write-up about the project, technologies used in the project, end users, and brief description to establish that project belongs to the above category of Real Time Data or Satellite based Data, in the previous five years from the date of publication of this tender.



4

Number of developed portal/software applications related to Data Analytics w.r.t to characterization or classification or forecasting of Data (Manual Data or Real Time Data or Satellite based Data), developed or maintained in previous five years from the date of publication of this tender.

Marking Slab:

Quantity	Marks
=1	2
>=2 & <5	3
>=5 & <8	5
>=8 & <11	7
>=11	10

**Additional 1 mark will be given if at least one of the project is of govt. department.**

**Total maximum marks: 10 + 1 = 11**

Supporting Documents:

- (1) Copy of work order.
- (2) Copy of completion letter.
- (3) Brief two-page write-up about the project, technologies used in the project, end users, and brief description to establish that project belongs to the above category.

5	<p>Years of existence of the company, from the date of publication of this tender</p> <p>Marking Slab:</p> <table border="1" data-bbox="320 434 748 678"> <thead> <tr> <th>Years of Existence</th> <th>Marks</th> </tr> </thead> <tbody> <tr> <td>&gt;=5 and &lt;8</td> <td>3</td> </tr> <tr> <td>&gt;=8 and &lt;14</td> <td>4</td> </tr> <tr> <td>&gt;= 14</td> <td>5</td> </tr> </tbody> </table> <p>Supporting Documents: Copy of valid certificate showing the date of incorporation/ establishment of the firm.</p>	Years of Existence	Marks	>=5 and <8	3	>=8 and <14	4	>= 14	5
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>=8 and <14	4								
>= 14	5								
6	<p>CMMI Certification of ISACA CMMI Institute, related to software development/ IT enabled services/ data management of process industries</p> <p>Marking Slab:</p> <table border="1" data-bbox="320 1055 715 1240"> <thead> <tr> <th>CMMI Level</th> <th>Marks</th> </tr> </thead> <tbody> <tr> <td>CMMI Level 3</td> <td>5</td> </tr> <tr> <td>CMMI Level 5</td> <td>10</td> </tr> </tbody> </table> <p>Supporting Documents:</p> <p>Copy of valid CMMI Certificate of the ISACA CMMI Institute. The name of the firm must be listed on ISACA CMMI Institute's Portal: <a href="https://cmmiinstitute.com/pars">https://cmmiinstitute.com/pars</a></p>	CMMI Level	Marks	CMMI Level 3	5	CMMI Level 5	10		
CMMI Level	Marks								
CMMI Level 3	5								
CMMI Level 5	10								
7	<p>Number of IT Professionals on payroll of the firm.</p> <p>Marking Slab:</p> <table border="1" data-bbox="320 1637 715 1921"> <thead> <tr> <th>Number of IT Professionals</th> <th>Marks</th> </tr> </thead> <tbody> <tr> <td>50 to 100</td> <td>7</td> </tr> <tr> <td>101 to 200</td> <td>10</td> </tr> <tr> <td>Above 200</td> <td>15</td> </tr> </tbody> </table>	Number of IT Professionals	Marks	50 to 100	7	101 to 200	10	Above 200	15
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50 to 100	7								
101 to 200	10								
Above 200	15								

	Supporting Documents Required: (1) Undertaking from the HR Head of the firm, mentioning the number of IT Professionals on payroll of the firm (2) EPFO Certificate or any other supporting govt. document.												
08	<p>Average annual turnover of the firm in the last 5 financial years i.e. 2018-19, 2019-20, 2020-21, 2021-22, 2022-23.</p> <p>Marking Slab:</p> <table border="1"> <thead> <tr> <th>Average Turnover</th> <th>Marks</th> </tr> </thead> <tbody> <tr> <td>&gt;= 1.6 Cr &amp; &lt; 10 Cr</td> <td>2</td> </tr> <tr> <td>&gt;= 10 Cr &amp; &lt; 20 Cr</td> <td>4</td> </tr> <tr> <td>&gt;= 20 Cr &amp; &lt; 50 Cr</td> <td>6</td> </tr> <tr> <td>&gt;= 50 Cr &amp; &lt;100 Cr</td> <td>8</td> </tr> <tr> <td>&gt;=100 Cr</td> <td>10</td> </tr> </tbody> </table> <p>Supporting Documents Required: Certificate from the auditors of the firm, mentioning the average annual turnover for the last 5 financial years i.e. 2018-19, 2019-20, 2020-21, 2021-22, 2022-23.</p>	Average Turnover	Marks	>= 1.6 Cr & < 10 Cr	2	>= 10 Cr & < 20 Cr	4	>= 20 Cr & < 50 Cr	6	>= 50 Cr & <100 Cr	8	>=100 Cr	10
Average Turnover	Marks												
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>=100 Cr	10												
09	<p>Bidder need to submit a technical write-up covering the following:</p> <ol style="list-style-type: none"> <li>Bidder's expertise and experience in different technologies Python, Django, MongoDB, OpenTSDB, Kairos DB, Big Data Technologies, Linux OS, Elastic Search, Angular, PHP, RDBMS such as MySQL, SQL Server, APIs etc.: 1-2.5 Marks.</li> <li>Bidder's expertise and experience in GIS tools, Data Modelling, Data Analytics, Artificial Intelligence: 1-2.5 Marks</li> </ol> <p>Supporting Documents Required: Technical write-up covering the themes given above. <b><u>This technical write-up is to be submitted on CPP Portal while submitting the bid.</u></b></p>												
10	<p>Technical presentation by the bidder, covering themes such as understanding of the project, technical approach to execute the project, expertise, experience, technical competence including overview of previous projects etc.</p> <p>Marking range for technical presentation: 1-10 Marks.</p>												

## Section 8: Financial Bid Submission

1. Bidder need to submit a financial bid as per format provided under Annexure-IV of this tender.
2. All prices quoted shall be in Indian Rupee.

## Section 9: EMD Amount

The EMD amount is Rs. 12 lakhs in favour of Central Pollution Control Board, payable at Delhi.

## Section 10: Submission of Bids

1. Bids shall be submitted on CPP Portal.
2. Bids shall be complete in all aspects, and all the required documents shall be uploaded.
3. Corrigendum, if any, shall be made available on CPP Portal.

## Section 11: Contact Information

For any clarification regarding tender, contact to Sh. B. Vinod Babu, Scientist 'F' and Divisional Head, IT Division at 011-43102296 (email: [bvbabu.cpcb@nic.in](mailto:bvbabu.cpcb@nic.in)), Sh. Anurag Sharma Sc. 'C', IT Division, at 011-43102302 (email: [anurag.cpcb@gov.in](mailto:anurag.cpcb@gov.in)), Sh. V. N. Murthy, Sr. Technician, IT Division, at 011-43102304 (email: [vnmurthy.cpcb@gov.in](mailto:vnmurthy.cpcb@gov.in)), Ms. Pooja Rani, DPA, IT Division, at 011-43102299 (email: [pooja.cpcb@gov.in](mailto:pooja.cpcb@gov.in)).

## Section 12: Pre-bid meeting

A pre-bid meeting shall be arranged as per timeline provided under Section 1. The meeting shall be organized in hybrid mode.

## Section 13: Evaluation Procedure

1. Prior to evaluation of Proposals, CPCB will determine whether each proposal is responsive to the requirements of the RFP. A Proposal shall be considered responsive only if:
  - it is received in the specified format;
  - it is received by the due date including any declared extension thereof;
  - it contains all the information (complete in all respects) as requested in the RFP;
  - it does not contain any condition or qualification;
  - it is signed by authorized signatory at all the required places.
  - it has deposited requisite amount of EMD as Earnest Money Deposit (EMD)

CPCB reserves the right to reject any proposal, which is non-responsive and no request for alteration, modification, substitution, or withdrawal shall be entertained by CPCB in respect of such proposals.

2. Only the bids received on CPP Portal will be considered for evaluation.
3. Technical Evaluation: Only those bids which are submitted before due date mentioned in Section 1, or subsequent amendments, and meet the eligibility criteria mentioned in Section 6 shall be considered for technical evaluation. The technical evaluation shall be carried out as per Technical Evaluation Criteria mentioned in Section 7. For evaluation, bidder need to fill the format mentioned under Annexure-II and Annexure-III. Based on technical evaluation, Technical Score (TS) shall be awarded.

*The Technical Scores of the technical bids will be computed as per formula given below:*

$$TS = 100 \times (T_b/T_m)$$

*where,*

*T<sub>b</sub> = Technical marks obtained by the particular bidder.*

*T<sub>m</sub> = Highest technical marks obtained among the bidders.*

4. Only the bids scoring minimum sectional cut-off in the technical evaluation shall be considered technically qualified.
5. Financial Evaluation: Financial bids will be evaluated only for technically qualified bidders. Bidder need to submit the financial bid as per format mentioned under Annexure – IV. The Financial Score (FS) shall be calculated as follows:

*The lowest evaluated Financial bid (F<sub>m</sub>) will be given the maximum Financial Score (FS) of 100 points. The Financial Scores of the other financial bids will be computed as per formula given below:*

$$FS = 100 \times (F_m/F_b)$$

*where,*

*F<sub>b</sub> = Financial quote by the particular bidder.*

*F<sub>m</sub> = Lowest evaluated financial quote received in the bidding.*

6. Final Selection: QCBS criteria 70:30 will be used for final selection. In deciding the final selection of the bidder, the Technical Score (TS) will be given a weightage of 70% and Financial Score (FS) will be given a weightage of 30%. Aggregate Score (AS) will be calculated as per below formula:  
Aggregate Score (AS) = (0.7 x Technical Score) + (0.3 x Financial Score)
7. The bid with the highest Aggregate Score (H1) would be considered for award of work.
8. The Evaluation Committee will correct any computation errors, in case of discrepancy.

## Section 14: Award of Work

1. The bid with the highest Aggregate Score (AS) would be considered for award of work.
2. Normally there will be no post tender opening negotiations and it would be only on exceptional circumstances, if considered necessary. This shall be held only with the Agency which is evaluated as H1 bidder after combined evaluation of the Technical and Financial bids, as indicated above. Under no circumstance, the negotiation shall result into an increase in the price originally quoted by the bidder.
3. The Competent Authority shall have the right to make any alterations, omissions, additions or subtractions in items/services at the time of award of contract.

## Section 15: Performance Security

**Performance Security:** Performance Security is to be provided by the successful bidder who is awarded the contract. It should be for an amount of 10% of the financial bid, excluding taxes, and

should be submitted within 15 days of issue of letter of intent. It is to be furnished in such form as specified by CPCB. The Performance Security should remain valid for entire contract duration, and its extension, if any.

## Section 16: Proposed Team (On-site)

S. No.	Designation	Location	Minimum Experience
1	Team Leader / Coordinator	On-site (During Phase-I)  Off-site (During Phase-II)	5+ Years
2	Full Stack Developer	On-site	5+ Years
3	Station Integrator 1	On-site	3+ Years
4	Station Integrator 2	On-site	3+ Years
5	Junior Data Analyst  (For extracting data from DB, preparing customized reports, charts, graphics, maps etc.)	On-site	3+ Years

**Off-site Manpower: Regarding off-site manpower, the bidder needs to deploy such number of resources with such qualification and experience, as required to execute tasks assigned by CPCB under Scope of Work of this project during entire contract period covering Phase 1 and 2, without any additional costing to CPCB.**

However, for information purpose, bidder will need to submit a quarterly report about number of offsite manpower engaged, their qualifications, and the activities on which work was undertaken by them, and the man-hours involved in the activities.

**Note:**

- (1) Costing of the proposed team to be included in Phase-1 and Phase-2 costing sections of the Financial Bid (Annexure-IV).
- (2) CPCB reserves the right to interview the team members before final deployment.
- (3) Bidder need to ensure that the manpower deployed for the project has adequate expertise and competence to perform the tasks in time bound manner. It is the responsibility of bidder to ensure that operations are not impacted due to manpower quality related issues.
- (4) The primary task of station integrator is to integrate and monitor CAAQMS/NAMP Stations.
- (5) If any of the team member goes on leave, bidder will need to make suitable arrangements to ensure continuation in project operation.

