



EXPRESSION OF INTEREST

For

**SUPPLY, INSTALLATION, COMMISSIONING AND OPERATION & MAINTENANCE
OF 5 YEARS OF CONTINUOUS AMBIENT AIR QUALITY MONITORING STATIONS
(CAAQMS).**

Under

SMART CITY MISSION (SCM)

in

FARIDABAD CITY

(HARYANA, INDIA)

Ref No: FSCL/2019/62

Issued on 22/01/2019

Employer: - Faridabad Smart City Limited

Nain SADAN, 3rd floor, Sector-20-A,

Plot-35, behind EF3 Mall, Faridabad, Haryana. 121001.

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E-TENDER NOTICE

Faridabad Smart City Limited (FSCL) invites Expression of Interest for the work mentioned below:-

| Sr. No | T No / Event No. | Name of Work | EMD to be deposited by bidder (Rs.) | EOI Document Fee Plus Service Fee in INR | EOI Release time and Date | Last date for online Submission of EOI | Last date for Physical Document Submission of EOI |
|--------|------------------|--|-------------------------------------|--|---------------------------|--|---|
| 1 | 112647 | Expression of interest for Supply, Installation, Commissioning and Operation & maintenance of 5 years of continuous ambient air quality monitoring stations (CAAQMS) | Nil | 1000+1000 | 22/01/2019 @17:30 hrs | 12/02/2019 @17:30 hrs | 13/02/2019 @16:00Hrs |

1. The proposal is available online on <https://haryanaeprocurement.gov.in> from **22/01/2019 (17:30 hrs onward) to 12/02/2019 (up to 17:30 hrs)**. Bidders will be required to register on the website, which is free of cost. The bidders would be responsible for ensuring that any addenda available on the website is also downloaded and incorporated.
2. For submission of the bid, the bidder is required to have Digital Signature Certificate (DSC). Possession of Digital Signature Certificate (DSC) and registration of the contractors on the portal i.e. <https://haryanaeprocurement.gov.in> is a prerequisite for e-tendering.
3. Proposal must be submitted online on <https://haryanaeprocurement.gov.in> on or before **17.30 hours on 12/02/2019**. Any proposal or modifications to proposal received outside e-procurement system will not be considered. If the office happens to be closed on the date of opening of the Proposal as specified, the Proposal will be opened on the next working day at the same time. The electronic bidding system would not allow any late submission of Proposal.
4. The bidder shall also submit the Technical proposal in hard bound.
5. For any other queries, please contact Deputy General Manager, Faridabad Smart City Limited, Faridabad on phone No. +91 9599780918
6. For further details and e-tendering schedule, visit website <https://haryanaeprocurement.gov.in>.

Deputy General Manager
Faridabad Smart City Limited
Faridabad

1. INTRODUCTION

Air pollution is a major concern in modern cities and in developing countries. It has significant influence on the concentration of constituents' in the atmosphere. It occurs when any harmful gases, dust, smoke enters into the atmosphere and makes it difficult for plants, animals and humans to survive as the air becomes dirty.

Also atmospheric pollutants are responsible for many environmental problems such as acid rain and ozone layer depletion. Hence, to avoid such adverse imbalances in the nature, an air pollution monitoring system is vital especially in the urban and industrial areas

Air quality affects our life health and environment. Degrading of Air quality in Faridabad and nearby region (Delhi NCR) can be easily witnessed. Potential health effects associated with air pollution exposure include decreased lung function, Increased Asthma incidence, aggravation of respiratory and cardio Vascular disease etc. Prevalent Air pollutant has the potential to impact human lives including damaging vegetation, decreasing visibility and affect the overall global climate. Presently one air quality monitoring sensor is functional in Faridabad City by State Pollution Control board at Sector 16.

Nowadays, air pollution is monitored by static air quality measurement stations that are operated by official authorities. These stations are highly reliable and can measure the pollutants in air to a high level of accuracy and precision using analytical instruments, such as mass spectrometers. However, extensive cost of acquiring and operating such stations limits the number of installations

As a part of sub project component of ICT, air quality sensor is a significant project in Faridabad Smart City, in this regards Continuous Ambient Air Quality Monitoring System for the City of Faridabad is required to monitor and to get accurate data of each and every parameter affecting the air.

1.1 NEED OF THE PROJECT

According to a report published by the World Health Organisation, air pollution now kills approximately seven million people annually, worldwide. This accounts for as much as one in eight deaths, and is by far the single biggest environmental health risk.

In order to counteract this alarming statistic and take action to clean up air, it's important to first understand where the pollution is most concentrated, how it occurs, what elements are involved and how we can neutralise them. In order to do this, comprehensive air monitoring must be undertaken on a national and international scale.

Among other pollutants, air monitors assess the amounts of carbon dioxide (CO₂), carbon monoxide (CO), nitrogen oxides (NO_x), ozone (O₃) and particulate matter 2.5 (PM_{2.5}). This allows us to see where and why pollution occurs, so that we can not only actively avoid overly contaminated areas in our daily routines but also try to implement measures to curb such pollution.

The cities of the future needs to be safer, sustainable, comfortable, efficient, Interactive and 'smart'. In smart cities, a network of cameras, sensors, wireless devices, data centres for the key infrastructure allows civic authorities to provide essential services, information in a faster and more efficiently. In order to take precautionary action and avoiding the further degradation of quality of air, online air quality monitoring system is required in Smart City. The Key concept of the setting Air Quality sensor is to integrally communicate the existing air quality of the city with residents; decision maker, Government Management agencies to take appropriate precautionary measure to prevent further pollutions.

1.2 OBJECTIVE & BENEFITS

Faridabad Smart City Limited (FSCL) will monitor ambient air quality at appropriate no. of stations, arrived at objectively and scientifically to cover the city including industrial zones.

The objectives of the air quality monitoring are:

to continuously determine present air quality status and past trends;

to provide Air Quality Index (exhibits Good, satisfactory, Moderate, poor, Very Poor & Sever) level of Air pollutants

to provide background air quality data as needed for industrial siting and town planning;

to a control and regulate pollution from industries and other sources to ensure the air quality standards;

to estimate the future worsening or improvement of air quality and to obtain the knowledge and understanding necessary for developing preventive and corrective measures;

to ascertain whether the prescribed ambient air quality standards are violated,

to assess health hazard, damage to materials and to control and regulate pollution from various sources;

to detect various hazards / other poisonous gases risk in the PAN City area.

To be fully integrated with Integrated Command Control Centre (ICCC) and Control System of the city and easily reporting/display of record to major city points, concerned management bodies (FSCL , MCF, SPCB) etc.

To provide a mobile application enabled data to describe specific sector/ward wise air quality health.

❖ Benefits

Air Quality data/AQI, will be made for general public to know air quality in a simplified way, a politician to invoke quick actions, a decision maker to know the trend of events and to chalk out corrective pollution control strategies, a government official to study the impact of regulatory actions, and other following benefits

Using big data can help to guide urban planning initiatives to help more efficiently reduce exposure to pollution at the most important times and in optimal places.

Identify hotspots and better monitoring of environmental issues.

Identify clusters of pollutants and analyze data over time in order to understand patterns which will inform policy

Indicate areas with particularly bad air quality and take corrective measures

Construction sites, which fail the emission standards, trigger alarms in the platform, which are then automatically reported to the FSCL who respond appropriately

Make Data publicly available for use by individuals and developers.

A mobile application will allow a resident to track their exposure to certain air contaminants, or to navigate through the city based on avoiding urban heat islands, poor air quality, or excessive noise and congestion, and other risk factors identifiable.

Corrective steps like local public can contribute by maintaining vehicles properly, following lane discipline & speed limits, avoiding prolong idling and turning off engines at red traffic signals

In addition to above, during severe or very poor AQI, people should minimize travel; avoid using private vehicles and instead use public transport, bikes or walk, and carpool; use smaller vehicles (e.g. avoid SUVs).

Existing profile of Project Area

Physical Environment

Faridabad district is located in south eastern part of Haryana, in the north it is bordered by Delhi and east by Uttar Pradesh. Faridabad District has two Blocks namely Faridabad and Ballabgarh.

The climate characteristics of Faridabad area is Tropical semi-arid characterized by extreme dry hot weather in summer. Like other northern part of India, the Faridabad district possess three distinct climate season I.e. Winter (Nov-Feb), summer (Mar-June) and monsoon (July-Oct). May and June are the hottest month while January is coldest month. Maximum Rainfall occurs in July and August month of the year. The relative humidity reaches up to 85% during month of august. South Monsoon sets rainfall in the region. The Normal annual rainfall of Faridabad district is 542 mm (CGWB report 2015).