- (6) If any of the team member leaves the organization, bidder will need to arrange suitable alternative without any disruption in service.
- (7) For on-site team member, immediate replacement shall be provided in case the resource person goes on leave or exit the organization.
- (8) The team-size described above is only indicative in nature, and bidder may need to deploy additional resources with suitable expertise for the project depending on activities/tasks assigned. No additional payment shall be made by CPCB for any additional team deployment.
- (9) During winter months (Oct-Feb), when the workload is higher, bidder will need to deploy dedicated resources on 24x7 basis, with adequate expertise, so as to meet the urgent need for extracting data from database, generation of custom reports using database query etc.

## Section 17: Go Live & Signoff

Go Live and Signoff will be considered only when all the modules and features mentioned under Scope of Work, or as communicated by CPCB, are developed and deployed.

## Section 18: CPCB Deliverables

1. Working space to the on-site team (please note that the office space at the premises of CPCB will be made available for personnels and additional space for meetings, trainings etc. as may be necessary).
2. Access to the IT Division during working hours.
3. Production Servers and Production URLs.

**Note: Staging Server, UAT Server, URLs for Staging and UAT (as required) will have to be arranged by bidder, for which there is a section in the financial bid form. CPCB will provide only Production Servers and Production URLs.**

**Entire DevOps on bidder provided servers and CPCB provided servers, will be the responsibility of the bidder.**

## Section 19: Terms & Conditions

1. **Acceptance of Terms and Conditions:** Submission of bid is evidence of bidder's consent to comply with the terms and condition of tender process. If a bidder fails to comply with any of the terms, its bid may be summarily rejected.
2. The bidder is expected to examine all instructions, forms, terms and conditions and specifications mentioned in the tender. Failure to furnish all information required or submission of a bid not substantially irresponsive to the tender in every respect will be at the bidder's risk and may result in the rejection of bid.
3. The bid shall contain no interlineations, erasures or overwriting words except as necessary to correct errors made by the bidder, and in all such cases correction shall be signed by the person or persons signing the bid.
4. **Willful Misrepresentation:** Willful misrepresentation of any fact in the bid will lead to the disqualification of the bidder without prejudice to other actions that CPCB may take in future.
5. **Material Changes:** Bidder must inform CPCB immediately in writing of any material change to the information contained in the bid application, including any substantial change in their ownership or their financial or technical capacity. Copies of relevant documents must be submitted.
6. **Costs and Expenses:** Any or all costs (and expenses) incurred by the bidder in responding to the tender, pre bid meeting, or any other activity required in connection to this bid are to be solely borne by the bidder; these will not be reimbursed by CPCB.
7. **Right to Interview:** As a part of the evaluation process, CPCB may interview the bidders who participated in the bid. The interviews may be conducted over telephone, video conference, or face to face.
8. **Bid Rejection:** Bids may be rejected on grounds, including but not limited to the following:
  - a. Willful misrepresentation of any fact in the submitted bid.
  - b. Non-receipt of bids within the specified date and time.
  - c. Any effort on the part of Bidder to influence evaluation process.
  - d. Any other term & condition mentioned in this document.

Further, CPCB reserves the right to accept or reject any or all bids received without assigning any reason thereto whatsoever and CPCB's decision in this regard will be final.

9. The final authority for acceptance of a bid will rest with the Competent Authority who does not bind himself to accept the lowest bid and is vested with the authority to reject any or all of the bids received without assigning any reason.
10. **Verification of Claims:** CPCB reserves the right to verify the validity of information provided in the bid, including the right to inspect the facilities of the bidder, and to reject any bid where the contents appear to be incorrect, inaccurate or inappropriate at any time during the process of tender.
11. This call of tenders does not bind CPCB to place order. The tender submitted in response to this invitation can be rejected without assigning any reason.
12. In case bidder firm is purchased by another firm or agency, that new owner or agency shall be responsible for deliverables to CPCB.
13. Shortlisted bidder must not advertise/publicize in any form (without prior written permission from CPCB) about their firm having been shortlisted by CPCB/awarded contract by CPCB.
14. **Intellectual Property Rights:**
  - a. CPCB shall own the IP Rights over the entire software system developed by the bidder, including associated components such as user manuals, source code, designs etc.



- b. The bid and the accompanying documents will become property of CPCB. The applicant shall be deemed to license, and grant all rights to CPCB, to reproduce the whole or any portion of their product/solution for the purpose of evaluation, or any other purpose.
- 15. The bidder shall agree to provide to CPCB the following:**
- a. Source code, object code/executable code, designs, unit test cases, unit test code, compilation procedures (build/make file, build scripts etc.), source code quality report using reputed code quality tools, Test Scripts for CIT/SIT/UAT of the developed application/customizations and subsequent upgrades, if any.
  - b. All necessary functional and technical documentation (Technical Specifications, Integration Specifications, Application Architecture/Design, Integration Architecture/Design, Test Cases Documentation for CIT/SIT/UAT, Deployment Guide on Infrastructure Servers, Release Notes etc.) must also be delivered to CPCB.
  - c. This information shall need to be provided in such media and format as communicated by CPCB.

This information shall be provided to CPCB, at any such time period, as specified in this tender, and also, if needed, at the end of the contract period, if required by CPCB.

- 16. Notice:** Any notice, request or consent required or permitted to be given or made pursuant to this shortlisting shall be in writing. Any such notice, request or consent shall be deemed to have been given or made when delivered in person to an authorized representative of the party to whom the communication is addressed, or when sent to such party at the address specified in the bid-submitting document
- 17. Standards of Performance:** The bidder shall perform the work and carry out their obligations hereunder with all due diligence, efficiency, in accordance with generally accepted professional standards and practices, and shall observe sound management practices, and employ appropriate technology and safe and effective equipment, machinery, materials and methods. The bidder shall always act, in respect of any matter relating to this tender or to the work, as faithful advisers to the CPCB, and shall at all times support and safeguard the CPCB's legitimate interests in any interaction with third parties.
- 18. Adherence to timeline:** The bidder agrees to adhere to the timeline and deliver within stipulated timelines.
- 19. Compatibility with NIC, CERT-In, and Other Govt. Agency Guidelines:** Bidder should not be using any tool/software/script/procedure/process which is not allowed under NIC, CERT-In or any other govt. agency guidelines.
- 20. Project Takeover from Existing Firm:** Bidder will need to take over the project in **"As it is and where it is"** condition from existing firm. Efforts will be made for KT and document transfer to the extent possible.
- 21. Software Development Practices:** The software development shall be carried out as per best practices followed worldwide.
- 22. General Confidentiality:** Except with the prior written consent of the CPCB, the bidder and its personnel shall not at any time communicate to any person or entity any information acquired, stored and received from/related to CPCB in the course of the work, nor shall the bidder and the personnel make public the recommendations formulated in the course of, or as a result of, the tender and work.
- 23. Right to modify the list of functionalities and scenarios:** The list of scenarios /functionalities / requirements detailed in SRS document will not be exhaustive. CPCB, at its sole discretion, may modify or delete any of the existing scenarios, or provide additional scenarios. Any such

modification/addition shall be duly communicated to the bidders and no additional payment shall be made for these modifications.

- 24. Software Fixes:** The bidder shall perform/get Unit Testing, Stress/Performance Testing, System Integration Testing & User Acceptance Testing, Security Audit, Vulnerability Fixes, DevOps etc. as applicable, and rectification of issues arising out of these. However, no additional fees/charges would be payable by CPCB for these works.
- 25. Safety and Security of Data:**
- a. The data, information, documents provided by the CPCB to bidder is the property of the CPCB. The bidder shall display due diligence in the handling of the said data and be responsible for the data thus provided.
  - b. The bidder shall not use the information, name or logo of CPCB and/or Government of India without authorization of CPCB.
  - c. The bidder shall not use and/or transmit any information, data, layouts, designs, diagrams, storage media (hard disk/tapes) or any other goods/material in physical or electronic form, which are proprietary to or owned by the CPCB, without prior written permission from CPCB.
  - d. CPCB reserves the right to carry out third party audits of the bidder to ensure compliance with stated and implicit requirements.
- 26. Sub-Contracting:** The bidder shall not be permitted to subcontract any part of its obligations, duties, or responsibilities under this shortlisting without the prior written approval of CPCB.
- 27. Good Faith:** The parties undertake to act in good faith with respect to each other's rights under this shortlisting and to adopt all reasonable measures to ensure realization of objectives of this tender.
- 28. Cancellation of Entire Process:** CPCB shall have right to cancel entire tendering process, including the tender, and subsequent contract etc., at any time, without thereby incurring any liabilities to the affected bidders. Reasons for cancellation, as determined by CPCB in its sole discretion include but are not limited to, the following:
- a. Services contemplated are no longer required.
  - b. Scope of work not adequately or clearly defined due to unforeseen circumstance and/or factors and/or new developments.
  - c. The project is not in the best interest of CPCB.
  - d. Any other reason.
- 29. Right of Refusal:** The bidder understands and agrees that CPCB reserves in its absolute discretion the right to select or reject any bidder any time during or after the tendering process or any subsequent contractual process. The bidder further understands and agrees that any such selection or rejection may be based on the bidder's responses to this tender, or any subsequent information or contractual performance related thereto, or for any other reason whatsoever.
- 30. Project Handover on Closure:** Upon completion of the contract or termination of contract, firm shall handover the entire source code, documentation, designs, configurations, complete installation procedure, and all the related information, tools, code, scripts, modules, designs etc. to CPCB.
- 31. Termination/Suspension of Contract:** CPCB may at any time terminate/suspend contract of bidder for the following reasons:
- a. If the bidder becomes insolvent or go into liquidation or receivership whether compulsory or voluntary.
  - b. If the bidder, in the judgment of CPCB, has engaged in corrupt or fraudulent practices.
  - c. If the bidder submits to the CPCB a false statement which has material effect on rights, obligations, reputation or interests of CPCB.

- d. If the bidder places itself in a position of conflict of interest or fails to disclose promptly any conflict of interest to CPCB.
- e. If the bidder breaches the term of the agreement and fails to cure such breach within 30 days of notice of such breach by CPCB.
- f. If the bidder has been blacklisted or disqualified for any reason by any government department in last three years from the date of publication of this RFP.
- g. If the bidder fails to comply with directions given by the Competent Authority, CPCB.
- h. In the event of sub-contracting of work/services without the prior written approval of CPCB.
- i. In the event of non-cooperation during audits conducted by CPCB or auditing agencies appointed for this purpose.
- j. In case the development at any stage is found not acceptable as per the technical specification agreed between the parties or software does not pass any of the CPCB technical requirements as expected from the deliverables.
- k. Any other reasons, as deemed fit by the Competent Authority, CPCB. The contract may be terminated any time, if CPCB desires to do so, within 30 days' notice to the firm in writing. CPCB shall pay the bidder for the services rendered before the effective date of the termination of the contract.

CPCB may, by providing prior written notice, request that bidder temporarily suspend performance of the services, in whole or in part. The notice shall specify the portion of the services to be suspended, the effective date of suspension, anticipated duration of suspension, and the reasons for the suspension. Bidder shall suspend Work as requested. On or before the date the suspension begins, CPCB shall pay bidder the unpaid balance of the portion of the services previously performed. Bidder shall resume the suspended work after a change order is executed covering adjustments to the price, schedule, and any other affected terms or conditions resulting from the suspension.