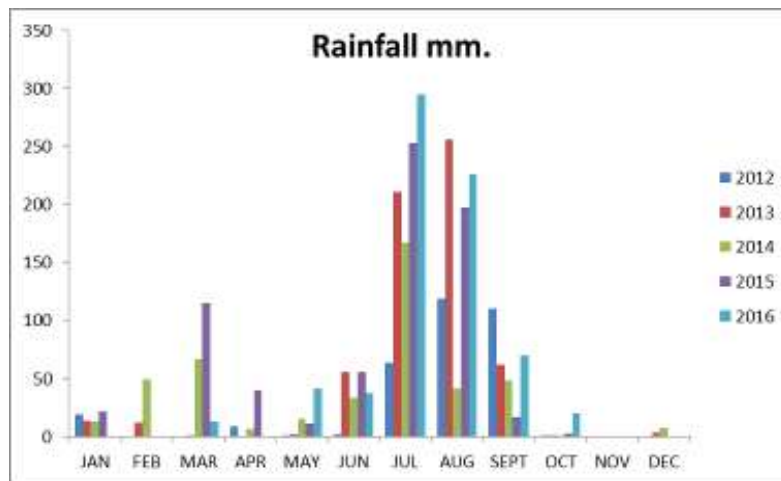


Figure 1: Last 5 yrs. rainfall record of Faridabad District

Wind pattern: Wind generally blows from East, South East, North, North West direction while south, south west direction occurs in Monsoon Season.

Topography and Soil: Faridabad city is located at lat-long of 28°24'57.74"N & 77°18'39.43"E. The general topography of the site is flat with elevation level ranging of 203-208 msl. Soil of the Faridabad district is characterized as brown soil. The soil is alluvial and calcareous in nature. Soil can also be categorized into Khadar soil and Bangar Soil. Soil located near to Yamuna plain is khaddar and other part of the soil is Bangar. The Organic content of the soil is 0.2 -0.4.

Water: In term of Surface water, there is not any noticeable water body; however Badkhal Lake ‘a tourist point’ observed in western part of the core city area, but this lake is suffering from drought since 2000 due to illegal mining in the Aravalli region. According to central ground water record 2015, the ground water category of the project area is under semi critical category. The depth of ground water lies between 1.51 to 50.74 m.bgl (during pre-monsoon) and 0.67 to 49.56 m.BGL (below ground level) during post-monsoon period reflects the ground water situation of the area is critical.

Seismic Zone: Faridabad district falls under Zone IV of highly vulnerable to earthquake. During construction stage, the relevant construction measure should be adopted as per BIS standards.

Air Quality: As reflected from figure below, the air quality status of Faridabad city is critical. The level of SO₂ is within limit (Ambient Standard 80PPM), level of NO_x is slightly close to the ambient standard (80PPM), while PM_{2.5} level is much higher than ambient Standard (i.e. 60PPM). This reflects the air quality condition is poor and especially during month of winters (January), due to high atmospheric pressure, no wind available for circulation and dispersal. The current air quality level from January to September is presented in table below:

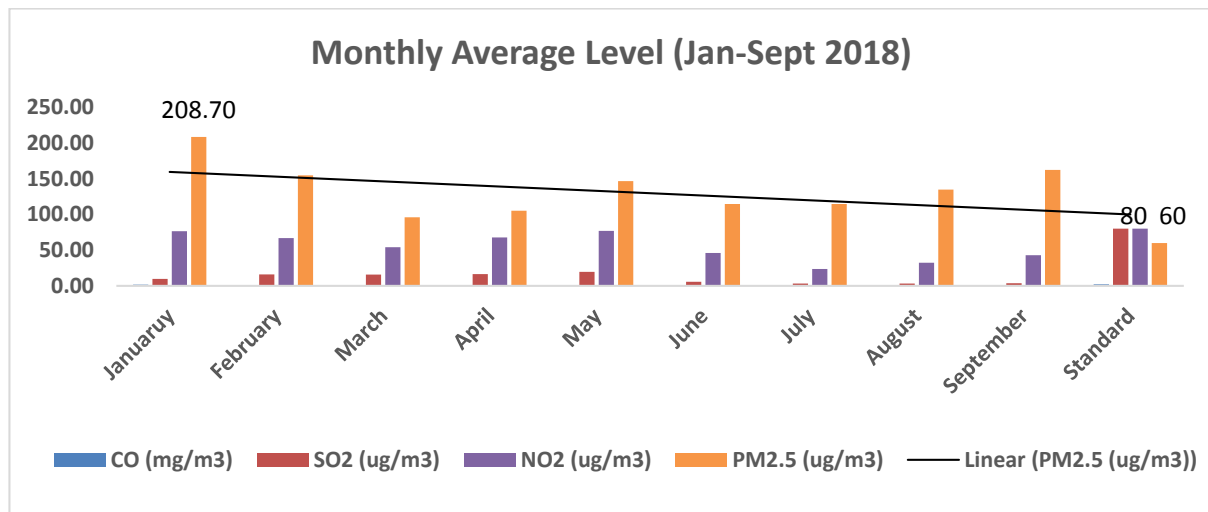


Figure 2: Monthly Average Air Pollutant Level of Faridabad

1.3 DESCRIPTION

To fully understand and improve the air quality condition, air pollutant level should be accurately measured, monitored and managed. Online Air Quality monitoring is a cost effective, fully automated way of measuring air pollutant level, which will further help in deciding the controlling measure for the city. Identification of appropriate site selection, assessment of minimum required monitoring station, applicable parameter as per National and International norms, overall controlling and management of the network, and respective preventive steps are important points of Air quality Sensor.

1.4 IDENTIFICATION OF APPROPRIATE LOCATION

Appropriate site selection for placing Air quality monitoring sensor in the city is a significant aspect to monitor area specific Ambient Air Quality. Monitoring sites of Air quality should be representative of different land use like residential, Commercial, Industrial & Sensitive. It is a key factor for further identifying associated precautionary measure to avoid the further elevation of the pollutant level. A network of multiple such monitoring stations across the busy city squares can give more relevant information about the quality of air they breathe and take mitigation steps when it deviates from the National Air Quality Index. Distribution of pollutant sources, local meteorological conditions and topography affect the dispersion of pollutants.

Before finalizing the actual location for Air quality sensors a Site survey and Wind Direction analysis are to be done. Based on area-specific land use and magnitude of development.

1.4.1 Height

As per ADB (Asian Development Bank) guideline, the instrument at a height of within breathing zone (1.5 m) until 8-10 m above ground and free from any obstructions (such as trees, buildings, etc.) that may constrict air flow. Height of sampling location should be above than 5 meter, generally above than mixing height. In case of traffic air pollution the height of the station should close to ground may be within 3-8 m.

For Busy city area having high rise building, the sensor should be mounted on tallest point where unrestricted airflow must exist 270 degree around the sampler. Based on the locality and characteristics of particular area location should be like tallest building point in the busy city (representing commercial residential land use), independent poles in traffic intersections/ busy (Industrial, residential, sensitive) area free from hindrance, could easily catch the air irrespective of the direction.

1.4.2 Monitoring stations coverage area -208 Sq.Km

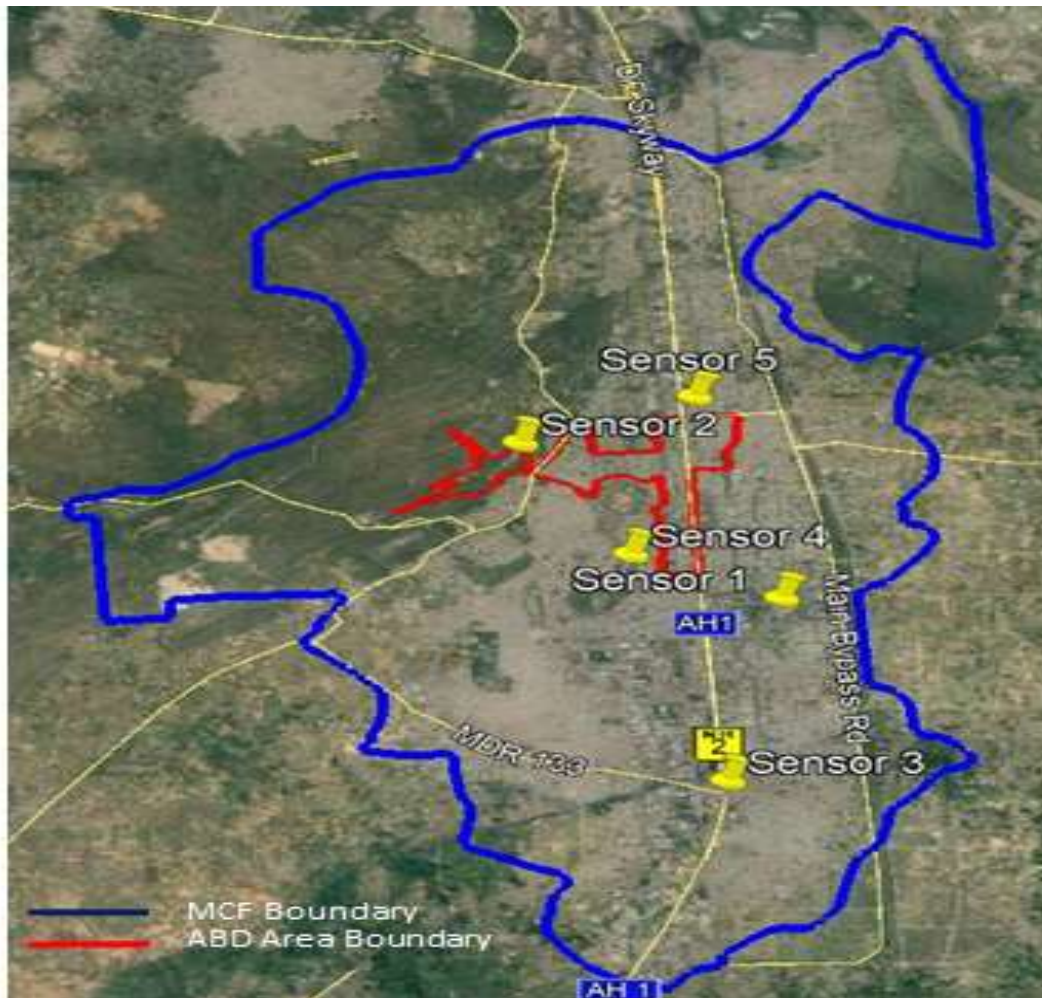


Figure 3: PAN City Area for Air Quality Sensors

Cities with relatively flat terrain and no heavy industrial areas can have minimal air quality monitoring sites. Faridabad Municipal Corporation area is spread over an area of **208 Sq.Km** with flat Terrain and having a population of fourteen lakhs. Generally, flat terrain and similar land use envisage similar quality of air quality level. PAN City area for CAAQM sensors is given in

Figure 3, however the Bidder shall give his proposal after calculating number of sensors based on the range and specifications available with them and suggest the locations based on the survey. The basic design requirements are given in the succeeding paras.

1.4.3 Scope of Expression

With a view to expand ambient air quality monitoring network including data capture, data transmission, data storage, trend analysis, FSCL proposes to strengthen the monitoring network in Faridabad PAN City with setting up of CAAQM stations. These stations will be installed by Supplier, Operate and maintained for the period of 5 years including 2 years DLP.

| US EPA ¹ | | | EU ² | | |
|------------------------|---------------------|------|------------------------|---------------------|------|
| Population (thousands) | Levels of Pollution | | Population (thousands) | Levels of Pollution | |
| | Low | High | | Low | High |
| 100-250 | 0 | 1-2 | 0-249 | 1 | 2 |
| 250-500 | 0-1 | 3-4 | 250-499 | 2 | 3 |
| 500-1,000 | 1-2 | 4-8 | 500-999 | 2 | 3-4 |
| > 1,000 | 2-4 | 6-10 | 1,000-1,499 | 3 | 6 |
| | | | 1,500-1,999 | 3 | 7 |
| | | | 2,000-2,749 | 4 | 8 |
| | | | 2,750-3,749 | 4 | 10 |
| | | | 3,750-4,749 | 6 | 11 |
| | | | 4,750-5,999 | 6 | 13 |
| | | | ≥6,000 | 7 | 15 |