- 32.** Responsibility lies with the firm for data transmission from CAAQMS Stations, Industrial CAAQMS stations, NAMP stations, Satellite Data Server to CPCB and necessary co-ordination has to be made by the firm.
- 33.** If there is no running bill is pending, and the firm is liable to pay the penalty, then the amount levied by CPCB on the firm as per penalty clauses of this document shall be paid within 15 days' time after the issue of the letter by CPCB to the firm, else the CPCB shall have the right to take legal action against the firm.
- 34.** In case of new functionality requirement, it should be communicated in writing through mail and the firm shall respond within two working days. No additional payment shall be made by CPCB for any new functionality.
- 35.** The contract may be renewed, if any such exigency arises, after 6 years, on mutually agreed terms and conditions in future.
- 36.** The software system / code developed shall become the property of CPCB and CPCB is free to replicate, reproduce, multiply or distribute and deploy the software at any other location. CPCB will hold all the copyrights and IPR of the system.
- 37.** The bidder shall get the security audit, at such period as required, through CERT-In empaneled auditors.
- 38.** The quoted rates should be applicable during project duration and shall not change.
- 39.** The project monitoring team under Divisional Head, IT in CPCB will monitor the performance of the portal. This team may verify the functioning and assess the performance of portal. Due notice through email/letter will be given by Divisional Head prior to imposition of penalty.

40. In order to meet the project objectives, there might be changes or upgradation in the data input/output and processing of the data. The same shall be considered as part of the project and no extra cost shall be payable to the bidder.
41. Efforts have to be made by the bidder to ensure continuous operation of the portal. In case of any bug / error in the existing functionalities the firm will provide resolution at the earliest.
42. **Non-Disclosure Agreement and Integrity Pact:** The bidder is in agreement with CPCB to execute the contract, Non-Disclosure Agreement (NDA) and Integrity Pact as per format of CPCB. The contract format along with NDA will be shared with bidders. Integrity Pact is already enclosed under Annexures of this tender.
43. Not more than one tender shall be submitted by one bidder or bidders.
44. **Labour Laws and Safety Measures:** Bidder shall comply with all the provisions of labor law related legislation/acts as enacted by Government from time to time and in case of any prosecution/penalty, bidder shall be liable for the same. Bidder shall be liable for payments of duties viz. P.F., E.S.I. etc. including any compensation payable under appropriate laws to the professionals employed by the bidder. CPCB shall have no responsibility, financial or other liabilities towards professionals employed by the bidder. Bidder will take all safety measures / precautions during the work. For any accident due to negligence/any other reason during the period of contract period, it shall be sole responsibility of the bidder and CPCB shall not be held responsible for the same.
45. **Applicable Laws and Jurisdiction:** This tender, including all matters connected with this tender, shall be governed by Indian laws, both substantive and procedural, and shall be subject to the Delhi Jurisdiction.
46. **Insurance and Medical:** It shall be the responsibility of the bidder to insure their staff and equipment against any exigency. Bidder will also be responsible for taking insurance cover for third party liability, which might occur due to damages caused to/by their manpower, equipment etc. CPCB shall not be responsible for any such damages.
47. Medical facilities (as per law) for professional including insurance of the professional on site will be provided by the bidder.
48. **Taxes and Duties:** The firm shall be entirely responsible for all taxes, duties, and other such levies.
49. **Forfeiture of EMD:** The EMD may be forfeited under the following conditions:
  - a. If the bidder withdraws or amend, impairs or derogates from the tender in any respect within the 180 days' period of validity of the tender.
  - b. If the bidder withdraws the bid before the expiry of the validity period of 180 days of the bid or within the time frame of extension given by CPCB.
  - c. If the bidder fails to comply with any of the provisions of the terms and conditions of the tender document.
  - d. If the selected bidder fails to execute agreement in prescribed format or furnish the bank guarantee within the prescribed time.
50. **Return of EMD:** The earnest money of all the unsuccessful bidders will be returned as early as possible on finalization of the selection. The EMD of successful bidder shall be returned after receiving the Bank Guarantee or may be adjusted against the BG.
51. **Force Majeure:** Bidder shall not be considered in default if delay in delivery occurs due to causes beyond its control such as Acts of God, natural calamities etc. In the event of delay due to such cases, at the option of the CPCB the order may be cancelled. Such cancellation would be without any liability whatsoever on the part of CPCB. In the event of such cancellation the bidder shall refund any amount advanced to the it by the CPCB and release facilities, if any, provided by CPCB.

- 52. Change Request (CR):** No separate charges shall be paid by CPCB for any Change Request (CR) or New Development or Modification, in the entire project duration, and should be covered under Post-Upgradation Support and Comprehensive AMC.
- 53. Setting Timelines:** The timeline for new development/modifications/bug fixing/vulnerability fixing/DevOps work/report generation etc. will be based on mutual discussion between CPCB and the firm, and priority of requirement. In case of any disagreement, the decision of CPCB will be final.
- 54. Quality of Work:** The firm shall deploy competent professionals to execute the work given by CPCB. In case the work of professionals fails to meet the quality standards or timelines, the firm shall be liable to replace these professionals and get the work executed with quality, meeting the timelines.
- 55.** In case of any dispute, the decision of the Chairman, CPCB, shall be final and binding to both the parties.

### Section 20: Indemnification

- 1. Bidder shall at times indemnify and keep CPCB indemnified against all suit or proceeding/damages for any infringement of any Intellectual Property Rights (IPR) while providing its services under this contract.
- 2. Bidder shall at all times indemnify and keep CPCB indemnified against any claims in respect of any damages or compensation payable in consequences of any accident or injury sustained or suffered by its (bidder’s) employees or caused by any action, omission or operation conducted by or on behalf of Agencies.
- 3. Bidder shall at all times indemnify and keep CPCB indemnified against any and all suit or proceeding by employees, workman, suppliers, agent(s) employed engaged or otherwise working for bidder, in respect of their wages, salaries, remuneration, compensation or the hike.
- 4. All claims regarding indemnity shall survive the termination or expiry of the contract.

### Section 21: Project Timeline

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S. No.	Activity	T	T + 1 Month	T + 2 Month	T + 3 Months	T + 4 Months	T + 5 Months	T+6 Months	Post Upgradation Support Period (6 Months from Go LIVE)	Yearly AMCs for 5 Years
1	Signing of Contract									
2	SRS Development									
3	SRS Finalization									
4	Development &									

Upgradation, Operation and Maintenance of National Air Quality Data Management System

	Upgradation of System								
5	Security Audit (Pre-Deployment Audit)								
6	Go LIVE & Signoff								
7	Training								
8	Post-Upgradation Support (6 Months from Signoff)								
9	Yearly AMCs								

## Section 22: Penalties

S. No.	Item/Activity	Penalty
1	Delay in submission of SRS	Rs. 1000 per day.
2	Delay in Go Live!	Rs. 1000 per day.
3	Any breakdown of the system exceeding more than 2 hours.	Rs. 1000 per hour.
4	Any delay in updating/upgrading/developing the modules/feature etc.,	Rs. 5000 per day.
5	Non-generation of Daily AQI Bulletin.	Rs. 50,000 per day.

**The list of additional activities against which the penalty clause may be evoked shall be specified in contract document at the time of signing of contract. Penalty shall apply unless the target dates are relaxed by Competent Authority, CPCB, and as communicated in writing.**

**In case of any loss of data, CPCB shall be at liberty to impose such fine on the firm, as deemed fit, apart from other legal actions that may be initiated against the firm.**

Note:

- (1) Incidences of breakdown (exceeding 2 hours) should not be more than 2 in quarter. CPCB shall be at liberty to take appropriate action, as deemed fit, in case the number of breakdowns exceed this threshold.
- (2) The cap on total penalties shall be as per GeM/GFR provisions. During AMC period, the calculation will remain same and the amount shall be deducted from the PBG submitted to CPCB if penalty amount is higher than AMC amount.
- (3) The over-all penalty shall be limited to 15% of the cost pertaining to the stage of development and 15% of the annual maintenance cost during maintenance stage.

## Section 23: Payment Schedule

S. No.	Milestone/Activity	Cost to be released
1	SRS preparation and acceptance by DH-IT	10% of the amount quoted at S. No. 1 of the Financial Bid (Phase-I Costing).
2	Software Go Live & Signoff	50% of the amount quoted at S. No. 1 of the Financial Bid (Phase-I Costing).
3	Completion of Post-Upgradation Support	40% of the amount quoted at S. No. 1 of the Financial Bid (Phase-I Costing).
4	1st Year AMC	As per respective AMC amounts quoted in Financial Bid at S. No. 2 for each year, on half-yearly payment basis, after completion of AMC for that half year.
5	2 <sup>nd</sup> Year AMC	
6	3 <sup>rd</sup> Year AMC	
7	4 <sup>th</sup> Year AMC	
8	5th Year AMC	
9	Security Audit	In case CPCB gets the audit done through bidder/bidder engaged firm, the payment shall be as per amount quoted in Financial Bid at S. No. 3, at completion of each security audit and receipt of certificate.
10	Staging and UAT Hosting Charges	As per amount quoted in Financial Bid at S. No. 4, at the end of each year after completion of hosting for that year.
11	Development of Mobile Apps	As per the amount quoted at S. No. 5 of Financial Bid, after successful development and deployment of the App.

**Any payment to be released under the project will be subject to following conditions:**

- 1) **Submission of final bill in hard copy.**
- 2) **Submission of source code, scripts, compilation procedure, updated SRS etc. in soft copies.**
- 3) **Submission of two hard copies of software manual required for all its functionalities.**
- 4) **Penalty if any shall be deducted from the payments without notice.**



## Section 24: Checklist

Bidder shall make sure that while submitting the bid, in addition to all the relevant documents/certification, the following are also mandatorily filled and uploaded:

- ✓ EMD Soft Copy
- ✓ Filled Annexure – I
- ✓ Filled Annexure – II
- ✓ Filled Annexure – III
- ✓ Filled Annexure – IV
- ✓ Filled Annexure – V
- ✓ Filled Annexure – VI
- ✓ Non-blacklisting self-declaration.

## Annexure – I: Bid Application Form

(To be filled by the bidder)

<b>1.</b>	<b>Name and full address of the bidder firm</b>	:	
<b>2.</b>	<b>Name and Designation of the Head of the firm and his telephone number</b>	:	
<b>3.</b>	<b>Official Email Address of the bidder for communication related to this bid</b>	:	
<b>4.</b>	<b>Whether Earnest Money Deposited (Amount: Rs. 12 lakhs in favor of Central Pollution Control Board, payable at Delhi)</b>	:	
<b>5.</b>	<b>If Yes, Demand Draft No, Date and Name of issuing Bank.</b>	:	
<b>6.</b>	<b>Validity of Proposal</b>	:	<b>180 days</b>
<b>7.</b>	<b>Income Tax Clearance Certificate attached (Latest) (Yes or No) with PAN No.</b>	:	
+			
<b>Place</b>		<b>Signature with stamp</b>	

## Annexure – II: Eligibility Evaluation Format

(To be mandatorily filled by the bidder and submitted with the bid)

S. No.	Eligibility Criteria	Bidder's Response Column
1	<p>The bidder/vendor must be either one of the following:</p> <p>(a) A Company registered under the Companies Act, OR</p> <p>(b) A Society registered under the Societies Registration Act, OR</p> <p>(c) An LLP under the Limited Liability Partnership Act, OR</p> <p>(d) A Partnership under the Partnership Act.</p> <p><b>Supporting Document Required: Copy of valid certificate issued by relevant authority.</b></p>	<p>Does the bidder meet this condition? (Yes/No): _____</p> <p>Has the bidder attached the supporting document? (Yes/No): _____</p> <p><b>Mention the name of PDF file and page number at which supporting document is uploaded by the bidder:</b> _____</p>
2	<p>The bidder should have valid PAN and GST registration certificate.</p> <p><b>Supporting Document Required: Copy of GST Registration Certificate and PAN.</b></p>	<p>Does the bidder meet this condition? (Yes/No): _____</p> <p>Has the bidder attached the document for PAN? (Yes/No): _____</p> <p>Has the bidder attached the document for GST? (Yes/No): _____</p> <p><b>Mention the name of PDF file and page number at which supporting document is uploaded by the bidder:</b> _____</p>
3	<p>The firm should be in existence for at least 05 years. The time period of 5 years shall be calculated from the date of publication of this RFP.</p> <p><b>Supporting Document Required: Copy of valid certificate showing the date of incorporation/establishment of the firm.</b></p>	<p>Does the bidder meet the criteria? (Yes/No): _____</p> <p><b>Please mention the date of incorporation:</b> _____</p>

		<p>Please mention the number of years of existence of firm from the date of publication of the RFP: _____</p> <p>Has the bidder attached the supporting document? (Yes/No): _____</p> <p>Mention the name of PDF file and page number at which supporting document is uploaded by the bidder: _____</p>
<p>4</p>	<p>Firm should have ISACA CMMI Institute’s minimum CMM Level 3 Certification for Software Development/IT Enabled Services/Data Management of Process Industries.</p> <p>Supporting Document Required: Copy of valid CMMI Certificate from the CMMI Institute. The name of the firm must be listed on ISACA CMMI Institute’s Portal: <a href="https://cmmiinstitute.com/pars">https://cmmiinstitute.com/pars</a></p>	<p>Does the bidder meet the criteria? (Yes/No): _____</p> <p>Please mention the CMMI Certification Level: _____</p> <p>Is the CMMI Certificate of CMMI Institute? (Yes/No) _____</p> <p>Has the bidder attached the supporting document? (Yes/No): _____</p> <p>Mention the name of PDF file and page number at which supporting document is uploaded by the bidder: _____</p>
<p>5</p>	<p>Firms must have handled at least 04 projects of software development and/or maintenance during last five years from the date of publication of this RFP, with following sub-classification:</p> <p>a) Should have developed and/or maintaining at least one portal/software application related to role based MIS (Management Information System), AND</p> <p>b) Should have developed and/or maintaining user role based Mobile Apps, in both iOS as well as Android Platform. (Android &amp; iOS Versions not to be separately counted) AND</p>	<p>Does the bidder meet the criteria? (Yes/No): _____</p> <p>Mention total number of projects whose details are being submitted for eligibility evaluation: _____</p> <p>Breakup of the projects (details for each sub-criteria i.e. a, b, c, d as mentioned on left hand side, need to be provided</p>

	<p>c) Should have developed and/or maintaining at least one portal/software application related to use of Satellite based Data or Real Time Data, AND</p> <p>d) Should have developed and or maintaining at least one portal/software application related to Data Analytics w.r.t to characterization or classification or forecasting of Data (Manual Data or Real Time Data or Satellite based Data).</p> <p>Note: Of all the projects submitted under Criteria No. 5, at least two project must be in completion stage i.e. work completion certificate must have been issued for them.</p> <p>Supporting Documents Required: Copy of the work order, work completion certification, and other supporting documentation to establish the identity of the project w.r.t. point a/b/c/d above.</p>	<p><b>mandatorily):</b></p> <p><b><u>For sub-criteria (a):</u></b></p> <table border="1" data-bbox="1023 293 1385 707"> <thead> <tr> <th>Project(s) Name</th> <th>Name of PDF file and page number at which supporting document is uploaded</th> </tr> </thead> <tbody> <tr> <td>-----</td> <td>-----</td> </tr> <tr> <td>-----</td> <td>-----</td> </tr> </tbody> </table> <p><b><u>For sub-criteria (b):</u></b></p> <table border="1" data-bbox="1023 831 1385 1245"> <thead> <tr> <th>Project(s) Name</th> <th>Name of PDF file and page number at which supporting document is uploaded</th> </tr> </thead> <tbody> <tr> <td>-----</td> <td>-----</td> </tr> <tr> <td>-----</td> <td>-----</td> </tr> </tbody> </table> <p><b><u>For sub-criteria (c):</u></b></p> <table border="1" data-bbox="1023 1368 1385 1783"> <thead> <tr> <th>Project(s) Name</th> <th>Name of PDF file and page number at which supporting document is uploaded</th> </tr> </thead> <tbody> <tr> <td>-----</td> <td>-----</td> </tr> <tr> <td>-----</td> <td>-----</td> </tr> </tbody> </table> <p><b><u>For sub-criteria (d):</u></b></p> <table border="1" data-bbox="1023 1906 1385 2011"> <thead> <tr> <th>Project(s) Name</th> <th>Name of PDF file and page number at</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> </tr> </tbody> </table>	Project(s) Name	Name of PDF file and page number at which supporting document is uploaded	-----	-----	-----	-----	Project(s) Name	Name of PDF file and page number at which supporting document is uploaded	-----	-----	-----	-----	Project(s) Name	Name of PDF file and page number at which supporting document is uploaded	-----	-----	-----	-----	Project(s) Name	Name of PDF file and page number at		
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<p><b>6</b></p>	<p>For each project submitted under point 5 of eligibility criteria, firm must provide brief description of each project mentioning technology adopted, major technological challenges faced and how firm overcome these challenges during project execution.</p> <p>Supporting Documents Required: A brief two-page write-up for each project submitted under point 5 of the eligibility criteria. The write-up must cover the points mentioned above i.e. technology adopted, major challenges faced and how firm overcome these challenges during project execution.</p>	<p>Does the bidder meet the criteria? (Yes/No): _____</p> <p>Mention the number of projects submitted under point 5 of the eligibility criteria: _____.</p> <p>Has the bidder attached the supporting write-up for each of these projects? (Yes/No): _____</p> <p>Mention the name of PDF file and page number at which supporting document is uploaded by the bidder: _____</p>						
<p><b>7</b></p>	<p>Average annual turnover of the firm in last 5 financial years i.e. 2018-19, 2019-20, 2020-21, 2021-22, 2022-23 shall be at least Rs. 1.6 crores.</p> <p>Supporting Documents Required: Certificate from the auditors of the firm, mentioning the average annual turnover for last 5 financial years i.e. 2018-19, 2019-20, 2020-21, 2021-22, 2022-23</p>	<p>Does the bidder meet the eligibility criteria? (Yes/No): _____</p> <p>Average annual turnover for last 5 financial years i.e. 2018-19, 2019-20, 2020-21, 2021-22, 2022-23: _____</p> <p>Has the bidder attached the supporting document? (Yes/No): _____</p> <p>Mention the name of PDF file and page number at which supporting document is uploaded by the bidder: _____</p>						

8	<p>Firm should have a minimum 50 IT Professionals employed on its payroll.</p> <p>Supporting Documents Required: (1) Undertaking from the HR Head of the firm, mentioning the number of IT Professionals on payroll of the firm (2) EPFO Certificate or any other supporting govt. document.</p>	<p>Does the bidder meet the eligibility criteria? (Yes/No): _____</p> <p>Number of IT Professionals on payroll of the firm: _____</p> <p>Has the bidder attached the supporting govt. document? (Yes/No): _____</p> <p>Mention the name of PDF file and page number at which supporting document is uploaded by the bidder: _____</p>
9	<p>The firm should not have been blacklisted by any government body.</p> <p>Supporting Documents Required: Self-declaration by the bidder that it has not been blacklisted by any government body.</p>	<p>Does the bidder meet the eligibility criteria? (Yes/No): _____</p> <p>Has the bidder attached the supporting document? (Yes/No): _____</p> <p>Mention the name of PDF file and page number at which supporting document is uploaded by the bidder: _____</p>

## Annexure – III: Technical Evaluation Format

(To be mandatorily filled by the bidder and submitted with the bid)

S. No.	Parameter & Marking Slab	Bidder's Response



<b>1</b>	<p><b>Number of portal/software applications, related to role based MIS (Management Information System), developed or maintained in the previous five years from the date of publication of this tender.</b></p> <p><b>Marking Slab:</b></p> <table border="1" style="width: 100%; border-collapse: collapse; margin: 10px 0;"> <thead> <tr> <th style="text-align: center;">Quantity</th> <th style="text-align: center;">Marks</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">=1</td> <td style="text-align: center;">2</td> </tr> <tr> <td style="text-align: center;">&gt;=2 &amp; &lt;5</td> <td style="text-align: center;">3</td> </tr> <tr> <td style="text-align: center;">&gt;=5 &amp; &lt;8</td> <td style="text-align: center;">5</td> </tr> <tr> <td style="text-align: center;">&gt;=8 &amp; &lt;11</td> <td style="text-align: center;">7</td> </tr> <tr> <td style="text-align: center;">&gt;=11</td> <td style="text-align: center;">10</td> </tr> </tbody> </table> <p><b>Additional 1.5 mark will be given if at least one of the project is of govt. department.</b></p> <p><b>Total maximum marks: 10 + 1.5 = 11.5</b></p> <p><b>Supporting documents:</b></p> <p><b>(1) Copy of work order.</b></p> <p><b>(2) Copy of completion letter.</b></p> <p><b>(3) Brief two page write-up about the project, technologies used in the project, end users, and brief description to establish that project belongs to above category.</b></p>	Quantity	Marks	=1	2	>=2 & <5	3	>=5 & <8	5	>=8 & <11	7	>=11	10	<p><b>(a) Number of portal/software application, related to role based MIS (Management Information System), developed/maintained in previous five years from the date of publication of this tender:</b></p> <p>_____</p> <p><b>(b) Whether all of these portal/software application are related to role based MIS (Management Information System), developed/maintained in previous five years from the date of publication of this tender (Yes/No):</b> _____</p> <p><b>(c)</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; padding: 5px;"><b>Project Details</b></td> <td style="width: 50%; padding: 5px;"><b>Mention the name of PDF file and page number at which supporting document is uploaded by bidder</b></td> </tr> <tr> <td style="padding: 5px;"><b>Name of Project:</b> _____</td> <td style="padding: 5px;"><b>Uploaded PDF Name:</b> _____</td> </tr> <tr> <td style="padding: 5px;"><b>Name of Agency:</b> _____</td> <td style="padding: 5px;"><b>Page Number:</b> _____</td> </tr> <tr> <td style="height: 20px;"></td> <td></td> </tr> <tr> <td style="height: 20px;"></td> <td></td> </tr> </table>	<b>Project Details</b>	<b>Mention the name of PDF file and page number at which supporting document is uploaded by bidder</b>	<b>Name of Project:</b> _____	<b>Uploaded PDF Name:</b> _____	<b>Name of Agency:</b> _____	<b>Page Number:</b> _____				
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<b>2</b>	<p><b>Number of user role based Mobile Apps, developed/ maintained in the previous five years from the date of publication of this tender. (Android &amp; iOS Versions not to be separately counted)</b></p> <p><b>Marking Slab:</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%;">Quantity</th> <th style="width: 50%;">Marks</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">=1</td> <td style="text-align: center;">2</td> </tr> <tr> <td style="text-align: center;">&gt;=2 &amp; &lt;5</td> <td style="text-align: center;">3</td> </tr> <tr> <td style="text-align: center;">&gt;=5 &amp; &lt;8</td> <td style="text-align: center;">5</td> </tr> <tr> <td style="text-align: center;">&gt;=8 &amp; &lt;11</td> <td style="text-align: center;">7</td> </tr> <tr> <td style="text-align: center;">&gt;=11</td> <td style="text-align: center;">10</td> </tr> </tbody> </table> <p><b>Additional 1.5 mark will be given if at least one of the project is of govt. department.</b></p> <p><b>Total maximum marks: 10 + 1.5 = 11.5</b></p> <p><b>Supporting Documents:</b></p> <p><b>(1) Copy of work order.</b></p> <p><b>(2) Copy of completion letter.</b></p> <p><b>(3) Brief two page write-up about the project, technologies used in the project, end users, and brief description to establish that project belongs to above category of billing based system.</b></p>	Quantity	Marks	=1	2	>=2 & <5	3	>=5 & <8	5	>=8 & <11	7	>=11	10	<p><b>(a) Number of portal/ software application related to user role based Mobile Apps, developed/ maintained in previous five years from the date of publication of this tender:</b></p> <p>_____</p> <p><b>(b) Whether all of these portals/applications related to user role based Mobile Apps (Yes/No):</b></p> <p>_____</p> <p><b>(c)</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;"><b>Project Details</b></td> <td style="width: 50%;"><b>Mention the name of PDF file and page number at which supporting document is uploaded by bidder</b></td> </tr> <tr> <td><b>Name of Project:</b> _____</td> <td><b>Uploaded PDF Name:</b> _____</td> </tr> <tr> <td></td> <td><b>Page Number:</b> _____</td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td></td> <td></td> </tr> </table>	<b>Project Details</b>	<b>Mention the name of PDF file and page number at which supporting document is uploaded by bidder</b>	<b>Name of Project:</b> _____	<b>Uploaded PDF Name:</b> _____		<b>Page Number:</b> _____				
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	<b>Page Number:</b> _____																							