Note: US EPA = United States Environmental Protection Agency; EU = European Union
¹As stated in the US EPA 40 CFR Part 58 Appendix D "Network Design Criteria," "Low" refers to areas whose ambient PM10 concentrations are below 80% of the National Ambient Air Quality Standard (NAAQS), whereas "High" refers to areas whose ambient PM10 concentrations exceed the NAAQS by 20% or more.
²As stated in EU Directive 2008/50/EC, "Low" refers to maximum concentrations between upper and lower assessment threshold, whereas "High" refers to maximum concentrations exceed the upper assessment threshold. For PM lower assessment threshold is 50% of limit value, upper assessment threshold is 70% of limit value. For 24-hour PM10 the number of permissible exceedances is also important.
 Note: The US EPA gives a range of sampling points while the EU provides a minimum number. It is noted that a sampling point is not necessarily a station. Directive 2008/50/EC distinguishes between the term sampling point and station. Monitoring by passive samplers usually is not characterized as monitoring at a station. A station is usually considered as a site where some container is used for monitoring gaseous and particulate concentrations via analyzers.

Figure 4 Minimum number of monitoring stations required to a particular area as per US EPA

1.5 MONITORING EQUIPMENT

Online Air quality monitoring systems supply continuous measurement of data for long periods of time for particular monitoring sites. Online Air Quality Monitoring system will provide real time record, timely information for taking immediate corrective/preventive steps.

As per CPCB / FSCL requirement, automatic analysed should have following qualities

- Should be capable of operating unattended over prolonged period of time.
- Should produce analytically valid results with precision and repeatability
- The instrument/analyser should be robust and rugged, for optimal operation under extreme environmental conditions, while maintaining its calibrated status.
- Should have data validation facility with features to transmit raw and validated data to central server.
- Should have Remote system access from central server provisioning log file access
- Should have provision for Multi-server data transmission from each station without intermediate PC or plant server.

- Should have provision to send system alarm to central server in case any changes made in configuration or calibration.
- Should have provision to record all operation information in log file.
- For each parameter there should be provision for independent analysis, validation, calibration & data transmission.
- Must have provision of a system memory (non-volatile) to record data for at-least one year of continuous operation.
- Expandable program to calculate parameter load daily, weekly or monthly basis for future evaluation with flow rate signal input.
- Must have low operation and maintenance requirements with no chemical consumption and recurring cost of consumables and spares.
- Compact and versatile technologies, with capabilities for portability are desirable given the complex geographies and limitations of urban space available for putting up big stations. The dedicated space required should not be more than 5 Sq. Mtrs.
- *Relocation of Station* : - During contract period, if FSCL intends to shift CAAQM station from one location of the city to another location, due to some reason – functional or otherwise, Bidder shall have to shift the CAAQM station on his own cost, whereas the new foundation / new construction of the station will be borne by FSCL.

1.5.1 Basic functions of the software:

As per Government of India's initiatives towards indigenization and the Make in India policies, FSCL encourages indigenous, innovative, and novel technologies having similar or superior capabilities, with proven demonstrations - testified by any Government of India department or agency. The bidder has to submit a complete architecture of their technology along with detailed write up, topology, Bill of Material & their requirement from FSCL.

1. For better consideration of Technology and Data Accuracy, it is required to present a Demo of System to FSCL before the finalization of assignment.
2. The air quality monitoring sensors should be capable of collecting data on real time basis independently. 24 hrs data generation, Data transmission to central command system, Data integration to main server should be automatic. The submitted data shall be available to the FSCL, MCF, Boards SPCB and CPCB for immediate corrective action. Raw data should be transmitted simultaneously to FSCL SPCB and CPCB, Parent Agency.
3. The data generated should be accessible / available through internet, so that consequently action can be taken as and when required. Software using in sensor should have verification of data accuracy so that the regulatory authorities/data generator should be able to visualize the current data of any location's specific parameter.
4. It should be providing real time data, periodic record, predicted levels, criterial marking in Air quality Index and appropriate immediate guidelines to be undertaken.
5. A periodic record should enable the decision makers, management agencies to assess the proper location to industrial area, sensitive area in the city.
6. Air pollutant monitoring, modelling and forecasting of environmental information by integrated, interpreted and communicated in real-time in a form enables Government and Solution providers to efficiently drive significant improvements in the quality of life for the cities that they manage.

7. Provided a mobile application which will allow a resident to track their exposure to certain air contaminants or to navigate through the city based on avoiding urban heat islands, poor air quality, or excessive noise and congestion, and other risk factors identifiable.