<p><b>3</b></p>	<p><b>Number of portals/applications related to use of Real Time Data or Satellite based Data, developed or maintained in the previous five years from the date of publication of this tender.</b></p> <p><b>Marking Slab:</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">Quantity</th> <th style="text-align: center;">Marks</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">=1</td> <td style="text-align: center;">2</td> </tr> <tr> <td style="text-align: center;">&gt;=2 &amp; &lt;5</td> <td style="text-align: center;">3</td> </tr> <tr> <td style="text-align: center;">&gt;=5 &amp; &lt;8</td> <td style="text-align: center;">5</td> </tr> <tr> <td style="text-align: center;">&gt;=8 &amp; &lt;11</td> <td style="text-align: center;">7</td> </tr> <tr> <td style="text-align: center;">&gt;=11</td> <td style="text-align: center;">10</td> </tr> </tbody> </table> <p><b>Additional 1 mark will be given if at least one of the project is of govt. department.</b></p> <p><b>Total maximum marks: 10 + 1 = 11</b></p> <p><b>Supporting Documents:</b></p> <p><b>(1) Copy of work order.</b></p> <p><b>(2) Copy of completion letter.</b></p> <p><b>(3) Brief two-page write-up about the project, technologies used in the project, end users, and brief description to establish that project belongs to above category of Satellite based Data or Real Time Data in the previous five years from</b></p>	Quantity	Marks	=1	2	>=2 & <5	3	>=5 & <8	5	>=8 & <11	7	>=11	10	<p><b>(a) Number of portals/applications related to use of Satellite based Data or Real Time Data, developed or maintained in previous five years from the date of publication of this tender:</b></p> <p>_____</p> <p><b>(b) Whether all of these portals/applications belong to Satellite based Data or Real Time Data (Yes/No):</b></p> <p>_____</p> <p><b>(c)</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;"><b>Project Details</b></td> <td style="width: 50%;"><b>Mention the name of PDF file and page number at which supporting document is uploaded by bidder</b></td> </tr> <tr> <td><b>Name of Project:</b> _____</td> <td><b>Uploaded PDF Name:</b> _____</td> </tr> <tr> <td></td> <td><b>Page Number:</b> _____</td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td></td> <td></td> </tr> </table>	<b>Project Details</b>	<b>Mention the name of PDF file and page number at which supporting document is uploaded by bidder</b>	<b>Name of Project:</b> _____	<b>Uploaded PDF Name:</b> _____		<b>Page Number:</b> _____				
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	<b>Page Number:</b> _____																							

	<b>the date of publication of this tender.</b>	
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<b>4</b>	<p><b>Number of developed portal/software applications related to Data Analytics w.r.t to characterization or classification or forecasting of Data (Manual Data or Real Time Data or Satellite based Data), developed or maintained in previous five years from the date of publication of this tender.</b></p> <p><b>Marking Slab:</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">Quantity</th> <th style="text-align: center;">Marks</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">=1</td> <td style="text-align: center;">2</td> </tr> <tr> <td style="text-align: center;">&gt;=2 &amp; &lt;5</td> <td style="text-align: center;">3</td> </tr> <tr> <td style="text-align: center;">&gt;=5 &amp; &lt;8</td> <td style="text-align: center;">5</td> </tr> <tr> <td style="text-align: center;">&gt;=8 &amp; &lt;11</td> <td style="text-align: center;">7</td> </tr> <tr> <td style="text-align: center;">&gt;=11</td> <td style="text-align: center;">10</td> </tr> </tbody> </table> <p><b>Additional 1 mark will be given if at least one of the project is of govt. department.</b></p> <p><b>Total maximum marks: 10 + 1 = 11</b></p> <p><b>Supporting Documents:</b></p> <p><b>(1) Copy of work order.</b></p> <p><b>(2) Copy of completion letter.</b></p> <p><b>(3) Brief two-page write-up about the project, technologies used in the project, end users, and brief description to establish that project belongs to above category.</b></p>	Quantity	Marks	=1	2	>=2 & <5	3	>=5 & <8	5	>=8 & <11	7	>=11	10	<p><b>(a) Number of developed portal/software application related to Data Analytics w.r.t to characterization or classification or forecasting of Data (Manual Data or Real Time Data or Satellite based Data), developed or maintained in previous five years from the date of publication of this tender: _____</b></p> <p><b>(b) Whether all of these portals/applications belong to Data Analytics w.r.t to characterization or classification or forecasting of Data (Manual Data or Real Time Data or Satellite based Data), developed or maintained in previous five years from the date of publication of this tender (Yes/No): _____</b></p> <p><b>(c)</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;"><b>Project Details</b></td> <td style="width: 50%;"><b>Mention the name of PDF file and page number at which supporting document is uploaded by bidder</b></td> </tr> <tr> <td><b>Name of Project:</b> _____</td> <td><b>Uploaded PDF Name:</b> _____</td> </tr> <tr> <td></td> <td><b>Page Number:</b> _____</td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td></td> <td></td> </tr> </table>	<b>Project Details</b>	<b>Mention the name of PDF file and page number at which supporting document is uploaded by bidder</b>	<b>Name of Project:</b> _____	<b>Uploaded PDF Name:</b> _____		<b>Page Number:</b> _____				
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5	<p>Years of existence of the company, from the date of publication of this tender</p> <p>Marking Slab:</p> <table border="1" data-bbox="280 707 708 990"> <thead> <tr> <th>Years of Existence</th> <th>Marks</th> </tr> </thead> <tbody> <tr> <td>&gt;=5 and &lt;8</td> <td>3</td> </tr> <tr> <td>&gt;=8 and &lt;14</td> <td>4</td> </tr> <tr> <td>&gt;= 14</td> <td>5</td> </tr> </tbody> </table> <p>Supporting Documents: Copy of valid certificate showing the date of incorporation/ establishment of the firm.</p>	Years of Existence	Marks	>=5 and <8	3	>=8 and <14	4	>= 14	5	<p>(a) Date of incorporation/establishment of the firm: _____</p> <p>(b) Number of years of existence of the firm, from the date of publication of this tender: _____</p> <p>(c) Mention the name of PDF file and page number at which supporting document is uploaded by bidder: _____</p>
Years of Existence	Marks									
>=5 and <8	3									
>=8 and <14	4									
>= 14	5									
6	<p>CMMI Certification of ISACA CMMI Institute, related to software development/ IT enabled services/ data management of process industries</p> <p>Marking Slab:</p> <table border="1" data-bbox="280 1599 676 1783"> <thead> <tr> <th>CMMI Level</th> <th>Marks</th> </tr> </thead> <tbody> <tr> <td>CMMI Level 3</td> <td>5</td> </tr> <tr> <td>CMMI Level 5</td> <td>10</td> </tr> </tbody> </table> <p>Supporting Documents: Copy of valid CMMI Certificate from the ISACA CMMI Institute. The name of the firm must be</p>	CMMI Level	Marks	CMMI Level 3	5	CMMI Level 5	10	<p>(a) CMMI Certificate Level: _____</p> <p>(b) Whether the name of firm is listed on ISACA CMMI Institute's Portal: <a href="https://cmmiinstitute.com/pars">https://cmmiinstitute.com/pars</a> (Yes/No): _____</p> <p>(c) Mention the name of PDF file and page number at which supporting document is uploaded by bidder: _____</p>		
CMMI Level	Marks									
CMMI Level 3	5									
CMMI Level 5	10									

	<p>listed on ISACA CMMI Institute's Portal:  <a href="https://cmminstitute.com/pars">https://cmminstitute.com/pars</a></p>									
7	<p>Number of IT Professionals on payroll of the firm.</p> <p>Marking Slab:</p> <table border="1"> <thead> <tr> <th>Number of IT Professionals</th> <th>Marks</th> </tr> </thead> <tbody> <tr> <td>50 to 100</td> <td>7</td> </tr> <tr> <td>101 to 200</td> <td>10</td> </tr> <tr> <td>Above 200</td> <td>15</td> </tr> </tbody> </table> <p>Supporting Documents Required: (1) Undertaking from the HR Head of the firm, mentioning the number of IT Professionals on payroll of the firm (2) EPFO Certificate or any other supporting govt. document.</p>	Number of IT Professionals	Marks	50 to 100	7	101 to 200	10	Above 200	15	<p>(a) No. of IT Professionals on payroll of the firm:          _____</p> <p>(b) Whether undertaking from the HR Head of the firm, mentioning the number of IT Professionals on payroll of the firm, is enclosed (Yes/No):          _____</p> <p>Mention the name of PDF file and page number at which supporting document is uploaded by bidder:          _____</p> <p>(c) Whether EPFO Certificate or any other supporting govt. document is enclosed (Yes/No): _____</p> <p>Mention the name of PDF file and page number at which supporting document is uploaded by bidder:          _____</p>
Number of IT Professionals	Marks									
50 to 100	7									
101 to 200	10									
Above 200	15									
08	<p>Average annual turnover of the firm in the last 5 financial years i.e. 2018-19, 2019-20, 2020-21, 2021-22, 2022-23.</p> <p>Marking Slab:</p> <table border="1"> <thead> <tr> <th>Average Turnover</th> <th>Marks</th> </tr> </thead> <tbody> <tr> <td>&gt;= 1.6 Cr &amp; &lt; 10 Cr</td> <td>2</td> </tr> <tr> <td>&gt;= 10 Cr &amp; &lt; 20 Cr</td> <td>4</td> </tr> <tr> <td>&gt;= 20 Cr &amp; &lt; 50 Cr</td> <td>6</td> </tr> </tbody> </table>	Average Turnover	Marks	>= 1.6 Cr & < 10 Cr	2	>= 10 Cr & < 20 Cr	4	>= 20 Cr & < 50 Cr	6	<p>(a) Annual turnover for last 5 financial years:</p> <p>2018-19: _____ (In Rs. Crore)</p> <p>2019-20: _____ (In Rs. Crore)</p> <p>2020-21: _____ (In Rs. Crore)</p> <p>2021-22: _____ (In Rs. Crore)</p> <p>2022-23: _____ (In Rs. Crore)</p> <p>Average Turnover of these five years:          _____</p>
Average Turnover	Marks									
>= 1.6 Cr & < 10 Cr	2									
>= 10 Cr & < 20 Cr	4									
>= 20 Cr & < 50 Cr	6									

	<table border="1"> <tr> <td data-bbox="280 192 571 253">&gt;= 50 Cr &amp; &lt;100 Cr</td> <td data-bbox="571 192 687 253">8</td> </tr> <tr> <td data-bbox="280 253 571 315">&gt;=100 Cr</td> <td data-bbox="571 253 687 315">10</td> </tr> </table>	>= 50 Cr & <100 Cr	8	>=100 Cr	10	<p>(b) Whether certificate from the auditors of the firm, mentioning the average annual turnover for last 5 financial years i.e. 2018-19, 2019-20, 2020-21, 2021-22, 2022-23 is uploaded by the bidder (Yes/No): _____</p> <p>(c) Mention the name of PDF file and page number at which supporting document is uploaded by bidder: _____</p>
>= 50 Cr & <100 Cr	8					
>=100 Cr	10					
09	<p><b>Technical Write-up</b></p> <p>Bidder need to submit a technical write-up covering the following:</p> <ul style="list-style-type: none"> <li>i. Bidder’s expertise and experience in different technologies Python, Django, MongoDB, OpenTSDB, Kairos DB, Big Data Technologies, Linux OS, Elastic Search, Angular, PHP, RDBMS such as MySQL, SQL Server, APIs etc.: 1-2.5 Marks.</li> <li>ii. Bidder’s expertise and experience in GIS tools, Data Modelling, Data Analytics, Artificial Intelligence: 1-2.5 Marks</li> </ul> <p><b>Supporting Documents Required:</b> Technical write-up covering the themes given above.</p>	<p><b>Technical Write-up:</b></p> <p>(a) Whether the bidder has submitted a technical write-up (Yes/No): _____</p> <p>(b) Mention the name of PDF file and page number at which this technical write up is uploaded by bidder: _____</p>				