1.6 APPLICABLE PARAMETERS

Identifying what pollutants to monitor is important in the planning process. As per screen study of the prevailing air quality of the region, the pollutants that are relevant to the area. In general, pollutants for which standards or guideline values have been established are measured first. As mentioned in the table below, share a common set of criteria pollutants which could be useful for regional comparisons. The diversity in the monitored auxiliary pollutants is simply a reflection of different priorities and concerns specific to the organization or monitoring agency. In addition to identifying a set of priority pollutants to monitor, the national/city-level monitoring agencies and international organizations establish their own set of allowable pollutant levels.

As per CPCB Guidelines for the Measurement of Ambient Air Pollutants guideline 2014, following parameters shall be identified and predicted level of air quality pollutant, Air pollution index shall be done.

Table 1: Parameters for online continuous Air quality Monitoring

| |
|---|
| <u>CONTINUOUS EMISSION MONITORING SYSTEMS (CEMS)</u> CO ₂ , CO, H/C's, H ₂ S, NO _x , NH ₃ , O ₃ , SO _x , Volatile Organic Compounds (VOC-BTX) |
| <u>CONTINUOUS OPACITY MONITORING SYSTEMS (COMS)</u> : - Total Suspended Particles (TSP). Any Particles less than 1µm in diameter. Lead Particulates / Particulate Material (PM 2.5 / PM 10) |
| Meteorological Measurement - Measures meteorological factors like ambient temperature, humidity, wind speed, direction, pressure, rainfall, solar radiation etc. |
| SENSING AREA COVERAGE : - The CAAQM sensors will be able to cover PAN City of Faridabad which is of 208 Sq.Km. |
| MOBILE APP AND BILLBOARD DISPLAY : - Because the data will be published openly and without charge, a mobile application should allow a resident to track their exposure to certain air contaminants, or to navigate through the city based on avoiding urban heat islands, poor air quality, or excessive noise and congestion. 42 inches or above LFD screen display to be installed at the said locations by FSCL. |

1.7 OPERATION & MAINTENANCE OF AIR MONITORING STATIONS

The Supplier/Contractor's responsibilities shall include without limitations the following works to be carried out on the Air Monitoring Stations installed under this Contract during the Operation & Maintenance of the stations:

- a) Operation and Maintenance of all the commissioned equipments and amenities as supplied by the Manufacturer under the Contract including services during forced and planned outages and overhauls.
- b) The Supplier/Contractor shall source all the spares required for maintenance & repairs of the installed equipment from O&M only.

- c) The Operator shall not make any modifications as to the Air Monitoring Stations, other than in an Emergency, without the prior written approval of the Owner.
- d) Establish and maintain a daily and monthly and yearly reporting system to provide storage and ready retrieval of operation and maintenance data including such information necessary to verify calculations.
- e) Provide access to the owner to the Air Monitoring Stations and its data at all reasonable times and as and when required.
- f) Provide the operational data required to all competent authorities including, Government of India / Concerned State Governments.
- g) On line transfer of data to FSCL /SPCB server / web site.
- h) The Contractor shall ensure accuracy of the data provided as per CPCB standards.

1.8 PENALTIES

During O&M period, in case of any Analyses/ system failure, penalty will be charged by FSCL / CPCB @ Rs.5,000/- (Five thousand) per day per Analyzer after a grace period of seven (7) continuous non-working days. The grace period of seven (7) continuous non-working days shall be given only once per quarter (3 months).

For a failure of Data display:

Board/panel, a penalty will be charged by FSCL / CPCB @ Rs. 1,000/- (one thousand) per day after a grace period of five (5) continuous non- working days. The grace period of Five (5) continuous non-working days shall be given only once per quarter (3 months).

Failure due to power outage and other Force Major conditions shall not be considered for levy of penalty.

Total penalty per year during O&M period on account of above conditions shall be limited to 30% of total O&M charges for one year. Failing which defective/ malfunctioning analyser / system has to be replaced.

In case penalty in the year exceeds 30% as above, the Contractor shall be required to replace the defective analyzer (s) or systems with new ones at his own cost, failing which the FSCL shall have the right to terminate the O&M contract.

1.9 DEMONSTRATION CAPABILITY

| SR. NO. | PARTICULARS | |
|---------|---|---|
| 1. | CONTINUOUS EMISSION MONITORING SYSTEMS (CEMS) CO ₂ , CO, H/C's, H ₂ S, NO _x , NH ₃ , O ₃ , SO _x , Volatile Organic Compounds (VOC-BTX) | YES/NO. |
| 2. | CONTINUOUS OPACITY MONITORING SYSTEMS (COMS): - Total Suspended Particles (TSP). Any Particles less than 1µm in diameter. Lead Particulates / Particulate Material (PM 2.5 / PM 10) | YES/NO. |
| 3. | Meteorological Measurement - Measures meteorological factors like ambient temperature, humidity, wind speed, direction, pressure, rainfall, solar radiation etc. | YES/NO. |
| 4. | SENSING AREA COVERAGE: - | (DEFINE IN TERMS OF METERS OF COVERAGE BY ONE SINGLE STATION) |
| 5. | FITNESS TRACKER ANALYTICS | YES/NO. |
| 6. | Big Data and Cloud Platform | YES/NO. |

| | | |
|----|---|---|
| 7. | MOBILE APP AND BILLBOARD DISPLAY | YES/NO. |
| 8. | ACCURACY AND SENSITIVITY | (DEFINE ACCURACY LEVELS WITH INTERCOMPARISON CERTIFICATION) |

1.10 PERIOD

The entire project of procurement, installation and commissioning has to be completed in 03 (three) months after receiving the supply orders.

1.11 ELIGIBILITY CRITERIA

FSCL invites Expression of Interest from eligible suppliers / manufacturers for setting up of CAAQM Stations in different locations in the Faridabad PAN City Area. The bidders should fulfill the following criteria:

- (a) Should have adequate knowledge, experience and expertise in Supply, Installation, Commissioning, Operation & maintenance, calibration including data generation, data validation, networking, National Air Quality Index, transmission of data to public domain and preparation of reports of CAAQM Stations in India or abroad.
- (b) Should have experience of successful operation of Continuous Ambient Air Quality Monitoring Stations in last 5 (five) years covering an area of atleast 62.4 Sq.Km.
- (c) The bidder shall meet the data quality requirement as per ICCC requirement.
- (d) The bidder should have adequate Technical manpower for installation, commissioning, Operation & Maintenance of CAAQMS. The technical manpower should be able to provide analysis, other risks, warnings etc. in PAN city area.
- (e) The bidder shall submit the certificate of their financial capability for execution of this project.
- (f) All the participating bidders must submit a certificate from original manufacturer.

1.12 SUBMISSION OF EOI

Interested parties may submit EOI in Reply Format along-with technical and financial comments in a sealed envelope by speed post clearly super – scribed “Expression of Interest (EOI) for SUPPLY, INSTALLATION, COMMISSIONING AND OPERATION & MAINTENANCE OF 5 YEARS OF CONTINUOUS AMBIENT AIR QUALITY MONITORING STATIONS within 21 days from the date of publication of EOI to Faridabad Smart City Limited

Faridabad Smart City Limited

Nain Sadan, 3rd Floor, Plot No. 35

Sector 20A, Behind EF3 Mall

Near Old Faridabad Metro Station

Faridabad – 121001 (Haryana)

Email : faridabadsmartcitylimited@gmail.com

Reply Format

- 1 Interested to include as short – listed bidder – Yes / No
- 2 Name of the Organization / Joint Venture:
- 3 Contact details with phone and E-Mail address:
- 4 Place and year of registration:
- 4 Principal place of business:
- 5 Total monetary value of Services performed for each of the last five years:
i) 2013-2014; ii) 2014-2015; iii) 2015-2016; iv) 2016-2017; v) 2017-2018
- 6 Experience in services of a similar services and size for each activity of the last five years:
- 7 Details of Services under way or contractually committed:
- 8 Names and address of clients:
- 9 Qualifications and experience of technical and administrative personnel proposed for this Project:
- 10 Profit and loss statements and auditor’s reports for the past five years:
Information on any litigation, current or during the last five years, in which the Bidder is involved, the parties concerned, and disputed amount / status, if any:
- 11 Technical proposal shall be submitted with tentative financial implications:
- 12 Self Certification: The statements submitted above are true and correct to our records and to the best of our knowledge. It is also submitted that the company has never been black listed.
13. Submit proposal giving complete technical specification along with proposed number of sensors

(Signature with Seal of Authorized Signatory)