<b>10</b>	<b>Technical presentation by the bidder, covering themes such as understanding of the project, technical approach to execute the project, expertise, experience, technical competence including overview of previous projects etc.</b>  <b>Marking range for technical presentation: 1-10 Marks.</b>	<b>The bidder will need to make the technical presentation before the bid evaluation committee, on date and time specified by CPCB.</b>
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## Annexure – IV: Financial Bid Format

(To be mandatorily filled by the bidder and submitted with the bid)

S. No. (A)	Item/Activity (B)	Unit	Quantity required (C)	Price (in Rupees excluding taxes) (D)	Quantity x Price (Without Taxes) (E)	Taxes (F)	Cost with Tax (Rs.) (G)
1	<p>(Phase 1) Consolidated costing for all the activities (excluding new Mobile App development) mentioned in the Phase I under the Scope of Work at section 5(2) and Annexure A, also including the following.</p> <p><b>(a)</b> Project takeover and maintenance of existing system:  <b>(b)</b> Initial Upgradation of the System including migration  <b>(c)</b> Go-Live and Signoff  <b>(d)</b> Development of Data Repository:  <b>(e)</b> Implementation of Data Validation Mechanism  <b>(f)</b> Data Analytics  <b>(g)</b> Integration of Satellite Data in Air Quality Management:  <b>(h)</b> Artificial Intelligence:  <b>(i)</b> GIS Integration:  <b>(j)</b> Integration with External Systems  <b>(k)</b> Technical Training:</p>	<b>Lump Sum Amount</b>	1				

## Upgradation, Operation and Maintenance of National Air Quality Data Management System

	(I) Post- Upgradation Support for 6 months including Comprehensive Development & Maintenance						
<b>2</b>	(Phase-II) Total Comprehensive AMC Cost for 1 <sup>st</sup> Year	<b>Annual Cost</b>	<b>1</b>				
	(Phase-II) Total Comprehensive AMC Cost for 2 <sup>nd</sup> Year	<b>Annual Cost</b>	<b>1</b>				
	(Phase-II) Total Comprehensive AMC Cost for 3 <sup>rd</sup> Year	<b>Annual Cost</b>	<b>1</b>				
	(Phase-II) Total Comprehensive AMC Cost for 4 <sup>th</sup> Year	<b>Annual Cost</b>	<b>1</b>				
	(Phase-II) Total Comprehensive AMC Cost for 5 <sup>th</sup> Year	<b>Annual Cost</b>	<b>1</b>				
<b>3</b>	Cost of conducting 4 security Audits during project period.	<b>Per Audit</b>	<b>4</b>				
<b>4</b>	Cost of Staging and UAT Servers per year.	<b>Annual Cost</b>	<b>6</b>				
<b>5</b>	Development of Mobile Apps (Android and iOS Version of the App will be counted as one App, and not counted separately)	<b>Per App</b>	<b>5</b>				
<b>6</b>	Cost of deploying additional manpower for implementing any incidental development based on Man-days	<b>Per Day</b>	<b>30</b>				
<b>7</b>	Cost of deploying additional manpower for implementing any	<b>Per Month</b>	<b>10</b>				

**IT-12/2/2023-IT-HO-CPCB-HO**  
**Upgradation, Operation and Maintenance of National Air Quality Data Management System**

	incidental development based on Man months						
		<b>Total</b>					

**Total Amount Quoted Without Tax (In Numbers):** \_\_\_\_\_

**(In Words):** \_\_\_\_\_

**(Should match with sum of Column 'E' of the table above)**

**\* Tax Rate will be governed as per govt. rules at the time of payment**

## Annexure – V: Integrity Pact

### General

This pre-bid pre-contract Agreement (hereinafter called the Integrity Pact) is made on ..... day of the month of ..... 2023, between, CPCB, An autonomous body acting through Shri ..... , {Designation of the officer, Ministry/Department, Government of India) hereinafter called the "BUYER", which expression shall mean and include, unless the context otherwise requires, his successors in office and assigns of the First Part and M/s ..... represented by Shri. ...., Chief Executive Officer (hereinafter called the "BIDDER / SELLER" which expression shall mean and include, unless the context otherwise requires, his successors and permitted assigns) of the Second Part.

WHEREAS the BUYER proposes to procure (Name of the Stores/Equipment/Item) and the BIDDER/Seller is willing to offer/has offered the stores and WHEREAS the BIDDER is a private company/public company/Government undertaking/partnership/registered export agency, constituted in accordance with the relevant law in the matter and the BUYER CPCB work under the aegis of Environment & Forests, performing its functions as per the provisions of Water Act 1974, Air Act ,1981 and EPA Act, 1986.

NOW, THEREFORE,

To avoid all forms of corruption by following a system that is fair, transparent and free from any influence/prejudiced dealings prior to, during and subsequent to the currency of the contract to be entered into with a view to: -

Enabling the BUYER to obtain the desired said stores/equipment at a competitive price in conformity with the defined specifications by avoiding the high cost and the distortionary impact of corruption on public procurement, and

Enabling BIDDERS to abstain from bribing or indulging in any corrupt practice in order to secure the contract by providing assurance to them that their competitors will also abstain from bribing and other corrupt practices and the BUYER will commit to prevent corruption, in any form, by its officials by following transparent procedures.

The parties hereto hereby agree to enter into this Integrity Pact and agree as follows:

### Commitments of the BUYER

- 1.1. The BUYER undertakes that no official of the BUYER, connected directly or indirectly with the contract, will demand, take a promise for or accept, directly or through intermediaries, any bribe, consideration, gift, reward, favour or any material or immaterial benefit or any other advantage from the BIDDER, either for themselves or for any person, organization or third party related to the contract in exchange for an advantage in the bidding process, bid evaluation, contracting or implementation process related to the contract.
- 1.2. The BUYER will, during the pre-contract stage, treat all BIDDERS alike, and will provide to all BIDDERS the same information and will not provide any such information to any particular BIDDER which could afford an advantage to that particular BIDDER in comparison to other BIDDERS.

- 1.3. All the officials of the BUYER will report to the appropriate Government office any attempted or completed breaches of the above commitments as well as any substantial suspicion of such a reach.
  
2. In case of any such preceding misconduct on the part of such official(s) is reported by the BIDDER to the BUYER with full and verifiable facts and the same is prima facie found to be correct by the BUYER, necessary disciplinary proceedings, or any other action as deemed fit, including criminal proceedings may be initiated by the BUYER and such a person shall be debarred from further dealings related to the contract process. In such a case while an enquiry is being conducted by the BUYER the proceedings under the contract would not be stalled.

**Commitments of BIDDERS**

3. The BIDDER commits himself to take all measures necessary to prevent corrupt practices, unfair means and illegal activities during any stage of his bid or during any pre-contract or post-contract stage in order to secure the contract or in furtherance to secure it and in particular commits himself to the following: -
  - 1.1 The BIDDER will not offer, directly or through intermediaries, any bribe, gift, consideration, reward, favour, any material or immaterial benefit or other advantage, commission, fees, brokerage or inducement to any official of the BUYER, connected directly or indirectly with the bidding process, or to any person, organization or third party related to the contract in exchange for any advantage in the bidding, evaluation, contracting and implementation of the Contract.
  - 1.2 The BIDDER further undertakes that he has not given, offered or promised to give, directly or indirectly any bribe, gift, consideration, reward, favour, any material or immaterial benefit or other advantage, commission, fees, brokerage or inducement to any official of the BUYER or otherwise in procuring the Contract or forbearing to do or having done any act in relation to the obtaining or execution of the Contract or any other Contract with the Government for showing or forbearing to show favour or disfavour to any person in relation to the Contract or any other Contract with the Government.
  - 1.3 \* The BIDDER shall disclose the name and the address of the agents and representatives and Indian BIDDERS shall disclose their foreign principals or associates.
  - 1.4 The BIDDER shall disclose the payments to be made by them to agents/brokers or any other intermediary, in connection with this bid/contract.
  - 1.5 The BIDDER further confirms and declare to the BUYER that the BIDDER is the original manufacturer/integrator/authorized dealer and has not engaged any individual or firm or company whether Indian or foreign to intercede, facilitate or in any way to recommend to the BUYER or any of its functionaries, whether officially or unofficially to the award of the contract to the BIDDER, nor has any amount been paid, promised

or intended to be paid to any such individuals, firms or company in respect of any such intercession, facilitation or recommendation.

- 1.6 The BIDDER, either while presenting the bid or during pre-contract negotiations or before signing the contract, shall disclose any payments he has made, is committed to or intends to make to officials of the BUYER or their family members, agents, brokers or any other intermediaries in connection with the contract and the details of services agreed upon for such payments.
- 1.7 The BIDDER will not collude with other parties interested in the contract to impair the transparency, fairness and progress of the bidding process, bid evaluation, contracting and implementation of the contract.
- 1.8 The BIDDER will not accept any advantage in exchange for any corrupt practice, unfair means and illegal activities.
- 1.9 The BIDDER shall not use improperly, for purposes of competition or personal gain, or pass on to others, any information provided by the BUYER as part of the business relationship, regarding plans, technical proposals and business details, including information contained in any electronic data carrier. The BIDDER also undertakes to exercise due and adequate care lest any such information is divulged.
- 1.10 The BIDDER commits to refrain from giving any complaint directly or through any other manner without supporting it with full and verifiable facts.
- 1.11 The BIDDER shall not instigate or cause to instigate any third person to commit any of the actions mentioned above.
- 1.12 If the BIDDER or any employee of the BIDDER or any person acting on behalf of the BIDDER, either directly or indirectly, is a relative of any of the officers of the BUYER, or alternatively, if any relative of an officers of BUYER has financial interest/stake in the BIDDER's firm, the same shall be disclosed by the BIDDER at the time of filling the tender.
- 1.13 The BIDDER shall not lend to or borrow any money from or enter into any monetary dealings or transactions, directly or indirectly, with any employee of the BUYER.

#### **4. Previous Transgression**

- 1.1 The BIDDER declares that no previous transgression occurred in the last three years immediately before signing of this Integrity Pact, with any other company in any country in respect of any corrupt practices envisaged hereunder or with any Public Sector Enterprise in India or any Government Department in India, that could justify BIDDER's exclusion from the tender process.
- 1.2 If the BIDDER makes incorrect statement on this subject, BIDDER can be disqualified from the tender process or the contract, if already awarded, can be terminated for such reason.

## 5. Sanctions for Violation

- 1.1 Any breach of the aforesaid provisions by the BIDDER or any one employed by him or acting on his behalf (whether with or without the knowledge of the BIDDER shall entitle the BUYER to take all or any one of the following actions, wherever required:-
- I. To immediately call off the pre-contract negotiations without assigning any reason or giving any compensation to the BIDDER. However, the proceedings with the other BIDDER(s) would continue.
  - II. The Earnest Money/Security Deposit/Performance Bond shall stand forfeited either fully or partially, as decided by the BUYER and the BUYER shall not be required to assign any reason therefore
  - III. To immediately cancel the contract, if already signed, without giving any compensation to the BIDDER.
  - IV. To recover all sums already paid by the BUYER, and in case of an Indian BIDDER with interest thereon at 2% higher than the prevailing Prime Lending Rate of State Bank of India , while in case of a BIDDER from a country other than India with interest thereon at 2% higher than the LIBOR. If any outstanding payment is due to the BIDDER from the BUYER in connection with any other contract for any other stores, such outstanding payment could also be utilized to recover the aforesaid sum and interest
  - V. To encash the advance bank guarantee and performance bond/warranty bond, if furnished by the BIDDER, in order to recover the payments, already made by the BUYER, along with interest.
  - VI. To cancel all other contact with the BIDDER. The BIDDER shall be liable to pay compensation for any loss or damage to the BUYER resulting from such cancelation/rescission and the BUYER shall be entitled to deduct the amount so payable from the money(s) due to BIDDER.
  - VII. To debar the BIDDER from entering into any bid from the Government of India for a minimum period of five years, which may be further extended at the discretion of the BUYER.
  - VIII. To recover all sums paid in violation of this Pact by BIDDER(s) to any middleman or agent or broker with a view to securing the contract.
  - IX. The BIDDER shall not lend to or borrow any money from or enter into any monetary dealings or transactions, directly or indirectly, with any employee of the BUYER, and if he does so, the BUYER shall be entitled forthwith to rescind the contract and all other contracts with the BIDDER. The BIDDER shall be liable to pay compensation for any loss or damage to the BUYER resulting from such rescission and the BUYER shall be entitled to deduct the amount so payable from the money(s) due to the BIDDER.
  - X. In cases where irrevocable Letters of Credit have been received in respect of any contract signed by the BUYER with the BIDDER, the same shall not be opened.
  - XI. Forfeiture of Performance Bond in case of a decision by the BUYER to forfeit the same without assigning ant reason for imposing sanction for violation of this Pact.



- 1.2 The Buyer will be entitled to take all or any actions mentioned at para 4.1(i) to (x) of this Pact also on the Commission by the BIDDER or any one employed by it or acting on its behalf (whether with or without the knowledge of the BIDDER), or any offence as defined in Chapter IX of the Indian penal Code, 1860 or Prevention of Corruption Act, 1988 or any other statute enacted for prevention of corruption.
- 1.3 The decision of the Buyer to the effect that a breach of the provisions of this Integrity Pact has been committed by the Bidder shall be final and binding on the Bidder, however, the Bidder can approach the monitor(s) appointed for the purposes of this Pact.

## **6. Fall Clause**

- 1.1 The Bidder undertakes that he has not supplied/is not supplying the similar systems or subsystems at a price lower than that offered in the present bid in respect of any other Ministry/Department of the Government of India and if it is found at any stage that the similar system or sub-system was supplied by the Bidder to any other Ministry/Department of the Government of India or a PSU at a lower price, then that very price will be applicable to the present case and the difference in the cost would be refunded by the Bidder to the Buyer, if the contract has already been concluded.

## **7. Independent Monitors**

- 7.1. The Buyer has appoint Independent Monitors (hereinafter referred to as Monitors) for this Pact, in consultation with the Central Vigilance Commission (Sh Jagdish Rai Garg, C/o Member Secretary, Central Pollution Control Board, Parivesh Bhawan, East Arjun Nagar, Delhi-110032, Mobile No. 8008516763, email : jr.garg@yahoo.com.)
- 7.2. The task of the Monitors shall be reviewed independently and objectively , whether and to what extent the parties comply with the obligations under this Pact.
- 7.3. The Monitors shall not be subject to instructions by the representatives of the parties and perform their functions neutrally and independently.
- 7.4. Both the parties accept that the Monitors have the right to access all the documents relating to the project/procurement, including minutes of meetings.
- 7.5. As soon as the Monitor notices, or believes to notice, a violation of this Pact, he will so inform the authority designated by the BUYER.
- 7.6. The BIDDER's accept that the Monitors has the right to access without restriction to all Project documentation of the BUYER including that provided by the BIDDER. The BIDDER will also grant the Monitor, upon his request and demonstration of a valid interest, unrestricted and unconditional access to his project documentation. The same is applicable to the sub contractors. The Monitor shall be under contractual obligation to treat the information and documents of all the BIDDER's / subcontractors with confidentiality.

- 7.7. The BUYER will provide to the Monitor sufficient information about all meetings among the parties related to the Project provided such meetings could have an impact on the contractual relations between the parties. The parties will offer to the Monitor the option to participate in such meetings.
- 7.8. The Monitors will submit a written report to the designated Authority of BUYER within 8 to 10 weeks from the date of reference or intimation to him by the BUYER/BIDDER and, should the occasion arise, submit proposals for correcting problematic situations.

**8. Facilitation of Investigation**

In case of any allegation of violation of any provisions of this Integrity Pact or payment of commission, the Buyer or its agencies shall be entitled to examine the Books of Accounts of the Bidder and the Bidder shall provide necessary information of the relevant financial documents in English and shall extend all possible help for the purpose of such examination.

**9. Law and Place of Jurisdiction**

This Pact is subject to Indian Law. The place of performance and jurisdiction is the seat/place of the BUYER.

**10. Other Legal Actions**

The actions stipulated in this Integrity Pact are without prejudice to any other legal action that may follow in accordance with the provisions of the extant law in force relating to any civil or criminal proceedings.

**11. Validity**

11.1 The validity of this Integrity Pact shall be from date of its signing and extend up to 5 years or the complete execution of the contract to the satisfaction of both the Buyer and the Bidder/Seller, including warranty period whichever is later. In case BIDDER is unsuccessful, this integrity Pact shall expire after six months from the date of the signing of the contract.

11.2 Should one or several provisions of this Pact turn out to be invalid, the remainder of this Pact shall remain valid. In this case, the parties will strive to come to an agreement to their original intentions.

12. The Parties hereby sign this Integrity Pact at \_\_\_\_\_ on \_\_\_\_\_.

BUYER

Name of The Officer.

BIDDER

CHIEF EXECUTIVE OFFICER

Designation

Deptt./MINISTRY/PSU

Witness

1.....

2.....

Witness

1.....

2.....

## Annexure – VI: Agreement

(Indicative Draft)

An agreement is made on the \_\_\_\_\_ day of \_\_\_\_\_ 2023 between Central Pollution Control Board, 'Parivesh Bhawan', East Arjun Nagar, CBD-cum-Office Complex, Delhi-32 (herein referred to as the 'Board' which expression shall unless repugnant to the context or meaning thereof be deemed to include their successor and /or assignee) of the other part.

WHEREAS the party of the first part is a statutory body, created and established under an act of the parliament known as Water (Prevention & control of pollution) Act,1974 and the rule framed thereunder. Member Secretary of the Board is authorized person to sign the agreement on behalf of the Board.

AND WHEREAS the main objective of the board is to control the pollution of water and air at the same time take such measures as may be necessary to prevent pollution of water and air. One of the functions of the Board is to Plan and execute a nation-wide program for the prevention, control or abatement of water and air pollution.

AND WHEREAS the Board, in pursuance of its objective and to carry out the functions, with regard to prevention, control or abatement of water and air pollution, it is essential that all the relevant data are collected, collated and compiled in such way that these could be retrieved quickly and easily. In order to have effective implementation, Board has decided the **Upgradation, Operation and Maintenance of National Air Quality Data Management System** to be carried out by the firm amounting to Rs. \_\_\_\_\_ (.....Rupees only).

AND WHEREAS the party of the second part is a firm M/s \_\_\_\_\_.

AND WHEREAS the firm has approached the Board for the execution of the said work and have agreed to conduct and complete the work on the terms and conditions specified and agreed to between the parties hereto and as contained hereinafter.

ND NOW THEREFORE in consideration of the terms and mutual consent hereinafter mentioned, the parties hereby agree as follows:

### 1. DEFINITIONS

Agreement means this agreement and all appendices, annexure attached, work order, and subsequent amendment, modifications and additions directed by the Board to be carried out, provided that such directions are given by the Board.

'Work' means the total work to be conducted and completed by the firm as specified in details in the scope of work.

The Board means the Central Pollution Control Board includes its Member Secretary and any other officials authorized to act and on behalf of the Board by the Member Secretary.

The firm means M/s \_\_\_\_\_.

## 2. OBLIGATIONS OF BOTH THE PARTIES

The firm should carry out the work from the date of issue of the final work order and submit inception report within 15 days time after receipt of final work award letter, as detailed in scope of work and as entrusted to them under the instructions of the Board and the firm further undertakes to give full co-operation to the Board in this regard.

The Board shall have the right to depute its representative to work with the software developing firm and at all times such representative shall have access to the premises where and whenever the work is in progress. The software developing firm shall provide all facilities to the representative of the Board for inspection and/or assessment of work.

The software developing firm shall receive fees in the manner prescribed in the payment conditions. Fees for any additional work, not included in the scope of work at the time of issuing the work order and which shall have to be carried out by firm under this agreement being due to amendments, modifications or additions as per clause 1(i) of this agreement, will be decided amicably and will be paid.

This agreement comprises of detailed and definite enumeration of the rights and duties of the parties to the contract and covers all previous correspondence or negotiations etc., which may be contrary to this agreement in any way.

If one provision of this agreement should prove to be invalid or null, all remaining provisions shall remain effective without change. The contracting parties shall try to replace the invalid and null provisions by an admissible provision aiming of the same economic and legal rights.

Dimensions/standards and units wherever referred shall conform to the Indian Regulations wherever obligatory and in all other cases the same will be as per prevailing practice. If however, the Board specifies the dimensions and units of the work then same shall be final and the firm undertakes to adopt the same and to carry out the work in accordance with the instructions issued by the Board.

The software developing firm shall not engage or employ any sub-contractor for the execution of the work under this agreement without the prior consent in writing obtained from the Board. Any possible sub-contracts, which may concluded by the software developing firm in consent with the Board, shall be so concluded on the sole and full responsibility of the software developing firm. The fact of sub-contracting shall not absolve the software developing firm from his/her obligations and responsibilities under this agreement.

Subject to the provisions of this agreement the software developing firm shall not transfer or assign this agreement without the Board's prior consent in writing. In any case transfer or assignment that may be affected by the software developing firm shall not modify his/her liabilities under this agreement. In the event of assignment for transfer the assignees or transferee shall be responsible for the fulfillment of the conditions of this agreement.

## 3. SECRECY AND COPYRIGHT

The software developing firm hereby undertakes to treat all the data, information, drawings and details etc., received by the consultants during the execution of the work, directly or indirectly, as exclusive property of the Board.

No publication shall be effected or caused to be effected by the software developing firm without the consent of the Board in writing. All the information and data received or collected by the software developing firm during the execution of the work or at any other time in pursuance of this agreement shall be strictly treated as confidential and shall not be divulged to no other party, person or organization at any point of time.

#### **4. EXTENSION AND TERMINATION**

It is agreed between the parties that the Board at its discretion may grant extension of AMC to the software developing firm for the completion of the work under this contract provided the Board is satisfied with the reasons for the extension stated by the consultant in his application in writing made to the Board, such extension stated would not entitle the consultant for any additional payment whatever under clause 2 of this agreement.

It is agreed by and between the parties that the Board shall have the right to terminate this agreement without assigning any reason thereof subject, however to the condition that it shall give one month's notice of termination in writing to the software developing firm.

In the event of termination of the agreement as provided herein, the software developing firm shall cease all further work and shall deliver to the Board all data, details, plans, specifications and other documents prepared or information collected upto the date of notice of treatment received thereof.

In the event of termination of the agreement as provided herein, the Board shall reimburse to the software developing firm a part of fees proportionate to the work carried out pursuant to this agreement upto the date of notice of termination.

The software developing firm hereby undertakes and agrees to handover all the drawings, specifications, plans, sketches and other data and such other documents, alongwith complete information and report to the Board within 15 days of the completion of the work or the notice of termination of the contract as the case may be.

The Board has the right to terminate the contract with or without assigning any reason at any stage besides reserve its right for the damage or any claim that the Board may have against the software developing firm.

In case of such termination by the Board, if any payment in excess has been paid to the software developing firm, the software developing firm hereby undertakes and agrees to repay the excess payment within 15 days of the termination of the contract.

#### **5. INDEMINITY**

The software developing firm hereby undertakes to indemnify the Board against any suit or proceeding made by any third party for any reason whatsoever such a claim or damage may arise because of a mistake, negligence and/or any other reason or an act of the consultant during the course of the work being carried out or after the work the work carried out by the consultant under this contract.

The parties to this agreement specifically agree that the Board shall have the right to withhold the payment of fees that may be due and payable to the software developing firm in the event of any breach committed by the software developing firm under this agreement and the payment withheld be paid whenever such breach is rectified.

#### **6. ARBITRATION CLAUSE**

The parties to the agreement hereby agree and consent that all disputes, claims etc., arising out of and touching upon clause of the agreement and their interpretation shall be submitted to the sole arbitrator to be appointed in the following manner:

“The Chairman, Central Board shall appoint Director (CP Division), Ministry of Environment, Forests & Climate Change, Government of India, New Delhi, or any other suitable person in the field of Computer Engineering as the sole arbitrator to adjudicate and decide upon the dispute referred to him”. The arbitrator shall state this decision in writing and if amount of claim in dispute is 50,000/- (fifty thousand rupees) and above, the arbitrator shall give reasons for award.

Subject as aforesaid, the provision of the arbitration & conciliation Act, 1996 or any other statutory modification or reenactment thereof and the rules made there under and for the time being in force shall apply to the arbitration proceedings under the clause.

It is a term of contract that party invoking the arbitration shall specify the dispute or disputes to be referred to the arbitrator under this clause together with the amount or amounts claimed in respect of each dispute.

It is also a term of contract that if any of the party do not make any demand for arbitration in respect of any claim(s) in writing within 30 days of receiving the information from the Board that final bill is ready for the payment, the claim of the contracting party(s) will be deemed to have been waived and absolutely barred and the Central Pollution Control Board will be discharged of all liabilities under the contract in respect of these claims.

The decision of the arbitrator shall be final and binding upon the parties.

IN WITNESS WHEREOF THE parties of the first and second part of this agreement have subscribed their signatures on this agreement on the day and year herein above mentioned.

For M/s . \_\_\_\_\_

( )

Member Secretary

For: Central Pollution Control Board

“Parivesh Bhawan”, East Arjun Nagar, Delhi-110 032

SIGNED IN THE PRESENCE OF

1. Witness:

2. Witness:

## Appendix – A

Indicative list of new features to be developed during initial upgradation and consolidation phase

1. Mechanism to display the city-wise AQI, station-wise sub-index, concentration values etc. In addition to this, separate checkbox selection to be provided to visualize the selected number of Top 10 most polluted cities across India, cities in Delhi NCR region, only NCAP cities, etc. on Maps on Web Portal and Mobile Applications.
2. Interface to various stakeholders to view region specific data (Air Quality, AQI, Public Complaints, Complaint Redressal etc.).
3. Mechanism to generate AQI like other indices.
4. Interface to collect Mixing height data from CPCB SODAR & NPL SODAR Systems, or any other organization, at such frequency as decided by CPCB.
5. Bidder will need to develop an interface to collect weather data (like Cloud Cover, Rainfall Data etc.) from various stakeholders (such as IMD) through API, and integrate it with the Air Quality Management System.
6. Mechanism to display the city-wise AQI, station-wise sub-index, concentration values etc. In addition to this, separate checkbox selection to be provided to visualize the selected number of most polluted cities across India, cities in Delhi NCR region, only NCAP cities, etc. on Maps on Web Portal and Mobile Applications.
7. Interface for various stake holders to view region specific data (Air Quality, AQI, Public Complaints, Complaint Redressal etc.).
8. Mechanism to display reports on scenario of particular pollutants across India graphically and in tabular format. System should also include the features to display scenario of pollutants at station level, city level, state level and country level. In addition to this, based on scenario, heat map and geographical maps may also be generated to quantify the Hotspots and Critical Areas.
9. Mechanism to generate parameter wise exceedances with alarms at station level, city level and state level w.r.t prescribed environmental standards. The exceedance reports should be downloadable in graphical and tabular formats.
10. Mechanism to compare 8-hour ozone exceedances between two years or multi-year periods for a city or state.
11. Upgrade and maintain the system to collect forecast data on weather conditions, air quality, AQI from IMD or any other agency. Based on the forecast data received, a mechanism is to be develop for generating automatic alarms regarding severe, very poor and poor category of AQI on emails and messages or on Sameer App.
12. Development of mechanism of delayed data entries reports. The mechanism should provide weekly reports of delayed data entry in the system. These reports will be scrutinized for arriving at solution to the delay in data acquisition.



- 13. Map of daily concentrations over several days. The daily air quality can be displayed in terms of the Air Quality Index or in concentration ranges for pollutants. This tool may be useful for tracking an air pollution episode like open burning events.**
- 14. Develop a mechanism in NAMP for automatic code generation for existing stations as well as new stations.**
- 15. Mechanism to generate AQI through manual data generated from Manual Air Quality Monitoring Station based on similar concept as used for real time air quality monitoring stations or any different concept as decided by CPCB.**
- 16. Mechanism in NAMP to display reports on scenario of particular pollutants across India graphically and in tabular format. System should also include the features to display scenario of pollutants at station level, city level, state level and country level. In addition to this, based on scenario, heat map and geographical maps may also be generated to quantify the hotspots and critical areas. A mechanism to display the manual stations on maps as per type of locations (Residential, Industrial and Rural) with colour indication may also be developed.**
- 17. In NAMP, when any station gets shifted from location to other location, then in this case, mechanism is to be developed for shifting all the historical data of the previous station automatically to new station. In continuation to this, all the changes must also get reflected on maps w.r.t location change and also to ensure no duplicate entries should prevail in the system.**
- 18. Mechanism to integrate the real time air quality data and manual air quality data and display on web portal and mobile application (Android & iOS). Further, feature is to be developed in the system to generate report w.r.t daily data, weekly data and monthly data.**
- 19. Payment Module in NAMP for releasing payment to SPCBs/PCCs based on the performance and data availability in NAMP stations.**
- 20. Develop and maintain the system to compare daily AQI values for any year with the 5-year high and low (2017-2022) and generate a report in PDF, Excel format etc.**
- 21. Develop and maintain the system to counts "good" and "bad" AQI days in respective year relative to the previous 5-year high and low and the previous five-year average. Generate the report in Excel and PDF format etc.**
- 22. Develop a mechanism to Plot daily AQI values for a specific location and time period. Each square or "tile" represents one day of the year and is color-coded based on the highest daily AQI value.**
- 23. Upgrade the complaint management system by creating a standard interface to collect information (through Mobile Apps and/or Portals operated by different agencies) on public complaints lodged by the citizens with any of the agency responsible for action and their redressal in time bound manner; like for leaf burning complaint & for construction activity complaint–Municipal Corporation is responsible, Air Pollution from Industry – State Pollution Control Board is responsible etc.**
- 24. Under complaint management, upgrade and maintain standard interface to forward information on Sameer Mobile App and Web Application on the actions proposed under**

**Graded Response Action Plan for agencies to take action in a time bound manner and for public to take precautionary measures.**

- 25. In Sameer App, upgrade and maintain standard interface to receive information on redressal of public complaints by respective agencies in a time bound manner**
- 26. In Sameer App, triggering alerts through software for collecting responses on action taken by different agencies on the complaints lodged on Sameer App by respective person/public.**
- 27. Under complaint management system, develop a mechanism for an automatic system generated response from CPCB to complainant and agency concerned after every 48 hours in complaint trail maintained in the complaint details for each complaint in existing system.**
- 28. Revamping the existing system for more accuracy for transferring public complaints received at CPCB through Web Portal and/or Sameer App to respective nodal agencies based on their Geo-JSON mapping. Further, mechanism will be developed to escalate the complaints to seniors automatically after 24 hours, 48 hours and 72 hours through emails and as well in the web portal as well.**
- 29. Under complaint management system, develop a system/mechanism to generate a comprehensive report automatically on status of resolved and unresolved complaints of various agencies every day at 4.00 PM and placed on the CPCB website. Further, an email also be triggered about report to all the nodal officers of the various agencies.**
- 30. Under complaint management system, develop a system / mechanism to generate a report on repetitive complaints from particular locations from last X number of years.**
- 31. Develop a mechanism to represent the one hour AQI, Forecasting data , Weather data , Mixing height, and other relevant data such as public complaints collected from CAAQM stations, NAMP station, Industrial CAAQM stations and complaint management portal in various maps like heat maps, choropleth maps, flow maps and bubble chart , correlation matrix to analyze the data to quantify the effect of meteorology parameters on air quality across the country , zone wise , state wise , city wise and station wise .**
- 32. Develop a mechanism to generate report to displays an annual summary of Air Quality Index (AQI) values for states. The summary report includes both qualitative measures (days of the year having "good" air quality, for example) and descriptive statistics (median AQI value, for example). Report will provide**
  - a. Number of GOOD days in the year
  - b. Number of moderate days in the year
  - c. Number of Poor days in the year
  - d. Number of Severe days in the year
  - e. The highest daily AQI value in the year
  - f. 90 percent of daily AQI values during the year were less than or equal to the 90th percentile value.
  - g. Half of daily AQI values during the year were less than or equal to the median value, and half equalled or exceeded it.

- 33. Develop a mechanism to develop the Air Quality Statistics Report which will displays air pollution values related to national standards for air quality. This report will include pertinent values for all prominent pollutants.**
- 34. Develop a mechanism to Compare daily AQI values for any year with the 20-year high and low (2003-2023) and the five-year average (2019-2023), or as specified.**
- 35. Develop a mechanism to Plot daily AQI values for a specific location and time period.**
- 36. Develop a tool to display daily air quality summary statistics for the criteria pollutants by monitoring station. You can plot all monitoring station in a city or country, or we can select a specific monitoring station.**
- 37. Develop a mechanism to compare 8-hour ozone exceedances between two years or multi-year periods for a city or state. Other than this develop a tool to Ozone plot shows the comparisons by MONTH, by DAY based on cumulative counts and another shows the comparisons by YEAR**
  - i. Develop a mechanism for correlation analysis of public complaints and its redressal information with ambient air quality data of that particular area.
  - ii. Develop a system / mechanism to do Sentiment Analysis of the complaints lodged on Sameer app.
  - iii. Using Natural Language Processing technique to develop a mechanism for Geographical visualization of the complaints on major source category at district level, city level and state level etc.
  - iv. Develop a mechanism based on the number of complaints lodged on particular pollution source category (i.e. open burning, solid waste dumping, construction waste etc.) from particular location, to quantify the major pollution Hotspot area.
  - v. To upgrade report section providing 25- 30 types of reports through which data needs to be disseminated in tabular, graphical formats using statistical procedures like minimum, maximum average, mean, mode, median, standard deviation, regression, multivariate regression, correlation (linear and nonlinear), correlation coeff. etc. The report shall be provided at the time of SRS generation.
  - vi. Develop a system i.e. Chatbot to resolve the queries / complaints / grievances related to Air Pollution.
  - vii. A tool is required, where selection based reports on specific purpose may be created. In general reports are like single station, multi station, single parameter, 24 hourly or hourly 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. Wind roses and pollution roses reports are also required to be generated depending upon the data availability in the system. Development of specific reports like health status, calibration status of instruments etc.

38. Based on requirement of CPCB, bidder needs to develop an online ticketing system wherein internal as well as external users wherein issues can be raised and tracked.
39. Development and integration of features such as bubble chart, heat map, wind map, choropleth map, charts, graphs, scatter plot, tree maps and other such forms, tools and dashboards as required by CPCB.
40. The list of activities mentioned above is only indicative in nature, and bidder would be required to perform such work as assigned by CPCB to ensure smooth functioning of the system and meeting all the requirement that arise from time to time.
41. Firm will have to develop dashboard with summary report on air quality data etc. from a single station or multiple stations in a city with total data availability and percentage data availability.
42. NAMP Redevelopment: As the existing NAMP Portal Architecture/Technology is outdated, it needs complete revamp with latest technologies to ensure stable and secure system.
43. Front-end Redevelopment: The existing front-end need to be redeveloped using latest tools/frameworks/technologies, to give enhanced look and feel and seamless user experience.